
REPORTS BY STATES
WITH STATISTICS FOR PRINCIPAL CITIES

ALABAMA.

INDUSTRIES IN GENERAL.

General character of the state.—Alabama, with a gross area of 51,998 square miles, of which 719 represent water surface, had a population of 2,138,093 in 1910, as compared with 1,828,697 in 1900 and 1,513,401 in 1890. It ranked eighteenth among the 49 states and territories of continental United States as regards population both in 1910 and in 1900. The density of population for the entire state was 41.7 per square mile, the corresponding figure for 1900 being 35.7. The population is mostly rural. In 1910 only 17.3 per cent of the entire population of the state resided in incorporated cities and towns having a population of 2,500 inhabitants or over, as compared with 11.3 per cent in 1900.

The state has seven cities and towns which had a population of over 10,000: Anniston, Bessemer, Birmingham, Gadsden, Mobile, Montgomery, and Selma. These cities contained 12.6 per cent of the total population of the state, and were credited with 33.8 per cent of the total value of its manufactures. Eliminating these cities, only 4.7 per cent of the population resided in cities and towns of 2,500 inhabitants or over.

The state is traversed by nearly all the trunk line railroads of the South, and most of these pass through Birmingham, the principal manufacturing center of the state. The Alabama and Tombigbee Rivers with their tributaries furnish facilities for navigation. Mobile is one of the most important seaports on the Gulf of Mexico. In addition, the two ports of New Orleans

and Pensacola in the adjoining states are easily accessible by rail.

Importance and growth of manufactures.—The rapid growth of manufactures in Alabama during the last 30 years has been due largely to the development of rich mineral resources, particularly in the northern part of the state in what is known as the "Birmingham district." The close proximity of the coal fields to the iron mines has made the iron industry very prosperous. At the same time the great abundance of available coal and extensive forest resources have given a marked impetus to other manufacturing industries. During 1879 an average of 10,019 wage earners, representing eight-tenths of 1 per cent of the total population, were employed in manufactures, while in 1909 an average of 72,148 wage earners, or 3.4 per cent of the total population, were so engaged. During this period the value of products per capita of the total population of the state increased from \$11 to \$68. The total value of manufactured products increased during this time from \$13,566,000 to \$145,962,000, or nearly tenfold, while the proportion which the value of the manufactures of the state represents of the total value of the manufactures of the United States increased from three-tenths of 1 per cent in 1879 to seven-tenths of 1 per cent in 1909.

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

	NUMBER OR AMOUNT.			PER CENT OF INCREASE. ¹	
	1909	1904	1899	1904-1909	1899-1904
Number of establishments.....	3,398	1,882	2,000	80.0	-5.0
Persons engaged in manufactures.....	81,972	67,884	(²)	20.8	.....
Proprietors and firm members.....	3,769	1,948	(²)	93.5	.....
Salaried employees.....	6,055	3,763	2,259	60.9	66.6
Wage earners (average number).....	72,148	62,173	52,711	16.0	18.0
Primary horsepower.....	357,837	293,185	178,208	22.1	69.3
Capital.....	\$173,180,000	\$105,383,000	\$60,166,000	64.3	78.2
Expenses.....	129,153,000	94,252,000	59,097,000	37.0	59.5
Services.....	33,849,000	25,745,000	16,971,000	31.5	51.7
Salaries.....	6,565,000	3,867,000	2,059,000	69.8	87.8
Wages.....	27,284,000	21,878,000	14,912,000	24.7	46.7
Materials.....	83,443,000	60,458,000	37,998,000	38.0	59.1
Miscellaneous.....	11,861,000	8,049,000	4,128,000	47.4	95.0
Value of products.....	145,962,000	109,170,000	72,110,000	39.7	51.4
Value added by manufacture (value of products less cost of materials).....	62,519,000	48,712,000	34,112,000	28.3	42.8

¹ A minus sign (-) denotes decrease.

² Figures not available.

In 1909 the state of Alabama had 3,398 manufacturing establishments, which gave employment to an average of 81,972 persons during the year and paid

out \$33,849,000 in salaries and wages. Of the persons employed, 72,148 were wage earners. These establishments turned out products to the value of

\$145,962,000, to produce which materials costing \$83,443,000 were used. The value added by manufacture was thus \$62,519,000, 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 remarkable development in the manufactures of the state during the 10-year period, 1899-1909. During the earlier five-year period, 1899-1904, the number of establishments decreased 5.9 per cent, but every other item showed a large increase. From 1904 to 1909, the number of establishments increased greatly. The percentages of increase for other items were not, however, as great as those for the earlier period, although a substantial in-

crease is indicated. The large increase in the number of establishments from 1904 to 1909 is due almost entirely to the gain in the number of sawmills and timber plants, for of the total increase of 1,516 establishments during the five years there was a gain of 1,153 in the number of this class of establishments.

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

The relative importance and growth of the leading manufacturing industries of the state are shown in the 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.....	3,398	72,148	100.0	\$145,962,000	100.0	\$62,519,000	100.0	33.7	51.4	28.3	42.8
Lumber and timber products.....	1,819	22,409	31.1	26,058,000	17.9	18,913,000	27.1	42.6	37.6	29.3	57.9
Cotton goods, including cotton small wares.....	51	12,731	17.6	22,212,000	15.2	7,839,000	12.5	32.5	105.6	65.1	42.7
Iron and steel, blast furnaces.....	19	3,783	5.2	21,236,000	14.5	5,759,000	9.2	27.6	23.4	2.2	-4.2
Foundry and machine-shop products.....	102	5,898	8.2	11,550,000	7.9	5,323,000	8.5	30.7	61.3	25.2	56.0
Oil, cottonseed, and cake.....	71	1,618	2.2	9,178,000	6.3	2,103,000	3.4	59.1	93.2	73.1	37.8
Coke.....	35	2,680	3.6	8,843,000	6.1	2,472,000	4.0	43.2	65.7	13.5	107.0
Cars and general shop construction and repairs by steam-railroad companies.....	21	6,308	8.7	7,528,000	5.2	3,753,000	6.0	12.7	60.1	11.2	57.7
Fertilizers.....	42	1,233	1.7	6,423,000	4.4	2,159,000	3.5	174.4	13.2	193.7	7.9
Flour-mill and gristmill products.....	72	108	0.2	2,779,000	1.9	374,000	0.6	58.8	11.3	92.8	-5.8
Printing and publishing.....	274	1,117	1.5	2,768,000	1.9	2,102,000	3.4	42.2	67.8	33.7	70.8
Turpentine and rosin.....	175	3,519	4.9	2,472,000	1.7	1,986,000	3.2	1.0	19.7	3.3	39.0
Bread and other bakery products.....	83	574	0.8	1,725,000	1.2	852,000	1.0	55.4	62.8	46.8	50.5
Brick and tile.....	71	1,353	1.9	1,135,000	0.8	847,000	1.4	34.0	28.7	31.7	24.9
Ice, manufactured.....	45	343	0.5	777,000	0.5	576,000	0.9	40.1	119.8	40.5	114.7
Copper, tin, and sheet-iron products.....	23	236	0.3	733,000	0.5	322,000	0.5	124.8	-0.3	133.3	-5.5
Cordage and twine and jute and linen goods.....	5	427	0.6	696,000	0.5	217,000	0.3	30.5	96.5	83.9	34.1
Gas, illuminating and heating.....	13	259	0.4	687,000	0.5	473,000	0.8	33.5	52.4	70.5	47.3
Carriages and wagons and materials.....	35	424	0.6	684,000	0.5	381,000	0.6	-7.0	23.3	5.0	4.3
Hosiery and knit goods.....	6	611	0.8	591,000	0.4	277,000	0.4	28.5	.....	34.5	.....
Pottery, terra-cotta, and fire-clay products.....	21	425	0.6	559,000	0.4	389,000	0.6	104.8	21.3	99.5	18.2
Stoves and furnaces, including gas and oil stoves.....	10	361	0.5	501,000	0.3	329,000	0.5	77.0	.....	61.3	.....
Marble and stone work.....	25	358	0.5	493,000	0.3	310,000	0.5	119.1	-11.8	100.0	-4.9
Confectionery.....	9	138	0.2	490,000	0.3	141,000	0.2	31.7	89.8	-7.2	76.7
Lime.....	15	411	0.6	426,000	0.3	244,000	0.4	30.3	.....	6.6	.....
Mattresses and spring beds.....	9	82	0.1	347,000	0.2	133,000	0.2	34.5	136.7	43.0	138.3
Clothing, men's, including shirts.....	5	194	0.3	333,000	0.2	130,000	0.2	150.4	-49.2	165.3	-55.5
Leather goods.....	11	80	0.1	220,000	0.2	103,000	0.2	.....	.....	.....	.....
Tobacco manufactures.....	27	153	0.2	194,000	0.1	127,000	0.2	-20.5	-12.2	-25.3	-7.6
Patent medicines and compounds and druggists' preparations.....	18	32	(²)	123,000	0.1	85,000	0.1	-6.1	125.9	-4.5	147.2
All other industries.....	236	4,323	6.0	14,201,000	9.7	6,000,000	9.6	.....	.....	.....	.....

¹ Percentages are based on figures in Table I; a minus sign (-) denotes decrease. Where the percentages are omitted, comparable figures can not be given.
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 the table above, in which they are arranged in the order of the value of products, call for brief consideration.

Iron and steel.—In Alabama the importance of the iron industry as a whole is due to the exploitation of the rich mineral deposits of iron ore, coal, and limestone, which are found in close proximity in the northern part of the state. These favorable conditions are conducive to the production of pig iron at a rela-

tively low cost. The combined iron and steel industry, including blast furnaces and rolling mills and steel works, exceeded in value of products any of the other industries of the state. The value of products of the blast furnaces alone, as shown in the above table, amounted to \$21,236,000, being exceeded only by that reported for the lumber and the cotton industries.

The statistics for the rolling mills and steel works could not be shown without disclosing individual operations and are therefore included under the head of "All other industries." Prior to 1897 the manufacture of steel was not extensive in Alabama, but since that date the continued improvements in the

basic open-hearth process have caused a remarkable development in the industry.

Lumber and timber products.—In addition to saw-mills and timber camps, this classification includes planing mills and wooden packing-box factories. In 1909 the lumber industry was the most important single industry in the state from the standpoint of value of products, value added by manufacture, and number of wage earners. This industry alone employed 31.1 per cent of the total average number of wage earners engaged in all industries combined. The value of products represented 17.9 per cent and the value added by manufacture 27.1 per cent of the respective totals for the state.

Cotton goods, including cotton small wares.—During the period from 1899 to 1904 the growth of this industry was remarkable, the number of establishments increasing 48.4 per cent and the value of products 105.6 per cent. Although the percentages of increase were less during the period from 1904 to 1909, the figures indicate a decided development. It is interesting to note, moreover, that from 1899 to 1904 the percentage of increase in value of products was higher than that in value added by manufacture, while from 1904 to 1909 the rate of increase in value added by manufacture was far greater than that shown for value of products. This was due partly to the enormous rise in the price of cotton during the former period, and partly to the manufacture of a better grade of goods during the latter period. The other textile industries for which separate statistics are shown are cordage and twine and hosiery and knit goods, which are allied closely to the cotton-goods industry, the output of these mills being manufactured almost entirely from cotton materials.

Foundry and machine-shop products.—This class of manufacture is, in a measure, allied with the iron and steel industry and to a certain extent stimulated by it. More than one-half of the total value of its products represented the output of cast-iron pipe works. The industry includes also allied industries, such as the manufacture of hardware, steam fittings, and structural ironwork. It was really of greater importance in the state of Alabama than is indicated by the statistics, as some machine shops manufactured a distinctive product and were assigned to other classifications.

Oil, cottonseed, and cake.—The statistics presented include those for all establishments engaged primarily in extracting oil from cotton seed or in refining cottonseed oil. Since 1899, when 28 cottonseed-oil mills, with products valued at \$2,986,000, were reported in the state, this industry has grown rapidly; in 1909 there were 71 mills in operation and their products amounted to \$9,178,000.

Coke.—The importance of this industry is due to the abundant supply of coal suitable for coking pur-

poses and to the demand for coke for fuel in the manufacture of iron and steel.

The first four industries listed in the preceding table held the same relative rank when measured by value added by manufacture as when measured by value of products. Considerable change is noted, however, in the order of the other industries when ranked according to value added by manufacture, the most prominent being in the case of the flour-mill and gristmill industry, which falls from the ninth to the seventeenth place. In this industry, owing to the comparatively simple manufacturing processes involved 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 is true to a varying degree in some of the other industries.

This table also shows the percentages of increase for the leading industries in respect to value of products and value added by manufacture where the statistics are comparable. The fertilizer industry showed a greater rate of increase from 1904 to 1909 both in value of products and in value added by manufacture than any other of the specified industries, namely, 174.4 per cent and 193.7 per cent, respectively. The men's clothing industry, the manufacture of copper, tin, and sheet-iron products, the marble and stone work industry, and the manufacture of pottery, terracotta, and fire-clay products also showed remarkable increases both in gross value of products and in value added by manufacture. From 1904 to 1909 three of the industries presented separately in the table, namely, the carriage and wagon industry, tobacco manufactures, and the manufacture of patent medicines showed a decrease in value of products, while the two last named also showed a decrease in value added by manufacture. From 1899 to 1904 four industries showed a decrease in value of products and six a decrease in value added by manufacture.

In addition to the industries shown separately in the above table, and the steel works and rolling mills, there are 18 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 other cases, 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; while for others, because comparable statistics for the different census years can not be presented without disclosing the operations of individual establishments, or on account of changes in classification. These industries are: Agricultural implements; brass and bronze products; cars and general shop construction and repairs by street-railroad companies; cars, steam-railroad, not including operations of railroad companies; cement; charcoal; coffee and spice, roasting and grinding; cooperage and wooden

goods, not elsewhere specified; cordials and sirups; explosives; food preparations; iron and steel, bolts, nuts, washers, and rivets, not made in steel works or rolling mills; mineral and soda waters; oils, not elsewhere specified; roofing materials; shipbuilding, including boat building; slaughtering and meat packing; and wood preserving. The statistics for 1909, however, for street-railroad repair shops and cooperage and wooden goods 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.....	81,972	75,066	6,906
Proprietors and officials.....	6,598	6,544	54
Proprietors and firm members.....	3,769	3,727	42
Salaried officers of corporations.....	892	853	9
Superintendents and managers.....	1,967	1,964	3
Clerks.....	3,226	2,836	390
Wage earners (average number).....	72,148	65,686	6,462
16 years of age and over.....	63,495	63,413	5,082
Under 16 years of age.....	3,653	2,273	1,380

The average number of persons engaged in manufactures during 1909 was 81,972, of whom 72,148 were wage earners. Of the remainder, 6,598 were proprietors and officials and 3,226 clerks. Corresponding figures for individual industries will be found in Table II.

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

INDUSTRY.	PERSONS ENGAGED IN MANUFACTURES.			
	Total number.	Per cent of total.		
		Proprietors and officials.	Clerks.	Wage earners (average number).
All industries.....	81,972	8.0	3.9	88.0
Cars and general shop construction and repairs by steam-railroad companies.....	6,610	1.1	3.5	95.4
Coke.....	2,800	3.0	4.9	92.1
Cotton goods, including cotton small wares.....	13,041	1.4	1.0	97.6
Fertilizers.....	1,473	6.9	9.4	83.7
Flour-mill and gristmill products.....	315	34.9	11.7	53.3
Foundry and machine-shop products.....	6,462	4.0	4.7	91.3
Iron and steel, blast furnaces.....	4,325	4.8	7.7	87.5
Lumber and timber products.....	25,927	11.7	1.8	86.4
Oil, cottonseed, and cake.....	1,984	9.7	8.7	81.6
Printing and publishing.....	1,955	23.6	19.2	57.1
Turpentine and rosin.....	3,955	9.7	1.6	88.8
All other industries.....	13,115	11.5	6.3	82.2

Of the total number of persons engaged in all manufacturing industries, 8 per cent were proprietors and officials, 3.9 per cent clerks, and 88 per cent wage earners. In the flour-mill and gristmill and printing and publishing industries 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. Similar conditions prevail to some extent in the lumber industry, in which the proprietors and officials formed 11.7 per cent of the total number of persons engaged. The smallest proportion for this class is shown for steam-railroad repair shops and is due to the fact that these establishments are operated by corporations which report no proprietors and whose general officials are not, as a rule, assigned to the supervision of this particular branch of the work.

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 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.....	72,148	87.9	7.0	5.1
Cars and general shop construction and repairs by steam-railroad companies.....	6,308	99.8	0.1	0.1
Coke.....	2,580	97.4		2.6
Cotton goods, including cotton small wares.....	12,731	50.2	31.1	18.7
Fertilizers.....	1,233	99.4		0.6
Flour-mill and gristmill products.....	168	99.4		0.6
Foundry and machine-shop products.....	5,898	98.3	(?)	1.7
Iron and steel, blast furnaces.....	3,783	99.3		0.7
Lumber and timber products.....	22,409	97.9	0.5	1.6
Oil, cottonseed, and cake.....	1,618	98.6	0.1	1.3
Printing and publishing.....	1,117	79.7	13.8	6.5
Turpentine and rosin.....	3,519	99.0		1.0
All other industries.....	10,784	86.7	8.0	5.3

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, 87.9 per cent of the average number of wage earners were males 16 years of age and over; 7 per cent, females 16 years of age and over; and 5.1 per cent, persons under the age of 16. Nearly four-fifths of the total number of female wage earners 16 years of age and over were employed in cotton mills, and of the total number of wage earners under 16 about two-thirds were employed in this industry. The only other industry listed in the table which

employed women and children to any considerable extent was printing and publishing, the proportions being 13.8 and 6.5 per cent, respectively.

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

CLASS.	PERSONS ENGAGED IN MANUFACTURES.				
	1909		1904		Per cent of increase, 1904-1909.
	Number.	Per cent distribution.	Number.	Per cent distribution.	
Total.....	81,972	100.0	87,884	100.0	80.8
Proprietors and firm members.....	3,769	4.6	1,948	2.9	93.5
Salaried employees.....	6,035	7.4	3,713	5.3	60.9
Wage earners (average number)....	72,148	88.0	62,173	91.6	16.0

Comparable figures are not obtainable for 1899. The table shows a greater percentage of increase in proprietors and firm members than in either of the other two classes. This is due probably to the fact that there has been a large increase in the number of small establishments in which the proprietors or their immediate representatives do a large part of the work. The percentage of increase in salaried employees is also greatly in excess of that shown for wage earners.

The table in the next column 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.....	72,148	100.0	62,173	100.0	52,711	100.0
16 years of age and over..	68,495	94.9	58,043	93.4	49,302	93.5
Male.....	63,413	87.9	53,496	86.0	45,837	87.0
Female.....	5,082	7.0	4,547	7.3	3,465	6.6
Under 16 years of age....	3,653	5.1	4,130	6.6	3,409	6.5

The table indicates that there has not been much change at the last three censuses in the proportion of male and female wage earners. There was, however, an actual decrease from 1904 to 1909 in the employment of children under 16 years of age, which is in contrast with the increase shown for the preceding five-year period. In 1909 males 16 years of age and over formed 87.9 per cent of all wage earners, as compared with 86 per cent in 1904 and 87 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 fertilizer, the lumber and timber, the cottonseed-oil, and the turpentine and rosin industries, 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 32, 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. The wage earners for the lumber industry are divided in the table in such a manner as to show separately the number engaged in the mills and in the logging operations.

MONTH.	WAGE EARNERS.															
	All industries.		Fertilizers.		Lumber and timber products.						Oil, cottonseed, and cake.		Turpentine and rosin.		All other industries.	
	Number.	Per cent of maximum.	Number.	Per cent of maximum.	Total.	In mills.		In logging operations.		Number.	Per cent of maximum.	Number.	Per cent of maximum.	Number.	Per cent of maximum.	
January.....	70,620	90.7	1,446	51.0	21,367	87.6	8,192	87.2	13,175	87.3	2,565	90.5	2,831	73.3	42,411	91.2
February.....	70,394	90.4	2,310	83.2	21,571	88.4	8,158	86.0	13,413	85.9	2,048	72.2	2,951	76.4	41,508	89.3
March.....	71,048	91.3	2,785	100.0	21,480	88.1	8,192	87.2	13,288	88.1	1,935	67.7	3,215	83.3	41,933	90.2
April.....	69,108	88.8	1,844	66.2	21,503	88.2	8,248	87.8	13,257	87.9	930	32.8	3,682	95.4	41,207	88.6
May.....	67,041	80.0	1,083	38.9	21,127	86.6	8,202	87.3	12,925	85.7	600	21.2	3,793	98.3	41,038	88.2
June.....	67,661	86.8	771	27.7	20,803	85.3	8,046	85.7	12,757	84.6	524	18.6	3,800	100.0	41,003	89.5
July.....	68,032	88.5	867	31.9	21,667	88.8	8,605	90.5	13,062	87.2	430	15.2	3,840	99.5	42,298	91.0
August.....	72,193	92.7	688	23.6	23,296	93.5	9,023	90.1	14,273	94.6	489	16.2	3,841	99.5	43,030	94.5
September.....	75,507	97.0	793	28.5	23,798	97.2	9,234	98.3	14,574	98.0	1,877	66.2	3,775	97.8	43,354	97.5
October.....	77,190	99.2	700	25.1	23,793	97.6	9,155	97.5	14,638	97.0	2,835	100.0	3,733	96.7	40,135	90.2
November.....	77,854	100.0	821	29.5	24,263	99.2	9,393	100.0	14,870	98.2	2,827	99.7	3,605	90.8	46,468	99.9
December.....	77,080	99.8	911	32.7	24,390	100.0	9,304	99.1	15,086	100.0	2,682	94.6	3,198	82.8	46,505	100.0

The table indicates that for all industries combined the months of least activity were in the spring and summer. The minimum number were employed in

June and the maximum in November. The lumber industry, in which a large percentage of the total number of wage earners were employed, had 3,587

less wage earners in December than in June. The variation in the number of wage earners employed was almost exactly the same in logging operations as in sawmills and planing mills and box factories. The remaining seasonal industries shown in the table employed comparatively few wage earners, and consequently do not affect greatly the total for all industries combined. One of the more important of these industries is the cottonseed-oil industry, in which the months of greatest employment depend largely upon the time of maturity of the cotton crop. From 430 wage earners in July the number in this industry increased to 2,835 in October, the month of greatest activity. From April to August, the months of least activity, the mills were employed chiefly in the making of refined cottonseed products, fertilizers, feed, etc. In the manufacture of fertilizers, in which cottonseed

meal and cake forms an important ingredient, the month of maximum employment was five months later than in the cottonseed-oil industry, namely, in March. In the turpentine and rosin industry the greatest number of wage earners were employed in June, the month of least activity in the lumber industry.

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 1909 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.....	72,148	4,083	1,812	7,423	2,267	32,109	19,874	1,719	3,361
Bread and other bakery products.....	574	15	8	45	171	268	21	32	14
Brick and tile.....	1,353	140	13	16	64	1,006	97	11	6
Carrriages and wagons and materials.....	424		113	15	15	263	18		
Cars and general shop construction and repairs by steam-railroad companies.....	6,308	123		4,657		283	1,243		2
Clothing, men's, including shirts.....	194	97	83		14				
Coke.....	2,580	57	15	185		325	1,007	40	442
Confectionery.....	138	8				121	9		
Copper, tin, and sheet-iron products.....	236	147	9	51	11	18			
Cordage and twine and jute and linen goods.....	427					207	220		
Cotton goods, including cotton small wares.....	12,731		36		477	7,320	4,814	84	
Fertilizers.....	1,233	4		10		997	175	41	
Flour-mill and gristmill products.....	168	20	3	5	9	77	5	45	4
Foundry and machine-shop products.....	5,898	82	86	1,033	572	4,108	17		
Gas, illuminating and heating.....	259				10	7	128		114
Hosiery and knit goods.....	611					493	118		
Ice, manufactured.....	343					40	31	59	213
Iron and steel, blast furnaces.....	3,783					108	1,454		2,221
Leather goods.....	80			13	2	65			
Lime.....	411				15	111	171	57	57
Lumber and timber products.....	22,400	1,262	681	446	385	10,351	9,152	132	
Marble and stone work.....	358	20	6	13	40	273			
Mattresses and spring beds.....	82			13	30	39			
Oil, cottonseed, and cake.....	1,618					108	547	841	122
Pottery, terra-cotta, and fire-clay products.....	425	10		4		364	47		
Printing and publishing.....	1,117	447	32	351	99	188			
Stoves and furnaces, including gas and oil stoves.....	301	39				322			
Tobacco manufactures.....	153	85		32		6	30		
Turpentine and rosin.....	3,519	1,243	187	248	24	1,393	359	65	
All other industries.....	4,355	278	40	280	329	2,748	211	303	166

It is evident from these figures that for the majority of wage earners employed in the manufacturing industries of Alabama the prevailing hours of labor are 60 or over but less than 72 a week, or 10 or over but less than 12 a day, 20.9 per cent of the total number being employed in establishments where the prevailing hours are less than 60 per week, and 7 per cent being employed in establishments where they are 72 or more per week. Considering the single groups, by far the largest proportion of wage earners, 44.5 per cent, work 60 hours a week; the next largest proportion, 27.5 per cent, work more than 60 and less than 72 a week; while 10.3 per cent work 54 hours a week, or 9 hours a day.

Cottonseed-oil mills, blast furnaces, and ice factories are the only establishments in which more than half of the wage earners work 72 hours or more a week, and the last two classes of factories are in operation seven days in the week.

Location of establishments.—The next table shows that the manufacturing industries of the state are carried on chiefly in districts outside cities and towns of 10,000 inhabitants or over. (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 or towns which came within the group having over 10,000 inhabitants.

ITEM.	Year.	Total.	LOCATION OF ESTABLISHMENTS.		PER CENT OF TOTAL.	
			In cities or towns with population of 10,000 and over.	Outside districts.	In cities or towns with population of 10,000 and over.	Out-side districts.
Population.....	1910 1900	2,138,093 1,828,697	270,206 107,230	1,867,887 1,721,467	12.6 5.9	87.4 94.1
Number of establishments.	1909 1899	3,398 2,000	679 274	2,819 1,726	17.0 13.7	83.0 86.3
Average number of wage earners.	1909 1899	72,148 52,711	19,227 7,889	52,921 45,322	26.6 14.0	73.4 86.0
Value of products..	1909 1899	\$145,961,698 72,109,929	\$49,345,723 15,028,755	\$96,615,915 57,081,174	33.8 20.8	66.2 79.2
Value added by manufacture.	1909 1899	62,519,120 34,111,696	19,811,680 7,792,188	42,707,440 26,319,558	31.7 22.8	68.3 77.2

The figures indicate that the cities and towns having 10,000 inhabitants or over have gained considerably on the districts outside, as the proportion of the average number of wage earners, value of products, and value added by manufacture reported for such cities and large towns has increased decidedly during the decade covered by the table. In 1909 such cities and towns reported 26.6 per cent of the average number of wage earners, as compared with 14 per cent in 1899, and 33.8 per cent of the value of products, as compared with 20.8 per cent in 1899.

The increase in the population of certain cities and towns has affected the grouping in this table. Prior to 1910 the cities of Anniston and Selma and the towns of Bessemer and Gadsden had less than 10,000 inhabitants and so were included with the districts outside. In 1909 the manufacturing establishments in these four places employed 5,582 wage earners and turned out products valued at \$14,346,328, which represent 7.7 per cent and 9.8 per cent of the respective totals for the state. If these figures for 1909 were deducted from the total for the cities and towns and added to the districts outside, the proportions of the totals falling to the cities and towns would still show increases over 1899, but the gains would be materially reduced.

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

CITY OR TOWN.	1910	1900
Birmingham.....	132,685	88,415
Mobile.....	51,521	38,409
Montgomery.....	38,136	30,346
Selma.....	13,649	18,713
Anniston.....	12,794	9,695
Bessemer.....	10,884	6,358
Gadsden.....	10,557	4,282

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 or towns.

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

CITY OR TOWN.	AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.		
	1909	1904	1899	1909	1904	1899
Birmingham.....	8,990	3,087	3,490	\$24,128,214	\$7,592,058	\$8,599,418
Bessemer.....	1,810	(¹)	(¹)	6,100,098	(¹)	(¹)
Montgomery.....	2,284	1,940	1,528	5,442,287	3,877,658	2,043,668
Mobile.....	2,362	2,496	2,371	5,428,894	4,042,331	3,485,669
Anniston.....	2,167	2,005	1,445	4,332,590	3,320,518	1,863,122
Selma.....	813	668	699	2,382,249	1,138,817	1,419,466
Gadsden.....	780	(¹)	(¹)	1,625,001	(¹)	(¹)

¹ Figures not available.

The average number of wage earners in Birmingham and Montgomery increased from census to census, but Mobile shows a decrease of 5.4 per cent in this respect from 1904 to 1909. Each of these cities showed an increase in value of products from 1904 to 1909, and all but Birmingham an increase from 1899 to 1904. Although Birmingham showed a decrease of 11.7 per cent in value of products from 1899 to 1904, it showed an increase of 217.8 per cent for the period from 1904 to 1909. The large increase during the later period was due partly to the absorption by Birmingham of Ensley and Pratt City, as well as some of the surrounding districts.

Birmingham, the principal manufacturing city, is the center of the iron and steel industry of the state. In 1909, as in 1904, the principal industries were blast furnaces, foundries and machine shops, steam-railroad repair shops, and printing and publishing. Each of these industries reported a value of products in excess of \$1,000,000 at the later census. A considerable number of the important industries of the city could not be shown separately in Table I without disclosing individual operations. The most important of these industries which are included under the head of "All other industries" in that table are: Brass and bronze products; cars and general shop construction and repairs by steam-railroad companies; coke; cotton goods, including cotton small wares; flour-mill and gristmill products; iron and steel, blast furnaces; oil, cottonseed, and cake; and pottery, terra-cotta, and fire-clay products.

In 1909 Montgomery and Mobile reported approximately the same value of products. The manufacture of cottonseed oil and cake held first rank in the city of Montgomery. The manufactures of Mobile are shown separately in Table I, as this city has a population of over 50,000. Its leading industries are: Bread and other bakery products; cars and general shop con-

struction and repairs by steam-railroad companies; flour-mill and gristmill products; foundry and machine-shop products; lumber and timber products; and printing and publishing, none of which had a value of products in 1909 exceeding \$1,000,000. In Anniston the foundry and machine shops, which include the large cast-iron and steel-pipe industry, constituted by far the most important branch of manufacturing, while in Bessemer the manufactures are centered in the iron and steel industry.

Gadsden and Selma are of less importance as manufacturing cities and towns. The principal industry of Selma was the manufacture of cottonseed

products, while Gadsden had no one predominating 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.	INDUSTRY AND CHARACTER OF OWNERSHIP.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
ALL INDUSTRIES:					Foundry and machine-shop products, 1909				
1909.....	3,998	72,148	\$145,961,638	\$62,519,120	Individual.....	103	5,868	\$11,550,217	\$5,323,199
1904.....	1,882	62,173	109,169,922	48,711,554	Firm.....	32	269	480,513	239,066
Individual:					Firm.....	15	237	601,393	363,001
1909.....	1,695	9,869	12,452,801	7,648,628	Corporation.....	59	5,392	10,468,911	4,670,532
1904.....	816	6,002	9,206,408	5,805,446	Per cent of total.....	100.0	100.0	100.0	100.0
Firm:					Individual.....	31.4	4.6	4.2	5.4
1909.....	906	7,350	9,068,801	5,941,525	Firm.....	14.7	4.0	5.2	6.8
1904.....	480	5,503	7,140,050	4,512,108	Corporation.....	53.9	91.4	90.6	87.7
Corporation:					Lumber and timber products, 1909				
1909.....	788	54,879	123,502,394	48,898,008	Individual.....	1,819	22,408	\$26,057,682	\$16,913,033
1904.....	578	49,740	92,725,327	38,363,338	Individual.....	1,064	6,250	6,517,093	4,466,673
Other:					Firm.....	583	4,133	4,450,608	3,126,640
1909.....	9	20	37,642	30,869	Corporation ²	172	12,020	15,083,961	9,919,710
1904.....	8	28	38,123	30,662	Per cent of total.....	100.0	100.0	100.0	100.0
Per cent of total:					Individual.....	58.5	27.9	25.0	20.4
1909.....	100.0	100.0	100.0	100.0	Firm.....	32.0	18.4	17.1	18.5
1904.....	100.0	100.0	100.0	100.0	Corporation ²	9.5	53.6	57.9	55.1
Individual:					Printing and publishing, 1909				
1909.....	49.9	13.7	8.5	12.2	Individual.....	274	1,117	\$2,768,347	\$2,102,254
1904.....	43.4	11.1	8.5	11.9	Individual.....	163	410	683,299	548,473
Firm:					Firm.....	52	137	229,582	179,810
1909.....	26.7	10.2	0.8	9.5	Corporation.....	53	568	1,837,175	1,355,922
1904.....	25.5	8.9	0.5	9.3	Other.....	6	2	18,191	18,049
Corporation:					Per cent of total.....	100.0	100.0	100.0	100.0
1909.....	23.2	76.1	84.6	78.2	Individual.....	59.5	36.7	24.7	23.1
1904.....	30.7	80.0	84.9	78.8	Firm.....	19.0	12.3	8.3	8.6
Other:					Corporation.....	19.3	50.8	66.4	64.5
1909.....	0.3	(¹ / ₃)	(¹ / ₃)	(¹ / ₃)	Other.....	2.2	0.2	0.7	0.9
1904.....	0.4	(¹ / ₃)	(¹ / ₃)	0.1	Turpentine and rosin, 1909				
Flour-mill and gristmill products, 1909.....	72	168	\$2,778,274	\$378,834	Individual.....	175	3,519	\$2,471,998	\$1,988,207
Individual.....	45	68	1,010,719	136,063	Individual.....	72	1,073	727,984	505,496
Firm.....	17	38	638,784	111,477	Firm.....	78	1,683	1,193,848	905,891
Corporation.....	10	62	1,129,771	126,294	Corporation.....	25	793	550,167	454,820
Per cent of total.....	100.0	100.0	100.0	100.0	Per cent of total.....	100.0	100.0	100.0	100.0
Individual.....	62.5	40.5	36.4	36.4	Individual.....	41.1	30.5	29.4	28.5
Firm.....	23.6	22.6	23.0	29.8	Firm.....	44.6	47.8	48.3	48.6
Corporation.....	13.9	36.9	40.6	33.8	Corporation.....	14.3	21.7	22.3	22.9

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, 23.2 per cent of the total number of establishments were, in 1909, under corporate ownership, as against 76.9 per cent under all other forms. The corresponding figures for 1904 were 30.7 per cent and 69.3 per cent, respectively. For all industries combined the proportion of the total value of products which the establishments under each form of ownership contributed remained about the same at each census. Among the important industries not shown in this table, all of the steam-railroad repair shops, the coke establishments, the cotton mills, and

the blast furnaces, and all but six of the fertilizer factories and seven of the cottonseed-oil mills were under corporate ownership.

Size of establishment.—The tendency for manufacturing to become concentrated in large establishments, or the reverse, is a matter of interest from the standpoint of industrial organization. In order to throw some light upon it the following table groups the establishments according to the value of their products. The table also shows the average size of establishments for all industries combined and for important industries separately, as measured by number of wage earners, value of products, and value added by manu-

facture. The totals as reported for all industries are shown for the last two censuses, while for the five most important industries figures are given for 1909 only.

INDUSTRY AND VALUE OF PRODUCTS.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.	INDUSTRY AND VALUE OF PRODUCTS.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
ALL INDUSTRIES:									
1909.....	3,398	72,148	\$145,861,638	\$62,519,120	Foundry and machine-shop products, 1909.....	102	5,898	\$11,550,817	\$5,323,199
1904.....	1,882	62,173	109,189,922	48,711,554	Less than \$5,000.....	17	32	46,825	33,490
Less than \$5,000:					\$5,000 and less than \$20,000.....	25	198	277,885	177,954
1909.....	1,614	4,226	3,484,496	2,493,709	\$20,000 and less than \$100,000.....	29	813	1,350,282	751,123
1904.....	577	1,246	1,438,922	1,084,455	\$100,000 and less than \$1,000,000.....	27	3,000	5,442,238	2,776,751
\$5,000 and less than \$20,000:					\$1,000,000 and over.....	4	1,855	4,432,987	1,583,876
1909.....	1,002	9,128	10,232,102	7,048,024	Per cent of total.....	100.0	100.0	100.0	100.0
1904.....	677	6,313	7,191,893	5,051,073	Less than \$5,000.....	16.7	0.5	0.4	0.6
\$20,000 and less than \$100,000:					\$5,000 and less than \$20,000.....	24.5	3.4	2.4	3.3
1909.....	493	12,983	21,920,233	11,275,009	\$20,000 and less than \$100,000.....	28.4	13.8	11.7	14.1
1904.....	395	12,596	18,218,703	10,203,718	\$100,000 and less than \$1,000,000.....	26.5	50.9	47.1	52.2
\$100,000 and less than \$1,000,000:					\$1,000,000 and over.....	3.9	31.5	38.4	29.8
1909.....	267	31,993	68,275,898	26,824,753	Average per establishment.....		58	\$113,237	\$52,188
1904.....	219	31,631	57,254,914	23,390,568	Lumber and timber products, 1909.....	1,819	22,409	\$26,057,662	\$16,913,023
\$1,000,000 and over:					Less than \$5,000.....	1,120	3,193	2,174,628	1,619,371
1909.....	22	13,818	42,048,999	14,877,565	\$5,000 and less than \$20,000.....	481	4,746	4,790,814	3,517,990
1904.....	14	10,417	25,070,580	8,975,140	\$20,000 and less than \$100,000.....	167	5,250	6,872,217	4,362,348
Per cent of total:					\$100,000 and less than \$1,000,000.....	51	9,220	12,220,003	7,413,344
1909.....	100.0	100.0	100.0	100.0	Per cent of total.....	100.0	100.0	100.0	100.0
1904.....	100.0	100.0	100.0	100.0	Less than \$5,000.....	61.6	14.2	8.3	9.6
Less than \$5,000:					\$5,000 and less than \$20,000.....	20.4	21.2	18.4	20.8
1909.....	47.5	5.9	2.4	4.0	\$20,000 and less than \$100,000.....	9.2	23.4	26.4	25.8
1904.....	30.7	2.0	1.3	2.2	\$100,000 and less than \$1,000,000.....	2.8	41.1	46.9	43.8
\$5,000 and less than \$20,000:					Average per establishment.....		12	\$14,325	\$9,298
1909.....	29.5	12.7	7.0	11.3	Printing and publishing, 1909.....	274	1,117	\$2,768,247	\$2,102,254
1904.....	36.0	10.2	6.6	10.4	Less than \$5,000.....	182	301	469,291	371,120
\$20,000 and less than \$100,000:					\$5,000 and less than \$20,000.....	69	308	615,850	500,276
1909.....	14.5	18.0	15.0	18.0	\$20,000 and less than \$100,000.....	17	285	669,290	469,593
1904.....	21.0	20.2	16.7	20.9	\$100,000 and less than \$1,000,000.....	6	222	1,022,816	769,965
\$100,000 and less than \$1,000,000:					Per cent of total.....	100.0	100.0	100.0	100.0
1909.....	7.9	44.3	46.8	42.9	Less than \$5,000.....	66.4	26.9	16.6	17.7
1904.....	11.6	50.9	52.4	48.0	\$5,000 and less than \$20,000.....	25.2	27.0	22.2	23.8
\$1,000,000 and over:					\$20,000 and less than \$100,000.....	6.2	25.6	24.2	21.9
1909.....	0.6	19.2	23.8	23.8	\$100,000 and less than \$1,000,000.....	2.2	19.9	36.9	36.6
1904.....	0.7	16.8	23.0	18.4	Average per establishment.....		4	\$10,103	\$7,672
Average per establishment:					Turpentine and rosin, 1909.....	175	3,519	\$2,471,999	\$1,986,207
1909.....		21	\$42,955	\$18,399	Less than \$5,000.....	35	179	108,631	77,598
1904.....		33	58,907	25,883	\$5,000 and less than \$20,000.....	105	1,909	1,175,753	933,589
Flour-mill and gristmill products, 1909.....	72	168	\$2,779,274	\$373,634	\$20,000 and less than \$100,000.....	35	1,431	1,187,015	975,020
Less than \$5,000.....	18	14	51,415	9,275	Per cent of total.....	100.0	100.0	100.0	100.0
\$5,000 and less than \$20,000.....	29	43	318,036	67,543	Less than \$5,000.....	26.0	5.1	4.4	3.9
\$20,000 and less than \$100,000.....	18	51	761,830	79,518	\$5,000 and less than \$20,000.....	66.0	54.2	47.6	47.0
\$100,000 and less than \$1,000,000.....	7	60	1,647,893	227,498	\$20,000 and less than \$100,000.....	20.0	40.7	45.0	49.1
Per cent of total.....	100.0	100.0	100.0	100.0	Average per establishment.....		20	\$14,120	\$11,350
Less than \$5,000.....	25.0	8.3	1.8	2.5					
\$5,000 and less than \$20,000.....	40.3	25.6	11.5	15.4					
\$20,000 and less than \$100,000.....	25.0	30.4	27.4	21.3					
\$100,000 and less than \$1,000,000.....	9.7	35.7	59.3	60.9					
Average per establishment.....		2	\$38,601	\$5,192					

This table shows that in 1909, of the 3,398 establishments only 22, or six-tenths of 1 per cent, had a value of products exceeding \$1,000,000. These establishments, however, employed an average of 13,818 wage earners, or 19.2 per cent of the total number in all establishments, and reported 28.8 per cent of the total value of products and 23.8 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, 47.5 per cent, of the total number of establishments, but the value of their products amounted to only 2.4 per cent of the total. Measured by number of wage earners and value of products, the largest group consisted of those establishments having products of \$100,000 but less than \$1,000,000 in value, the wage earners in these establishments forming 44.3 per cent of the total number and the value of their products amounting to 46.8 per

cent of the total. About three-fourths of the total value of products was reported by establishments having products valued at not less than \$100,000.

The fact that the average number of wage earners per establishment decreased from 33 to 21, the average value of products from \$58,007 to \$42,955, and the value added by manufacture from \$25,883 to \$18,399 is due to the increase in the number of small establishments, largely in the lumber industry.

In some respects, and especially from the standpoint of conditions under which persons engaged in manufactures work, the best classification of establishments to bring out the feature of size is a classification according to the number of wage earners employed. The next table shows, for 1909, such a classification for all industries combined and for 11 important industries individually, and gives not only the number of establishments falling 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.....	3,398	131	1,790	924	288	128	93	34	11	4
Cars and general shop construction and repairs by steam-railroad companies.....	21		2	2	2		4	6	4	1
Coke.....	35		1	8	8	10	6	2		
Cotton goods, including cotton small wares.....	51			8	7	11	20	7		2
Fertilizers.....	42		16	11	5	7	3			
Flour-mill and gristmill products.....	72	11	57	3	1					
Foundry and machine-shop products.....	102	2	26	26	14	17	12	5		
Iron and steel, blast furnaces.....	19				2	3	10	2	2	
Lumber and timber products.....	1,819	30	1,079	546	84	33	26	11	1	
Oil, cottonseed, and cake.....	274	47	8	32	27	3	1			
Printing and publishing.....	71		185	32	9	1				
Turpentine and rosin.....	175	2	29	81	57	5	1			
All other industries.....	717	30	387	183	72	33	10	1		1
AVERAGE NUMBER OF WAGE EARNERS.										
All industries.....	72,148		4,550	10,327	9,119	8,579	14,468	12,037	7,962	5,106
Cars and general shop construction and repairs by steam-railroad companies.....	6,808		4	14	47		487	1,937	2,425	1,394
Coke.....	2,580		9	109	272	758	902	530		
Cotton goods, including cotton small wares.....	12,731				292	776	3,439	2,599	3,467	2,158
Fertilizers.....	1,233		58	88	103	532	302			
Flour-mill and gristmill products.....	108		113	25	30					
Foundry and machine-shop products.....	5,898		70	324	476	1,103	1,730	2,189		
Iron and steel, blast furnaces.....	3,783				73	211	1,529	727	1,243	
Lumber and timber products.....	22,409		2,721	5,880	2,652	2,332	4,198	3,795	827	
Oil, cottonseed, and cake.....	1,018		23	453	844	178	115			
Printing and publishing.....	1,117		400	322	205	70				
Turpentine and rosin.....	8,519		92	1,147	1,824	306	150			
All other industries.....	10,784		989	1,959	2,181	2,313	1,528	260		1,554
PER CENT OF AVERAGE NUMBER OF WAGE EARNERS.										
All industries.....	100.0		6.3	14.3	12.6	11.9	20.1	16.7	11.0	7.1
Cars and general shop construction and repairs by steam-railroad companies.....	100.0		0.1	0.2	0.7		7.7	30.7	38.4	22.1
Coke.....	100.0		0.3	4.2	10.5	29.4	35.0	20.5		
Cotton goods, including cotton small wares.....	100.0				2.3	6.1	27.0	20.4	27.2	17.0
Fertilizers.....	100.0		4.7	7.1	13.2	43.1	31.8			
Flour-mill and gristmill products.....	100.0		67.3	14.9	17.9					
Foundry and machine-shop products.....	100.0		1.3	5.5	8.1	18.7	29.3	37.1		
Iron and steel, blast furnaces.....	100.0				1.9	5.6	40.4	19.2	32.9	
Lumber and timber products.....	100.0		12.1	26.3	11.8	10.4	18.7	16.9	3.7	
Oil, cottonseed, and cake.....	100.0		1.7	28.0	52.2	11.0	7.1			
Printing and publishing.....	100.0		41.2	28.8	23.7	6.3				
Turpentine and rosin.....	100.0		2.0	32.6	51.8	8.7	4.3			
All other industries.....	100.0		9.2	18.2	20.2	21.4	14.2	2.4		14.4

The per cent distribution of the number of establishments is not shown in this table; of the 3,398 establishments reported for all industries, 3.9 per cent employed no wage earners; 52.7 per cent, from 1 to 5; 27.2 per cent, from 6 to 20; and only 16.3 per cent, 21 and over. The most numerous single group consists of the 1,790 establishments employing from 1 to 5 wage earners and the next of the 924 establishments employing from 6 to 20 wage earners. There were 49 establishments that employed over 250 wage earners, while 4 employed over 1,000.

Of the total number of wage earners, 54.9 per cent were in establishments employing over 100 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 14,468 wage earners, or 20.1 per cent of the total. The individual industries listed in this table but not in the preceding one, namely, coke, cotton goods, blast furnaces, and steam-railroad repair shops, are industries in which comparatively large establishments do most of the business, as appears from the classification according to the number of wage earners. The fertilizer and cottonseed-oil establishments appear to be somewhat smaller.

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

The next table shows, 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 32.

INDUSTRY.	PER CENT OF TOTAL EXPENSES REPORTED.			
	Salaries.	Wages.	Materials.	Miscellaneous expenses.
All industries.....	5.1	21.1	64.6	9.2
Cars and general shop construction and repairs by steam-railroad companies.....	4.2	44.8	50.1	0.9
Coke.....	2.7	15.6	77.4	4.3
Cotton goods, including cotton small wares.....	2.3	17.4	72.5	7.8
Fertilizers.....	5.4	6.9	75.4	12.3
Flour-mill and gristmill products.....	2.0	2.2	93.8	2.0
Foundry and machine-shop products.....	6.2	27.7	58.2	7.9
Iron and steel, blast furnaces.....	3.9	10.9	81.0	4.2
Lumber and timber products.....	5.4	33.8	42.6	18.2
Oil, cottonseed, and cake.....	4.0	5.2	84.0	6.8
Printing and publishing.....	20.7	29.2	29.9	20.3
Turpentine and rosin.....	6.9	49.8	26.7	16.6
All other industries.....	8.0	20.6	61.0	10.4

This table shows that, for all industries combined, 64.6 per cent of the total expenses were incurred for materials, 26.2 per cent for services—that is, salaries and wages—and but 9.2 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 current generated in the manufacturing establishments.

The table indicates that the absolute increase in primary power was mainly in steam and electric power. In 1909, as in 1904, steam formed the major part of the power, but notwithstanding an increase during this period of 47,805 horsepower, the proportion of this kind of power decreased from 95.7 per cent in 1904 to 91.7 per cent in 1909. The more general use of the gas engine is shown, the number of such engines being 248 in 1909, as against 77 in 1904 and 38 in 1899. The figures also show that the practice of renting power is on the increase, 2.9 per cent of the total power being rented in 1909, as against but five-tenths of 1 per cent in 1904 and four-tenths of 1 per cent in 1899. The use of electric motors for the purpose of applying the power generated within the establishments is also shown to be rapidly becoming more common, the

horsepower of such motors increasing from 3,062 in 1899 to 8,666 in 1904 and 29,824 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.....	4,909	2,279	2,018	357,837	293,185	173,208	100.0	100.0	100.0
Owned.....	3,879	2,279	2,018	347,546	291,643	172,487	97.1	99.5	99.6
Steam.....	3,463	2,129	1,828	328,275	280,470	162,453	91.7	95.7	93.8
Gas.....	248	77	38	4,616	472	376	1.3	0.2	0.2
Water wheels.....	147	63	150	13,912	9,483	9,421	3.9	3.2	5.4
Water motors.....	21	10	(²)	111	35	(²)	(²)	(²)	(²)
Other.....				732	1,183	237	0.2	0.4	0.1
Rented.....	1,030	(²)	(²)	10,261	1,542	721	2.9	0.5	0.4
Electric.....	1,030	(²)	(²)	10,104	1,448	359	2.8	0.5	0.2
Other.....				187	94	362	0.1	(²)	0.2
Electric motors	2,500	296	69	89,928	10,114	3,421	100.0	100.0	100.0
Run by current generated by establishment.....	1,470	296	69	29,824	8,666	3,062	74.7	85.7	89.5
Run by rented power.....	1,030	(²)	(²)	10,104	1,448	359	25.3	14.3	10.5

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

Fuel.—Closely related to the question of kind of power employed is that of the fuel used in generating this power, or otherwise consumed as material in the manufacturing processes. The following table shows the quantity of each kind of fuel used in 1909, by totals, 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.....	17,903	6,352,202	3,041,326	186,077	11,370	18,715
Brick and tile.....		113,766	946	24,224	29	
Cars and general shop construction and repairs by steam-railroad companies.....		61,210	2,338	1,202	652	
Coke.....		5,156,407				
Cotton goods, including cotton small wares.....		190,688		3,812	40	
Fertilizers.....		33,549		420	85	
Flour-mill and gristmill products.....		5,773	100	1,712	318	
Foundry and machine-shop products.....		65,783	107,547	6,043	809	12
Gas, illuminating and heating.....		53,505	1,894		4,000	
Iron and steel, blast furnaces.....		142,649	2,907,745	91		6,000
Lime.....		21,412	250	22,967	5	
Lumber and timber products.....	10	16,816		7,972	470	
Oil, cottonseed, and cake.....	5	81,733		8,553	45	
Pottery, terra-cotta, and fire-clay products.....		43,192		1,666	36	
Printing and publishing.....	2	1,522	10	343	334	1,799
Turpentine and rosin.....			225	16,310	3	
All other industries.....	17,886	364,109	20,276	90,762	4,549	10,904

NOTE.—In addition, there were 41,068 tons of other varieties of fuel reported.

SUPPLEMENTARY DATA REGARDING IMPORTANT INDUSTRIES.

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

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

Lumber and timber products.—The lumber industry is an important one in Alabama. The total quantity of lumber sawed has increased from year to year, a total of 1,691,001 M feet representing the cut for 1909, as compared with 1,101,386 M feet in 1899. Yellow pine formed 89.1 per cent of the total cut of the state in 1909.

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

PRODUCT.	1909	1899
Rough lumber.....M feet b. m.	1,691,001	1,101,386
Lath.....thousands..	50,979	28,721
Shingles.....thousands..	245,871	267,273

Cotton goods, including cotton small wares.—This industry was first reported for the state of Alabama at the census of 1839, when the value of cotton products reported was \$17,547. The industry increased but slowly up to the census of 1889, when it began to grow more rapidly, until in 1909 the value of products amounted to \$22,211,748. In the latter year Alabama held eighth place among the cotton manufacturing states in respect to number of establishments, and ninth place in respect to both number of producing spindles and value of products.

The table following shows in detail for the cotton-goods industry the quantity and cost of materials, the quantity and value of products, and the number of the principal machines used, as reported at the last three censuses.

The principal material used was domestic cotton, which was largely obtained directly from the plantations of the state. No Egyptian or other foreign cotton was reported used in 1899 and only a small amount in 1904 and 1909. The cotton consumed in this industry in 1909 amounted to 116,232,495 pounds and cost \$12,616,233, the increase since 1904 being 17,131,817 pounds, or 17.3 per cent, in quantity, and \$1,530,470, or 13.8 per cent, in cost.

Increases both in quantity and value were shown for every class of products from 1899 to 1904, except drills, which showed a decrease in quantity. Increases were also shown for every class of products from 1904 to 1909, except brown or bleached sheetings or shirtings, which showed decreases in both quantity and value. The latter class of products, which was the

most important in 1899 and 1904 when measured by value, became second in importance in 1909, being exceeded by yarns for sale. It continued, however, to lead all other products in respect to quantity. Plain cloths for printing or converting, which show an increase from 1904 to 1909 of 7,882,560 square yards in quantity and \$641,134 in value, ranked second in quantity and fourth in value. The partly manufactured articles, yarns manufactured for sale, and cotton waste, represent a certain amount of duplication, because, although they are the products of one set of mills, they become the materials of other establishments.

MATERIAL, PRODUCT, OR MACHINE.	1909	1904	1899
Materials used, total cost.....	\$14,373,247	\$12,010,798	\$4,825,981
Cotton:			
Pounds.....	116,232,495	99,100,678	67,987,299
Cost.....	\$12,616,233	\$11,085,763	\$4,206,721
Starch.....	\$101,218	\$31,304	\$38,537
Chemicals and dyestuffs.....	\$71,114	\$86,672	\$21,032
Fuel and rent of power and heat.....	\$445,568	\$303,182	\$141,987
All other materials.....	\$1,139,114	\$443,867	\$417,704
Products, total value.....	\$22,211,748	\$16,760,332	\$8,153,136
Plain cloths for printing or converting:			
Square yards.....	48,108,666	40,226,106	10,460,526
Value.....	\$2,187,301	\$1,546,167	\$942,090
Brown or bleached sheetings or shirtings:			
Square yards.....	75,130,788	108,518,564	72,432,173
Value.....	\$4,818,284	\$5,196,880	\$2,841,008
Duck:			
Square yards.....	29,435,832	25,645,853	15,614,278
Value.....	\$4,234,763	\$3,066,062	\$1,709,200
Drills:			
Square yards.....	21,790,867	11,602,266	14,867,094
Value.....	\$1,865,822	\$680,891	\$607,927
Yarns for sale:			
Pounds.....	25,560,583	18,413,437	14,432,028
Value.....	\$5,100,971	\$3,562,319	\$1,965,139
Cotton waste for sale:			
Pounds.....	10,405,797	6,873,474	6,764,490
Value.....	\$219,872	\$208,143	\$101,696
All other products.....	\$3,784,735	\$2,510,870	\$585,476
Machinery:			
Producing spindles, number.....	885,803	758,087	411,328
Looms, number.....	16,014	15,659	8,549

Oil, cottonseed, and cake.—Alabama holds sixth place among the states in the value of its cottonseed products and shows a continuous growth from 1899 to 1909. The following table shows the quantity of cotton seed crushed and the quantity of crude products, by kinds, in 1909, 1904, and 1899.

MATERIAL OR PRODUCT.	QUANTITY.		
	1909	1904	1899
Cotton seed crushed..... tons..	310,754	265,653	172,093
Crude products manufactured:			
Oil..... gallons..	13,061,284	10,634,364	6,704,951
Meal and cake..... tons..	141,102	107,229	80,389
Hulls..... tons..	95,351	95,517	80,167
Linters..... pounds..	13,770,427	8,420,339	4,331,016

The statistics in this table include all the cotton seed crushed during the year, regardless of the extent to which the establishments were engaged in other industries. Furthermore, the crude products reported represent the total product derived from crushing cotton seed, whether sold as such or used as intermedi-

ate products in further processes of manufacture, such as the refining of oil and the mixing of fertilizer and feed. The average crush per mill has fallen off during the past five years, but not to the same extent as during the previous five years. The high price of cotton seed has resulted in recent years in the crushing of a large percentage of the seed produced. Of the 71 mills reported in 1909 as crushing seed, 8 crushed less than 1,000 tons each during the census year, 15 crushed 1,000 but less than 2,000 tons, 27 crushed 2,000 but less than 5,000 tons, 15 crushed 5,000 but less than 10,000 tons, 5 crushed 10,000 but less than 20,000 tons, and 1 crushed more than 20,000 tons. The ratios which the several crude products in 1909 bore to the total weight of the seed when received at the mill were as follows: Crude oil, 15.8 per cent; meal and cake, 45.4 per cent; hulls, 30.7 per cent; and linters, 2.2 per cent. It will be observed that hulls represented a considerably smaller proportion of the total product in 1909 than in 1904 or 1899.

Fertilizers.—This industry has shown the most rapid growth of any in the state during the past five years. In 1909 Alabama held seventh place among the states in the manufacture of fertilizer. The following table shows in detail the quantity and value of the different kinds of products reported for the years 1909, 1904, and 1899:

PRODUCT.	1909	1904	1899
Total value.....	\$6,423,233	\$2,341,132	\$2,068,162
Superphosphates:			
From minerals, bones, etc.—			
Tons.....	100, 519	58, 190	38, 240
Value.....	\$1, 147, 291	\$467, 478	\$369, 587
Ammoniated—			
Tons.....	87, 353	11, 681	2, 000
Value.....	\$1, 581, 800	\$210, 374	\$35, 000
Complete fertilizers:			
Tons.....	121, 824	83, 642	92, 253
Value.....	\$2, 292, 445	\$1, 557, 133	\$1, 433, 355
All other fertilizers:			
Tons.....	92, 481	7, 128	6, 070
Value.....	\$982, 357	\$90, 173	\$104, 766
All other products.....	\$410, 340	\$10, 474	\$125, 454

The statistics in this table are for establishments whose chief products are fertilizers. In addition to the 42 establishments the products of which are given in this table, there were 20 establishments, 19 of which were primarily engaged in the manufacture of cottonseed oil and 1 in slaughtering and meat packing, which produced as by-products 25,959 tons of fertilizer, valued at \$503,503.

Complete fertilizer was the product of chief value reported at each census, showing an increase of \$859,090, or 59.9 per cent, from 1899 to 1909. The quantity in 1909 exceeded that for 1899 by 32.1 per cent, although there was a small decrease from 1899 to 1904. The greatest absolute increase in value from 1904 to 1909 was in ammoniated superphosphates, which increased \$1,361,926. The increase in value of "superphosphates from minerals, bones, etc.," during the same period was nearly equal to that in com-

plete fertilizers, the former being \$689,813 and the latter \$735,312.

Flour-mill and gristmill products.—Gristmills predominate in this industry. All of the 72 establishments reported corn products, 12 reported wheat products, and only 1 reported flour as its chief product. The following is a tabular statement of the quantity and value of the different kinds of these products for 1909 and 1904:

PRODUCT.	QUANTITY.		VALUE.	
	1909	1904	1909	1904
Total value.....			\$2,779,274	\$1,750,452
Wheat flour:				
White..... barrels..	15, 029	28, 483	92, 790	158, 320
Graham..... barrels..	607		4, 560	
Rye flour..... barrels..		100		562
Corn meal..... barrels..	534, 288	364, 992	1, 856, 501	941, 779
Hominy and grits..... pounds..	4, 889, 356	2, 579, 356	90, 579	44, 234
Feed..... tons.....	22, 776	25, 720	699, 041	571, 179
Offal..... tons.....	970	1, 445	20, 064	28, 980
All other products.....			15, 799	5, 398

Printing and publishing.—This industry embraces the printing and publishing of books, and of newspapers and periodicals, job printing, bookbinding, and the engraving of steel and copper plate, including plate printing. The following table shows the number and circulation of the different classes of newspapers and periodicals for 1909, 1904, and 1899:

PERIOD OF ISSUE.	NUMBER OF PUBLICATIONS.			AGGREGATE CIRCULATION PER ISSUE.		
	1909	1904	1899	1909	1904	1899
Total.....	227	213	186	518, 074	399, 005	230, 079
Daily.....	26	21	19	139, 345	99, 853	48, 645
Sunday.....	9	10	11	78, 679	52, 756	(¹)
Semiweekly.....	6	1	3	9, 305	3, 783	5, 040
Weekly.....	179	171	143	278, 245	213, 543	155, 244
Monthly.....	4	7	4	8, 700	11, 820	6, 800
All other classes.....	3	3	6	3, 800	17, 250	14, 350

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

The weekly publications are the most important class, measured by both number of publications and aggregate circulation per issue. The daily, weekly, and semiweekly publications increased in number from 1904 to 1909, the monthly and Sunday publications decreased, and those included under the head of "All other classes" showed the same number for both years. Each class of publications, with the exception of monthlies and those included under the head of "All other classes," showed considerable increases in aggregate circulation per issue in 1909, as compared with 1904. Of the dailies, 11 were morning and 15 evening editions in 1909 and 8 morning and 13 evening editions in 1904. All of the publications were in the English language, except three weeklies, two of which were in German and one in Italian.

Turpentine and rosin.—This industry, which is dependent upon the longleaf pine forests, is carried on principally in the southern part of the state. Alabama holds third place among the states in the

quantity and value of its turpentine and rosin products. The following table shows the quantity and value of the products distilled from crude turpentine in 1909 and 1904:

PRODUCT.	1909	1904
Total value.....	\$2,471,999	\$2,434,865
Turpentine:		
Gallons.....	2,840,242	3,108,118
Value.....	\$1,253,737	\$1,501,563
Rosin:		
Barrels (280 pounds).....	309,763	360,469
Value.....	\$1,214,054	\$930,053
All other products.....	\$4,208	\$2,740

All products combined showed an increase of 1.5 per cent in value, but turpentine showed a decrease of 8.6 per cent in quantity and of 16.5 per cent in value; rosin, a decrease of 14.1 per cent in quantity, with an increase of 30.5 per cent in value; and "All other products," an increase of 53.1 per cent in value. The working unit in turpentine operations is called a crop, which consists of 10,500 boxes or cups. In 1909 there were 1,948 crops worked, of which 468 were from virgin trees, 504 from yearlings, 497 from third-year trees, and 479 from older trees. Of the total number of trees worked in Alabama during 1909, 16 per cent were treated through the cup system.

Laundries.—Statistics for steam laundries are not included in the general tables or in the totals for manufacturing industries. There were 38 such establishments in Alabama in 1909, 23 of which were in cities of over 10,000 population.

The following table summarizes the statistics:

Number of establishments.....	38
Persons engaged in the industry.....	1,274
Proprietors and firm members.....	26
Salaried employees.....	140
Wage earners (average number).....	1,108
Primary horsepower.....	1,041
Capital.....	\$545,892
Expenses.....	789,656
Services.....	469,762
Materials.....	146,657
Miscellaneous.....	173,237
Amount received for work done.....	909,130

The most common form of ownership was the corporate, with 18 establishments. The individual and partnership forms of ownership were represented by 15 and 5 establishments, respectively. Five establishments had receipts for the year's business of less than \$5,000; 19, \$5,000 but less than \$20,000; 13, \$20,000 but less than \$100,000; and 1, \$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.....	988	83.2	July.....	1,158	97.6
February.....	1,043	87.9	August.....	1,175	99.0
March.....	1,062	89.5	September.....	1,187	100.0
April.....	1,083	92.1	October.....	1,134	95.5
May.....	1,107	93.3	November.....	1,106	93.2
June.....	1,137	95.8	December.....	1,103	92.9

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

KIND.	Number of engines or motors.	Horsepower.
Primary power, total.....		1,041
Owned.....	32	838
Steam.....	30	834
Gas.....	2	4
Rented—Electric.....	81	203

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

KIND.	Unit.	Quantity.
Bituminous coal.....	Tons.....	14,317
Coke.....	Tons.....	1,216
Wood.....	Cords.....	360
Oil.....	Barrels.....	48
Gas.....	1,000 feet.....	3,000

Custom sawmills and gristmills.—The 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.....	55	96
Persons engaged in the industry.....	237	1,887
Proprietors and firm members.....	113	1,303
Salaried employees.....	1	3
Wage earners (average number).....	123	581
Primary horsepower.....	1,302	18,395
Capital.....	\$52,867	\$394,078
Expenses.....	22,715	2,050,076
Services.....	18,525	58,363
Materials.....	1,385	1,967,022
Miscellaneous.....	2,805	24,691
Value of products.....	55,271	12,326,136

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

MANUFACTURES—ALABAMA.

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.				Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
			Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).							
			Expressed in thousands.										
STATE—All industries.....	1909 1904 1899	3,393 1,882 2,000	81,972 67,884	3,769 1,948	6,055 3,763 2,269	72,148 62,173 52,711	367,837 298,185 173,208	\$173,180 106,383 60,166	\$6,565 3,867 2,059	\$27,284 21,878 14,912	\$83,443 60,459 37,998	\$145,902 109,170 78,110	\$62,519 48,712 34,112
Bread and other bakery products.....	1909 1904 1899	83 52 51	773 585 391	94 59 54	105 51 55	574 475 282	334 251 161	898 473 261	93 42 20	248 161 87	1,073 690 387	1,725 1,110 682	652 444 205
Brick and tile.....	1909 1904 1899	71 63 72	1,500 1,178 1,259	56 60 93	91 74 44	1,353 1,044 1,122	5,127 3,300 1,501	1,942 1,033 432	100 72 25	434 301 257	288 204 143	1,185 847 658	847 643 515
Carriages and wagons and materials.....	1909 1904 1899	35 26 47	508 439	40 30	44 29	424 380 461	991 554	752 681 436	45 29 19	194 165 140	303 377 252	684 740 600	381 303 348
Cars and general shop construction and repairs by steam-railroad companies.	1909 1904 1899	21 18 19	6,610 5,740 4,148	.....	302 239 118	6,308 5,501 4,030	4,028 3,125 1,588	4,732 2,104 2,019	313 235 113	3,372 2,993 1,941	3,775 3,300 2,032	7,528 6,681 4,172	3,759 3,375 2,140
Clothing, men's, including shirts.....	1909 1904 1899	5 3 7	220 128 218	0 5 9	20 6 13	194 117 191	38 16 25	216 67 96	20 5 11	48 27 47	203 84 152	333 133 262	130 49 110
Coke.....	1909 1904 1899	35 24 15	2,800 2,272 1,637	.....	220 107 43	2,580 2,165 1,592	5,700 3,075 1,692	17,770 3,425 3,855	226 96 40	1,283 924 536	6,371 3,997 2,674	8,843 6,175 3,720	2,472 2,178 1,052
Confectionery.....	1909 1904 1899	9 10 11	166 194	10 9	18 23 19	138 162 124	174 189	121 159 88	17 13 10	41 39 16	349 220 110	490 372 106	141 152 80
Copper, tin, and sheet-iron products.....	1909 1904 1899	23 10 11	312 146	22 10	54 18 9	236 118 101	33 3	438 152 127	51 17 11	132 61 42	411 193 181	733 326 327	322 188 146
Cordage and twine and jute and linen goods.....	1909 1904 1899	5 4 4	452 305 292	.....	26 12 10	427 293 232	1,700 625 625	749 306 298	27 13 11	117 64 48	479 381 166	696 499 254	217 118 88
Cottongoods, including cotton small wares.....	1909 1904 1899	51 46 31	13,041 11,740 8,491	.....	310 250 159	12,731 11,480 8,332	42,637 27,505 22,997	30,954 24,758 11,639	460 343 103	3,454 2,453 1,482	14,373 12,011 4,826	22,212 16,760 8,153	7,839 4,749 3,327
Fertilizers.....	1909 1904 1899	42 19 17	1,473 636 531	12 6 32	223 79 60	1,233 551 439	4,434 1,485 1,450	8,507 3,051 1,407	305 68 62	802 153 95	4,264 1,606 1,337	6,423 2,341 2,068	2,159 735 681
Flour-mill and gristmill products.....	1909 1904 1899	72 40 37	315 230	84 42	63 29 24	108 159 138	3,559 2,124	1,080 372 365	51 20 20	57 54 41	2,405 1,559 1,367	2,779 1,750 1,573	374 194 206
Foundry and machine-shop products.....	1909 1904 1899	192 171 74	6,462 4,943 3,752	67 43 60	497 311 231	5,898 4,589 3,461	9,859 5,376 4,400	11,984 6,132 4,827	662 426 251	2,956 2,133 1,330	6,227 3,849 2,756	11,550 8,840 5,482	5,323 4,252 2,726
Gas, illuminating and heating.....	1909 1904 1899	13 13 11	403 193 115	4	140 57 40	259 130 75	599 1,379 124	4,730 926 1,121	74 33 31	133 62 32	214 87 51	637 355 233	473 268 132
Hosiery and knit goods.....	1909 1904 1899	6 8 8	634 531	4	23 22	611 505	750 895	627 563	28 18	124 93	314 254	591 460	277 206
Ice, manufactured.....	1909 1904 1899	45 39 21	469 336 212	26 32 11	100 61 41	343 243 100	6,117 3,734 1,792	2,281 1,480 611	85 52 33	138 104 53	201 122 51	777 532 242	576 410 191
Iron and steel, blast furnaces.....	1909 1904 1899	19 19 19	4,325 5,216 5,132	.....	542 262 148	3,783 4,954 5,034	108,189 101,043 58,844	23,818 19,326 11,587	740 321 237	2,077 1,939 1,382	15,477 11,012 7,610	21,236 16,646 13,438	5,759 5,634 5,878
Leather goods.....	1909 1904 1899	11 6 9	112 50	7 6	25 4	80 40 33	97 7	132 64 47	14 2 4	37 17 13	117 106 43	220 170 85	103 64 42
Lime.....	1909 1904 1899	15 10	458 540	7 12	40 25	411 503	723 918	849 825	39 24	136 143	182 98	426 327	244 220
Lumber and timber products.....	1909 1904 1899	1,810 666 1,846	25,927 17,751	2,387 336	1,131 780 523	22,409 16,135 14,832	102,527 55,512 41,588	24,442 14,164 8,202	1,168 814 392	7,259 5,546 3,619	9,145 5,195 4,998	20,058 18,279 13,286	16,913 13,084 8,289
Marble and stone work.....	1909 1904 1899	25 16 16	427 226	29 11	40 17 19	358 198 207	787 344	630 273 264	52 16 17	168 75 84	183 70 92	493 225 255	310 155 163

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

MANUFACTURES—ALABAMA.

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.				Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
			Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).							
Expressed in thousands.													
STATE—Continued.													
Mattresses and spring beds.....	1909	9	105	5	18	82	111	\$239	\$21	\$36	\$214	\$347	\$133
	1904	8	115	7	12	96	70	137	10	30	165	258	93
	1899	6	53	5	12	36	44	50	6	14	73	109	36
Oil, cottonseed, and cake.....	1909	71	1,984	13	353	1,018	17,215	7,202	334	437	7,075	9,178	2,103
	1904	58	1,698	17	281	1,400	12,883	5,109	254	381	4,554	5,769	1,215
	1899	28	886	21	106	759	5,657	1,610	99	197	2,104	2,986	882
Patent medicines and compounds and druggists' preparations.	1909	18	72	19	21	32	.....	116	16	17	38	123	85
	1904	14	56	10	19	27	6	127	12	7	42	131	89
	1899	5	.....	.....	8	20	.....	15	3	7	22	58	36
Pottery, terra-cotta, and fire-clay products.....	1909	21	478	19	34	425	1,193	1,016	46	144	170	559	389
	1904	16	305	19	21	265	805	445	20	87	78	273	195
	1899	21	270	28	15	227	425	200	8	67	60	225	165
Printing and publishing.....	1909	274	1,055	299	539	1,117	1,092	2,010	462	650	666	2,768	2,102
	1904	241	1,462	269	278	915	712	1,409	245	469	432	1,947	1,515
	1899	196	1,127	232	96	799	443	847	97	342	273	1,160	887
Stoves and furnaces, including gas and oil stoves.	1909	10	407	2	44	361	542	568	56	170	172	501	329
	1904	7	194	1	18	175	261	184	17	125	79	283	204
	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tobacco manufactures.....	1909	27	192	31	8	153	.....	98	9	66	67	194	127
	1904	32	219	37	13	169	.....	128	10	77	74	244	170
	1899	26	233	29	18	186	.....	116	14	88	94	278	184
Turpentine and rosin.....	1909	175	3,905	255	191	3,519	334	1,397	125	906	486	2,472	1,986
	1904	144	3,342	229	194	2,919	151	707	99	745	511	2,434	1,923
	1899	152	4,114	236	162	3,716	50	1,176	67	781	651	2,034	1,883
All other industries.....	1909	286	5,427	275	829	4,323	39,881	22,834	926	2,056	8,201	14,201	6,000
	1904	208	7,114	193	462	6,459	66,812	16,573	530	2,455	8,395	14,263	5,868
	1899	248	.....	.....	251	5,962	.....	8,470	251	2,171	5,443	9,518	4,075

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

BIRMINGHAM—All industries.....	1909	248	10,412	152	1,261	8,999	55,311	\$23,718	\$1,435	\$4,392	\$14,010	\$24,128	\$10,118
	1904	122	4,651	97	487	3,987	.....	5,789	485	1,709	3,949	7,593	3,644
	1899	109	.....	.....	284	3,490	.....	4,314	321	1,859	3,980	8,599	4,619
Bread and other bakery products.....	1909	14	400	12	55	333	162	613	61	142	561	912	351
	1904	8	257	5	36	246	.....	224	32	75	344	534	190
	1899	8	121	7	27	87	.....	67	17	27	145	253	108
Carriages and wagons and materials.....	1909	7	100	8	8	84	59	78	7	53	51	133	82
	1904	4	37	5	4	28	.....	21	2	14	14	36	22
	1899	6	61	7	.....	54	.....	23	.....	23	28	70	42
Foundry and machine-shop products.....	1909	41	2,955	25	249	2,681	3,932	7,029	351	1,328	2,962	5,479	2,517
	1904	13	914	7	78	829	.....	1,315	115	351	871	1,624	753
	1899	15	.....	.....	63	723	.....	1,018	75	287	613	1,260	656
Lumber and timber products.....	1909	15	297	2	53	242	1,620	379	33	112	596	815	219
	1904	3	158	1	14	143	.....	235	16	55	149	232	83
	1899	4	100	4	6	90	.....	49	5	35	77	140	63
Marble and stone work.....	1909	4	48	5	5	38	87	36	6	28	48	98	50
	1904	3	44	5	4	35	.....	46	3	14	16	48	32
	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Patent medicines and compounds and druggists' preparations.	1909	8	31	10	9	12	.....	22	7	8	13	61	48
	1904	4	20	2	12	6	.....	30	8	1	13	65	52
	1899	3	.....	.....	8	11	.....	12	3	5	11	32	21
Printing and publishing.....	1909	49	649	36	266	347	322	707	234	248	300	1,154	854
	1904	32	400	34	125	241	.....	471	111	166	185	731	546
	1899	18	278	11	64	203	.....	233	66	115	125	435	310
All other industries.....	1909	110	5,932	54	616	5,262	40,129	14,854	736	2,478	9,479	15,476	5,997
	1904	55	2,691	38	194	2,459	.....	3,397	198	1,033	2,357	4,323	1,966
	1899	55	.....	.....	116	2,322	.....	2,912	155	867	2,981	6,400	3,419

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.

MANUFACTURES—ALABAMA.

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.				Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
			Total.	Proprietors and firm members.	Salaries and employees.	Wage earners (average number).							
Expressed in thousands.													
MOBILE—All industries.....	1909	126	2,328	109	357	2,362	5,845	\$5,250	\$368	\$1,199	\$2,939	\$5,430	\$2,490
	1904	139	2,862	128	288	2,496		3,824	235	1,199	2,322	4,942	2,620
	1899	113			161	2,371		2,506	146	948	1,542	3,486	1,944
Bread and other bakery products.....	1909	12	122	15	18	89	88	80	9	45	205	306	101
	1904	14	116	15	5	96		94	3	41	140	248	108
	1899	17	101	18	8	75		92	3	29	93	102	99
Carriages and wagons and materials.....	1909	4	40	5	2	30	38	43	2	25	19	57	38
	1904	4	37	4		33		21		19	11	49	38
	1899	5	26	4	1	21		6	1	9	12	35	23
Confectionery.....	1909	3	14	2	4	8		9	3	3	18	31	13
	1904	4	15	2	2	11		20	(¹)	5	14	35	21
	1899	4			4	8		6	2	3	11	21	10
Flour-mill and gristmill products.....	1909	5	44	5	15	24	258	266	16	12	789	300	114
	1904	6	51	7	14	30		83	7	18	614	677	68
	1899	3	33	3	7	23		62	6	9	404	454	50
Foundry and machine-shop products.....	1909	6	230	1	32	197	471	401	35	118	114	316	202
	1904	9	351	3	30	318		500	30	193	92	446	354
	1899	7	273	10	11	252		185	11	121	108	304	198
Ice, manufactured.....	1909	5	45	2	7	36	834	280	8	15	26	90	64
	1904	7	76	7	14	55		392	10	28	30	144	108
	² 1899												
Lumber and timber products.....	1909	18	558	13	40	505	2,319	1,032	48	202	492	936	444
	1904	13	414	10	26	378		672	30	152	360	761	401
	1899	³ 4			18	383		228	23	128	281	567	286
Marble and stone work.....	1909	3	33	1	6	26	103	52	0	16	21	53	32
	1904	4	45	3	3	30		68	2	26	30	84	54
	² 1899												
Printing and publishing.....	1909	20	278	21	72	185	218	271	78	115	105	414	309
	1904	⁴ 18	242	19	35	188		272	37	104	72	345	273
	1899	⁴ 15	189	25	15	140		176	17	60	38	200	162
Tobacco manufactures.....	1909	10	122	11	6	105		98	7	45	42	129	87
	1904	16	158	18	12	128		111	9	68	53	178	125
	1899	11	172	11	16	145		92	12	71	66	200	134
All other industries.....	1909	40	1,336	33	155	1,148	1,516	2,742	154	603	1,111	2,197	1,086
	1904	44	1,367	40	97	1,220		1,661	98	566	900	1,975	1,054
	1899	47			81	1,324		1,689	71	599	529	1,543	1,017

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

Anniston.....	1909	39	2,362	23	162	2,167	9,310	\$4,345	\$210	\$370	\$2,824	\$4,333	\$1,509
	⁵ 1904	35	2,162	19	138	2,036		2,026	145	573	1,878	3,327	1,449
	1899	25			45	1,445		1,774	49	495	960	1,863	804
Bessemer.....	1909	31	2,111	23	272	1,816	15,120	7,812	310	991	4,230	6,106	1,867
	⁵ 1904												
	⁵ 1899												
Gadsden.....	1909	27	871	16	69	786	1,524	987	66	355	904	1,525	621
	⁵ 1904												
	⁵ 1899												
Montgomery.....	1909	73	2,723	46	393	2,284	6,355	5,234	353	1,003	3,024	5,442	2,418
	1904	69	2,236	64	242	1,940		3,212	247	640	2,139	3,878	1,689
	1899	52			120	1,528		2,020	109	500	1,715	2,944	1,229
Selma.....	1909	35	974	28	133	813	2,086	1,722	115	349	1,595	2,382	787
	1904	26	737	24	65	663		879	61	296	627	1,130	512
	1899	32			85	690		573	73	255	352	1,419	567

¹ Less than \$500.
² Figures can not be shown without disclosing individual operations.
³ Excluding statistics for two establishments, to avoid disclosure of individual operations.
⁴ Excluding statistics for one establishment, to avoid disclosure of individual operations.
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 these establishments located within the corporate limits of the city.
⁶ Figures not available.

TABLE II.—DETAIL STATEMENT FOR

INDUSTRY.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.										WAGE EARNERS—NUMBER DEC. 15, OR NEAREST REPRESENTATIVE DAY.					Primary horse-power.
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks.		Wage earners.			Total.	10 and over.		Under 16.				
					Male.	Female.	Average number.	Number.			Male.	Female.	Male.	Female.			
								Maximum month.	Minimum month.								
1 All industries	3,398	81,972	3,769	2,829	2,836	390	72,148	No 77,854	Je 67,561	(1)	(1)	(1)	(1)	(1)	857,837		
2 Artificial stone	16	85	17	8	1	2	57	Oc 72	Mh 45	83	83	.....	.....	.....	35
3 Baskets, and rattan and willow ware	3	102	4	1	.....	1	90	Je 181	Au 17	134	84	11	35	4	190	
4 Bread and other bakery products	83	773	94	18	59	23	574	No 634	Fe 527	618	404	122	26	6	334		
5 Brick and tile	71	1,509	56	67	19	5	1,353	Se 1,689	Fe 808	1,657	1,589	.....	68	.....	5,127
6 Brooms	6	32	8	2	1	.....	21	De 24	Au 18	23	21	.....	2	.....	13
7 Canning and preserving	10	67	19	1	.....	1	46	Au 136	Ja 2	195	33	112	22	28	51	
8 Carriages and wagons and materials	35	508	40	22	18	4	424	Oc 441	Au 402	431	421	.....	10	.....	91
9 Cars and general shop construction and repairs by steam-railroad companies	21	6,610	.....	70	219	13	6,306	De 6,751	Je 6,007	6,751	6,737	6	8	.....	4,928
10 Cars and general shop construction and repairs by street-railroad companies	6	165	.....	9	3	1	152	Ja 164	Jy 2	144	144	.....	.....	.....	208
11 Clothing, men's, including shirts	5	220	6	7	11	2	194	Mh 220	Jy 171	211	14	194	1	2	38		
12 Coke	35	2,800	.....	83	120	17	2,580	No 2,899	Je 2,254	3,019	2,941	.....	78	.....	5,766
13 Confectionery	9	166	10	5	9	4	138	Oc 173	Mh 123	157	129	21	7	.....	174	
14 Cooperage and wooden goods, not elsewhere specified	4	100	3	6	2	3	86	Ja 93	Jy 2	91	88	.....	3	.....	240
15 Copper, tin, and sheet-iron products	23	312	22	32	16	6	236	Se 268	Ja 202	236	225	.....	11	.....	33
16 Cordage and twine and jute and linen goods	5	452	.....	11	7	7	427	Ja 502	No 390	402	198	102	47	55	1,700	
17 Cotton goods, including cotton smallwares	51	13,041	.....	184	110	16	12,731	De 13,061	My 12,539	13,282	6,668	4,125	1,281	1,208	42,637	
18 Fertilizers	42	1,473	12	89	129	10	1,233	Mh 2,785	Au 658	1,421	1,413	.....	8	.....	4,484
19 Flour-mill and gristmill products	72	315	84	26	32	5	168	Au 2	Ja 159	193	192	.....	1	.....	3,559
20 Foundry and machine-shop products	102	6,462	67	191	209	37	5,898	No 6,629	Ap 5,234	6,580	6,470	1	109	.....	9,859	
21 Furniture and refrigerators	5	69	4	4	3	.....	58	De 67	Au 2	71	67	.....	4	.....	197
22 Gas, illuminating and heating	13	403	4	40	90	10	259	Au 292	Fe 215	268	268	.....	.....	.....	599
23 Hosiery and knit goods	6	634	.....	15	6	2	611	De 667	Je 560	645	156	312	60	117	750	
24 Ice, manufactured	45	409	26	67	27	6	343	Jy 517	De 193	339	333	.....	6	.....	6,117
25 Iron and steel, blast furnaces	19	4,325	.....	208	300	34	3,783	No 4,609	Je 3,818	4,513	4,488	.....	30	.....	106,189
26 Leather goods	11	112	7	12	11	2	80	No 2	Je 76	84	76	3	4	1	97		
27 Lime	15	458	7	24	13	3	411	Se 427	Mh 391	444	436	.....	8	.....	723
28 Lumber and timber products	1,819	25,927	2,387	654	440	37	22,409	De 24,390	Je 20,803	27,224	20,661	126	406	31	102,527		
29 Marble and stone work	26	427	29	21	18	1	358	Ja 414	Jy 329	352	352	.....	.....	.....	787
30 Mattresses and spring beds	9	105	5	9	6	3	82	De 99	Ap 2	99	78	15	6	.....	111	
31 Oil, cottonseed, and cake	71	1,984	13	180	164	9	1,618	Oc 2,835	Jy 430	2,798	2,761	1	36	.....	17,215	
32 Patent medicines and compounds and druggists' preparations	18	72	19	10	9	2	32	Mh 36	Se 29	39	28	8	3	.....	.....
33 Pottery, terra-cotta, and fire-clay products	21	478	19	18	14	2	425	Oc 583	My 333	565	540	.....	25	.....	1,193
34 Printing and publishing	274	1,955	299	163	307	69	1,117	De 1,162	Au 1,098	1,175	936	102	72	5	1,092		
35 Stoves and furnaces, including gas and oil stoves	10	407	2	31	9	4	361	Oc 397	Ja 329	375	368	.....	7	.....	542
36 Tobacco manufactures	27	192	31	6	2	.....	153	Je 160	Se 146	162	146	11	5	.....	.....
37 Turpentine and rosin	175	3,965	255	123	62	1	3,519	Je 3,890	Ja 2,831	3,693	3,655	.....	38	.....	384
38 All other industries 1	236	4,807	220	407	330	43	3,807	.....	.....	.....	.....	.....	.....	.....	38,947

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—

Agricultural implements	3	Cement	2	Flavoring extracts	1
Awnings, tents, and sails	3	Charcoal	17	Food preparations	3
Baking powders and yeast	1	Coffee and spice, roasting and grinding	9	Foundry supplies	1
Blackening and cleansing and polishing preparations	1	Coffins, burial cases, and undertakers' goods	3	Glass, cutting, staining, and ornamenting	1
Boxes, fancy and paper	2	Cordials and syrups	4	Grass and fallow	1
Brass and bronze products	3	Dyeing and finishing textiles	1	Hand stamps and stencils and brands	1
Butter, cheese, and condensed milk	1	Electrical machinery, apparatus, and supplies	1	Hats and caps, other than felt, straw, and wool	1
Cars, steam-railroad, not including operations of railroad companies	1	Explosives	2	Ink, writing	1
		Flags, banners, regalia, society badges, and emblems	1	Instruments, professional and scientific	1
				Iron and steel, steel works and rolling mills	6

MANUFACTURES—ALABAMA.

THE STATE, BY INDUSTRIES: 1909.

	Capital.	EXPENSES.										Value of products.	Value added by manufacture.
		Total.	Services.			Materials.		Miscellaneous.					
			Officials.	Clerks.	Wage earners.	Fuel and rent of power.	Other.	Rent of factory.	Taxes, including internal revenue.	Contract work.	Other.		
1	\$173,180,038	\$129,153,148	\$4,108,956	\$2,456,013	\$27,284,286	\$17,399,231	\$66,143,287	\$330,141	\$909,513	\$1,409,883	\$9,151,858	\$145,961,638	\$62,519,120
2	51,397	62,301	4,445	1,000	21,422	198	29,220	1,812	460	2,000	1,054	88,907	59,439
3	50,069	43,748	1,200	140	27,135	240	11,064		219		3,150	50,080	38,776
4	898,413	1,527,304	34,923	58,028	247,053	24,065	1,048,712	20,154	0,527		87,302	1,725,407	652,030
5	1,942,480	950,014	81,391	18,698	434,341	244,237	43,752	2,931	7,044		117,020	1,135,134	847,145
6	21,108	50,633	1,500	300	9,755	307	35,454	1,336	146		1,775	59,178	23,417
7	21,715	23,799	300	90	5,443	231	10,262		160		783	24,867	8,374
8	751,944	605,054	26,324	18,469	194,087	10,422	292,000	12,718	5,120	1,450	43,840	683,880	380,849
9	4,732,077	7,528,405	105,682	207,064	3,372,284	104,239	3,070,318	225	7,215	17,261	44,217	7,528,405	3,753,848
10	260,247	195,126	7,976	1,325	96,192	4,408	78,131		501		6,443	195,126	112,527
11	216,494	295,182	10,095	9,544	47,015	1,848	201,107	4,118	1,243		19,012	333,035	180,080
12	17,770,498	8,233,935	133,597	92,697	1,282,594	6,100,324	271,153	16,345	33,831		303,424	8,842,512	2,471,035
13	121,499	430,417	6,900	10,564	40,585	4,211	345,293	7,875	1,631		13,388	489,667	140,193
14	191,942	96,298	6,444	1,901	23,116	185	52,987	200	808		10,057	100,358	47,186
15	438,054	639,502	37,792	13,131	132,364	1,074	498,328	8,947	3,840		32,020	733,301	322,559
16	749,281	689,661	21,647	5,647	117,307	15,900	492,795	1,047	4,314		61,094	695,910	217,305
17	30,954,010	19,829,579	302,070	97,488	3,454,147	445,508	13,027,079		126,735	13,176	1,402,716	22,211,748	7,338,501
18	8,507,401	5,668,019	156,423	148,931	302,413	93,177	4,171,188	3,164	64,429	1,491	620,813	6,423,233	2,158,568
19	1,079,602	2,565,247	28,590	22,006	57,424	27,377	2,378,063	12,799	4,547	579	33,862	2,779,274	373,834
20	11,984,488	10,693,218	368,617	203,482	2,058,407	450,146	5,776,873	18,462	53,421	11,065	762,746	11,550,217	5,323,199
21	90,932	94,995	3,936	3,324	21,936	1,107	26,030	300	795	1,000	5,877	75,984	48,157
22	4,729,593	557,100	35,354	38,593	133,344	141,910	72,172		34,899	278	100,040	687,145	473,063
23	627,282	508,184	22,180	0,020	124,090	10,653	303,002	622	1,818		39,793	591,000	277,345
24	2,281,453	536,562	68,242	10,981	138,189	130,687	70,451	6,810	18,841	15	86,340	770,045	575,507
25	23,816,400	19,103,501	479,804	260,038	2,077,477	3,383,340	7,094,021	11,615	133,068	3,225	600,973	21,235,984	5,758,023
26	131,544	184,401	8,000	5,845	37,355	901	115,041	6,912	708	50	8,869	220,123	108,521
27	848,535	383,816	27,477	11,500	135,059	58,324	123,437	216	1,839		25,304	425,692	248,031
28	24,442,461	21,486,509	806,903	361,403	7,258,751	59,007	9,085,572	52,586	183,396	1,236,890	2,441,941	20,057,662	10,913,023
29	979,631	441,666	36,872	15,026	168,424	19,850	163,073	5,007	3,696	1,800	27,318	492,979	310,056
30	238,785	296,375	12,636	8,140	35,081	2,804	211,271	3,873	840		21,130	340,692	132,917
31	7,201,840	8,418,248	219,777	114,530	436,701	229,056	6,845,738	8,150	57,067	2,493	504,076	9,178,016	2,103,222
32	115,685	90,781	8,784	6,830	16,818	169	37,072	3,077	865	550	15,386	122,849	84,978
33	1,015,974	454,363	32,135	13,823	143,841	71,318	68,080		3,190		91,378	558,840	338,844
34	2,010,310	2,230,542	227,287	235,057	650,472	38,471	627,522	49,242	17,269	60,800	324,422	2,768,247	2,102,254
35	508,369	463,900	45,631	10,100	169,688	17,281	154,664		2,706	23,500	40,330	601,348	320,403
36	98,447	172,355	6,000	1,720	65,541	332	66,490	5,323	15,856	49	10,139	194,250	127,437
37	1,396,587	1,818,862	90,793	34,597	905,855	508	485,224		14,536	78,126	209,163	2,471,999	1,986,207
38	22,131,559	11,823,345	579,709	311,381	1,860,094	604,099	7,340,059	63,074	95,223	14,079	965,627	13,604,975	5,660,817

⁴ All other industries embrace—Continued.
 Iron and steel, bolts, nuts, washers, and rivets, not made in steel works or rolling mills. 1
 Iron and steel forgings. 1
 Jewelry. 1
 Leather, tanned, curried, and finished. 1
 Looking-glass and picture frames. 1
 Mineral and soda waters. 114
 Models and patterns, not including paper patterns. 2
 Oil, not elsewhere specified. 2

Paint and varnish. 3
 Photo-engraving. 2
 Roofing materials. 4
 Saws. 1
 Shipbuilding, including boat building. 4
 Show cases. 1
 Slaughtering and meat packing. 4
 Stationery goods, not elsewhere specified. 1
 Surgical appliances and artificial limbs. 1

Toys and games. 1
 Upholstering materials. 1
 Wall plaster. 1
 Wirework, including wire rope and cable. 1
 Wood distillation, not including turpentine and rosin. 2
 Wood preserving. 1
 Wood, turned and carved. 11
 Woolen, worsted, and felt goods, and wool hats. 2

MANUFACTURES—ALABAMA.

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

BIRMINGHAM.

INDUSTRY AND 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 All industries	248	10,412	152	466	688	107	8,999	8,273	444	182	10,150	9,448	495	167	40	55,311	
2 Bread and other bakery products	14	400	12	11	32	12	333	220	101	12	359	237	109	7	6	162	
3 Carriages and wagons and materials	7	100	8	4	4	.....	84	84	.....	.....	80	80	.....	.....	.....	59
4 Foundry and machine-shop products	41	2,955	25	82	146	21	2,681	2,630	.....	51	3,007	2,949	1	57	.....	3,032
5 Lumber and timber products	15	297	2	22	27	4	242	227	4	11	327	307	5	15	.....	1,620
6 Marble and stone work	4	48	5	4	1	.....	38	38	.....	.....	40	40	.....	.....	.....	87
7 Patent medicines and compounds and druggists' preparations	8	31	10	3	6	.....	12	11	1	.....	14	13	1	.....	.....	.....
8 Printing and publishing	49	649	30	68	163	35	347	272	64	11	375	294	99	10	2	322	
9 All other industries ¹	110	5,932	54	272	309	35	5,262	4,891	274	97	5,948	5,528	310	78	32	49,129	

¹ All other industries embrace: Agricultural implements, 1; artificial stone, 2; awnings, tents, and sails, 1; blacking and cleansing and polishing preparations, 1; boxes, fancy and paper, 2; brass and bronze products, 3; brick and tile, 4; brooms, 2; cars and general shop construction and repairs by steam-railroad companies, 4; cars and general shop construction and repairs by street-railroad companies, 1; cement, 1; clothing, men's, including shirts, 2; coffee and spice, roasting and grinding, 3; coffins, burial cases, and undertakers' goods, 1; coke, 3; confectionery, 3; copper, tin, and sheet-iron products, 5; cordials and sirups, 3; cotton goods, including cotton small wares, 1; electrical machinery, apparatus, and supplies, 1; fertilizers, 1; flags, banners, regalia, society badges, and emblems, 1; flavoring extracts, 1; flour-mill and gristmill products, 2; food preparations, 1; foundry supplies, 1; furniture and refrigerators, 3; gas, illuminating and heating, 1; grease and tallow, 1; hand stamps and stencils and

MOBILE.

1 All industries	126	2,528	109	136	180	41	2,362	2,240	76	46	2,472	2,346	79	47	.....	5,845
2 Bread and other bakery products	12	122	15	.....	10	8	89	84	.....	5	94	89	.....	5	.....	58
3 Carriages and wagons and materials	4	46	5	.....	2	.....	39	30	.....	.....	41	41	.....	.....	.....	38
4 Confectionery	3	14	2	1	2	1	8	7	1	.....	8	7	1	.....	.....	.....
5 Flour-mill and gristmill products	5	44	5	3	10	2	24	24	.....	.....	24	24	.....	.....	.....	258
6 Foundry and machine-shop products	6	230	1	20	10	2	197	190	.....	7	198	191	.....	7	.....	471
7 Ice, manufactured	5	45	2	7	.....	.....	36	36	.....	.....	35	35	.....	.....	.....	834
8 Lumber and timber products	18	558	13	23	16	1	505	497	.....	8	556	547	.....	.....	.....	2,319
9 Marble and stone work	3	33	1	4	1	1	28	26	.....	.....	26	26	.....	9	.....	.....
10 Printing and publishing	20	278	21	20	43	9	185	148	.....	20	192	154	.....	.....	.....	103
11 Tobacco manufactures	10	122	11	4	2	.....	105	102	.....	3	104	101	.....	.....	.....	218
12 All other industries ¹	40	1,336	33	54	84	17	1,148	1,087	49	12	1,194	1,131	51	12	.....	1,516

¹ All other industries embrace: Awnings, tents, and sails, 2; baking powders and yeast, 1; brooms, 1; cars and general shop construction and repairs by steam-railroad companies, 2; cars and general shop construction and repairs by street-railroad companies, 1; clothing, men's, including shirts, 1; coffee and spice, roasting and grinding, 4; cooperage and wooden goods, not elsewhere specified, 1; copper, tin, and sheet-iron products, 6; fertilizers, 1; gas, illuminating and heating, 2; glass, cutting, staining,

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

1 ANNISTON	39	2,352	23	72	79	11	2,167	1,727	273	167	2,210	1,702	270	103	60	9,310
2 BESSEMER	31	2,111	22	125	123	24	1,816	1,809	.....	7	2,214	2,205	.....	9	.....	13,120
3 GADSDEN	27	871	13	40	25	4	786	777	.....	9	891	881	.....	10	.....	1,524
4 MONTGOMERY	73	2,723	46	134	236	23	2,284	2,008	217	59	2,573	2,262	245	47	19	6,355
5 SELMA	35	974	28	55	68	10	813	780	9	24	928	891	10	27	.....	2,686

MANUFACTURES—ALABAMA.

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.

BIRMINGHAM.

	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	\$23,718,147	\$21,549,129	\$800,019	\$635,095	\$4,392,476	\$3,568,448	\$10,441,262	\$101,671	\$140,205	\$85,523	\$1,384,440	\$24,128,214	\$10,118,514
2	612,794	833,883	25,423	35,211	142,443	9,796	551,533	2,502	3,135	.....	63,840	912,372	351,043
3	77,522	120,576	4,400	2,780	53,311	2,177	48,828	0,480	677	.....	1,023	133,277	82,272
4	7,028,881	5,109,071	185,569	165,627	1,328,380	213,062	2,747,606	12,042	25,815	2,550	420,024	5,478,690	2,517,032
5	378,707	770,675	16,638	17,370	111,902	3,426	602,361	3,036	1,382	.....	24,570	814,558	218,771
6	35,838	83,433	4,760	936	23,307	2,052	40,215	1,425	271	1,500	2,907	97,741	49,474
7	22,325	37,816	3,164	4,325	8,055	55	13,131	1,530	255	560	6,742	60,584	47,308
8	706,550	1,016,462	118,724	115,290	247,700	15,308	285,135	15,546	5,650	41,448	171,655	1,153,540	853,097
9	14,855,530	13,577,213	442,341	293,550	2,477,282	3,321,682	6,150,443	57,001	103,020	39,475	685,819	15,477,552	5,990,427

brands, 1; hats and caps, other than felt, straw, and wool, 1; ice, manufactured, 5; ink, writing, 1; iron and steel, blast furnaces, 5; iron and steel forgings, 1; jewelry, 1; leather goods, 4; lime, 1; mattresses and spring beds, 2; mineral and soda waters, 6; models and patterns, not including paper patterns, 2; oil, cottonseed, and cake, 3; oil, not elsewhere specified, 2; paint and varnish, 2; photo-engraving, 1; pottery, terra-cotta, and fire-clay products, 3; roofing materials, 3; saws, 1; slaughtering and meat-packing, 1; stationery goods, not elsewhere specified, 1; stoves and furnaces, including gas and oil stoves, 2; surgical appliances and artificial limbs, 1; tobacco manufactures, 2; wall paper, 1; wirework, including wire rope and cable, 1.

MOBILE.

1	\$5,250,102	\$4,941,312	\$193,259	\$173,161	\$1,190,328	\$110,304	\$2,822,547	\$95,770	\$46,136	\$11,912	\$312,895	\$5,428,594	\$2,490,043
2	86,101	273,520	.....	8,764	45,000	4,000	200,347	3,534	1,247	.....	9,902	305,722	100,709
3	43,240	51,715	.....	1,560	25,464	753	18,582	3,312	180	.....	1,855	57,487	38,152
4	9,305	20,474	1,000	1,600	2,873	589	17,634	000	05	.....	1,783	30,822	12,599
5	265,829	835,792	6,300	9,359	11,000	4,292	781,465	5,780	1,363	75	15,247	899,725	113,978
6	401,170	297,003	27,200	8,096	118,164	6,957	106,008	540	3,507	3,100	22,411	315,814	201,889
7	279,549	55,041	7,516	.....	14,090	20,268	0,168	.....	2,058	.....	4,015	80,809	62,443
8	1,031,993	811,053	32,578	15,222	202,428	8,049	484,259	20,330	7,955	.....	70,232	930,040	443,741
9	52,314	45,733	5,198	610	15,981	2,941	18,221	000	340	.....	1,482	52,747	31,585
10	271,047	352,062	25,668	52,045	115,300	8,323	96,781	8,475	2,259	8,087	34,629	414,029	308,925
11	67,990	115,498	5,100	1,720	45,190	187	42,118	3,468	9,612	.....	8,094	129,080	86,781
12	2,741,447	2,047,442	82,741	74,194	601,948	59,279	1,050,024	18,471	17,461	50	143,254	2,197,544	1,088,241

and ornamenting, 1; leather goods, 2; looking-glass and picture frames, 1; mattresses and spring beds, 2; mineral and soda waters, 5; oil, cottonseed, and cake, 1; patent medicines and compounds and druggists' preparations, 1; shipbuilding, including boat building, 3; upholstering materials, 1; wood preserving, 1.

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

1	\$4,344,992	\$4,140,597	\$140,723	\$98,939	\$809,533	\$497,134	\$2,320,050	\$26,041	\$34,118	.....	\$177,153	\$4,332,890	\$1,508,800
2	7,811,982	5,873,505	199,183	110,840	990,502	1,537,681	2,791,639	1,950	19,068	\$5,280	307,311	6,190,098	1,860,787
3	986,844	1,399,219	44,905	21,589	354,502	14,882	888,609	2,871	6,829	6,210	55,672	1,625,091	621,540
4	5,234,285	4,788,194	195,558	159,998	1,003,476	132,937	2,890,580	32,384	52,851	2,676	320,734	5,442,287	2,418,770
5	1,721,792	2,204,394	61,852	52,742	348,754	67,253	1,527,770	10,039	14,635	15,320	105,420	2,382,249	787,225

ARIZONA.

INDUSTRIES IN GENERAL.

General character of the territory.—Arizona (which was a territory at the time of the Thirteenth Census but has since become a state) had an area of 112,920 square miles, and a population in 1910 of 204,354, as compared with 122,931 in 1900 and 88,243 in 1890. It ranked forty-sixth among the 49 states and territories as regards population in 1910 and forty-seventh in 1900. Arizona is very rich in mineral deposits, particularly in copper, and the gold and silver mines are also productive of much wealth. The smelting and refining of copper is by far the largest single industry in the territory and reported 81.7 per cent of the total value of products in 1909. Thirty-one per cent of the entire population of the territory resided in incorporated cities and towns having a population of 2,500 or over, as compared with 15.9 per cent in 1900.

One of the large industries in Arizona is the Portland cement mines at Roosevelt, operated in connection with

the Salt River irrigation project. The totals for this plant are not included in the statistics for the territory because the work is carried on by the United States Government. In 1909 this plant's capital was about \$220,000; the average number of employees, 44; and the value of products, \$214,132.

There are but two cities in the territory having a population of over 10,000—Tucson, with a population of 13,193, and Phoenix, with 11,134. Eliminating these two cities, only 19.1 per cent of the population resided in incorporated places of 2,500 or over. The density of population for the entire territory was 1.8 per square mile, the corresponding figure for 1900 being 1.1.

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

	NUMBER OR AMOUNT.			PER CENT OF INCREASE.	
	1909	1904	1899	1904-1909	1899-1904
Number of establishments.....	311	169	154	84.0	9.7
Persons engaged in manufactures.....	7,202	5,217	(1)	38.0	.....
Proprietors and firm members.....	261	133	(1)	96.2	.....
Salaried employees.....	500	291	205	71.8	42.0
Wage earners (average number).....	6,441	4,793	3,126	34.4	53.3
Primary horsepower.....	39,140	21,412	8,537	82.8	150.8
Capital.....	\$32,873,000	\$14,396,000	\$9,518,000	128.3	51.2
Expenses.....	41,131,000	20,244,000	10,843,000	103.2	86.7
Services.....	6,303,000	4,441,000	2,556,000	41.9	73.7
Salaries.....	798,000	472,000	269,000	69.1	75.5
Wages.....	5,505,000	3,969,000	2,287,000	38.7	73.5
Materials.....	33,600,000	14,595,000	7,877,000	130.2	85.3
Miscellaneous.....	1,228,000	1,208,000	410,000	1.6	194.6
Value of products.....	50,257,000	28,083,000	20,439,000	79.0	37.4
Value added by manufacture (value of products less cost of materials).....	16,657,000	13,488,000	12,562,000	23.5	7.4

¹ Figures not available.

In 1909 the territory of Arizona had 311 manufacturing establishments, which gave employment to an average of 7,202 persons during the year and paid out \$6,303,000 in salaries and wages. Of the persons employed, 6,441 were wage earners. These establishments turned out products to the value of \$50,257,000, to produce which materials costing \$33,600,000 were utilized. The value added by manufacture was thus \$16,657,000, 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 Arizona as a whole

showed a much greater development during the five-year period 1904-1909 than during the period 1899-1904. While the number of establishments increased 84 per cent and the value of products 79 per cent from 1904 to 1909, the average number of wage earners increased only 34.4 per cent and the value added by manufacture 23.5 per cent. The comparatively low percentage of increase in value added by manufacture is due largely to the figures reported for the copper smelting and refining industry. The manufacturing operations in this industry frequently are so closely related to those of mining that it is not always practicable to separate mining and manufac-

turing expenses. As a result, the cost of materials used by smelters which are operated by mining companies may represent either the bare cost of mining, its market value at the smelters as though purchased from other producers, or an arbitrary cost placed upon it by the bookkeeping methods of the companies.

As pointed out in the Introduction, it would be

improper to assume that manufactures increased in volume during the period 1904-1909 to the extent indicated by the figures regarding values, since the increase shown is certainly due, in part, to the increase that has taken place in the price of commodities.

The relative importance and growth of the leading manufacturing industries of the territory 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.....	311	6,441	100.0	\$50,257,000	100.0	\$16,657,000	100.0	79.0	37.4	23.5	7.4
Smelting and refining, copper.....	8	3,129	48.6	41,059,000	81.7	11,817,000	70.9	80.4	31.7	15.0	-5.9
Cars and general shop construction and repairs by steam-railroad companies.....	10	1,089	16.9	2,394,000	4.8	1,093,000	6.6	80.1	49.8	5.4	118.3
Lumber and timber products.....	23	839	13.0	1,419,000	2.8	1,082,000	6.5	77.3	65.8	84.3	43.7
Flour-mill and gristmill products.....	10	54	0.8	1,317,000	2.6	188,000	1.1	66.8	69.7		
Printing and publishing.....	64	268	4.2	784,000	1.6	610,000	3.7				
Butter, cheese, and condensed milk.....	11	58	0.9	538,000	1.1	150,000	0.9	101.5	80.4	94.8	106.2
Ice, manufactured.....	23	117	1.8	501,000	1.0	357,000	2.1	93.4	94.7	77.6	120.9
Bread and other bakery products.....	40	112	1.7	478,000	1.0	204,000	1.2	95.1	124.8	80.5	91.5
All other industries.....	122	775	12.0	1,767,000	3.5	1,150,000	6.9				

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.

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.

Smelting and refining, copper.—At the United States census of mines and quarries in 1902 Arizona ranked third in the gross value of the copper contents of the ore mined; and in 1909, according to the United States Geological Survey, there was taken from its mines 26.6 per cent of the total copper ore reported for the United States. The importance of the industry in the territory in its connection with manufactures may perhaps be understood better when it is considered that in 1909 the smelting and refining of copper gave employment to an average of 3,129 wage earners, or 48.6 per cent of the average number for all industries combined, and the value of its products amounted to \$41,059,000, or 81.7 per cent of the total for the territory.

Cars and general shop construction and repairs by steam-railroad companies.—This industry represents the work done in the car shops operated by steam-railroad companies and is exclusive of minor repairs in roundhouses. The operations consist almost exclusively of repairs to the rolling stock and equipment. Employment was given to an average of 1,089 wage earners in 1909 and products to the value of \$2,394,000 were reported.

Lumber and timber products.—While Arizona is not important among the states and territories for its lumber products, this industry gave employment to 839 wage earners, and the value of its products amounted to \$1,419,000. The logging plants which produce the logs and bolts, as well as the mills which manufacture lumber, shingles, cooperage materials, or carry the manufacture further, producing finished lumber, sash, doors, blinds, interior finish, etc., are included under this classification.

Measured by value added by manufacture, the three leading industries held the same relative rank as when measured by value of products. Of the five other industries, printing and publishing becomes fourth in order instead of flour-mill and gristmill products, while the latter industry and butter, cheese, and condensed milk become seventh and eighth in order, and manufactured ice and bakery products go to fifth and sixth places, respectively.

In the flour-mill and gristmill industry, owing to the comparatively simple processes involved 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 or the number of establishments.

The table shows also the percentages of increase for these industries in respect to value of products and value added by manufacture. Butter, cheese, and condensed milk showed the greatest per cent of increase (101.5) from 1904 to 1909 for value of products, and also in value added by manufacture (94.8). There are some marked variations among the several

industries specified as regards the relative increases from 1899 to 1904 and from 1904 to 1909, respectively. For four industries the percentage of increase in the value of products was greater from 1904 to 1909 than from 1899 to 1904; for two industries it was smaller. The percentage of increase in value added by manufacture was greater for two industries and smaller for four.

In addition to the eight industries presented separately there are seven other industries each of which had a value of products in 1909 in excess of \$100,000. They are included in the group of "All other industries," because in some instances if they were shown separately the operations of individual establishments would be disclosed; in others, the comparable statistics for the different census years can not be presented on account of change in classification; and for others, the tables showing comparable statistics are limited to industries having in 1909 products valued at \$400,000 or over. These industries are: Beet sugar; brick and tile; copper, tin, and sheet-iron products; foundry and machine-shop products; gas, illuminating and heating; liquors, malt; and marble and stone work.

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

CLASS.	PERSONS ENGAGED IN MANUFACTURES.		
	Total.	Male.	Female.
All classes.....	7,202	7,110	83
Proprietors and officials.....	427	417	10
Proprietors and firm members.....	261	253	8
Salaried officers of corporations.....	51	50	1
Superintendents and managers.....	115	114	1
Clerks.....	334	299	35
Wage earners (average number).....	6,441	6,403	38
16 years of age and over.....	6,404	6,366	38
Under 16 years of age.....	37	37	

The average number of persons engaged in manufactures during 1909 was 7,202. Of these, 6,441 were wage earners, the remainder being divided between proprietors and officials (427) and clerks (334). Corresponding figures for separate industries will be found in Table II.

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

INDUSTRY.	PERSONS ENGAGED IN MANUFACTURES.			
	Total number.	Per cent of total.		
		Proprietors and officials.	Clerks.	Wage earners (average number).
All industries.....	7,202	5.9	4.6	89.4
Bread and other bakery products.....	194	28.7	3.0	68.3
Butter, cheese, and condensed milk.....	75	13.3	9.3	77.3
Cars and general shop construction and repairs by steam-railroad companies.....	1,141	1.5	3.1	95.4
Flour-mill and gristmill products.....	75	17.3	10.7	72.0
Ice, manufactured.....	152	10.4	6.6	77.0
Lumber and timber products.....	911	5.0	2.9	92.1
Printing and publishing.....	408	17.9	16.4	65.7
Smelting and refining, copper.....	3,298	0.7	3.5	95.7
All other industries.....	1,608	17.1	6.1	76.9

Of the total number of persons engaged in all manufacturing industries, 5.9 per cent were proprietors and officials, 4.6 per cent clerks, and 89.4 per cent wage earners. In the bakery, the manufacturing of ice, and the printing and publishing industries the majority of the establishments are small, and the work is done to a large extent by the proprietors or their immediate representatives; therefore 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 all industries combined, being 28.7 per cent for bakery products, 16.4 per cent for manufactured ice, and 17.9 per cent for printing and publishing. The smallest proportion for this class (0.7 per cent) is shown for copper smelting and refining, as these establishments are large and of corporate ownership, for which proprietors are not reported.

The following table shows, in percentages, for all industries combined, the distribution of the average number of wage earners by age periods and sex, calculated in the manner described in the Introduction. It also shows, for some of the important industries separately, the percentage distribution, by age periods and sex, of wage earners as reported for December 15, or the nearest representative day. As a means of judging the importance of the several industries, the average 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.....	6,441	98.8	0.6	0.6
Bread and other bakery products.....	112	88.4	8.0	3.0
Butter, cheese, and condensed milk.....	58	100.0		
Cars and general shop construction and repairs by steam-railroad companies.....	1,089	99.4		0.6
Flour-mill and gristmill products.....	54	100.0		
Ice, manufactured.....	117	100.0		
Lumber and timber products.....	839	99.0	0.1	0.2
Printing and publishing.....	293	89.9	5.2	4.8
Smelting and refining, copper.....	3,129	99.8		0.2
All other industries.....	775	97.5	1.8	0.6

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, 98.8 per cent of the average number of wage earners were males over 16 years of age. The proportion of females over 16 years and of persons of both sexes under that age was the same, six-tenths of 1 per cent. The largest proportion of women and children were employed in the bakery and printing and publishing industries.

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 table following 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.....	7,202	100.0	5,217	100.0		88.0
Proprietors and firm members.....	201	3.0	133	2.5	95.2
Salaried employees.....	500	6.9	291	5.6	71.8
Wage earners (average number).....	6,441	89.4	4,793	91.9	34.4

Comparable figures are not obtainable for 1899. It will be noticed that there was a much greater per cent of increase in the proprietors and firm members and the salaried employees than in the number of wage earners.

The following table shows the average number of wage earners, distributed according to age periods, and in the case of those 16 years of age and over according to sex, for 1909, 1904, and 1899. The averages for 1909 are estimated on the basis of the actual

number reported for a single representative day. (See Introduction.)

This table indicates that for all industries combined the proportion of children employed under 16 years of age, though smaller than it was in 1899, has increased slightly since 1904. There has not been much change in the proportion of male and female wage earners. In 1909 males 16 years of age and over formed 98.8 per cent of all wage earners, as compared with 98.9 per cent in 1904 and 98 per cent in 1899.

CLASS.	AVERAGE NUMBER OF WAGE EARNERS.					
	1909		1904		1899	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total.....	6,441	100.0	4,793	100.0	3,128	100.0
16 years of age and over..	6,404	99.4	4,775	99.6	3,091	98.9
Male.....	6,366	98.8	4,742	98.9	3,064	98.0
Female.....	38	0.6	33	0.7	27	0.9
Under 16 years of age....	37	0.6	18	0.4	35	1.1

Wage earners employed, by months.—The following table gives the number of wage earners employed on the 15th of each month during the year 1909 for all industries combined, for the lumber industry, and for all other industries combined; it gives also the percentage which the number reported for each month is of the greatest number reported for any month. In Table II, page 48, is shown, for practically all of the important industries in the territory, 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.		Lumber and timber products.						All other industries.	
	Number.	Per cent of maximum.	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.		
January.....	6,093	88.5	556	53.3	392	55.6	164	46.1	5,537	94.5
February.....	6,024	87.5	545	52.3	402	57.0	143	40.2	5,479	93.5
March.....	6,003	87.2	547	52.4	431	61.1	116	32.6	5,456	93.1
April.....	6,048	87.8	592	56.8	450	63.8	142	39.9	5,456	93.1
May.....	6,439	93.5	846	81.1	552	78.3	294	82.6	5,593	95.5
June.....	6,869	99.7	1,018	97.6	670	95.0	348	97.8	5,851	99.9
July.....	6,888	100.0	1,043	100.0	687	97.4	356	100.0	5,845	99.8
August.....	6,845	99.4	986	94.5	705	100.0	281	78.9	5,859	100.0
September.....	6,640	96.4	997	95.6	693	98.3	304	85.4	5,643	96.3
October.....	6,034	88.3	1,016	97.4	705	100.0	311	87.4	5,618	95.9
November.....	6,452	93.7	993	95.2	686	97.3	307	86.2	5,459	93.2
December.....	6,360	92.3	935	89.6	664	94.2	271	76.1	5,425	92.6

For all industries combined, the month of lowest reported employment, March, showed 87.2 per cent as many wage earners as the month of the maximum

employment, July. Excluding the lumber industry, in which employment is more or less seasonal, the minimum is 92.6 per cent of the maximum.

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

It is evident from these figures that for the great majority of wage earners employed in the manufac-

turing industries of Arizona the prevailing hours of labor range from 54 to 60 a week, or from 9 to 10 a day. Only 10.5 per cent of the total were employed in establishments working less than 9 hours a day and 6.6 per cent were employed in establishments working more than 10 hours a day. This condition is due chiefly to the fact that 4,709, or 73.1 per cent of the total average number of wage earners and 88.1 per cent of those employed from 54 to 60 hours, were reported by steam-railroad repair shops, the copper smelters and refineries, and the lumber industry.

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.....	6,441	579	95	749	3,441	1,155	260	12	150
Bread and other bakery products.....	112	14		22		28	29	3	16
Butter, cheese, and condensed milk.....	58	2	3		6	1	46		
Cars and general shop construction and repairs by steam-railroad companies.....	1,089	133	92	528	13	211	112		
Flour-mill and gristmill products.....	54	9		16		21	5	3	
Ice, manufactured.....	117	2		6	16	1	47	6	39
Lumber and timber products.....	839	11		7		821			
Printing and publishing.....	203	212		55	1				
Smelting and refining, copper.....	3,129				3,129				
All other industries.....	775	196		115	276	72	21		95

Location of establishments.—The next table shows to what extent manufacturing in Arizona is centralized in the two cities of Phoenix and Tucson, the only cities having a population of 10,000 or over. (See Introduction.)

ITEM.	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.....	204,354	24,327	180,027	11.9	88.1
Number of establishments.....	311	92	219	29.6	70.4
Average number of wage earners.....	6,441	859	5,582	13.3	86.7
Value of products.....	50,260,604	3,503,762	46,752,032	7.0	93.0
Value added by manufacture.....	16,656,454	1,370,224	15,286,230	8.2	91.8

In 1909 only 7 per cent of the total value of products was reported from these two cities, and of the total number of wage earners but 13.3 per cent were employed in them.

Character of ownership.—The first table on page 42 shows conditions in respect to the ownership, or legal organization, of manufacturing enterprises. For all industries combined comparative figures are given covering the censuses of 1909 and 1904. Comparative data for 1899 are not available. Figures for 1909 only are presented for several important industries. In order to avoid disclosing the operations of individual concerns it is necessary to omit several important industries from this table and the one following.

The most important distinction shown is that between corporate and all other forms of ownership. For all industries combined, 39.2 per cent of the total number of establishments were in 1909 under corporate ownership, as against 60.7 per cent under all other forms. The corresponding figures for 1904 were 42 per cent and 58 per cent, respectively. Five years is too short a period to reveal any pronounced change in character of ownership. For all industries combined, as measured by value of products and value added by manufacture, corporations lost ground, relatively, as compared with individuals and firms.

This table shows that in 1909, of the 311 establishments, only 9, or 2.9 per cent, had a value of product exceeding \$1,000,000. Of this number, 8 were establishments engaged in copper smelting and refining. These establishments, however, in that year had an average of 3,556 wage earners, or 55.2 per cent of the total number in all establishments reported, 84.1 per cent of the total value of products, and 73.6 per cent of the total value added by manufacture.

On the other hand, small establishments—that is, those having a value of product of less than \$5,000—constituted a very considerable proportion (37.6 per cent) of the total number of establishments, but the value of their products amounted to only 0.5 per cent of the total.

The five years from 1904 to 1909 was rather too short a period to show extensive changes, and no clear

tendencies can be seen as to the relative importance of the classes.

The table shows, however, that when the size of establishment is measured by value of products the flour-mill and gristmill industry is conducted chiefly in large establishments, while the bakery, printing and publishing, manufactured ice, and lumber industries are conducted in smaller establishments.

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 average number of wage earners employed. The next table shows such a classification for all industries combined and for eight important industries, 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.....	311	36	201	44	10	6	6	6	2
Bread and other bakery products.....	40	7	29	4					
Butter, cheese, and condensed milk.....	11		7	3	1				
Cars and general shop construction and repairs by steam-railroad companies.....	10			2	2	3	2	1	
Flour-mill and gristmill products.....	10		6	4					
Ice, manufactured.....	23		18	4	1				
Lumber and timber products.....	23	3	14	1	1	2		2	
Printing and publishing.....	64	9	41	13	1				
Smelting and refining, copper.....	8						3	3	2
All other industries.....	122	17	86	13	4	1	1		
AVERAGE NUMBER OF WAGE EARNERS.									
All industries.....	6,441		464	476	302	484	1,049	2,123	1,543
Bread and other bakery products.....	112		64	48					
Butter, cheese, and condensed milk.....	58		9	22	27				
Cars and general shop construction and repairs by steam-railroad companies.....	1,089			31	81	280	270	427	
Flour-mill and gristmill products.....	54		16	38					
Ice, manufactured.....	117		54	40	23				
Lumber and timber products.....	839		33	13	30	117		646	
Printing and publishing.....	268		106	137	25				
Smelting and refining, copper.....	3,129						536	1,050	1,543
All other industries.....	775		182	147	113	87	243		
PER CENT OF AVERAGE NUMBER OF WAGE EARNERS.									
All industries.....	100.0		7.2	7.4	4.7	7.5	16.3	33.0	24.0
Bread and other bakery products.....	100.0		57.1	42.9					
Butter, cheese, and condensed milk.....	100.0		15.5	37.9	46.6				
Cars and general shop construction and repairs by steam-railroad companies.....	100.0			2.8	7.4	25.7	24.8	39.2	
Flour-mill and gristmill products.....	100.0		29.6	70.4					
Ice, manufactured.....	100.0		46.2	34.2	19.7				
Lumber and timber products.....	100.0		3.9	1.5	3.6	13.9		77.0	
Printing and publishing.....	100.0		39.6	51.1	9.3				
Smelting and refining, copper.....	100.0						17.1	33.6	49.3
All other industries.....	100.0		23.5	19.0	15.0	11.2	31.4		

The per cent distribution of the number of establishments is not shown in this table; of the 311 establishments reported for all industries, 11.6 per cent employed no wage earners; 64.6 per cent, 1 to 5; and 14.1 per cent, 6 to 20. The most numerous single group consists of the 201 establishments employing from 1 to 5 wage earners, and the next of the 44 establish-

ments employing from 6 to 20 wage earners. There were 8 establishments that employed over 250 wage earners, and 2 that employed over 500.

Of the total number of wage earners, 57 per cent were in establishments employing over 250 wage earners. The single group having the largest number of employees was the group employing from 251 to

500 wage earners. This group employed 2,123, or 33 per cent of the total. Two of the individual industries listed in this table but not in the preceding one, namely, cars and general shop construction and repairs by steam-railroad companies and copper smelting and refining, are industries in which large establishments do most of the business, as appears from the classification according to the number of wage earners.

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

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

INDUSTRY.	PER CENT OF TOTAL EXPENSES REPORTED.			
	Salaries.	Wages.	Materials.	Miscellaneous expenses.
All industries.....	1.9	13.4	81.7	3.0
Bread and other bakery products.....	1.4	23.7	68.1	6.7
Butter, cheese, and condensed milk.....	4.3	10.1	76.7	8.9
Cars and general shop construction and repairs by steam-railroad companies.....	3.2	40.8	54.3	1.7
Flour-mill and gristmill products.....	2.1	3.4	91.1	3.4
Ice, manufactured.....	7.9	31.8	40.9	19.3
Lumber and timber products.....	7.9	47.5	25.0	19.6
Printing and publishing.....	16.0	35.7	25.8	22.5
Smelting and refining, copper.....	0.9	8.5	89.3	1.3
All other industries.....	8.0	39.1	41.5	11.4

This table shows that, for all industries combined, 81.7 per cent of the total expenses were incurred for materials, 15.3 per cent for services—that is, salaries and wages—and but 3 per cent for other purposes. As would be expected, these proportions vary greatly in the different industries, the expense for materials, for example, falling from 91.1 per cent in the flour-mill and gristmill industry to 25 per cent and 25.8 per cent in the lumber and timber products and printing and publishing industries, respectively.

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 the increase in owned primary power from 1904 to 1909 was in power generated by steam engines, since both water power and

power generated by gas engines showed a decrease. However, a slight increase in the number of gas engines is shown, there being 31 such engines in 1909, as compared with 28 in 1904, although the total horsepower developed by them decreased from 1,392 in 1904 to 1,285 in 1909. The figures also show that the practice of renting electric power is on the increase, 8.5 per cent of the total power being rented electric in 1909, as compared with eight-tenths of 1 per cent in 1904, and four-tenths of 1 per cent in 1899. The use of electric motors for the purpose of applying the power generated within the establishments is also shown to be increasing rapidly, the horsepower of such motors increasing from 496 in 1899 to 4,656 in 1904 and to 11,786 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.....	445	184	158	39,140	21,412	8,537	100.0	100.0	100.0
Owned.....	209	184	158	35,626	20,997	8,409	91.0	98.1	99.6
Steam.....	174	148	131	34,193	18,828	7,653	87.4	87.9	89.6
Gas.....	31	28	19	1,285	1,392	371	3.3	6.5	4.3
Water wheels.....	4	8	8	129	267	400	0.3	1.2	4.7
Other.....				19	510	75	(²)	2.4	0.9
Rented.....	236	(²)	(²)	3,514	415	38	9.0	1.9	0.4
Electric.....	236	(²)	(²)	3,314	165	38	8.5	0.8	0.4
Other.....				200	250		0.5	1.2	
Electric motors.....	496	120	30	15,100	4,821	534	100.0	100.0	100.0
Run by current generated by establishment.....	260	120	30	11,786	4,656	496	78.1	96.6	92.9
Run by rented power.....	236	(²)	(²)	3,314	165	38	21.9	3.4	7.1

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

Fuel.—Closely related to the question of kind of power employed is that of 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:

INDUSTRY.	Anthracite coal (tons).	Bituminous coal (tons).	Coke (tons).	Wood (cords).	Oil, including gasoline (barrels).	Gas (1,000 feet)..
All industries.....	7,561	60,256	463,233	14,558	610,594	1,835
Bread and other bakery products.....		197	10	1,426	29	120
Butter, cheese, and condensed milk.....		107		112	7,113	
Cars and general shop construction and repairs by steam-railroad companies.....		11,114	48		50,114	
Flour-mill and gristmill products.....		790		170	2,349	
Ice, manufactured.....		5,848		99	41,800	
Lumber and timber products.....		127			4,089	
Printing and publishing.....		55		54	41	1,000
Smelting and refining, copper.....	7,459	40,543	463,016	1,494	420,148	
All other industries.....	102	1,475	159	11,203	84,911	745

NOTE.—In addition, there were 20 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 schedules. Data for three important industries in Arizona are here presented.

Flour-mill and gristmill products.—This industry has increased 77.3 per cent in value of products since 1904, the total value for 1909 being \$1,316,757.

The tabular statement following gives the quantity and value of products for the last two census years:

PRODUCT.	QUANTITY.		VALUE.	
	1909	1904	1909	1904
All products.....			\$1,316,757	\$743,124
Wheat flour.....				
White..... barrels..	79,275	72,450	528,648	419,289
Graham..... barrels..	251	439	1,596	2,812
Corn meal..... barrels..	1,902	913	9,121	4,225
Barley meal..... pounds..	8,802,033	8,773,000	150,570	136,846
Feed..... tons..	14,550	3,380	507,506	102,012
Offal..... tons..	3,586	3,435	105,169	77,930
All other products.....			14,157	

Measured by value of products white flour and feed together constituted 78.7 per cent of the total value of products in 1909, the proportion for white flour alone being 40.1 per cent. Barley meal constituted 11.4 per cent of the total value of products and offal 8 per cent. While white flour increased only 9.4 per cent in quantity from 1904 to 1909, it increased 26.1 per cent in value.

Feed shows the largest rate of increase both in quantity and in value, 330.5 per cent and 397.5 per cent, respectively. Graham flour was the only item showing a decrease from 1904 to 1909.

Lumber and timber products.—This industry was the second largest in the territory as regards capital invested, and third in average number of wage earners and value of products.

The following is a statement of the quantity of products of the sawmills, by classes, reported at the censuses of 1909 and 1899:

	QUANTITY.	
	1909	1899
Rough lumber..... M feet b. m..	62,731	36,182
Lath..... thousands..	7,816	2,040
Shingles..... thousands..	593	350

The rough lumber sawed in 1909 amounted to 62,731 M feet, as compared with 36,182 M feet in 1899, a gain of 26,549 M feet, or 73.4 per cent. The lath output increased, in 1909, 5,776,000 over 1899, a gain of 283.1 per cent; and as reported for the same years shingles gained 233,000, or 66.6 per cent.

Printing and publishing.—The progress of the newspaper and periodical branch of the industry is indi-

cated in the following table, which shows the number and aggregate circulation per issue of the different classes of publications for the years 1909, 1904, and 1899:

PERIOD OF ISSUE.	NUMBER OF PUBLICATIONS.			AGGREGATE CIRCULATION PER ISSUE.		
	1909	1904	1899	1909	1904	1899
Total.....	73	60	47	79,808	66,589	34,054
Daily.....	19	16	10	33,328	22,354	11,450
Sunday.....	9	4	4	17,400	10,273	(1)
Weekly.....	41	38	32	24,675	30,286	22,392
All other classes.....	4	2	1	4,405	3,676	206

¹ Included in circulation of dailies.

The total number of publications and total circulation increased during the decade and during each of the five-year periods. The gain in number during the earlier five-year period, 1899-1904, was 13, or 27.7 per cent, and that in circulation 32,535, or 95.5 per cent. During the later five-year period, 1904-1909, the number increased 13, or 21.7 per cent, but the circulation only increased 13,219, or 19.9 per cent. The class of publications having the largest circulation in 1909 was the dailies, while in 1904 and in 1899 the weeklies had the largest circulation. The dailies also show the most pronounced absolute increase in circulation from 1904 to 1909, while the circulation of the weeklies decreased during the same period. Of the 19 daily newspapers published in 1909, 8, with an aggregate circulation of 17,840, were morning papers. In 1909 all of the publications were in the English language, except 6 weeklies, with an aggregate circulation of 3,000, which were printed in Spanish.

Laundries.—Statistics for steam laundries are not included in the general tables. In 1909 there were 13 such establishments in the territory of Arizona, 3 of which were in Phoenix and 2 in Tucson.

The most common form of organization was the individual, with seven establishments, the general partnerships having two and the incorporated companies four establishments. Five establishments had receipts for the year's business of \$5,000 but less than \$20,000; eight, of \$20,000 but less than \$100,000.

The following statement summarizes the statistics:

Number of establishments.....	13
Persons engaged in the industry.....	309
Proprietors and firm members.....	11
Salaried employees.....	15
Wage earners (average number).....	283
Primary horsepower.....	298
Capital.....	\$193,351
Expenses.....	303,206
Services.....	169,747
Materials.....	74,153
Miscellaneous.....	59,306
Amount received for work done.....	369,282

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.....	280	96.2	July.....	280	96.2
February.....	290	99.7	August.....	266	91.4
March.....	286	98.3	September.....	268	92.1
April.....	291	100.0	October.....	283	97.3
May.....	290	99.7	November.....	285	97.9
June.....	282	96.9	December.....	291	100.0

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

KIND.	Number of engines or motors.	Horse-power.
Primary power, total		298
Owned—Steam.....	12	283
Rented—Electric.....	2	15

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

KIND.	Unit.	Quantity.
Anthracite coal.....	Tons.....	620
Bituminous coal.....	Tons.....	1,357
Wood.....	Cords.....	1,282
Oil.....	Barrels.....	3,782
Gas.....	1,000 feet.....	1,000

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

Number of establishments.....	4
Persons engaged in the industry.....	8
Proprietors and firm members.....	5
Wage earners (average number).....	3
Primary horsepower.....	108
Capital	\$22,400
Expenses	41,018
Services.....	1,660
Materials.....	¹ 38,879
Miscellaneous.....	479
Value of products	¹46,159

¹ Includes estimate of all grain ground.

MANUFACTURES—ARIZONA.

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.				Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
			Total.	Proprietors and firm members.	Salaries employed.	Wage earners (average number).							
			Expressed in thousands.										
TERRITORY—All industries	1909	311	7,202	261	500	6,441	39,140	\$32,878	\$798	\$5,505	\$33,600	\$50,257	\$16,657
	1904	169	6,217	133	281	4,793	21,412	14,396	472	3,969	14,695	23,083	13,488
	1899	154	.....	.....	205	3,126	8,537	9,518	269	2,287	7,877	20,439	12,562
Bread and other bakery products	1909	40	164	45	7	112	10	133	6	96	274	478	204
	1904	16	91	24	1	60	.....	85	(1)	53	132	245	113
	1899	8	47	10	2	35	.....	34	2	23	50	109	59
Butter, cheese, and condensed milk	1909	11	75	1	16	58	350	240	22	51	388	538	150
	1904	5	30	2	7	30	263	180	7	22	190	267	77
	1899	7	33	4	14	15	101	73	6	9	122	148	26
Cars and general shop construction and repairs by steam-railroad companies.	1909	10	1,141	.....	52	1,089	892	677	77	976	1,301	2,394	1,093
	1904	7	1,198	.....	39	1,159	481	523	54	901	292	1,329	1,037
	1899	7	590	.....	14	576	215	430	21	437	412	887	475
Flour-mill and gristmill products	1909	10	75	4	17	54	784	674	26	42	1,129	1,317	188
	1904	9	50	.....	14	36	465	404	18	24	641	743	102
	1899	9	.....	.....	11	30	527	210	9	20	377	448	71
Ice, manufactured	1909	23	152	9	26	117	2,509	1,080	28	112	144	501	357
	1904	13	97	12	13	72	1,190	420	12	55	58	259	201
	1899	9	67	11	12	44	609	220	10	31	42	133	91
Lumber and timber products	1909	23	911	30	42	839	2,063	2,342	106	639	337	1,419	1,082
	1904	19	576	8	20	542	2,338	1,499	56	413	208	1,037	829
	1899	17	.....	.....	23	381	890	632	34	267	192	619	427
Printing and publishing	1909	64	408	51	80	268	221	680	104	232	168	784	616
	1904	50	269	37	43	180	94	397	51	161	107	470	363
	1899	32	182	28	15	130	70	187	18	74	40	237	191
Smelting and refining, copper	1909	8	3,268	.....	139	3,129	29,042	21,487	310	2,776	29,242	41,059	11,817
	1904	7	2,456	.....	107	2,349	15,649	9,341	218	2,050	12,487	22,762	10,275
	1899	9	1,728	.....	80	1,048	5,731	7,260	141	1,277	6,371	17,287	10,916
All other industries	1909	122	1,008	121	112	775	2,310	5,560	119	581	617	1,767	1,150
	1904	53	441	50	41	350	932	1,577	56	230	480	971	491
	1899	50	.....	.....	34	252	.....	457	28	149	205	571	306

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

Phoenix	1909	57	432	58	70	304	609	\$1,258	\$69	\$242	\$804	\$1,467	\$603
Tucson	1909	35	625	28	42	555	1,403	902	57	512	1,270	2,037	767

¹ Less than \$500.

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

MANUFACTURES—ARIZONA.

TABLE II.—DETAIL STATEMENT FOR

INDUSTRY.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.										WAGE EARNERS—NUMBER DEC. 15, OR NEAREST REPRESENTATIVE DAY.					Primary horse-power.
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks.		Wage earners.			Total.	16 and over.		Under 16.				
					Male.	Female.	Average number.	Number.			Male.	Female.	Male.	Female.			
								Maximum month.	Minimum month.								
1 All industries.....	311	7,202	261	166	299	35	6,441	Jy 6,888	Mh 6,008	(¹)	(¹)	(¹)	(¹)	(¹)	39,140 ²		
2 Artificial stone.....	14	48	19	4			25	No 36	Ja ² 17	42	42				2		
3 Bread and other bakery products.....	40	104	45	2	1	4	112	De 115	Ja ² 112	116	103	9	4		19		
4 Brick and tile.....	21	126	28				98	Oc 141	Au 59	178	178				100		
5 Butter, cheese, and condensed milk.....	11	75	1	9	4	3	58	Je 67	Ja 52	56	56				350		
6 Cars and general shop construction and repairs by steam-railroad companies.	10	1,141		17	34	1	1,089	Au 1,140	Fe 988	1,100	1,004		6		892		
7 Cars and general shop construction and repairs by street-railroad companies.	4	-10					10	Ja ² 11	Ap ² 9	10	10				5		
8 Confectionery.....	3	21	3	1	4	4	9	Se ² 10	Ja ² 8	14	11	3			7		
9 Copper, tin, and sheet-iron products.....	7	43	8				1	No ² 37	Jy ² 30	37	37				4		
10 Flour-mill and gristmill products.....	10	75	4	9	7	1	54	Au 62	My ² 50	53	53				784		
11 Foundry and machine-shop products.....	10	80	7	6	3		64	Ja 78	Au ² 59	65	65				130		
12 Gas, illuminating and heating.....	8	33		6	5	2	20	Ja ² 20	Fe ² 19	20	20				153		
13 Ice, manufactured.....	23	152	9	16	9	1	117	Jy 165	Ja 76	100	100				2,599		
14 Leather goods.....	4	21	5	1			15	Jy ² 18	Fe ² 12	18	18				2		
15 Lumber and timber products.....	23	911	30	16	20	6	839	Jy 1,043	Fe 545	997	994	1	2		2,953		
16 Marble and stone work.....	4	275	8	2	18		247	Mh 290	De 213	229	229				1,300		
17 Printing and publishing.....	64	408	51	22	58	9	268	De 287	Mh 259	285	256	15	14		221		
18 Smelting and refining, copper.....	8	3,258		24	112	3	3,129	Fe 3,252	No 3,018	3,057	3,050		7		29,042		
19 Tobacco manufactures.....	11	58	10	2	7		39	Ja 47	Jy 4	45	35	10					
20 All other industries ³	36	293	33	29	17		214								601		

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—

Beet sugar.....	1	Electrical machinery, apparatus, and supplies.....	1	Furniture and refrigerators.....	1
Carriages and wagons and materials.....	1	Fancy articles, not elsewhere specified.....	1	Gas and electric fixtures and lamps and reflectors..	1
Canning and preserving.....	2	Food preparations.....	1	Hand stamps and stencils and brands.....	1

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 PHOENIX.....	57	432	58	25	34	11	304	290	7	7	321	307	7	7	669		
2 TUCSON.....	35	625	23	16	23	3	555	546	8	1	578	569	8	1	1,403		

MANUFACTURES—ARIZONA.

THE TERRITORY, 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 \$32,873,935	\$41,131,324	\$398,348	\$399,793	\$5,505,133	\$5,788,487	\$27,311,753	\$58,757	\$214,437	\$18,796	\$935,780	\$50,256,094	\$16,656,414
2 19,086	33,247	450	.....	10,658	30	10,553	420	51	1,400	685	42,816	23,233
3 133,057	402,879	2,450	3,220	95,874	12,106	202,383	12,174	2,058	.....	12,814	478,289	203,800
4 129,620	92,779	.....	.....	55,983	23,382	8,504	600	588	.....	8,722	117,448	90,562
5 240,469	505,740	15,440	6,470	50,929	16,748	371,342	260	1,608	387	42,496	538,427	150,337
6 677,180	2,393,930	35,662	41,365	976,280	50,859	1,249,850	.....	4,409	.....	35,487	2,393,930	1,093,212
7 32,643	18,630	.....	.....	9,430	308	7,066	.....	178	700	50	18,630	10,366
8 23,608	25,650	1,000	1,200	5,430	1,118	14,190	1,040	180	.....	1,512	28,050	12,742
9 61,050	120,764	.....	520	31,980	888	81,300	2,628	511	.....	2,937	143,516	61,328
10 673,985	1,238,428	18,000	8,140	41,044	20,163	1,108,436	4,800	4,595	.....	32,321	1,316,757	188,158
11 252,051	110,450	8,570	3,080	46,554	7,101	39,723	2,310	2,301	.....	6,070	119,632	72,748
12 577,982	101,117	7,562	4,765	19,658	40,526	6,570	.....	4,558	.....	17,400	137,400	90,295
13 1,079,907	350,758	21,060	6,692	111,711	118,965	24,021	.....	10,243	.....	57,406	501,228	357,642
14 29,303	63,552	1,200	.....	13,273	35	45,093	1,630	280	.....	1,441	73,854	28,126
15 2,342,117	1,345,679	93,100	43,158	938,857	15,782	321,258	820	16,628	8,061	238,015	1,419,114	1,082,074
16 210,358	265,883	6,000	15,600	214,818	8,227	19,835	120	509	.....	774	235,050	305,988
17 679,943	650,048	32,921	71,463	232,246	18,004	149,973	25,457	5,606	7,431	107,757	784,487	616,420
18 21,486,563	32,755,170	130,020	180,171	2,775,523	5,887,328	23,854,232	.....	128,416	.....	299,480	41,059,240	11,817,080
19 47,489	57,263	3,120	5,300	15,047	100	23,260	1,029	4,764	817	3,826	72,211	49,851
20 4,176,434	592,448	51,793	8,640	150,159	66,667	208,046	5,400	20,816	.....	65,858	676,615	401,902

* All other industries embrace—Continued.

Lime.....	2	Models and patterns, not including paper patterns.	1	Pottery, terra-cotta, and fire-clay products.....	1
Liquors, malt.....	2	Patent medicines and compounds and druggists' preparations.....	1	Soap.....	1
Mineral and soda waters.....	18				

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

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

Capital.	EXPENSES.										Value of products.	Value added by manufacture.
	Total.	Services.			Materials.			Miscellaneous.				
		Officials.	Clerks.	Wage earners.	Fuel and rent of power.	Other.	Rent of factory.	Taxes, including internal revenue.	Contract work.	Other.		
1 \$1,258,006	\$1,200,338	\$32,386	\$37,052	\$242,350	\$54,504	\$809,106	\$12,043	\$9,055	\$7,624	\$85,223	\$1,467,142	\$603,442
2 901,954	1,937,249	28,258	28,412	511,959	55,968	1,213,870	11,104	6,517	2,024	79,137	2,036,620	766,782

ARKANSAS.

INDUSTRIES IN GENERAL.

General character of the state.—Arkansas, with a gross area of 53,335 square miles, of which 810 represent water surface, ranks twenty-sixth in size among the 49 states and territories of continental United States. Its population in 1910 was 1,574,449, as compared with 1,311,564 in 1900 and 1,128,211 in 1890. It ranked twenty-fifth in population both in 1910 and in 1900. The density of population of the state was 30 per square mile in 1910, the corresponding figure for 1900 being 25.

No city in the state has a population of over 50,000, although five cities—Little Rock, Fort Smith, Pine Bluff, Hot Springs and Argenta—each had a population exceeding 10,000 in 1910. Of the entire population of the state, 12 per cent resided in cities and incorporated towns having a population of 2,500 or over in 1910, as against 8.5 per cent in 1900.

The railroad facilities of Arkansas are good, except in the mountainous regions of the north central and west central sections. In general, the principal railroads traversing the state are those connecting the Gulf cities on the south with the large cities of the North Central states. The state has a number of navigable

rivers which have been important factors in its industrial development. Arkansas contains large deposits of bituminous and semianthracite coal, which are accessible for industrial purposes, and its extensive timber areas provide abundant material for the lumber and timber products industry, which is by far the most important branch of manufactures in the state.

Importance and growth of manufactures.—Although Arkansas is comparatively unimportant as a manufacturing state, its manufactures have shown marked increases in recent years. In 1849 the 261 manufacturing establishments reported gave employment to an average of 842 wage earners, representing four-tenths of 1 per cent of the total population of the state. In 1909 an average of 44,982 wage earners were employed, representing 2.9 per cent of the total population. During this period of 60 years the gross value of products per capita of the entire population increased from \$2.56 to \$47.58.

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, with the percentages of increase:

	NUMBER OR AMOUNT.			PER CENT OF INCREASE.	
	1909	1904	1899	1904-1909	1899-1904
Number of establishments.....	2,925	1,907	1,746	53.4	9.2
Persons engaged in manufactures.....	51,730	37,557	(1)	37.7	.....
Proprietors and firm members.....	3,455	2,140	(1)	61.4	.....
Salaried employees.....	3,293	2,928	1,549	41.5	50.3
Wage earners (average number).....	44,982	33,089	31,525	35.9	5.0
Primary horsepower.....	173,088	109,509	79,560	58.1	37.6
Capital.....	\$70,174,000	\$46,306,000	\$25,385,000	51.5	82.4
Expenses.....	64,830,000	45,901,000	32,116,000	43.1	41.1
Services.....	22,574,000	16,854,000	11,446,000	33.9	47.2
Salaries.....	3,461,000	2,310,000	1,262,000	49.8	83.0
Wages.....	19,113,000	14,544,000	10,184,000	31.4	42.8
Materials.....	34,935,000	21,799,000	18,288,000	60.3	19.2
Miscellaneous.....	7,321,000	6,648,000	2,382,000	10.1	179.1
Value of products.....	74,916,000	53,865,000	39,888,000	39.1	35.0
Value added by manufacture (value of products less cost of materials).....	39,981,000	32,066,000	21,600,000	24.7	48.4

¹ Figures not available.

In 1909 the state of Arkansas had 2,925 manufacturing establishments, which gave employment to an average of 51,730 persons during the year and paid out \$22,574,000 in salaries and wages. Of the persons employed, 44,982 were wage earners.

These establishments turned out products to the value of \$74,916,000, to produce which materials costing \$34,935,000 were used. The value added by manufacture was thus \$39,981,000, which figure, as explained in the Introduction, best represents the net

wealth created by manufacturing operations during the year.

The relative importance and growth of the leading manufacturing industries of the state are shown in the next table. It should be borne in mind, in considering the returns presented in 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.....	2,925	44,982	100.0	\$74,916,000	100.0	\$39,981,000	100.0	39.1	35.0	24.7	48.5
Lumber and timber products.....	1,697	32,932	73.2	40,640,000	54.2	20,340,000	65.9	27.0	20.2	15.7	48.2
Oil, cottonseed, and cake.....	44	1,086	2.4	7,789,000	10.4	1,784,000	4.5	57.7	54.9	141.1	-38.0
Flour-mill and gristmill products.....	113	312	0.7	5,615,000	7.5	756,000	1.9	51.7	34.2	38.7	7.1
Cars and general shop construction and repairs by steam-railroad companies.....	16	2,249	7.2	4,154,000	5.5	2,395,000	6.0	35.0	46.9	39.4	29.2
Printing and publishing.....	295	981	2.2	2,082,000	2.8	1,646,000	3.9	44.3	42.3	37.7	44.5
Carriages and wagons and materials.....	58	973	2.2	1,664,000	2.2	844,000	2.1	115.5	99.1	98.1	74.6
Bread and other bakery products.....	133	310	0.7	1,177,000	1.6	600,000	1.3	68.9	436.2	31.6	434.6
Foundry and machine-shop products.....	42	447	1.0	1,051,000	1.4	620,000	1.6	58.3	48.2	38.7	52.6
Furniture and refrigerators.....	20	680	1.5	975,000	1.3	496,000	1.2	16.6	259.2	-2.2	242.6
Ice, manufactured.....	49	352	0.8	820,000	1.1	613,000	1.5	88.0	127.0	60.5	126.0
Cooperage and wooden goods, not elsewhere specified.....	9	504	1.1	761,000	1.0	411,000	1.0	14.8	377.4	70.5	197.5
Wood, turned and carved.....	25	383	0.9	612,000	0.8	289,000	0.7	14.0	685.3	-13.2	825.0
Brick and tile.....	42	555	1.3	601,000	0.8	433,000	1.1	24.1	185.0	-27.2	164.4
Leather goods.....	14	92	0.2	456,000	0.6	173,000	0.4	231.1	135.4	135.4	41.5
Copper, tin, and sheet-iron products.....	18	113	0.3	404,000	0.5	186,000	0.5	45.1	18.4	30.5	41.5
Marble and stone work.....	28	148	0.3	354,000	0.5	227,000	0.6	18.4	18.4	30.5	41.5
Canning and preserving.....	44	292	0.6	279,000	0.4	98,000	0.2	18.4	18.4	30.5	41.5
Mattresses and spring beds.....	6	94	0.2	263,000	0.4	107,000	0.3	220.0	174.4	174.4	44.4
Gas, illuminating and heating.....	5	48	0.1	219,000	0.3	129,000	0.3	-2.0	-2.0	-38.3	106.9
Confectionery.....	11	107	0.2	217,000	0.3	102,000	0.3	-2.0	-2.0	14.0	107.0
All other industries.....	250	1,294	2.9	4,783,000	6.4	1,932,000	4.8	18.4	18.4	30.5	41.5

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.

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

Lumber and timber products.—This industry includes logging operations, sawmills, planing mills, and establishments manufacturing wooden packing boxes, and gave employment in 1909 to an average of 32,932 wage earners, representing 73.2 per cent of the total number of wage earners employed in all the manufacturing industries of the state. It comprised 1,697 establishments, or 58 per cent of the total number of manufacturing establishments, and reported products valued at \$40,640,000, or 54.2 per cent of the total value of all manufactured products of the state. This classification does not include the operations of custom sawmills, which are usually small, the statistics for which are shown separately on page 63. Many of the mills of Arkansas are small portable outfits used at certain seasons of the year for sawing logs cut in the process of clearing land for agricultural purposes.

If the number of establishments engaged in industries such as cooperage, the turning and carving of wood, and the furniture industry is added to the number reported for the lumber industry, the total number of woodworking establishments in 1909 becomes 1,751, representing 59.9 per cent of the total number of manufacturing establishments for the state. These combined industries gave employment to an average

of 34,499 wage earners, or 76.7 per cent of the total number employed in all manufacturing industries, and reported products amounting to \$42,988,000, or 57.4 per cent of the total value of the manufactured products of the state.

Oil, cottonseed, and cake.—The statistics presented include those for all establishments engaged primarily in extracting oil from cotton seed. This industry was second in importance among the industries of the state in each of the three census years, 1909, 1904, and 1899. In 1909 the industry gave employment to 1,086 wage earners and reported products valued at \$7,789,000. The total value of products increased 55.9 per cent from 1899 to 1904 and 57.7 per cent from 1904 to 1909, while the number of establishments increased from 20 to 42 during the earlier period and from 42 to 44 during the later period. In 1909 Arkansas occupied sixth place among the states in the value of its crude cottonseed products, and seventh place in 1904. At both censuses it ranked sixth in the quantity of seed crushed.

Flour-mill and gristmill products.—This industry ranked third in the state in 1909 when measured by value of products. In that year it gave employment to 312 wage earners, and its products were valued at \$5,615,000. Because of the comparatively simple processes involved in this industry, 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 classification does not include custom flour mills and gristmills, statistics for which are shown separately on page 63.

Cars and general shop construction and repairs by steam-railroad companies.—This branch of manufactures represents the work done in the car shops of steam-railroad companies, and is practically confined to repairs to the rolling stock and equipment. The statistics do not include minor repairs made in round-houses. This industry gave employment to an average of 3,249 wage earners, holding second place in this respect in the state.

Printing and publishing.—Under this classification are included in Arkansas all establishments engaged in job printing and the printing and publishing of books, newspapers, and periodicals. This industry, which included 295 establishments, the second largest number reported for any manufacturing industry in the state, employed an average of 981 wage earners in 1909, and reported products valued at \$2,082,000.

Carriages and wagons and materials.—This industry shows an increase of \$892,000, or 115.5 per cent, in value of products from 1904 to 1909.

This table shows also the percentages of increase for these leading industries in value of products and value added by manufacture where these statistics are comparable. The manufacture of copper, tin, and sheet-iron products, the carriage and wagon, and the mattress and spring-bed industries showed remarkable increases both in gross value of products and in value added by manufacture during the period 1904 to 1909. For the same period the brick and tile and manufactured-gas industries decreased both in value of products and in value added by manufacture, while the confectionery industry decreased in value of products and the furniture and the wood turning and carving industries decreased in value added by manufacture.

For the period 1899 to 1904 the cottonseed-products industry decreased in value added by manufacture, whereas the bakery-products, furniture, manufactured-ice, cooperage, wood turning and carving, brick and tile, manufactured-gas, and confectionery industries increased largely both in value of products and in value added by manufacture.

In addition to the 20 industries presented separately in the table, there are 13 other industries in the state each of which reported in 1909 a value of products in excess of \$100,000. These 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 other cases, the returns do not present properly the true condition of the industry, for the reason that it is more or less interwoven with one or more other industries; and in still other cases, because comparable statistics for the different census years can not be presented either on account of changes in classification or because the figures are not available. These industries are: Awnings, tents, and sails; butter, cheese, and condensed milk; clothing, men's, including

shirts; cotton goods, including cotton small wares; explosives; fertilizers; lime; liquors, malt; mineral and soda waters; patent medicines and compounds and druggists' preparations; coffee and spice, roasting and grinding; rice, cleaning and polishing; and wood preserving. Figures for 1909, however, for the following industries may be found in Table II: Butter, cheese, and condensed milk; clothing, men's, including shirts; lime; patent medicines and compounds and druggists' preparations; and rice, cleaning and polishing.

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.....	51,730	50,701	1,029
Proprietors and officials.....	4,922	4,840	73
Proprietors and firm members.....	3,455	3,380	66
Salaries officers of corporations.....	438	432	6
Superintendents and managers.....	1,029	1,028	1
Clerks.....	1,826	1,620	206
Wage earners (average number).....	44,082	44,232	750
16 years of age and over.....	44,457	43,763	694
Under 16 years of age.....	525	469	56

The average number of persons engaged in manufactures during 1909 was 51,730, of whom 44,982 were wage earners. Of the remainder, 4,922 were proprietors and officials and 1,826 were clerks. Corresponding figures for individual industries will be found in Table II, page 66.

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 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.....	51,730	9.5	3.5	87.0
Bread and other bakery products.....	491	33.2	3.7	63.1
Carriages and wagons and materials.....	1,126	10.5	3.1	86.4
Cars and general shop construction and repairs by steam-railroad companies.....	3,464	2.5	3.7	93.8
Flour-mill and gristmill products.....	549	31.7	14.5	56.8
Foundry and machine-shop products.....	503	13.3	7.3	79.4
Furniture and refrigerator.....	766	5.4	5.9	88.8
Ice, manufactured.....	458	15.3	7.9	76.9
Lumber and timber products.....	36,662	7.9	2.3	89.8
Oil, cottonseed, and cake.....	1,350	7.9	11.6	80.4
Printing and publishing.....	1,672	20.1	12.3	68.7
All other industries.....	4,020	15.0	5.9	79.1

17
102
124.7
2.5

Of the total number of persons engaged in all manufacturing industries, 9.5 per cent were proprietors and officials, 3.5 per cent clerks, and 87 per cent wage earners. The highest percentage of proprietors and officials shown for any individual industry (33.2) is that for the bakeries. In this industry and in the flour-mill and gristmill and the printing and publishing industries 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 who fall into the class of proprietors and officials is very much higher than in most other industries or in all industries combined.

On account of the large average number of wage earners to an individual establishment in the furniture and refrigerator, lumber and timber products, steam-railroad repair shop, and cottonseed-oil industries, these industries show the smallest proportion of proprietors and officials.

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 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.....	44,982	97.3	1.5	1.2
Bread and other bakery products.....	310	82.6	12.3	5.2
Carriages and wagons and materials.....	973	98.9	.....	1.1
Cars and general shop construction and repairs by steam-railroad companies.....	3,249	100.0	.....	.....
Flour-mill and gristmill products.....	312	98.7	0.3	1.0
Foundry and machine-shop products.....	447	99.6	.....	0.4
Furniture and refrigerators.....	680	93.1	2.8	4.1
Ice, manufactured.....	352	100.0	.....	.....
Lumber and timber products.....	32,832	99.0	0.1	0.9
Oil, cottonseed, and cake.....	1,088	100.0	.....	.....
Printing and publishing.....	981	75.9	20.8	3.3
All other industries.....	3,660	85.2	10.9	4.0

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, 97.3 per cent of the average number of wage earners were males 16 years of age and over; 1.5 per cent, females 16 years of age and over; and 1.2 per cent, children under 16 years of age. The largest proportions of female wage earners reported for any of the industries shown separately in the above table, 20.8 per cent and 12.3 per cent, were

for printing and publishing and for the bakeries, respectively. Children formed 5.2 per cent of the total number of wage earners in the bakeries, and 4.1 per cent in the furniture industry.

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.				Per cent of increase, 1904-1909.
	1909		1904		
	Number.	Percent distribution.	Number.	Percent distribution.	
Total.....	51,730	100.0	37,557	100.0	37.7
Proprietors and firm members.....	3,455	6.7	2,140	5.7	61.4
Salaried employees.....	3,293	6.4	2,328	6.2	41.5
Wage earners (average number)...	44,982	87.0	33,089	88.1	35.9

Comparable figures are not obtainable for 1899. The table shows a greater percentage of increase in the number of proprietors and firm members than in the other two classes. The proportion of proprietors and firm members and of salaried employees was slightly larger in 1909 than in 1904, while that of wage earners was slightly smaller. The increased percentage of proprietors is due to the increase in the number of small establishments under individual and firm ownership.

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.	Percent distribution.	Number.	Percent distribution.	Number.	Percent distribution.
Total.....	44,982	100.0	33,089	100.0	31,525	100.0
16 years of age and over..	44,457	98.8	32,567	98.4	30,907	98.0
Male.....	43,763	97.3	32,066	96.9	30,483	96.7
Female.....	694	1.5	501	1.5	424	1.3
Under 16 years of age....	525	1.2	522	1.6	618	2.0

This table indicates that for all industries combined there has been both an actual and a proportional decrease during the last 10 years in the employment of children under 16 years of age. Little change is shown in the proportions of adult male and female wage earners, both classes having made actual increases during the decade. In 1909 males 16 years of age and over formed

97.3 per cent of all wage earners, as compared with 96.9 per cent in 1904 and 96.7 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, and also the percentage which the number reported for each month is of the greatest number reported for any month. In Table II, page 66, are shown, for practically all the important industries of the state, the largest number and the smallest number of wage earners reported for any month. The figures are for the 15th day, or the nearest representative day, of the month.

There was comparatively little fluctuation in employment from month to month. The number of wage earners in such seasonal industries as canning and preserving and the manufacture of cottonseed oil are not sufficiently large to greatly influence the totals for the state.

MONTH.	WAGE EARNERS.		MONTH.	WAGE EARNERS.	
	Number.	Per cent of maximum.		Number.	Per cent of maximum.
January.....	41,295	82.9	July.....	44,840	90.0
February.....	41,500	83.3	August.....	47,500	95.4
March.....	42,845	86.0	September.....	49,582	99.6
April.....	42,391	85.1	October.....	49,802	100.0
May.....	41,416	83.2	November.....	48,550	97.5
June.....	42,384	85.1	December.....	47,683	95.7

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.....	44,982	1,249	1,320	3,401	1,039	34,931	1,556	1,166	320
Bread and other bakery products.....	310	27		16		157	00	31	13
Brick and tile.....	585		2	37		540			
Canning and preserving.....	202	18				236	5	18	16
Carriages and wagons and materials.....	973	10		34	180	740	3		
Cars and general shop construction and repairs by steam-railroad companies.....	3,249			2,304	92	643	180		24
Confectionery.....	107	3		1		98	7		
Cooperage and wooden goods, not elsewhere specified.....	504					504			
Copper, tin, and sheet-iron products.....	113	58	19	18	3	15			
Flour-mill and gristmill products.....	312	71	2	4	3	120	24	79	
Foundry and machine-shop products.....	447	2		145	10	284			
Furniture and refrigerators.....	680	3	46	3	61	507			
Ice, manufactured.....	352		5			12	74	47	214
Leather goods.....	02	4		42	14	32			
Lumber and timber products.....	32,932	484	1,130	882	515	29,329	925	167	
Marble and stone work.....	148	16		38		94			
Mattresses and spring beds.....	04	8		25	7	54			
Oil, cottonseed, and cake.....	1,080					180	82	802	22
Printing and publishing.....	981	410	49	182	87	237	3	4	
Wood, turned and carved.....	383			7	30	337			
All other industries.....	1,342	120	67	168	22	763	181	18	32

It is evident from these figures that for the great majority of wage earners employed in the manufacturing industries of Arkansas the prevailing hours of labor were 60 a week, 15.5 per cent of the total being employed in establishments where the hours were less than 60 a week, and only 6.8 per cent being employed in establishments where they were more than 60 a week.

It will be noted that in most of the industries the employment was confined mainly to a week of 60 hours. Practically all the wage earners in the cottonseed-oil and manufactured-ice industries, however, were employed in establishments where the prevailing hours were more than 60 a week, while for a large number of the wage earners in the printing and publishing industry and the manufacture of copper, tin, and sheet-iron products the prevailing hours of labor were less than 54 per week.

Location of establishments.—The next table shows the extent to which the manufactures of Arkansas are carried on in cities of 10,000 population and 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 10,000 inhabitants and over.

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	1,574,449	110,590	1,463,859	7.0	93.0
	1900	1,311,564	61,390	1,250,174	4.7	95.3
Number of establishments.....	1909	2,925	339	2,586	11.6	88.4
	1899	1,740	165	1,581	9.5	90.5
Average number of wage earners.....	1909	44,982	7,082	37,900	15.7	84.3
	1899	31,525	3,064	28,461	9.7	90.3
Value of products.....	1909	\$74,916,307	\$18,693,769	\$56,222,538	25.0	75.0
	1899	39,387,578	6,320,337	33,067,241	16.3	84.2
Value added by manufacture.....	1909	39,081,455	8,331,722	31,649,733	20.8	79.2
	1899	21,699,533	3,102,223	18,497,310	14.4	85.6

In 1909, 25 per cent of the total value of products was reported from cities having over 10,000 inhabitants, and 15.7 per cent of the average number of wage earners were employed in such cities. The figures indicate that during the past 10 years this class of cities has gained decidedly, relatively speaking, in industrial importance, as compared with the remainder of the state. This change is due largely to the difference between the composition of the group in 1909 and in 1899. In 1910 the group of cities having 10,000 inhabitants and over consisted of Argenta, Fort Smith, Hot Springs, Little Rock, and Pine Bluff. In 1900 Hot Springs had less than 10,000 inhabitants and Argenta had not been incorporated, so that for 1899 these cities are not included among the cities for which a special presentation is made. Much of the industrial activity outside of this group of cities is the result of the development of the lumber industry of the state.

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

CITY.	1910	1900
Little Rock.....	45,941	38,307
Fort Smith.....	23,975	11,587
Pine Bluff.....	15,102	11,496
Hot Springs.....	14,434	9,973
Argenta.....	11,138	.....

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

CITY.	AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.		
	1909	1904	1899	1909	1904	1899
Little Rock.....	2,017	1,971	1,397	\$6,881,662	\$4,689,787	\$3,379,030
Argenta.....	2,157	(1)	(1)	4,841,661	(1)	(1)
Fort Smith.....	1,455	1,049	677	3,739,246	2,329,454	1,401,320
Pine Bluff ²	1,118	1,425	990	2,386,630	2,499,814	1,540,537
Hot Springs.....	335	239	94	844,570	597,029	190,667

¹ Not incorporated in 1900.

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.

The cities of Little Rock, Fort Smith, and Hot Springs showed increases in the average number of wage earners and in value of products, both from 1899 to 1904 and from 1904 to 1909. Pine Bluff increased in both respects from 1899 to 1904, but decreased from 1904 to 1909. The percentages of increase were generally greater from 1899 to 1904 than from 1904 to 1909. The city of Argenta was not incorporated in 1900, and since the totals for the city are shown in 1909 for the first time, comparative figures are not available.

The largest percentage of increase in value of products and average number of wage earners from 1899 to 1904, 213.1 per cent and 154.3 per cent, is shown for Hot Springs. This city also shows the greatest percentage of increase in number of wage earners from 1904 to 1909, 40.2, but Fort Smith shows the greatest percentage of increase in value of products, 60.5, due chiefly to the establishment of such new industries as the manufacture of brick and tile, carriages and wagons and materials, furniture, and canning and preserving. From 1904 to 1909 the value of the manufactured products of Fort Smith increased 60.5 per cent, and the average number of wage earners employed there 38.7 per cent. During this latter period Little Rock, the largest and most important city in the state, showed an increase of 46.7 per cent in value of products and of 2.3 per cent in the average number of wage earners, while Pine Bluff showed a decrease of 4.5 per cent in value of products and of 21.5 per cent in number of wage earners.

In Little Rock in 1909 the cottonseed-oil mills, the lumber industry, and printing and publishing were the most important; in Argenta, the steam-railroad repair shops and flour mills and gristmills; in Fort Smith, the manufacture of furniture and refrigerators and of carriages and wagons; in Pine Bluff, the lumber industry and cottonseed-oil mills; and in Hot Springs, the lumber industry and bakeries.

The statistics for that part of Texarkana which lies in Arkansas are included with those for the outside districts in the table on page 55. The following statement presents the totals for the entire city and for the parts situated in Arkansas and in Texas, respectively:

	Total for city.	Texarkana, Ark.	Texarkana, Tex.
Population.....	15,445	5,655	9,790
Number of establishments.....	47	21	26
Persons engaged in manufactures.....	1,063	240	823
Proprietors and firm members.....	40	22	18
Salaried employees.....	148	45	103
Wage earners (average number).....	875	173	702
Primary horsepower.....	2,902	1,335	1,567
Capital.....	\$1,792,436	\$398,387	\$1,394,049
Expenses.....	2,405,671	983,468	1,422,203
Services.....	575,648	109,173	466,375
Salaries.....	156,519	34,593	121,926
Wages.....	419,029	74,580	344,449
Materials.....	1,671,127	822,017	849,110
Miscellaneous.....	158,996	52,278	106,718
Value of products.....	2,046,521	1,052,087	1,594,434
Value added by manufacture (value of products less cost of materials).....	975,394	230,070	745,324

The leading industries of Texarkana, Ark., are the manufacture of flour-mill and gristmill products and of cottonseed oil and cake, and of Texarkana, Tex., the cooperage shops and the steam-railroad repair shops.

Character of ownership.—The table that follows is 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 cen-

suses 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, 21.9 per cent of the total number of establishments were in 1909 under corporate ownership, as against 78.1 per cent under all other forms. The corresponding figures for 1904 were 27.2 per cent and 72.8 per cent, respectively. In 1909 the establishments operated by corporations, however, reported 74.2 per cent of the total value of products, as against 25.8 per cent for those under all other forms of

ownership, while in 1904 the corresponding figures were 71.9 per cent and 28.1 per cent, respectively. The greatest decrease in relative numerical importance from 1904 to 1909 is shown for the establishments operated by corporations, while the largest decrease in relative importance as measured by value of products is shown for establishments operated by firms, which reported 13.8 per cent of the total value of products in 1904 and 11.7 per cent in 1909.

The 15 establishments in 1909 reported under other forms of ownership, consisted of 2 wooden-box factories, 3 butter factories, 1 canning factory, 1 planing mill, and 2 printing and publishing establishments, reported as cooperative, and 6 printing and publishing establishments which were operated by fraternal and religious societies.

INDUSTRY AND CHARACTER OF OWNERSHIP.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.	INDUSTRY AND CHARACTER OF OWNERSHIP.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
ALL INDUSTRIES:					Flour-mill and gristmill products, 1909—Continued.				
1909.....	2,925	44,982	\$74,916,307	\$39,981,455	Per cent of total.....	100.0	100.0	100.0	100.0
1904.....	1,907	33,089	53,864,304	32,065,048	Individual.....	46.0	23.4	11.4	16.8
Individual:					Firm.....	29.2	16.3	14.3	14.9
1909.....	1,400	7,453	10,472,470	6,422,606	Corporation.....	24.8	60.3	74.3	68.3
1904.....	846	4,277	7,684,593	4,520,814	Foundry and machine-shop products, 1909.				
Firm:					Individual.....	42	447	\$1,050,906	\$620,211
1909.....	804	5,835	8,773,033	5,308,002	.....	14	74	157,350	93,737
1904.....	534	4,400	7,410,401	4,696,112	Firm.....	12	38	78,745	56,602
Corporation:					.....	16	335	814,811	469,912
1909.....	640	31,637	55,585,902	28,142,542	Per cent of total.....	100.0	100.0	100.0	100.0
1904.....	518	24,335	38,724,917	22,810,700	Individual.....	33.3	18.0	15.0	15.1
Other:					Firm.....	28.6	8.5	7.5	9.1
1909.....	15	57	84,872	47,705	Corporation.....	38.1	74.9	77.5	75.8
1904.....	9	17	44,483	22,413	Lumber and timber products, 1909.				
Per cent of total:					Individual.....	1,097	32,932	\$40,640,327	\$26,340,660
1909.....	100.0	100.0	100.0	100.0	.....	854	5,798	5,502,457	4,002,419
1904.....	100.0	100.0	100.0	100.0	Firm.....	530	4,737	5,842,431	4,045,088
Individual:					Corporation.....	304	22,303	20,280,403	18,290,502
1909.....	50.1	16.0	14.0	16.1	Other.....	3	4	5,976	2,051
1904.....	44.4	12.9	14.3	14.1	Per cent of total.....	100.0	100.0	100.0	100.0
Firm:					Individual.....	50.3	17.6	13.5	15.2
1909.....	27.5	13.0	11.7	13.4	Firm.....	31.6	14.4	14.4	15.4
1904.....	28.0	13.5	13.8	14.0	Corporation.....	17.9	68.0	72.1	69.4
Corporation:					Other.....	0.2	(¹)	(¹)	(¹)
1909.....	21.0	70.3	74.2	70.4	Oil, cottonseed, and cake, 1909.				
1904.....	27.2	73.5	71.9	71.2	Individual.....	44	1,088	\$7,788,885	\$1,788,911
Other:					.....	3	90	921,443	273,054
1909.....	0.5	0.1	0.1	0.1	Corporation.....	41	990	6,867,442	1,510,857
1904.....	0.5	0.1	0.1	0.1	Per cent of total.....	100.0	100.0	100.0	100.0
Carriages and wagons and materials, 1909.					Individual.....	6.8	8.3	11.8	15.3
Individual.....	58	973	\$1,064,467	\$844,811	Corporation.....	93.2	91.7	88.2	84.7
.....	19	119	155,640	105,785	Printing and publishing, 1909.				
Firm.....	18	104	277,761	195,027	Individual.....	295	981	\$2,082,366	\$1,548,742
Corporation.....	21	690	1,231,000	573,999	.....	194	412	697,547	545,070
Per cent of total:					Firm.....	60	193	398,252	294,601
1909.....	100.0	100.0	100.0	100.0	Corporation.....	27	354	652,061	676,090
1904.....	32.8	12.2	9.4	12.5	Other.....	8	22	34,505	29,772
Individual:					Per cent of total.....	100.0	100.0	100.0	100.0
1909.....	31.0	16.0	14.3	10.5	Individual.....	65.3	42.0	33.5	35.3
1904.....	36.2	70.9	74.0	67.0	Firm.....	22.4	19.7	19.1	10.0
Flour-mill and gristmill products, 1909.					Corporation.....	9.2	36.1	45.7	45.7
Individual.....	113	312	\$5,615,486	\$756,634	Other.....	2.7	2.2	1.7	1.9
.....	52	73	638,400	127,167					
Firm.....	33	51	804,088	112,602					
Corporation.....	28	188	4,172,901	516,875					

¹ Less than one-tenth of 1 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 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 certain important industries separately as measured by number of wage earners, value of products, and value added by manu-

facture. 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 2,925 manufacturing establishments only four, or one-tenth of 1 per cent, had products exceeding \$1,000,000 in value. The four establishments belonging to this group, however, employed an average of 3,362 wage earners, or 7.5 per cent of the total number in all establishments, and reported 7.3 per cent of the total value of products

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and 6.4 per cent of the total value added by manufacture. On the other hand, the very small establishments—that is, those having products valued at less than \$5,000—constituted a considerable proportion (47.5 per cent) of the total number of establishments, but the value of their products amounted to only 4.1 per cent of the total. More than one-half of the total value of products was reported by establishments having a product valued at not less than \$100,000.

The decreases between 1904 and 1909 in the average value of products per establishment from \$28,246 to \$25,612, in the average value added by manufacture from \$16,814 to \$13,669, and in the average number of wage earners per establishment from 17 to 15 seem to indicate a tendency toward the establishment of small plants in the state, but may be the result of a more thorough canvass of the smaller establishments in 1909 than in 1904.

INDUSTRY AND VALUE OF PRODUCTS.	Number of establishments.	Average number of wage earners.	Value of products.	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.....	2,925	44,982	\$74,916,367	\$39,981,455	Flour-mill and gristmill products, 1909—Continued.				
1904.....	1,907	33,089	53,864,394	32,065,048	Per cent of total.....	100.0	100.0	100.0	100.0
Less than \$5,000:					Less than \$5,000.....	18.6	7.1	1.2	1.5
1909.....	1,390	3,501	3,056,457	2,169,126	\$5,000 and less than \$20,000.....	46.0	22.8	8.8	12.9
1904.....	741	1,301	1,792,050	1,248,236	\$20,000 and less than \$100,000.....	26.5	25.0	21.2	26.0
\$5,000 and less than \$20,000:					\$100,000 and less than \$1,000,000 ¹	8.8	45.2	68.8	59.6
1909.....	943	7,315	9,579,083	6,320,701	Average per establishment.....		3	\$49,695	\$6,696
1904.....	628	4,242	6,541,347	4,301,842	Foundry and machine-shop products, 1909.....	42	447	\$1,050,908	\$820,211
\$20,000 and less than \$100,000:					Less than \$5,000.....	11	11	23,500	16,671
1909.....	418	10,832	18,400,828	10,127,304	\$5,000 and less than \$20,000.....	22	136	229,995	158,110
1904.....	412	10,490	18,053,803	10,357,168	\$20,000 and less than \$100,000.....	6	85	284,868	169,866
\$100,000 and less than \$1,000,000:					\$100,000 and less than \$1,000,000.....	3	215	512,543	285,564
1909.....	170	19,972	38,436,426	18,786,422	Per cent of total.....	100.0	100.0	100.0	100.0
1904.....	126	17,056	27,477,194	10,157,802	Less than \$5,000.....	26.2	2.5	2.2	2.7
\$1,000,000 and over:					\$5,000 and less than \$20,000.....	52.4	30.4	21.9	25.5
1909.....	4	3,382	5,443,573	2,571,902	\$20,000 and less than \$100,000.....	14.3	19.0	27.1	25.8
1904.....					\$100,000 and less than \$1,000,000.....	7.1	48.1	48.8	46.0
Per cent of total:					Average per establishment.....		11	\$25,022	\$14,707
1909.....	100.0	100.0	100.0	100.0	Lumber and timber products, 1909.....	1,697	32,932	\$40,840,327	\$25,340,860
1904.....	100.0	100.0	100.0	100.0	Less than \$5,000.....	840	2,761	1,700,550	1,334,787
Less than \$5,000:					\$5,000 and less than \$20,000.....	521	5,195	5,300,761	3,877,469
1909.....	47.5	7.8	4.1	5.4	\$20,000 and less than \$100,000.....	239	7,676	10,670,030	6,715,275
1904.....	38.9	3.9	3.3	3.9	\$100,000 and less than \$1,000,000 ¹	97	17,300	22,848,986	14,413,125
\$5,000 and less than \$20,000:					Per cent of total.....	100.0	100.0	100.0	100.0
1909.....	32.2	16.3	12.8	15.8	Less than \$5,000.....	49.5	8.4	4.3	5.1
1904.....	32.9	12.8	12.1	13.4	\$5,000 and less than \$20,000.....	30.7	15.8	13.2	14.7
\$20,000 and less than \$100,000:					\$20,000 and less than \$100,000.....	14.1	23.3	26.3	25.5
1909.....	14.3	24.1	24.6	25.3	\$100,000 and less than \$1,000,000 ¹	5.7	52.5	56.2	54.7
1904.....	21.6	31.7	33.5	32.3	Average per establishment.....		19	\$23,948	\$15,522
\$100,000 and less than \$1,000,000:					Oil, cottonseed, and cake, 1909.....	44	1,086	\$7,788,885	\$1,783,911
1909.....	5.8	44.4	51.3	47.0	Less than \$5,000.....	14	160	969,285	208,169
1904.....	6.6	51.5	51.0	50.4	\$20,000 and less than \$100,000.....	30	920	6,819,600	1,578,742
\$1,000,000 and over:					Per cent of total.....	100.0	100.0	100.0	100.0
1909.....	0.1	7.5	7.3	6.4	Less than \$5,000.....	31.8	15.3	12.4	11.5
1904.....					\$20,000 and less than \$100,000.....	68.2	84.7	87.6	88.5
Average per establishment:					Average per establishment.....		26	\$177,020	\$40,543
1909.....		15	\$25,612	\$13,669	Printing and publishing, 1909.....	295	981	\$2,082,365	\$1,546,742
1904.....		17	28,246	16,814	Less than \$5,000.....	214	294	481,536	379,580
Carriages and wagons and materials, 1909.....	58	973	\$1,864,467	\$844,811	\$5,000 and less than \$20,000.....	64	300	519,071	403,089
Less than \$5,000.....	15	19	45,582	27,811	\$20,000 and less than \$100,000.....	13	196	451,994	343,703
\$5,000 and less than \$20,000.....	24	193	266,346	171,206	\$100,000 and less than \$1,000,000 ¹	4	191	629,764	420,305
\$20,000 and less than \$100,000 ²	19	761	1,352,559	645,794	Per cent of total.....	100.0	100.0	100.0	100.0
Per cent of total.....	100.0	100.0	100.0	100.0	Less than \$5,000.....	72.5	30.0	23.1	24.5
Less than \$5,000.....	25.9	2.0	2.7	3.3	\$5,000 and less than \$20,000.....	21.7	30.6	24.9	26.1
\$5,000 and less than \$20,000.....	41.4	19.8	16.0	20.3	\$20,000 and less than \$100,000.....	4.4	20.0	21.7	23.2
\$20,000 and less than \$100,000 ²	32.8	78.2	81.3	76.4	\$100,000 and less than \$1,000,000 ¹	1.4	19.5	30.2	27.2
Average per establishment.....		17	\$28,698	\$14,566	Average per establishment.....		3	\$7,069	\$5,243
Flour-mill and gristmill products, 1909.....	113	312	\$5,615,488	\$756,634					
Less than \$5,000.....	21	22	65,125	11,350					
\$5,000 and less than \$20,000.....	52	71	496,186	97,678					
\$20,000 and less than \$100,000.....	30	78	1,189,176	196,496					
\$100,000 and less than \$1,000,000 ¹	10	141	3,864,999	451,110					

¹ Includes the group "\$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 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 into each group, but also the average number of wage earners employed.

Of the 2,925 establishments reported for all industries, 5.8 per cent employed no wage earners; 53.8 per cent, from 1 to 5; 27.2 per cent, from 6 to 20; and 7.8 per cent, from 21 to 50. The most numerous single group consists of the 1,573 establishments employing from 1 to 5 wage earners, and the next,

of the 795 establishments employing from 6 to 20 wage earners. Twenty-six establishments employed over 250 wage earners, 2 of which, a steam-railroad repair shop and a lumber mill, employed 1,000 each.

Of the total number of wage earners, 26.5 per cent were in establishments employing over 250 wage earners. The single group having the largest number

of employees was the group made up of establishments employing from 6 to 20 wage earners. This group employed 8,580 wage earners, or 19.1 per cent of the total. Eighty-four and four-tenths per cent of the employees in the steam-railroad repair shops and 27 per cent of those in the lumber industry worked in establishments employing over 250 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.....	2,925	169	1,573	795	229	79	54	19	5	1
Bread and other bakery products.....	133	23	98	10	2					
Carriages and wagons and materials.....	58	2	23	18	11	2	2			
Cars and general shop construction and repairs by steam-railroad companies.....	16		3	4	3	1	2	1	1	1
Flour-mill and gristmill products.....	113	17	87	8	1					
Foundry and machine-shop products.....	42	4	16	18	2	1				
Furniture and refrigerators.....	20		4	6	4	6				
Ice, manufactured.....	49		31	15	3					
Lumber and timber products.....	1,697	28	829	593	149	61	45	17	4	1
Oil, cottonseed, and cake.....	44		1	20	21	2				
Printing and publishing.....	205	53	205	31	5		1			
All other industries.....	458	42	276	102	28	6	3	1		
AVERAGE NUMBER OF WAGE EARNERS.										
All industries.....	44,982	3,913	8,580	7,221	5,622	7,702	6,385	3,116	2,443	
Bread and other bakery products.....	310	168	89	63						
Carriages and wagons and materials.....	973	52	199	341	132	249				
Cars and general shop construction and repairs by steam-railroad companies.....	3,249	7	60	117	92	229	440	874	1,430	
Flour-mill and gristmill products.....	312	174	93	45						
Foundry and machine-shop products.....	447	39	168	60	73	107				
Furniture and refrigerators.....	680	15	70	146	443					
Ice, manufactured.....	352	67	149	108						
Lumber and timber products.....	32,632	2,310	6,103	4,703	4,334	6,583	5,644	2,242	1,013	
Oil, cottonseed, and cake.....	1,080	5	260	674	141					
Printing and publishing.....	681	444	281	131		115				
All other industries.....	3,660	612	1,086	836	407	419	301			
PER CENT OF AVERAGE NUMBER OF WAGE EARNERS.										
All industries.....	100.0	8.7	19.1	16.1	12.5	17.1	14.2	6.9	5.4	
Bread and other bakery products.....	100.0	51.0	28.7	20.3						
Carriages and wagons and materials.....	100.0	5.3	20.5	35.0	13.6	25.0				
Cars and general shop construction and repairs by steam-railroad companies.....	100.0	0.2	1.8	3.6	2.8	7.1	13.5	26.9	44.0	
Flour-mill and gristmill products.....	100.0	55.3	29.8	14.4						
Foundry and machine-shop products.....	100.0	8.7	37.6	13.4	16.3	23.9				
Furniture and refrigerators.....	100.0	2.2	11.2	21.5	65.1					
Ice, manufactured.....	100.0	27.6	42.3	30.1						
Lumber and timber products.....	100.0	7.0	18.5	14.3	13.2	20.0	17.1	6.8	3.1	
Oil, cottonseed, and cake.....	100.0	0.5	24.5	62.1	13.0					
Printing and publishing.....	100.0	45.3	29.7	13.4		11.7				
All other industries.....	100.0	16.7	29.7	22.8	11.1	11.4	8.2			

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

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

This table shows that, for all industries combined, 53.9 per cent of the total expense was incurred for materials, 34.8 per cent for services—that is, salaries and wages—and 11.3 per cent for other purposes. As would be expected, these proportions vary greatly in the different industries. The flour mills and gristmills and the cottonseed-oil mills show the smallest labor cost and the highest cost of materials, relatively. The largest proportion for wages is shown for the steam-railroad repair shops, the lumber industry being second.

INDUSTRY.	PER CENT OF TOTAL EXPENSES REPORTED.			
	Salaries.	Wages.	Materials.	Miscellaneous expenses.
All industries.....	5.3	29.6	53.9	11.8
Bread and other bakery products.....	1.2	17.4	72.8	8.6
Carriages and wagons and materials.....	6.4	28.3	57.2	8.1
Cars and general shop construction and repairs by steam-railroad companies.....	0.3	49.7	42.4	1.7
Flour-mill and gristmill products.....	1.9	2.3	93.4	2.4
Foundry and machine-shop products.....	9.8	33.2	47.0	10.0
Furniture and refrigerators.....	8.4	32.9	50.0	8.1
Ice, manufactured.....	12.7	31.8	34.2	21.3
Lumber and timber products.....	5.2	38.1	41.7	15.0
Oil, cottonseed, and cake.....	8.9	0.1	83.5	6.5
Printing and publishing.....	13.5	34.2	34.1	18.2
All other industries.....	6.2	20.1	64.2	9.5

Engines and power.—The following table shows 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 the number and horsepower of electric motors, including those operated by current generated in the manufacturing establishments.

POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.			PER CENT DISTRIBUTION OF HORSEPOWER.		
	1909	1904	1899 ¹	1909	1904	1899 ¹	1909	1904	1899
Primary power, total.....	3,648	1,911	1,649	173,088	109,509	79,560	100.0	100.0	100.0
Owned.....	3,124	1,911	1,649	170,252	108,924	79,304	98.4	99.5	99.7
Steam.....	2,858	1,781	1,584	168,152	107,699	78,016	97.2	98.4	98.1
Gas.....	245	114	39	1,374	482	326	0.8	0.4	0.4
Water wheels.....	20	14	20	639	576	734	0.4	0.5	0.9
Water motors.....	1	2	(*)	35	8	(*)	(*)	(*)	(*)
Other.....				52	159	228	(*)	0.2	0.3
Rented.....	524	(*)	(*)	2,836	555	256	1.6	0.5	0.3
Electric.....	524	(*)	(*)	2,581	484	201	1.5	0.4	0.2
Other.....				255	101	55	0.1	0.1	0.1
Electric motors	838	88	17	7,417	2,191	480	100.0	100.0	100.0
Run by current generated by establishment	314	88	17	4,836	1,707	279	65.2	77.9	58.1
Run by rented power.....	524	(*)	(*)	2,581	484	201	34.8	22.1	41.9

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

In 1909, of the total primary power, 98.4 per cent was owned and 1.6 per cent, mostly electric power, was rented. In 1899 the proportions were 99.7 per cent and three-tenths of 1 per cent, respectively. The figures show a gain in the per cent of rented power during the decade, and yet of the actual gain, 93,528 horsepower, 90,948, or 97.2 per cent, was in power owned, and but 2,580, or 2.8 per cent, in rented power. In 1909, of the owned power, 98.8 per cent was steam. The use of water power in manufactures was very small.

The practice by manufacturing establishments of transforming power generated in their establishments into electric power and of utilizing the same in manufactures by means of motors is shown to be rapidly increasing. The horsepower of motors of this character increased from 279 in 1899 to 4,836 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.....	884	877,017	6,327	73,857	26,766	886,794
Bread and other bakery products.....	25	891	58	5,055	34	11,518
Brick and tile.....		22,445		10,894	1	280,500
Carriages and wagons and materials.....	70	1,130		78	79	38,381
Cars and general shop construction and repairs by steam-railroad companies.....	80	36,510	1,488	600	11,151	
Flour-mill and gristmill products.....	53	11,047	140	7,277	374	11,956
Foundry and machine-shop products.....	4	2,614	823	319	323	9,143
Furniture and refrigerators.....	350	3,580		3	2	34,513
Gas, illuminating and heating.....		4,894	2,238			11,114
Ice, manufactured.....	80	49,455	1,500	5,733		148,523
Lumber and timber products.....	150	24,469		3,155	712	5,096
Oil, cottonseed, and cake.....		62,692		6,227	2,032	57,980
Printing and publishing.....	49	686	27	601	621	4,257
All other industries.....	17	656,604	53	24,855	323	276,927

NOTE.—In addition, there were 1,380 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 five important industries in Arkansas are here presented.

Lumber and timber products.—The following table shows the quantities of lumber, lath, and shingles produced in the sawmill branch of the industry for 1909 and 1899:

PRODUCT.	QUANTITY.	
	1909	1899
Rough Lumber.....M feet b. m..	2,111,300	1,623,987
Lath.....thousands..	78,362	21,164
Shingles.....thousands..	208,080	349,522

The production of rough lumber, already large in 1899, increased 30 per cent during the decade, and the production of lath increased 270.3 per cent, while that of shingles decreased 40.5 per cent. The total cut of rough lumber in Arkansas, 2,111,300 M feet board measure, represented 4.7 per cent of the total for all states in 1909, while in 1899 the 1,623,987 M feet reported represented 4.6 per cent of the total. At both censuses the state occupied fifth place among the lumber-producing states.

In 1909 Arkansas ranked first among the states in the production of red-gum lumber, reporting 28.4 per cent of the total amount cut in the United States. In the same year it ranked first in the output of cottonwood lumber, with 20.5 per cent of the total; first in that of ash, with 11.4 per cent of the total; and second in that of hickory, with 13.5 per cent of the total. In 1909 yellow pine was the principal timber cut in the state. In that year the output of this timber amounted to 1,313,668 M feet board measure, representing 62.2 per cent of the total rough-lumber cut in the state.

Oil, cottonseed, and cake.—The following table, which shows the quantity of the cotton seed crushed and the quantities of the principal products, indicates the steady growth of this important industry in Arkansas.

MATERIAL OR PRODUCT.	1909	1904	1899
Cotton seed, crushed..... tons..	278,337	238,227	190,015
Crude products, manufactured:			
Oil.....gallons..	11,435,430	9,557,668	7,224,971
Meal and cake..... tons..	110,709	94,203	65,459
Hulls..... tons..	94,209	84,374	90,683
Linters.....pounds..	12,889,498	8,572,572	4,613,519

The quantity of cotton seed crushed increased 48,212 tons, or 25.4 per cent, from 1899 to 1904, and 40,110 tons, or 16.8 per cent, from 1904 to 1909. There was an increase in the quantity of each of the crude products manufactured, that for oil, the most important, being 32.3 per cent from 1899 to 1904, and 19.6 per cent from 1904 to 1909. During the decade the production of oil, meal and cake, and linters per ton of seed crushed increased, while that of hulls decreased.

The reduction in the weight of hulls may be accounted for by the closer delinting of the seed, which permits a better segregation of the meats from the hulls, and by the introduction of cold-process mills which extract the oil from the seed without hulling.

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

PRODUCT.	QUANTITY.		VALUE.	
	1909	1904	1909	1904
All products.....			\$5,615,486	\$3,702,466
Wheat flour:				
White.....barrels..	238,878	377,760	1,302,107	1,809,206
Graham.....barrels..	125	270	750	1,320
Corn meal and flour.....barrels..	514,502	353,628	1,000,070	831,938
Hominy and grits.....pounds..	2,498,700	222,800	41,024	4,452
Feed.....tons..	84,129	31,389	2,376,401	687,760
Orfal.....tons..	10,132	18,395	223,180	299,544
All other products.....			5,294	8,275

The wheat products, shown in the above table, decreased in quantity and value from 1904 to 1909, while the corn products increased. These fluctuations are due probably to changes in crop conditions and in the demand of local markets. The output of white flour decreased from 377,760 barrels in 1904 to 238,878 in 1909. Corn meal and corn flour, on the other hand, increased from 353,628 barrels in 1904 to 514,502 barrels in 1909; that of hominy and grits from 222,800 pounds to 2,498,700 pounds; and that of feed from 31,389 tons to 84,129 tons. In 1909 the merchant mills of the state were equipped with 507 pairs of rolls and 106 runs of stone, as compared with 601 pairs of rolls and 50 runs of stone reported in 1904. During the last census year five mills in the state manufactured barrels and one manufactured sacks.

Printing and publishing.—Although the printing and publishing industry in Arkansas shows considerable growth as a whole during the last five years when measured by its financial statistics, the number of publications has decreased slightly, as shown by the next table, which gives the number of publications and their aggregate circulation per issue for the last three census years.

PERIOD OF ISSUE.	NUMBER OF PUBLICATIONS.			AGGREGATE CIRCULATION PER ISSUE.		
	1909	1904	1899	1909	1904	1899
Total	283	291	246	496,299	365,957	262,903
Daily.....	23	27	20	60,176	39,942	38,140
Sunday.....	7	7	10	50,593	24,337	(1)
Semiweekly.....	5	5	5	5,868	6,200	12,285
Weekly.....	234	232	199	241,413	246,118	187,578
Monthly.....	12	14	8	136,760	45,330	18,900
All other classes.....	1	6	4	1,500	4,030	6,000

¹ Included in circulation of dailies.

² Includes one triweekly.

Of the six different classes of publications, two show small increases in number in 1909, as compared with 1904, for two the number is the same, and two show decreases. There were decided increases in the total aggregate circulation during each five-year period, the largest increase being shown for the monthly publications. The semiweeklies, however, and the publications included under the head of "All other classes," decreased in circulation throughout the decade. All publications were printed in the English language excepting three weeklies, which were printed in German.

Carriages and wagons and materials.—The following table shows the number and value of carriages and wagons manufactured in 1909, 1904, and 1899:

PRODUCT.	1909	1904	1899
Total value	\$1,664,467	\$771,563	\$555,049
Carriages (family and pleasure):			
Number.....	20	35	800
Value.....	\$1,765	\$2,045	\$5,828
Wagons:			
Number.....	7,415	1,625	1,149
Value.....	\$436,663	\$102,736	\$71,355
Business—			
Number.....	461	547	(1)
Value.....	\$41,409	(1)	(1)
Farm—			
Number.....	6,954	1,078	(1)
Value.....	\$395,254	(1)	(1)
All other products, including parts, and amount received for repair work.....	\$1,226,039	\$666,782	\$427,866

¹ Not reported separately.

The total value of products increased from \$555,049 in 1899 to \$1,664,467 in 1909, or nearly 200 per cent. During this period the number of wagons manufactured increased from 1,149 to 7,415 and their value from \$71,355 to \$436,663. Of the total value of products in 1909, the value of wagons formed 26.2 per cent, that of carriages one-tenth of 1 per cent, and that of all other products, which includes the value of carriage and wagon materials and the amount received for repair work, 73.7 per cent.

Laundries.—Statistics for steam laundries are not included in the general tables or in the totals for manufacturing industries. There were 45 such establishments in the state, of which 6 were in Little Rock, 3 in Fort Smith, 3 in Hot Springs, and 2 in Pine Bluff.

The following statement summarizes the statistics:

Number of establishments.....	45
Persons engaged in the industry.....	850
Proprietors and firm members.....	53
Salaried employees.....	56
Wage earners (average number).....	741
Primary horsepower.....	900
Capital.....	\$568,411
Expenses.....	523,658
Services.....	316,811
Materials.....	122,806
Miscellaneous.....	84,041
Amount received for work done.....	684,036

Twenty-two of the 45 establishments were under individual ownership, 14 under firm ownership, and 9 under corporate ownership. Twelve establishments had receipts for the year's business in excess of \$20,000; 17 had receipts of between \$5,000 and \$20,000; and 16 had receipts of less than \$5,000 each.

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.....	681	85.7	July.....	795	100.0
February.....	703	88.4	August.....	771	97.0
March.....	726	91.3	September.....	763	96.0
April.....	733	92.2	October.....	754	94.8
May.....	752	94.6	November.....	721	90.7
June.....	766	96.4	December.....	724	91.1

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		900
Owned:		
Steam.....	37	837
Gas.....	2	18
Rented:		
Electric.....	7	30
Other.....		15

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

KIND.	Unit.	Quantity.
Bituminous coal.....	Tons.....	9,001
Coke.....	Tons.....	6
Wood.....	Cords.....	1,682
Oil.....	Barrels.....	138
Gas.....	1,000 feet.....	129,682

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.....	39	769
Persons engaged in the industry.....	156	1,832
Proprietors and firm members.....	51	1,086
Salaries employees.....		19
Wage earners (average number).....	105	727
Primary horsepower.....	970	18,523
Capital.....	\$45,700	\$696,441
Expenses.....	20,003	1,496,243
Services.....	10,434	39,784
Materials.....	918	1,435,982
Miscellaneous.....	2,651	20,477
Value of products.....	39,439	1,709,189

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

MANUFACTURES—ARKANSAS.

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.					Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
			Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).	Expressed in thousands.							
STATE—All industries.....	1909	2,925	51,730	3,455	3,293	44,982	173,088	\$70,174	\$3,461	\$19,113	\$34,935	\$74,916	\$30,981	
	1904	1,807	37,557	2,140	2,328	33,089	109,509	46,306	2,310	14,544	21,799	53,864	32,085	
	1899	1,746			1,549	31,525	79,560	25,885	1,262	10,184	18,288	39,888	21,600	
Bread and other bakery products.....	1909	133	491	161	20	310	174	421	12	161	677	1,177	500	
	1904	63	257	68	18	171	87	180	18	85	317	697	380	
	1899	23	90	25	4	61		74	2	24	65	130	65	
Brick and tile.....	1909	42	697	55	57	585	2,178	1,300	60	219	108	601	433	
	1904	55	629	68	36	525	1,861	943	38	186	197	792	595	
	1899	55	491	66	23	402	555	310	18	100	52	277	225	
Canning and preserving.....	1909	44	370	65	22	292	428	255	9	54	181	279	98	
	1904	1 67	302	100	8	194	202	124	2	38	104	180	76	
	1899	34	182	44	2	136		83	(?)	22	51	101	50	
Carriages and wagons and materials.....	1909	58	1,126	63	90	973	3,749	1,823	92	405	820	1,064	844	
	1904	33	541	31	50	460	1,632	747	39	174	346	772	426	
	1899	40			30	348		400	16	111	311	555	244	
Cars and general shop construction and repairs by steam-railroad companies.	1909	16	3,464		215	3,249	2,560	1,561	261	2,061	1,759	4,154	2,395	
	1904	13	2,643		135	2,508	1,161	561	152	1,545	1,360	3,078	1,718	
	1899	21	2,030		103	1,927		721	98	1,204	705	2,095	1,330	
Confectionery.....	1909	11	139	13	19	107	42	120	12	32	115	217	102	
	1904	5	128	5	11	112	60	164	13	33	191	280	89	
	1899	3			13	66		93	8	16	82	125	43	
Cooperage and wooden goods, not elsewhere specified.	1909	9	531	5	22	504	2,400	1,471	39	210	350	761	411	
	1904	26	356	39	22	295	812	625	22	119	422	663	241	
	1899	10	145	11	8	126		151	5	35	158	239	81	
Copper, tin, and sheet-iron products.....	1909	18	150	25	12	113	20	191	10	77	218	404	186	
	1904	8	69	9	1	59		65	1	41	43	122	79	
	1899													
Flour-mill and gristmill products.....	1909	113	549	133	104	312	5,940	1,599	97	122	4,859	5,015	756	
	1904	91	434	116	55	203	4,430	1,363	45	104	3,157	3,702	545	
	1899	79			33	277	3,985	828	21	94	2,249	2,758	509	
Foundry and machine-shop products.....	1909	42	563	42	74	447	824	1,418	90	304	431	1,051	620	
	1904	33	418	27	28	303	641	762	31	200	217	664	447	
	1899	4 36	336	34	27	275	1,029	432	25	132	155	448	293	
Furniture and refrigerators.....	1909	20	766	9	77	680	1,985	1,873	79	311	479	975	496	
	1904	14	733	4	43	686	1,164	846	43	256	330	837	507	
	1899	8	219	9	4	206		160	3	65	85	233	148	
Gas, illuminating and heating.....	1909	5	71		23	48	189	1,051	16	24	90	219	129	
	1904	10	147	1	29	117	465	1,438	23	51	72	281	209	
	1899	7	57		23	34		829	16	22	38	139	101	
Ice, manufactured.....	1909	49	458	17	89	382	8,281	1,905	77	192	207	820	613	
	1904	38	333	7	65	261	4,622	1,317	45	123	106	488	382	
	1899	15	178	8	21	149	2,207	509	22	56	46	215	169	
Leather goods.....	1909	14	132	11	29	92	83	375	32	60	283	456	173	
	1904	4 7	78	7	9	62	27	174	10	37	105	210	105	
	1899	14			13			26		7	18	37	19	
Lumber and timber products.....	1909	1,097	36,062	2,135	1,595	32,932	122,387	42,346	1,793	13,060	14,800	40,640	26,340	
	1904	929	26,348	1,079	1,360	23,909	77,570	29,619	1,415	10,265	9,235	31,993	22,758	
	1899	4 965			974	25,072	59,786	16,261	771	7,482	11,271	26,624	15,353	
Marble and stone work.....	1909	28	202	38	16	148	494	151	15	91	127	854	227	
	1904	21	155	24	16	115	402	251	15	73	70	244	174	
	1899	23			24	105		74	8	56	83	206	123	
Mattresses and spring beds.....	1909	6	113	5	14	94	193	117	19	43	156	268	107	
	1904	4	49	1	3	45	152	80	3	18	43	82	39	
	1899	3			2	31		14	2	11	22	49	27	
Oil, cottonseed, and cake.....	1909	44	1,350	3	261	1,086	13,029	5,239	281	441	6,005	7,789	1,784	
	1904	42	1,135	3	210	922	9,988	4,106	197	329	4,200	4,940	740	
	1899	20	762	1	94	607	5,060	2,485	116	233	1,996	3,189	1,193	
Printing and publishing.....	1909	295	1,672	417	274	981	846	1,910	212	538	636	2,082	1,546	
	1904	277	1,360	361	104	895	538	1,315	93	438	320	1,443	1,123	
	1899	230	1,038	261	73	704		778	57	265	237	1,014	777	
Wood, turned and carved.....	1909	25	431	13	35	383	1,850	419	34	168	323	612	289	
	1904	21	451	22	26	403	1,355	264	21	154	201	534	333	
	1899	5	66	2	3	61		27	3	21	32	68	36	
All other industries.....	1909	256	1,784	245	245	1,294	5,430	4,029	221	540	2,851	4,783	1,932	
	1904	150	991	168	99	724	2,350	1,472	84	275	703	1,862	1,099	
	1899	165			83	865		1,130	71	228	572	1,386	814	

1 Excluding statistics for one establishment, to avoid disclosure of individual operations.
 2 Less than \$300.
 3 Figures can not be shown without disclosing individual operations.
 4 Excluding statistics for two establishments, to avoid disclosure of individual operations.

MANUFACTURES—ARKANSAS.

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

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

CITY.	Census.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.				Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
			Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).							
Argenta	1909 1 1904 1 1899	18	2,357	12	188	2,157	2,885	\$2,240	\$212	\$1,400	\$2,685	\$4,842	\$2,157
Fort Smith	1909 1904 1899	83 63 66	1,793 1,198	87 43	251 166	1,455 1,049	4,202	3,206 1,726 897	278 113 56	741 481 256	2,006 1,113 650	3,789 2,329 1,401	1,733 1,216 751
Hot Springs	1909 1904 1899	71 22 21	430 299	69 25	26 35	335 239	1,644	770 549 149	28 28 6	210 115 34	309 288 85	845 597 191	542 309 106
Little Rock	1909 1904 1899	125 104 62	2,560 2,305	110 97	430 237	2,017 1,971	6,610	6,045 4,493 2,928	445 249 181	1,080 938 544	4,014 2,559 1,779	6,882 4,600 3,370	2,868 2,131 1,600
Pine Bluff	1909 2 1904 1899	42 34 37	1,265 1,526	32 17	115 84	1,118 1,425	4,584	2,585 2,696 1,644	126 99 77	605 574 443	1,354 1,421 789	2,387 2,500 1,541	1,033 1,079 752

¹ Not incorporated in 1900.
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

MANUFACTURES—ARKANSAS.

TABLE II.—DETAIL STATEMENT FOR

INDUSTRY.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.										WAGE EARNERS—NUMBER DEC. 15, OR NEAREST REPRESENTATIVE DAY.				Primary horse-power.
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks.		Wage earners.			Total.	16 and over.		Under 16.			
					Male.	Female.	Average number.	Number.			Male.	Female.	Male.	Female.		
								Maximum month.	Minimum month.							
1 All industries	2,925	51,730	3,455	1,467	1,620	206	44,982	Se 49,802	Ja 41,295	(1)	(1)	(1)	(1)	178,088		
2 Artificial stone	17	58	19	2	11	7	39	Se 54	Fe 24	52	51	1	1	2		
3 Bread and other bakery products	133	491	161	2	11	7	310	No 345	Mh 282	335	279	41	15	3		
4 Brick and tile	42	697	55	30	24	3	585	Jy 790	Ja 284	713	689	24	24	2,178		
5 Brooms	9	40	7	4	2	2	27	Oc 37	Ap 17	37	37	4	1	43		
6 Butter, cheese, and condensed milk	9	28	4	10	1	1	13	Jy 16	Ja 11	15	13	1	1	163		
7 Canning and preserving	44	379	65	14	6	2	292	Se 1,057	Mh 4	1,354	456	789	22	87		
8 Carriages and wagons and materials	58	1,120	08	55	28	7	973	Se 1,096	Ja 837	1,114	1,101	13	13	3,749		
9 Cars and general shop construction and repairs by steam-railroad companies.	16	3,464	88	123	4	4	3,249	Se 3,539	Ap 2,830	3,443	3,442	1	1	2,560		
10 Cars and general shop construction and repairs by street-railroad companies.	6	67	4	2	2	2	61	Ap 65	Se 57	63	63	1	1	103		
11 Clothing, men's, including shirts	3	90	3	4	9	9	74	De 78	Ja 72	78	16	62	1	25		
12 Confectionery	11	139	13	1	12	6	107	De 114	Se 102	114	69	31	3	42		
13 Cooperage and wooden goods, not elsewhere specified.	9	531	5	8	13	1	504	No 640	Ja 400	609	609	1	1	2,400		
14 Copper, tin, and sheet-iron products	18	150	25	5	4	3	113	Se 119	Ja 106	112	108	4	4	20		
15 Flour-mill and gristmill products	113	549	133	41	49	14	312	Mh 346	De 261	342	335	1	3	5,946		
16 Foundry and machine-shop products	42	563	42	33	34	7	447	De 518	Fe 404	519	517	2	2	824		
17 Furniture and refrigerators	20	766	9	32	39	6	680	Fe 759	Se 571	874	813	25	36	1,985		
18 Gas, illuminating and heating	5	71	1	7	9	9	48	Ap 55	Ja 42	43	43	1	1	189		
19 Ice, manufactured	49	458	17	53	34	2	352	Jy 575	Ja 158	364	364	1	1	8,281		
20 Jewelry	6	17	7	1	1	1	10	Se 11	Ja 1	11	9	2	2	4		
21 Kaolin and ground earths	3	7	1	1	1	1	5	Ja 8	Ap 3	11	11	1	1	145		
22 Leather goods	14	132	11	13	13	3	92	Ja 97	Oc 87	97	87	5	5	83		
23 Lime	9	174	6	6	6	5	157	Se 191	Ja 105	199	199	1	1	137		
24 Liquors, distilled	7	15	8	1	1	1	6	No 12	Jy 3	12	12	1	1	130		
25 Lumber and timber products	1,697	36,662	2,135	769	758	68	32,932	Oc 36,172	My 30,252	39,799	39,381	40	338	122,387		
26 Marble and stone work	28	202	38	4	10	2	148	Oc 187	Ja 95	162	162	1	1	494		
27 Mattresses and spring beds	6	113	5	9	4	1	94	No 128	My 71	106	89	16	1	193		
28 Oil, cottonseed, and cake	44	1,350	3	104	155	2	1,086	No 1,996	Jy 326	1,969	1,969	1	1	13,029		
29 Patent medicines and compounds and druggists' preparations.	25	88	24	13	10	2	39	De 46	Jy 31	46	26	17	3	3		
30 Pottery, terra-cotta, and fire-clay products.	5	54	6	2	1	1	45	Mh 49	De 39	49	40	9	9	81		
31 Printing and publishing	295	1,672	417	69	167	38	981	De 1,018	Je 952	1,041	791	216	34	846		
32 Rice, cleaning and polishing	5	64	8	8	19	1	37	Oc 117	Ap 0	96	96	1	1	1,610		
33 Tobacco manufactures	19	76	25	1	1	1	49	De 58	Se 43	61	41	13	7	1,610		
34 Wood, turned and carved	25	431	13	23	5	7	383	Jy 410	Je 325	466	464	2	2	1,850		
35 All other industries	133	1,006	135	53	72	14	732							3,034		

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—

Agricultural implements	1	Charcoal	1	Dairymen's, poultryers', and apiarists' supplies	2
A swings, tents, and sails	5	Coffee and spice, roasting and grinding	3	Electrical machinery, apparatus, and supplies	1
Baskets, and rattan and willow ware	1	Coffins, burial cases, and undertakers' goods	1	Explosives	1
Brass and bronze products	1	Gorsets	1	Fancy articles, not elsewhere specified	1
Buttons	3	Cotton goods, including cotton small wares	2	Fertilizers	1
Carpets, rag	1	Cutlery and tools, not elsewhere specified	1	Food preparations	1

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 ARGENTA	18	2,357	12	66	115	7	2,157	2,153	.....	4	2,171	2,166	.....	5	2,885
2 PORT SMITH	83	1,793	87	90	136	25	1,455	1,298	118	39	1,620	1,445	131	42	4,202	
3 HOT SPRINGS	71	430	69	14	9	3	335	314	19	2	344	322	20	2	1,644	
4 LITTLE ROCK	125	2,566	119	138	247	45	2,017	1,852	127	38	2,217	2,036	140	30	6,619	
5 PINE BLUFF	42	1,265	32	47	58	10	1,118	1,100	11	7	1,256	1,236	13	7	4,584	

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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	\$70,174,345	\$64,829,785	\$2,044,941	\$1,415,935	\$19,112,896	\$980,371	\$33,954,541	\$193,497	\$643,763	\$2,034,264	\$4,449,587	\$74,016,307	\$39,981,455
2	32,096	48,774	2,800	8,765	18,418	63	27,247	675	141	370	2,230	65,781	88,471
3	421,063	930,636	2,800	8,765	101,477	22,411	654,932	24,824	3,061	370	51,696	1,176,079	409,636
4	1,300,269	502,346	33,365	26,843	210,262	132,332	35,749	650	4,240	212	40,015	601,034	432,953
5	38,344	45,243	2,225	668	11,053	619	27,300	470	212	212	2,066	55,528	27,879
6	96,640	119,842	4,364	100	6,620	3,535	101,841	100	309	309	3,007	131,235	25,859
7	255,452	252,631	7,191	1,630	54,172	6,416	174,414	614	1,030	125	6,680	278,903	98,073
8	1,823,209	1,433,090	63,679	28,142	404,881	0,146	810,510	6,837	10,301	5,547	94,047	1,664,467	844,811
9	1,561,466	4,148,926	155,570	105,182	2,000,608	76,327	1,632,409	.....	5,283	971	62,576	4,153,926	2,395,190
10	76,642	86,349	2,545	1,179	36,306	1,941	39,705	.....	607	.....	3,976	86,349	44,703
11	94,684	185,182	7,800	24,218	25,359	177	121,800	2,400	432	.....	3,436	100,706	75,169
12	120,470	176,929	1,800	10,617	31,792	3,498	111,197	4,290	884	.....	12,851	217,159	102,464
13	1,470,817	704,525	25,650	13,440	209,683	913	348,014	470	2,295	.....	103,230	700,720	411,193
14	101,063	331,013	5,344	4,068	77,466	1,306	216,547	5,870	1,073	75	18,268	403,736	185,763
15	1,598,556	5,201,732	51,663	45,544	121,677	38,984	4,819,868	6,185	8,663	5,050	104,095	5,615,486	756,634
16	1,418,366	916,633	55,170	34,893	304,223	405,923	1,059,763	5,976	6,707	16,037	63,876	1,060,906	620,211
17	1,872,038	945,621	46,586	32,639	311,236	11,168	467,599	2,610	4,972	.....	68,811	974,715	495,048
18	1,651,368	157,320	9,103	7,288	24,371	53,781	36,600	.....	8,636	.....	17,541	218,891	128,610
19	1,904,571	604,045	54,385	22,435	191,800	168,526	48,000	17,617	16,971	405	93,849	819,638	613,352
20	19,762	31,313	.....	.....	3,136	811	25,900	663	157	.....	1,146	46,075	19,804
21	34,500	12,029	120	.....	1,444	1,184	8,681	.....	65	.....	566	17,340	7,475
22	874,995	400,825	18,680	13,194	60,359	2,759	280,217	7,277	2,768	.....	15,581	455,949	172,974
23	231,222	142,836	5,850	3,680	51,017	83,948	44,215	189	742	.....	3,165	161,039	82,876
24	46,902	49,732	200	.....	2,391	1,057	.....	.....	33,625	.....	2,630	71,130	60,144
25	42,846,234	34,312,349	1,007,191	695,625	13,059,689	108,338	14,191,329	23,884	440,063	1,077,704	2,717,626	40,640,327	26,840,000
26	151,160	279,435	6,932	8,500	90,737	10,688	116,650	2,120	1,315	.....	41,638	354,199	226,861
27	116,705	240,050	13,411	5,278	43,407	5,087	160,807	2,875	362	.....	18,823	262,551	169,657
28	5,239,091	7,193,329	162,531	117,991	440,626	175,100	5,829,814	4,000	40,606	.....	424,607	7,788,855	1,783,011
29	103,586	103,881	8,610	10,428	14,106	461	40,012	4,858	612	300	14,940	141,364	94,861
30	50,043	32,023	1,600	100	17,162	5,839	2,598	50	78	300	4,290	41,024	33,187
31	1,910,317	1,570,254	88,745	123,125	537,646	20,980	566,643	49,510	10,202	23,540	201,863	2,082,365	1,546,742
32	575,312	940,524	11,075	11,311	22,848	2,440	840,247	.....	421	.....	42,270	944,720	63,033
33	24,386	69,583	250	.....	22,985	191	31,610	2,765	7,598	.....	3,324	81,201	52,400
34	419,224	594,126	26,779	7,532	167,691	16,575	306,611	630	2,223	2,399	33,975	612,387	295,361
35	2,608,132	2,096,156	71,320	51,238	307,007	40,183	1,422,933	15,086	27,365	575	159,449	2,736,740	1,278,030

4 All other industries embrace—Continued.

Furnishing goods, men's.....	1	Liquors, malt.....	1
Gas and electric fixtures and lamps and reflectors....	1	Looking-glass and picture frames.....	1
Grease and tallow.....	2	Mineral and soda waters.....	78
Hair work.....	1	Paint and varnish.....	1
Hand stamps and stencils and brands.....	2	Paper goods, not elsewhere specified.....	1
Hones and whetstones.....	2	Photo-engraving.....	1
Leather, tanned, curried, and finished.....	1	Pumps, not including steam pumps.....	1
		Shpbuilding, including boat building.....	1
		Sporting and athletic goods.....	1
		Surgical appliances and artificial limbs.....	1
		Upholstering materials.....	2
		Vinegar and cider.....	3
		Wood preserving.....	1
		Woolen, worsted, and felt goods, and wool hats....	2

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	\$2,239,570	\$4,429,568	\$110,500	\$101,075	\$1,399,550	\$70,158	\$2,615,111	\$2,088	\$6,845	\$351	\$123,881	\$4,841,061	\$2,156,392
2	3,295,881	3,313,054	150,728	127,480	740,640	47,052	1,668,692	33,531	21,057	1,717	232,148	3,739,246	1,733,502
3	769,645	693,475	18,149	10,312	209,891	31,726	271,582	14,193	5,947	375	31,300	844,570	511,262
4	6,044,859	6,132,816	226,982	218,122	1,080,331	145,595	3,868,204	69,277	44,804	72,314	417,187	6,881,662	2,867,953
5	2,584,925	2,303,034	67,342	58,265	664,680	65,131	1,288,886	8,569	24,471	890	190,710	2,386,630	1,032,613

CALIFORNIA.

INDUSTRIES IN GENERAL.

General character of the state.—California, with a gross area of 158,297 square miles, of which 2,645 represent water surface, ranks second in size among the states of the Union. Its population in 1910 was 2,377,549, as compared with 1,485,053 in 1900 and 1,213,398 in 1890. In 1910 the density of population for the entire state was 15.3 per square mile, the corresponding figure for 1900 being 9.5. It ranked twelfth among the 49 states and territories as regards population in 1910 and twenty-first in 1900. Sixty-one and eight-tenths per cent of the entire population of the state resided in 1910 in cities and incorporated towns having a population of 2,500 or over, as against 52.4 per cent in 1900.

San Francisco, with a population of 416,912, Los Angeles, with 319,198, and Oakland, with 150,174, were the only cities in the state having over 50,000 inhabitants in 1910, but there were 18 other cities having a population of 10,000 or over. (See table on page 78.) These 21 cities contained 53.3 per cent of the total population of the state in 1910, and were credited with 55.7 per cent of the total value of its manufactured products in 1909. Only 8.5 per cent of the population of the state resided in incorporated places of between 2,500 and 10,000 inhabitants.

San Francisco Bay, which has an area of about 450 square miles, is by far the most important harbor of the state. On this bay are located the cities of San Francisco and Oakland, the former being the most important port on the Pacific coast. Los Angeles and San Diego, in southern California, are the ports of the state next in importance. Several trunk lines and local railways, which operated 7,529 miles of track in 1909,¹ furnish excellent transportation facilities by land, and the lower courses of the Sacramento and San Joaquin Rivers are available for transportation by water. These two rivers, together with numerous smaller rivers and many mountain streams in various parts of the state, afford abundant water power, some of which is transformed into electric energy which in some instances is transmitted over exceptionally long distances.

The natural resources of the state give rise to several of its leading industries, such as the lumber industry, canning and preserving, flour milling and gristmilling, petroleum refining, the refining of beet sugar, the wine industry, and the manufacture of cement. The high

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

cost of fuel, the greater part of which had to be brought from outside the state, retarded the early development of manufactures, but the discovery of an abundance of oil in the state, the development of the oil fields, and the utilization during recent years of electricity generated by water power have given a decided impetus to manufactures in California.

Importance and growth of manufactures.—Although agriculture and mining are the principal industries in California, the state shows a marked growth in manufactures during the last 40 years. The gross value of products per capita of the total population increased from \$119 in 1869 to \$223 in 1909, and the proportion which the manufactures of the state represented of the total value of the products of manufacturing industries in the United States advanced from 1.6 per cent to 2.6 per cent during the same time. California ranked sixteenth among the states in 1869 in gross value of manufactured products, but had advanced to eleventh place in 1909.

The table on page 70 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 California had 7,659 manufacturing establishments, which gave employment to an average of 141,576 persons during the year and paid out \$107,097,000 in salaries and wages. Of the persons employed, 115,296 were wage earners. These establishments turned out products to the value of \$529,761,000, to produce which materials costing \$325,238,000 were utilized. The value added by manufacture was thus \$204,523,000, which figure, as explained in the Introduction, best represents the net wealth created by manufacturing operations during the year.

The totals presented in this report do not include the statistics for an establishment operated by the Federal Government—the United States navy yard, located at Mare Island. In 1909 this plant employed an average of 1,917 wage earners and the value of the work performed was \$4,335,000.

In general, the table brings out the fact that the manufacturing industries of California, in most respects, showed a higher rate of development during the five-year period 1899–1904 than during the succeeding five-year period 1904–1909. During the period 1899–1904 the average number of wage earners increased 30 per cent, the value of products 42.7 per cent, and the

value added by manufacture 63.8 per cent. For the later period, 1904-1909, the corresponding percentages were 14.9, 44.3, and 35, respectively. As pointed out in the Introduction, it would be improper to infer

that manufactures increased in volume to the full extent indicated by the figures relating to values, since the increase shown is certainly due, in part, to the increase that has taken place in the price of commodities.

	NUMBER OR AMOUNT.			PER CENT OF INCREASE.	
	1909	1904	1899	1904-1909	1899-1904
Number of establishments.....	7, 659	6, 839	4, 997	12. 0	36. 9
Persons engaged in manufactures.....	141, 576	120, 040	(¹)	17. 9	.....
Proprietors and firm members.....	8, 077	7, 402	(¹)	9. 1	.....
Salaries employees.....	18, 203	12, 283	6, 877	48. 2	78. 6
Wage earners (average number).....	115, 296	100, 355	77, 224	14. 9	30. 0
Primary horsepower.....	329, 100	210, 359	128, 953	56. 4	65. 7
Capital.....	\$537, 134, 000	\$282, 647, 000	\$175, 468, 000	90. 0	61. 1
Expenses.....	476, 154, 000	321, 928, 000	225, 404, 000	47. 9	42. 8
Services.....	107, 097, 000	79, 056, 000	47, 385, 000	35. 5	66. 8
Salaries.....	22, 955, 000	14, 399, 000	7, 495, 000	59. 4	92. 1
Wages.....	84, 142, 000	64, 657, 000	39, 890, 000	30. 1	62. 1
Materials.....	325, 238, 000	215, 726, 000	164, 894, 000	50. 8	30. 8
Miscellaneous.....	43, 819, 000	27, 146, 000	13, 125, 000	61. 4	106. 8
Value of products.....	529, 761, 000	367, 218, 000	257, 386, 000	44. 3	42. 7
Value added by manufacture (value of products less cost of materials).....	204, 523, 000	151, 492, 000	92, 492, 000	35. 0	63. 8

¹ Figures not available.

The relative importance and growth of the leading manufacturing industries of the state are shown in the table on page 71.

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

In addition to the 56 industries presented separately in the table, there are 24 other industries in the state which had a value of products in 1909 exceeding \$500,000.¹ These are included under the head of "All other industries" in the table in some cases 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, as it is interwoven with one or more other industries, and in still others because comparable statistics for prior census years are not available, or can not be presented on account of changes in classification. Of these 24 industries, those of special importance are the smelting and refining of lead, the refining of cane sugar, the smelting and refining of copper, the manufacture of beet sugar, the manufacture of explosives, and shipbuilding, including boat

¹ These industries are:

Artificial flowers and feathers and plumes.
Awnings, tents, and sails.
Bags, other than paper.
Baking powders and yeast.
Beet sugar.
Chocolate and cocoa products.
Cordage and twine and jute and linen goods.
Explosives.
Glass.
Glass, cutting, staining, and ornamenting.
Iron and steel pipe, wrought.
Lead, bar, pipe, and sheet.

Malt.
Matches.
Mineral and soda waters.
Oil, not elsewhere specified.
Roofing materials.
Shipbuilding, including boat building.
Smelting and refining, copper.
Smelting and refining, lead.
Soap.
Sugar refining, not including beet sugar.
Wirework, including wire rope and cable.
Woolen, worsted, and felt goods, and wool hats.

building. The 1909 statistics, however, for the shipbuilding industry are given in Table II, page 102.

The most important industries listed in the table on page 71, in which they are arranged in the order of value of products, call for brief discussion in order to show the scope of the classifications where these are not on their face entirely clear, or to point out important facts in relation to the growth of the industries in the state.

Lumber and timber products.—This industry embraces logging operations, sawmills, planing mills, and establishments engaged in the manufacture of wooden-packing boxes. It does not include mills engaged exclusively in custom sawing. The industry is the leading one in the state, giving employment in 1909 to 22,935 wage earners, or 19.9 per cent of the total for all manufacturing industries, and the value of its products amounted to \$45,000,000, or 8.5 per cent of the total. While the growth of the industry during the five-year period 1904-1909 was considerable, its development was much less rapid than during the earlier period, 1899-1904.

Slaughtering and meat packing.—This classification includes the wholesale slaughtering and meat-packing establishments and those engaged in the manufacture of sausage only. The animals slaughtered are largely cattle and sheep from the foothills and lower mountain slopes and from the plateau region of the northeastern part of the state and southeastern Oregon, conditions in these sections being very favorable to stock raising. About half of the stock slaughtered is raised within the state.² The fact that within recent years the meat packers have been able to overcome, through refrigera-

² California: Its Products, Resources, Industries, and Attractions, 1909, p. 95.

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tion, climatic difficulties which required the excessive use of salt in preserving meats has been an important factor in the growth of this industry. The total value of

products reported for the industry in 1909, \$34,280,000, represents an increase of \$18,463,000, or 116.7 per cent, as compared with the amount reported for 1899.

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	1901-1909	1899-1904
All industries.....	7,059	115,296	100.0	\$529,761,000	100.0	\$204,523,000	100.0	44.3	42.7	35.0	63.8
Lumber and timber products.....	644	22,935	19.0	45,000,000	8.5	20,031,000	12.0	30.0	70.5	15.4	59.0
Slaughtering and meat packing.....	94	1,641	1.4	34,280,000	6.5	5,832,000	2.9	55.7	39.2	78.8	48.2
Canning and preserving.....	196	7,757	6.7	32,915,000	6.2	8,906,000	4.4	26.2	74.0	19.9	54.9
Foundry and machine-shop products.....	543	8,377	7.3	26,731,000	5.1	13,830,000	6.8	51.9	35.1	35.4	43.7
Flour-mill and gristmill products.....	125	948	0.8	25,188,000	4.8	3,295,000	1.6	24.7	54.0	7.3	51.9
Printing and publishing.....	1,240	7,550	6.6	25,032,000	4.7	18,705,000	9.1	30.9	80.7	28.1	83.0
Cars and general shop construction and repairs by steam-railroad companies.....	42	9,342	8.1	18,710,000	3.5	9,170,000	4.5	90.3	30.2	39.3	76.6
Petroleum, refining.....	20	930	0.8	17,878,000	3.4	3,980,000	1.9	211.0	723.6	146.0	677.9
Bread and other bakery products.....	864	4,018	3.5	17,710,000	3.3	7,333,000	3.6	66.8	117.7	50.8	113.8
Butter, cheese, and condensed milk.....	161	597	0.5	12,761,000	2.4	1,621,000	0.8	63.2	118.3	10.1	126.1
Leather, tanned, curried, and finished.....	40	1,398	1.2	9,367,000	1.8	2,328,000	1.1	16.0	0.0	7.8	35.3
Liquors, malt.....	83	1,260	1.1	9,319,000	1.8	6,700,000	3.3	24.1	47.7	28.5	33.2
Liquors, vinous.....	181	1,287	1.1	8,937,000	1.7	4,263,000	2.1	33.0	99.9	41.2	114.0
Gas, illuminating and heating.....	74	1,606	1.4	8,927,000	1.7	6,323,000	3.1	64.9	71.2	40.6	86.6
Copper, tin, and sheet-iron products.....	233	1,038	1.7	6,804,000	1.3	3,239,000	1.6	14.0	12.4	22.2	49.1
Cement.....	8	2,407	2.1	6,504,000	1.2	4,322,000	2.1	306.2	.....	301.3	.....
Coffee and spice, roasting and grinding.....	44	353	0.3	6,492,000	1.2	1,875,000	0.9	38.0	49.3	30.9	74.4
Food preparations.....	120	716	0.6	5,608,000	1.0	1,538,000	0.8	247.1	37.9	137.0	37.2
Liquors, distilled.....	33	193	0.2	5,353,000	1.0	4,518,000	2.2	359.5	389.5	471.9	1,580.9
Clothing, men's, including shirts.....	74	2,385	2.1	5,121,000	1.0	2,236,000	1.1	-2.2	11.0	-10.1	23.1
Furniture and refrigerators.....	129	1,053	1.4	4,490,000	0.9	2,638,000	1.3	58.0	123.5	70.0	125.7
Paints and varnishes.....	35	399	0.3	3,758,000	0.7	1,106,000	0.5	58.6	58.2	59.8	118.2
Confectionery.....	80	1,002	0.9	3,624,000	0.7	1,480,000	0.7	3.4	95.9	-20.1	100.8
Iron and steel, steel works and rolling mills.....	5	1,038	0.9	3,520,000	0.7	1,172,000	0.6	130.4	65.3	65.1	80.2
Marble and stone work.....	128	1,415	1.2	3,380,000	0.6	2,197,000	1.1	41.1	113.5	58.1	84.4
Tobacco manufactures.....	332	1,465	1.3	3,300,000	0.6	2,143,000	1.0	5.3	69.1	2.3	82.7
Cars and general shop construction and repairs by street-railroad companies.....	21	1,002	1.6	3,000,000	0.6	1,867,000	0.9	145.0	.....	142.1	.....
Brick and tile.....	78	1,703	1.5	2,750,000	0.5	1,804,000	0.9	43.8	120.7	14.1	130.7
Agricultural implements.....	25	622	0.5	2,670,000	0.5	1,220,000	0.6	79.9	0.3	61.7	-7.2
Ice, manufactured.....	77	600	0.6	2,331,000	0.4	1,767,000	0.9	79.3	155.8	75.3	187.8
Fertilizers.....	15	226	0.2	2,313,000	0.4	517,000	0.3	158.7	33.2	37.9	99.5
Leather goods.....	88	710	0.6	2,244,000	0.4	1,143,000	0.6	5.0	24.8	3.1	40.7
Cooperage and wooden goods, not elsewhere specified.....	38	410	0.4	2,167,000	0.4	588,000	0.3	26.1	21.6	0.7	25.0
Mattresses and spring beds.....	35	528	0.5	2,164,000	0.4	921,000	0.4	114.3	144.0	72.1	160.8
Carrriages and wagons and materials.....	155	760	0.7	2,052,000	0.4	1,203,000	0.6	-12.8	10.0	-19.8	25.0
Boots and shoes, including out stock and findings.....	18	695	0.6	1,924,000	0.4	804,000	0.4	11.0	-0.9	9.5	-3.3
Pottery, terra-cotta, and fire-clay products.....	20	1,027	0.9	1,797,000	0.3	1,262,000	0.6	2.0	134.5	-5.4	178.6
Gas and electric fixtures and lamps and reflectors.....	41	559	0.5	1,715,000	0.3	955,000	0.5	.....	.....	.....	.....
Clothing, women's.....	64	761	0.7	1,672,000	0.3	790,000	0.4	-4.2	-11.9	-9.8	-9.4
Electrical machinery, apparatus, and supplies.....	27	435	0.4	1,613,000	0.3	885,000	0.3	00.7	80.0	20.2	189.3
Firearms and ammunition.....	5	150	0.1	1,577,000	0.3	410,000	0.2	102.2	19.0	51.0	67.7
Jewelry.....	58	574	0.5	1,557,000	0.3	863,000	0.4	7.0	168.8	13.7	161.1
Patent medicines and compounds and druggists' preparations.....	80	310	0.3	1,549,000	0.3	910,000	0.4	7.2	-7.5	-0.2	12.9
Automobiles, including bodies and parts.....	41	478	0.4	1,470,000	0.3	770,000	0.4	3,983.3	.....	3,247.8	.....
Chemicals.....	13	244	0.2	1,306,000	0.3	544,000	0.3	15.2	-45.5	28.3	-35.3
Gloves and mittens, leather.....	23	570	0.5	1,231,000	0.2	673,000	0.3	35.1	-1.1	48.0	-6.6
Sulphuric, nitric, and mixed acids.....	6	217	0.2	1,161,000	0.2	421,000	0.2	.....	.....	32.0	.....
Rabbit metal and solder.....	6	52	(?)	1,120,000	0.2	278,000	0.1	55.3	30.9	108.4	50.6
Paper and wood pulp.....	4	312	0.3	900,000	0.2	529,000	0.3	51.2	.....	44.5	.....
Boxes, fancy and paper.....	19	624	0.5	905,000	0.2	523,000	0.3	84.2	59.3	84.8	45.1
Salt.....	19	402	0.3	748,000	0.1	504,000	0.2	73.9	.....	12.9	17.5
Furnishing goods, men's.....	11	134	0.1	721,000	0.1	264,000	0.1	183.1	-53.2	146.7	-63.7
Brass and bronze products.....	29	195	0.2	679,000	0.1	384,000	0.2	-27.8	15.0	-38.0	50.6
Artificial stone.....	69	320	0.3	643,000	0.1	423,000	0.2	95.4	.....	112.6	.....
Lime.....	15	410	0.4	609,000	0.1	367,000	0.2	6.5	.....	3.4	.....
Stoves and furnaces, including gas and oil stoves.....	17	215	0.2	514,000	0.1	308,000	0.2	84.2	.....	70.2	.....
All other industries.....	976	14,341	12.4	131,839,000	24.0	33,288,000	10.3	.....	.....	.....	.....

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.

Canning and preserving.—This classification includes the canning of fruits and vegetables, fish, oysters, clams, etc., the preparation of pickled, smoked, and dried fish, the packing of dried fruits by packing houses which make a specialty of such business, and the manufacture of pickles, preserves, jellies, sauces, etc., but

it does not include the drying and packing of fruits by the grower on the farm, nor does it include the canning of meats, soups, and similar products in meat-packing establishments (the statistics for which are included with those for the slaughtering and meat-packing industry). The climate of the state is especially

favorable to the growth of fruits of all kinds, and large quantities are canned, dried, and preserved for sale in the eastern and foreign markets. The canning, pickling, smoking, and drying of fish and the canning of oysters form comparatively unimportant branches of the industry. California far exceeds any other state in the value of products for this industry, the amount reported for 1909 being \$32,915,000, or 21 per cent of the total for the United States.

Foundry and machine-shop products.—This industry embraces, in addition to the general class of foundries and machine shops, establishments engaged in such special lines as the manufacture of gas machines and gas and water meters, hardware, plumbers' supplies, steam fittings and heating apparatus, and structural ironwork. It does not, however, include establishments which manufacture distinctive products covered by other classifications, such as cash registers and calculating machines, or electrical machinery, apparatus, and supplies. This industry ranked third among the manufacturing industries of the state in 1909 in number of wage earners, giving employment to 8,377, or 7.3 per cent of the total for all industries.

Flour-mill and gristmill products.—The statistics for all merchant mills grinding wheat, rye, buckwheat, corn, or other grains 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 are presented separately on page 91. The industry shows an increase of \$12,143,000, or 93.1 per cent, in value of products during the decade 1899–1909.

Printing and publishing.—This classification includes job printing, the printing and publishing of books, newspapers and periodicals, and music, bookbinding, steel engraving, and lithographing. More establishments were reported for this industry in 1909 than for any other in the state. The 1,240 establishments reporting included 705 publishing newspapers and periodicals and 481 doing book and job work exclusively. The average number of wage earners employed in the newspaper and periodical branch of the industry was 3,650, and the value of products \$15,239,000; the average number of wage earners engaged in book and job work was 2,907, and the value of products \$7,438,000. These two branches of the industry together employed 86.8 per cent of the average number of wage earners and reported 90.6 per cent of the total value of products for the entire industry in 1909.

Cars and general shop construction and repairs by steam-railroad companies.—This industry represents the work done in the car shops operated by steam-railroad companies, but does not cover minor repairs in roundhouses. The operations consist almost exclusively of repairs to the rolling stock and equipment. It is seventh in importance, as measured by value of products, among the industries given in the table and

shows a remarkable development for the 10-year period. In 1909 the industry gave employment to an average of 9,342 wage earners, the second largest number reported for any manufacturing industry in the state, and the value of the work done amounted to \$18,719,000.

Petroleum, refining.—The recent development of the extensive oil fields of the state has made California the leading state of the Union in the production of crude petroleum. The refining of petroleum has made remarkable progress in the state during the last few years, the value of the products of the industry in 1909 being \$17,878,000, or over twenty-five times as great as in 1899, when it was only \$698,000.

Butter, cheese, and condensed milk.—This industry, which in California is confined chiefly to the manufacture of butter, has made marked progress during the past decade, the value of products increasing from \$3,583,000 in 1899 to \$12,761,000 in 1909, a gain of 256.2 per cent. The manufacture of cheese and condensed milk decreased materially during the period 1904–1909.

Leather, tanned, curried, and finished.—The tanning, currying, and finishing of leather did not become prominent in California until about 1861. From that time, however, it grew rapidly and since 1877 the local supply of hides and skins has not been large enough to satisfy the requirements of the industry, so that it has been necessary to supplement it by hides and skins brought in from other states or imported from foreign countries.¹ In 1879 there were 142 establishments in the state engaged in the leather industry, their total output being valued at \$6,193,573. Since that time the number of establishments has decreased, but, with the exception of a slight decrease during the first decade following 1879, the value of products has shown a substantial increase from census to census.

Liquors, malt.—This industry shows considerable growth for the decade, the gain both in value of products and in value added by manufacture being greater, however, for the five-year period 1899–1904 than for the following five-year period.

Liquors, vinous.—The extensive vineyards of California have placed this state far ahead of any other in the wine industry. In 1909 the value of products for the industry in the state, \$8,937,000, represented 68.1 per cent of the total for the United States, as compared with \$6,689,000, or 60.3 per cent, in 1904 and \$3,938,000, or 60.1 per cent, in 1899.

Gas, illuminating and heating.—The manufacture of gas is notable in California because of the extensive use of petroleum. On account of the lack of coal in the state, the product of the gas plants has been limited to the manufacture of carbureted water gas and oil gas. According to the statistics for 1909, the production of oil gas greatly exceeded that of carbureted water gas.

¹The Commerce and Industries of the Pacific Coast, p. 189. History of California, Vol. VII, p. 91.

The total value of products reported for the industry in 1909 was \$8,927,000, an increase of \$5,765,000, or 182.3 per cent, over that for 1899.

Cement.—California has numerous beds of soft limestone and clay which are relatively low in magnesia and which are being utilized to a considerable extent for the manufacture of Portland cement. In 1904 there were four establishments engaged in the industry, employing 596 wage earners and reported products valued at \$1,601,000, while in 1909 the industry had increased to eight establishments, giving employment to an average of 2,407 wage earners and reporting a product valued at \$6,504,000. The counties in which the industry is most extensively carried on, named in order of importance, are Solano, Santa Cruz, and San Bernardino.

With the exception of the lumber industry, which holds first place on either basis, the rank of the industries shown separately in the preceding table in respect to value added by manufacture, differs considerably from their rank in value of products, which is the order in which they are arranged in the table. The printing and publishing industry ranks second among these industries in value added by manufacture, instead of slaughtering and meat packing, which falls to ninth place, while the foundry and machine-shop industry becomes third, instead of canning and preserving, which drops to fifth place. The steam-railroad repair shops rise from seventh place to fourth, the bakery industry from ninth to sixth, the brewery industry from twelfth to seventh, and the gas industry from fourteenth to eighth. On the other hand, the flour-mill and gristmill industry drops from fifth place to fourteenth, petroleum refining from eighth to thirteenth, and the butter, cheese, and condensed-milk industry from tenth to twenty-fifth.

A number of industries, particularly the butter, cheese, and condensed-milk, flour-mill and gristmill, slaughtering and meat-packing, and petroleum-refining industries, have a much lower rank in value added by manufacture and in average number of wage earners than in value of products. This condition is due mainly to the comparatively simple processes of manufacture existing in these industries, as a result of which by far the greater proportion of the gross value of products represents the cost of materials, while the proportion representing wages, which usually constitute the principal factor in value added by manufacture, is relatively small.

The percentages of increase or decrease in value of products and value added by manufacture for the five-year periods 1904-1909 and 1899-1904 are given for each industry presented separately in the preceding table for which comparable statistics are shown separately in Table I, page 92.

The automobile industry, which in California had its beginning but a short time prior to the census of 1904, shows a much higher rate of increase in both respects

from 1904 to 1909 than any other of these industries, the value of products in 1909 being more than forty times as great and the value added by manufacture more than thirty-three times as great as in 1904. The distillery, cement, food-preparation, and petroleum-refining industries also show remarkable increases in both value of products and value added by manufacture during the same period.

The making of women's clothing is the only industry shown separately in the table for which decreases in both value of products and value added by manufacture are shown for both five-year periods. The manufacture of men's clothing, of carriages and wagons, and of brass and bronze products show decreases in both respects for the later five-year period, 1904 to 1909, while for the confectionery industry and the manufacture of pottery, terra-cotta, and fire-clay products and of patent medicines and compounds and druggists' preparations decreases in value added by manufacture only are shown for that period. In addition to the women's clothing industry, four others show decreases in both value of products and value added by manufacture for the earlier five-year period, 1899-1904, while one shows a decrease in value of products only and one a decrease in value added by manufacture only.

The value of products of the breweries and the distilleries includes a very large amount of Federal internal-revenue tax, and is, therefore, misleading as an indication of the importance of these industries from a purely manufacturing standpoint. In the case of the wine industry the amount of internal-revenue tax included is much smaller relatively than in the other two liquor industries, as no internal-revenue tax is imposed upon wine made from grapes grown by the manufacturer himself, or upon wine made from purchased grapes when it is sold at the place where it is made or at the general business office of the manufacturer. The establishments included in this industry also make considerable quantities of brandy, some of which is sold, in which case it is subject to the regular internal-revenue tax on distilled liquors; most of the brandy made, however, is used in fortifying the wine produced in the same establishment and is not subject to tax.

Persons engaged in manufacturing industries.—The next 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.

The average number of persons engaged in manufactures during 1909 was 141,576, of whom 115,296 were wage earners. Of the remainder, 13,640 were proprietors and officials, and 12,640 were clerks. Corresponding figures for individual industries will be found in Table II, page 100.

CLASS.	PERSONS ENGAGED IN MANUFACTURES.		
	Total.	Male.	Female.
All classes.....	141,576	123,929	17,647
Proprietors and officials.....	13,640	13,293	347
Proprietors and firm members.....	8,077	7,826	251
Salaried officers of corporations.....	2,103	2,036	67
Superintendents and managers.....	3,460	3,431	29
Clerks.....	12,640	9,672	2,968
Wage earners (average number).....	115,296	100,964	14,332
16 years of age and over.....	114,230	100,218	14,018
Under 16 years of age.....	1,060	746	314

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 20 important industries individually.

INDUSTRY.	PERSONS ENGAGED IN MANUFACTURES.			
	Total number.	Per cent of total.		
		Proprietors and officials.	Clerks.	Wage earners (average number).
All industries.....	141,576	9.6	8.9	81.4
Bread and other bakery products.....	5,801	21.2	9.6	69.3
Butter, cheese, and condensed milk.....	918	22.8	12.2	65.0
Canning and preserving.....	8,714	5.0	6.0	89.0
Cars and general shop construction and repairs by steam-railroad companies.....	9,688	0.7	2.8	96.4
Cement.....	2,521	1.0	3.6	95.5
Clothing, men's, including shirts.....	2,859	11.3	5.3	83.4
Coffee and spice, roasting and grinding.....	707	11.0	39.2	49.8
Copper, tin, and sheet-iron products.....	2,511	17.0	5.8	77.2
Flour-mill and gristmill products.....	1,392	14.9	17.0	68.1
Food preparations.....	1,108	23.1	12.3	64.6
Foundry and machine-shop products.....	10,218	9.8	8.2	82.0
Gas, illuminating and heating.....	2,538	6.7	27.7	65.6
Leather, tanned, curried, and finished.....	1,547	5.8	3.8	90.4
Liquors, distilled.....	264	17.8	9.1	73.1
Liquors, malt.....	1,626	10.5	9.8	79.7
Liquors, vinous.....	1,691	16.9	7.0	76.1
Lumber and timber products.....	25,079	4.8	3.8	91.5
Petroleum, refining.....	1,146	6.1	12.7	81.2
Printing and publishing.....	12,215	14.8	23.4	61.9
Slaughtering and meat packing.....	2,135	10.1	13.0	76.9
All other industries.....	46,898	11.4	8.5	80.1

Of the total number of persons engaged in all manufacturing industries, 9.6 per cent were proprietors and officials, 8.9 per cent clerks, and 81.4 per cent wage earners. In the bakery and the butter, cheese, and condensed-milk industries, and in the manufacture of food preparations, the majority of the establishments are comparatively 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 these industries falling into the class of proprietors and officials is very much higher than for most other industries or for all industries combined. The smallest proportions shown for this class are for the steam-railroad repair shops and the cement industry, owing principally to the large number of wage earners employed per establishment in these industries.

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 is also given in each case.

INDUSTRY.	WAGE EARNERS.			
	Average number. ¹	Per cent of total.		Under 16 years of age.
		16 years of age and over.	Male.		Female.
All industries.....	115,296	86.9	12.2	0.9
Bread and other bakery products.....	4,018	80.3	18.8	0.9
Butter, cheese, and condensed milk.....	597	93.8	6.2	
Canning and preserving.....	7,757	41.4	50.3	2.2
Cars and general shop construction and repairs by steam-railroad companies.....	9,342	100.0		(?)
Cement.....	2,407	99.9		0.1
Clothing, men's, including shirts.....	2,385	17.4	82.4	0.2
Coffee and spice, roasting and grinding.....	352	62.8	36.6	0.6
Copper, tin, and sheet-iron products.....	1,938	94.4	5.2	0.4
Flour-mill and gristmill products.....	948	97.9	2.1	
Food preparations.....	716	68.0	31.7	0.3
Foundry and machine-shop products.....	8,377	99.3	0.2	0.5
Gas, illuminating and heating.....	1,666	100.0		
Leather, tanned, curried, and finished.....	1,398	99.7		0.3
Liquors, distilled.....	108	86.5	13.5	
Liquors, malt.....	1,206	100.0		
Liquors, vinous.....	1,287	98.8	1.2	
Lumber and timber products.....	22,935	99.2	0.6	0.2
Petroleum, refining.....	930	99.0	0.1	
Printing and publishing.....	7,556	81.9	15.7	2.4
Slaughtering and meat packing.....	1,641	97.4	1.8	0.8
All other industries.....	37,557	85.2	13.3	1.4

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, 86.9 per cent of the average number of wage earners were males 16 years of age and over; 12.2 per cent females 16 years of age and over; and nine-tenths of 1 per cent children under the age of 16. A majority of the adult female wage earners were employed in the canning and preserving, men's clothing, and printing and publishing industries. Females 16 years of age or over formed a larger proportion (82.4 per cent) of the wage earners in the men's clothing industry than in any other important industry in the state. In the women's clothing industry slightly more than two-thirds of the wage earners belonged to this class, while in the manufacture of fancy and paper boxes and the confectionery industry the proportion exceeded three-fifths, and in the canning and preserving industry and the manufacture of leather gloves and mittens it exceeded one-half.

The canning and preserving and the printing and publishing industries, which were the only ones giving employment to an average of more than 100 wage earners under 16 years of age, together employed about one-third of the total number of such wage earners in all manufacturing industries of the state. The proportions which children formed of the total number of wage earners in these industries were also relatively high (2.2 per cent and 2.4 per cent, respec-

tively), although both were exceeded by that in the boot and shoe industry (5.6 per cent) and by those in other industries in which the actual number of children employed was small.

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.....	141,578	100.0	120,040	100.0	17.9
Proprietors and firm members.....	8,077	5.7	7,402	6.2	9.1
Salaried employees.....	18,203	12.9	12,283	10.2	48.2
Wage earners (average number).....	115,298	81.4	100,355	83.6	14.9

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

The table in the next column 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.)

The table shows that for all industries combined the proportion of wage earners under 16 years of age was decidedly less in 1909 than in 1899, the actual number

of such employees having decreased 42.5 per cent during this period. The proportion of adult female wage earners was less in 1904 than in 1899, and in 1909 than in 1904, although the actual number increased from 1899 to 1904 and was practically the same in 1909 as in 1904. Males 16 years of age and over formed 86.9 per cent of all wage earners in 1909, as compared with 84.4 per cent in 1904 and 79.7 per cent in 1899.

CLASS.	AVERAGE NUMBER OF WAGE EARNERS.					
	1909		1904		1899	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total.....	115,298	100.0	100,355	100.0	77,224	100.0
10 years of age and over..	114,236	99.1	98,772	98.4	76,382	97.6
Male.....	100,218	86.9	94,688	84.4	61,574	79.7
Female.....	14,018	12.2	14,084	14.0	13,808	17.9
Under 16 years of age....	1,060	0.9	1,583	1.6	1,842	2.4

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 lumber 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 100, are shown, for the majority 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. The wage earners for the lumber industry are divided in the table below in such a manner as to show separately the number engaged in the mills and in the logging operations.

MONTH.	WAGE EARNERS.											
	All industries.		Canning and preserving.		Lumber and timber products.					All other industries.		
	Number.	Per cent of maximum.	Number.	Per cent of maximum.	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.		
January.....	94,747	71.6	2,854	17.8	14,401	49.7	12,150	63.5	2,251	22.8	77,492	85.1
February.....	94,252	71.3	2,781	17.3	14,441	49.8	12,074	63.1	2,367	24.0	77,030	84.6
March.....	100,372	75.9	2,870	17.9	16,825	58.0	12,793	65.8	4,032	40.9	80,677	88.6
April.....	108,437	82.0	3,878	24.2	21,853	76.4	15,014	78.4	6,839	69.4	82,706	90.8
May.....	115,839	87.6	5,083	31.6	26,755	92.3	17,525	91.5	9,230	93.7	84,021	92.3
June.....	119,911	90.0	6,808	42.4	28,533	98.4	18,081	97.6	9,852	99.9	84,570	92.9
July.....	124,886	94.4	11,567	72.1	28,986	100.0	19,131	99.9	9,855	100.0	84,333	92.6
August.....	131,202	99.2	16,047	100.0	28,961	99.9	19,148	100.0	9,813	99.6	86,194	94.6
September.....	132,280	100.0	14,781	92.1	27,932	96.4	18,833	98.4	9,099	92.3	89,567	95.3
October.....	129,864	98.2	12,052	80.7	25,836	89.1	17,990	94.0	7,845	79.6	81,077	100.0
November.....	121,486	91.8	8,951	55.8	22,807	78.7	16,897	88.2	5,910	60.0	89,728	98.5
December.....	110,281	83.4	4,542	28.3	17,894	61.7	14,795	77.3	3,099	31.4	87,845	96.5

Canning and preserving is a seasonal industry, giving employment to a large number of persons in July, August, September, and October, and to a comparatively small number during most of the other months of the year. The number of wage earners

employed in the industry varied from 2,781 in February to 16,047 in August. The variation of employment in the lumber industry was not so great, but as this industry employed a much larger average number of wage earners than the canning and preserving indus-

try, it exerted a greater influence upon the total number of wage earners employed in all manufacturing industries in the state. The number reported for this industry in January, the month of minimum employment, was 14,585 less than the number shown for July, the month of maximum employment, the variation in this one industry representing nearly one-half of the total variation between the numbers employed during these months in all industries combined. There are other seasonal industries in the state not shown in the table because the numbers of wage earners employed are too small to affect the totals materially. In the manufacture of beet sugar the maximum, 3,420, was reported for September and

the minimum, 772, for February, while in the production of vinous liquors the greatest number, 2,868, was employed in October and the smallest, 793, in June.

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	115,296	22,765	9,652	34,674	6,968	31,107	7,125	386	2,619
Agricultural implements.....	622	2	...	584	...	20	16	...	...
Artificial stone.....	320	191	19	110	...	...	...	...	...
Automobiles, including bodies and parts.....	478	42	8	261	...	160	1	...	...
Babbitt metal and solder.....	52	...	13	15	...	24	...	...	...
Boots and shoes, including cut stock and findings.....	685	...	...	641	...	35	19	...	...
Boxes, fancy and paper.....	624	56	171	397	...	...	...	...	...
Brass and bronze products.....	195	19	113	25	35	3	...	...	...
Bread and other bakery products.....	4,018	413	55	1,552	644	1,011	278	33	32
Brick and tile.....	1,703	188	...	1,410	...	72	10	27	25
Butter, cheese, and condensed milk.....	597	58	11	56	85	120	244	5	18
Canning and preserving.....	7,757	332	53	423	147	6,063	514	46	154
Carriages and wagons and materials.....	760	270	48	327	40	72	...	...	...
Cars and general shop construction and repairs by steam-railroad companies.....	9,342	76	...	7,761	12	1,461	32	...	...
Cars and general shop construction and repairs by street-railroad companies.....	1,907	36	291	1,187	311	49	28	...	...
Cement.....	2,402	1	...	...	212	...	1,986	...	208
Chemicals.....	244	1	...	24	...	160	...	...	59
Clothing, men's, including shirts.....	2,385	1,327	721	178	...	124	35	...	...
Clothing, women's.....	791	328	109	187	1	143	23	...	...
Coffee and spice, roasting and grinding.....	352	53	63	183	10	43	...	...	...
Confectionery.....	1,002	119	156	489	147	74	17	...	...
Cooperage and wooden goods, not elsewhere specified.....	416	36	37	301	...	22	20	...	...
Copper, tin, and sheet-iron products.....	1,938	1,188	160	256	366	18	...	...	...
Electrical machinery, apparatus, and supplies.....	435	133	75	199	27	1	...	...	...
Fertilizers.....	226	8	1	97	12	64	24	...	...
Firearms and ammunition.....	156	9	...	46	101	...	...	...	...
Flour-mill and gristmill products.....	948	117	71	77	53	371	255	4	...
Food preparations.....	716	100	45	137	100	307	27	...	...
Foundry and machine-shop products.....	8,377	1,326	2,774	2,686	1,218	414	59	...	...
Furnishing goods, men's.....	134	58	43	33	...	...	...	...	...
Furniture and refrigerators.....	1,653	835	30	662	89	37	...	...	...
Gas and electric fixtures and lamps and reflectors.....	553	246	23	284	...	...	...	...	...
Gas, illuminating and heating.....	1,666	127	7	...	965	4	533	8	22
Gloves and mittens, leather.....	570	188	340	42	...	...	...	...	...
Ice, manufactured.....	666	32	...	28	102	256	131	1	116
Iron and steel, steel works and rolling mills.....	1,038	...	348	69	179	442	...	...	...
Jewelry.....	574	35	80	379	25	12	25	...	18
Leather goods.....	710	36	68	584	5	17	...	...	...
Leather, tanned, curried, and finished.....	1,398	2	67	1,193	116	20	...	...	...
Lime.....	410	6	...	94	1	127	182	...	...
Liquors, distilled.....	193	...	...	111	5	67	8	2	...
Liquors, malt.....	1,296	1,215	...	21	41	10	3	4	2
Liquors, vinous.....	1,287	33	4	306	215	387	318	23	1
Lumber and timber products.....	22,935	3,869	68	2,709	228	14,732	1,324	15	...
Marble and stone work.....	1,415	1,022	23	93	223	34	20	...	...
Mattresses and spring beds.....	528	249	75	204	...	...	...	...	...
Paint and varnish.....	396	28	27	285	55	1	...	...	...
Paper and wood pulp.....	312	...	...	...	...	181	116	15	...
Patent medicines and compounds and druggists' preparations.....	310	118	117	66	...	9	...	...	...
Petroleum, refining.....	930	25	...	485	31	18	64	22	285
Pottery, terra-cotta, and fire-clay products.....	1,027	18	...	660	...	250	99	...	...
Printing and publishing.....	7,558	5,485	1,038	778	119	119	17	...	...
Salt.....	402	...	...	64	...	289	1	48	...
Slaughtering and meat packing.....	1,641	55	37	455	...	1,029	47	6	12
Stoves and furnaces, including gas and oil stoves.....	215	81	42	92	...	...	...	...	...
Sulphuric, nitric, and mixed acids.....	217	...	...	100	...	33	82	2	...
Tobacco manufactures.....	1,465	1,018	162	87	...	182	25	1	...
All other industries.....	14,341	1,617	2,069	5,276	1,048	1,074	542	148	1,667

It is evident from these figures that for the majority of wage earners employed in the manufacturing industries of California the usual hours of labor ranged from 54 to 60 a week; 28.1 per cent of the total were, however, employed in establishments where a week of less than 54 hours prevailed, and 8.8 per cent in establishments where the prevailing hours were more than 60 a week.

In a number of industries, conspicuous among which are the tanning, currying, and finishing of leather, the brick and tile industry, and the steam-railroad repair shops, the employment was mainly confined to a week of 54 hours. More than three-fourths of the wage earners

in the canning and preserving industry and more than three-fifths of those in the lumber and slaughtering and meat-packing industries, however, were employed in plants where 60 hours constituted a week's work, while over nine-tenths of the wage earners employed in the breweries and nearly three-fourths of those employed in the printing and publishing industry and in marble and stone work were in establishments where the prevailing hours were 48 or less per week.

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

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	2,377,540	1,266,030	53.3	106,701	8.3	183,945	7.7	886,284	37.3	1,110,619	46.7
	1899	1,485,053	640,357	43.1	98,854	6.7	90,242	6.5	445,261	30.0	844,696	56.9
Number of establishments.....	1909	7,650	4,881	63.7	666	8.7	653	8.5	3,562	46.5	2,778	36.3
	1899	4,997	2,067	59.4	379	7.6	206	6.1	2,282	45.7	2,030	40.6
Average number of wage earners.	1909	115,296	60,599	60.4	8,525	7.4	8,508	7.5	52,476	45.5	46,697	39.6
	1899	77,224	47,953	62.1	4,063	5.3	6,162	8.0	37,728	48.9	29,271	37.9
Value of products.....	1909	\$529,760,528	\$294,851,479	55.7	\$40,393,144	7.6	\$30,488,066	5.8	\$223,970,269	42.3	\$234,909,049	44.3
	1899	257,385,521	151,245,681	58.8	14,225,527	5.5	14,892,891	5.8	122,157,263	47.5	100,139,840	41.2
Value added by manufacture....	1909	204,522,454	125,929,111	61.6	14,791,657	7.2	14,144,347	6.9	96,993,107	47.4	78,593,343	38.4
	1899	92,491,252	60,571,549	65.5	5,223,451	5.6	6,814,012	7.4	48,534,086	52.5	31,919,703	34.5

In 1909, 55.7 per cent of the total value of manufactured products was reported from cities having over 10,000 inhabitants, and 60.4 per cent of the average number of wage earners in manufacturing industries were employed in such cities. The figures indicate that there has been a considerable decrease during the last 10 years in the relative industrial importance of this class of cities, largely on account of the rapid growth of the lumber and petroleum-refining industries, which are mainly carried on outside of cities of this size, and also in part because of the setback given to the manufacturing industries of San Francisco by the earthquake and fire of 1906.

As a result of the increase during the decade in the population of certain cities, the composition of the groups shown in the table differs considerably for the two censuses. For 1909 the group of cities having over 100,000 inhabitants comprises San Francisco, Los Angeles, and Oakland; in 1900, however, the population of Oakland was less than 100,000, so that for 1899 it is included in the group made up of cities having between 25,000 and 100,000 inhabitants. Berkeley, San Diego, and San Jose, which for 1909 are included in this latter group, had less than 25,000 inhabitants in 1900, and for 1899, therefore, their statistics are included with those for the cities having between 10,000 and 25,000 inhabitants. Pasadena, which for 1909 is included in the group of cities having between 25,000 and 100,000 inhabitants and

Long Beach, Riverside, San Bernardino, Bakersfield, Eureka, Santa Barbara, Vallejo, Santa Cruz, Redlands, and Pomona, which are included in the group comprising cities having between 10,000 and 25,000 inhabitants, all had less than 10,000 inhabitants in 1900, so that for 1899 their statistics are not included with those for incorporated places of this size. The total value of products in 1909 for the 11 cities last mentioned was \$16,623,644, representing 3.1 per cent of the total for the state. The cities having a population of over 10,000 in 1900 thus reported only 52.6 per cent of the total value of manufactured products in 1909, as compared with 58.8 per cent in 1899, showing that the growth of the manufacturing industries in these cities has not kept pace with that of the industries in the remainder of the state.

A somewhat larger proportion of the total number of wage earners in manufacturing industries, value of manufactured products, and value added by manufacture was reported in 1909 from cities having between 10,000 and 25,000 inhabitants than in 1899. The proportions of the total number of wage earners and value added by manufacture reported from cities having between 25,000 and 100,000 inhabitants, on the other hand, were slightly smaller, while the proportion of the total value of manufactured products reported from such cities was the same in both years. The cities having a population of over 100,000 show a considerable decrease in their proportion of the

totals for each of these three items, which was doubtless due in considerable measure to the disastrous effects of the earthquake and fire of 1906 in San Francisco. The addition of Oakland to these cities in 1909 and the rapid growth of the manufacturing industries of Los Angeles were, however, sufficient to counterbalance the actual losses sustained by San Francisco between 1904 and 1909, so that the absolute figures for this class of cities show marked increases in 1909 as compared with 1899. Of the total value of products shown for the state in 1909, 7.6 per cent was reported from the 13 cities having between 10,000 and 25,000 inhabitants; 5.8 per cent from the 5 cities having between 25,000 and 100,000 inhabitants; and 42.3 per cent from the 3 cities having over 100,000 inhabitants.

The population in 1910 and 1900 of the 21 cities which had 10,000 inhabitants or over in 1910 is given in the following tabular statement:

CITY.	1910	1900	CITY.	1910	1900
San Francisco.....	416,912	342,782	Long Beach.....	17,809	2,252
Los Angeles.....	319,198	102,479	Riverside.....	15,212	7,973
Oakland.....	150,174	68,980	San Bernardino..	12,779	6,150
Sacramento.....	44,696	29,282	Bakersfield.....	12,727	4,836
Berkeley.....	40,434	13,214	Eureka.....	11,845	7,327
San Diego.....	39,578	17,700	Santa Barbara...	11,659	6,587
Pasadena.....	30,291	9,117	Vallejo.....	11,340	7,865
San Jose.....	28,946	21,500	Santa Cruz.....	11,146	5,659
Fresno.....	24,832	12,470	Redlands.....	10,449	4,787
Alameda.....	23,353	16,464	Pomona.....	10,207	5,526
Stockton.....	23,283	17,506			

The relative industrial importance of each of the foregoing cities is shown in the following table, in which the value of products and the average number of wage earners are shown separately for 1909, 1904, and 1899, so far as comparative figures are available:

CITY.	AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.		
	1909	1904	1899	1909	1904	1899
San Francisco.....	28,244	38,429	32,555	\$133,041,089	\$137,788,233	\$107,023,567
Los Angeles.....	17,327	10,424	5,173	68,586,274	34,814,475	15,133,696
Oakland.....	6,905	3,353	2,476	22,342,925	9,014,705	5,368,258
Sacramento.....	4,514	4,203	3,680	13,976,911	10,072,893	9,494,033
Stockton.....	1,594	1,333	1,185	11,849,252	8,029,490	5,525,391
Fresno.....	1,938	1,915	819	11,090,195	9,763,632	2,752,201
San Jose.....	1,430	1,260	1,221	5,610,427	4,298,216	3,291,641
San Diego.....	1,071	541	255	4,740,990	1,974,430	669,682
Berkeley.....	1,084	338	211	4,435,374	1,478,888	651,286
Eureka.....	746	(¹)	(²)	3,011,682	(²)	(²)
Bakersfield.....	746	(¹)	(²)	2,818,744	(²)	(²)
Alameda.....	915	279	372	2,554,417	696,761	1,335,326
Vallejo.....	203	(¹)	(²)	1,895,562	(¹)	(²)
Pasadena.....	499	318	177	1,724,364	966,695	330,578
San Bernardino..	729	(²)	(²)	1,659,705	(²)	(²)
Riverside.....	267	(²)	(²)	1,177,962	(²)	(²)
Santa Barbara...	265	(²)	(²)	1,169,195	(²)	(²)
Santa Cruz.....	274	(²)	(²)	1,161,269	(²)	(²)
Long Beach.....	277	(²)	(²)	927,180	(²)	(²)
Pomona.....	224	(²)	(²)	559,661	(²)	(²)
Redlands.....	147	(²)	(²)	518,320	(²)	(²)

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.

With the single exception of San Francisco, every city for which comparative statistics are presented shows an increase in value of products from 1904 to 1909, while all except Alameda show an increase from 1899 to 1904. The greatest relative gain from 1904 to 1909, 266.6 per cent, was made by Alameda, and was due in part to the establishment there of foundries and

machine shops as a new industry, to the increased output of the planing mills, and to greater activity in the shipbuilding industry. The next largest relative increase, 200.9 per cent, is that reported for Berkeley, which was the result mainly of the increased output of its foundries and machine shops, bakeries, and planing mills, the increased production of coconut oil and the establishment of new industries, such as the manufacture of fertilizers, the refining of petroleum, and the canning and preserving industry. The remarkable increases shown for Alameda and Berkeley and also for Oakland are doubtless due largely to the influx of population and business from San Francisco following the earthquake in 1906. The greatest gains shown for the decade 1899-1909 are those of 607.9 per cent for San Diego and 581 per cent for Berkeley. San Francisco shows a decrease of 3.4 per cent in 1909 as compared with 1904, indicating that the city had not yet recovered from the effects of the earthquake and fire of April, 1906; owing, however, to the gain from 1899 to 1904, the figures for 1909 represent an increase of 24.3 per cent as compared with 1899.

In 1909 San Francisco reported 25.1 per cent of the total value of products and 24.5 per cent of the average number of wage earners for all manufacturing industries in the state. The corresponding proportions for 1899 were 41.6 per cent and 42.2 per cent, respectively. Measured by value of products, San Francisco held sixteenth place among the manufacturing cities of the United States in 1909, thirteenth in 1904, and twelfth in 1899. The effect of the earthquake and fire of 1906 upon the manufacturing industries of the city is indicated to some extent by the next table, which shows for the 15 leading industries presented separately in Table I the value of products in 1909 and 1904, with the percentage which it formed of the total for the industry in the state, the percentage of increase or decrease in 1909 as compared with 1904, and the rank of the industry in the city in value of products in each year.

Six of the 15 industries included in the table show decreases in value of products in 1909 as compared with 1904, the largest decrease, 23.4 per cent, or nearly one-fourth, being in the men's clothing industry, although an even larger decrease, 65.5 per cent, was reported for the paint and varnish industry, which is not shown in the table. The roasting and grinding of coffee and spice, the tanning, currying, and finishing of leather, the furniture and refrigerator industry, and the manufacture of food preparations are the only industries showing any considerable increase. In the case of all of the industries shown in the table, with the exception of the tanning, currying, and finishing of leather and the furniture and refrigerator industry, the value of products reported from San Francisco represented a smaller proportion of the state total in 1909 than in 1904, the difference in

some cases being considerable. Of the total value of products for the men's clothing industry, for example, only 71.9 per cent was reported from this city in 1909, as compared with 91.7 per cent in 1904. Changes have also occurred in the ranking of the different industries shown in the table, on the basis of value of products, although the printing and publishing industry was first in both years. The foundry and machine-shop and the slaughtering and meat-packing industries, which ranked second and third, respectively, in 1904, had changed places in 1909, mainly as the result of the decrease shown for the former industry. The men's clothing industry, which ranked fifth in 1904, had dropped to eighth place in 1909, while the manufacture of copper, tin, and sheet-iron products dropped from seventh place in 1904 to ninth in 1909, and the brewery industry from eighth in 1904 to eleventh in 1909. On the other hand, the rank of the roasting and grinding of coffee and spice, the lumber industry, the tanning, currying, and finishing of leather, and the manufacture of furniture and refrigerators was higher in 1909 than in 1904.

There was a remarkable growth in the building operations of the city from 1904 to 1909, which is reflected in the increases in value of products reported for such industries as the manufacture of artificial stone (268.3 per cent), the structural-ironwork branch of the foundry and machine-shop industry (129.8 per cent), and the planing-mill branch of the lumber industry (18.7 per cent).

The value of products of the manufacturing industries of Los Angeles increased \$33,771,799, or 97 per cent, from 1904 to 1909, the absolute increase being greater than that reported for any other city in the state. The increase for the decade as a whole was 353.2 per cent. Of the total value of manufactures for the state in 1909, 12.9 per cent was reported from this city. The average number of wage earners in the manufacturing industries of the city shows an increase of 66.2 per cent from 1904 to 1909 and 235 per cent for the decade. The leading industries of the city are shown in the following table, which gives the value of products reported for each industry in 1909, together with the percentage which it formed of the total for the industry in the state and the percentage of increase as compared with 1904:

INDUSTRY.	VALUE OF PRODUCTS.				RANK. ¹		
	1909		1904		1909	1904	
	Amount.	Per cent of total for state.	Amount.	Per cent of total for state.			
Printing and publishing....	\$12,201,000	48.7	\$10,847,000	56.7	12.5	1	1
Slaughtering and meat packing.....	10,270,000	30.0	9,209,000	41.8	11.5	2	3
Foundry and machine-shop products.....	9,622,000	36.0	10,525,000	59.8	-8.6	3	2
Bread and other bakery products.....	5,268,000	29.7	4,882,000	40.0	7.0	4	4
Coffee and spice, roasting and grinding.....	4,973,000	76.0	3,980,000	85.0	24.9	5	10
Canning and preserving.....	4,776,000	14.5	4,636,000	17.8	3.0	6	6
Lumber and timber products.....	4,378,000	9.7	3,980,000	11.5	10.0	7	9
Clothing, men's, including shirts.....	3,682,000	71.9	4,804,000	91.7	-23.4	8	5
Copper, tin, and sheet-iron products.....	3,645,000	53.0	4,520,000	79.3	-19.5	9	7
Leather, tanned, curried, and finished.....	3,022,000	38.7	2,718,000	33.7	33.3	10	12
Liquors, malt.....	3,482,000	37.4	4,106,000	54.7	-15.2	11	8
Furniture and refrigerators.....	3,057,000	68.0	1,830,000	64.8	66.5	12	14
Flour-mill and gristmill products.....	2,781,000	11.0	3,423,000	16.9	-18.8	13	11
Food preparations.....	2,436,000	44.2	690,000	62.9	148.8	14	15
Tobacco manufactures.....	1,833,000	54.6	2,028,000	63.5	-9.6	15	13

¹ Excluding from consideration industries not shown separately in Table I.
² A minus sign (-) denotes decrease.

In addition to the industries included in the preceding table, sugar refining was one of the more important industries in San Francisco during 1909, but the statistics for this industry can not be shown separately without disclosing the operations of individual establishments. There were eight other industries in the city reporting products valued at more than \$1,000,000 in 1909 for which separate statistics can not be presented for the same reason.¹

¹ These industries are:

Babbitt metal and solder.	Chocolate and cocoa products.
Bags, other than paper.	Gas, illuminating and heating.
Baking powders and yeast.	Shipbuilding, including boat building.
Cars and general shop construction and repairs by steam-railroad companies.	Wirework, including wire rope and cable.

INDUSTRY.	VALUE OF PRODUCTS.		
	Amount.	Per cent of state total.	Per cent of increase over 1904.
Foundry and machine-shop products.....	\$7,777,000	29.1	118.6
Slaughtering and meat packing.....	7,404,000	21.8	84.8
Lumber and timber products.....	5,684,000	12.6	110.5
Flour-mill and gristmill products.....	5,347,000	21.2	91.0
Printing and publishing.....	5,192,000	20.7	48.0
Bread and other bakery products.....	4,670,000	26.4	167.8
Cars and general shop construction and repairs by steam-railroad companies.....	3,862,000	18.0	116.2
Liquors, malt.....	1,457,000	15.6	82.6
Butter, cheese, and condensed milk.....	1,417,000	11.1	109.3
Petroleum, refining.....	1,406,000	7.9	205.0
Canning and preserving.....	1,255,000	3.8	52.9
Coffee and spice, roasting and grinding.....	1,150,000	17.7	131.4
Copper, tin, and sheet-iron products.....	1,124,000	16.5	118.2

The rapid growth of the manufacturing industries of the city is brought out clearly by the fact that in 8 out of the 13 industries included in the table the value of products more than doubled during the five-year period.

Oakland ranks third among the cities of the state in value of manufactured products, showing an increase in that respect of \$13,328,221, or 147.8 per cent, from 1904 to 1909 and \$16,974,668, or 316.2 per cent, from 1899 to 1909. The leading industries of the city were bakeries, canning and preserving, the manufacture of cordage and twine, foundries and machine shops, the gas industry, the lumber industry, printing and publishing, steam-railroad repair shops, and steel works and rolling mills. The increase in the industrial importance of the city during the five-year period 1904-1909 was due largely to the growth of the brewery, lumber, foundry and machine-shop, bakery, printing and publishing, and canning and preserving industries, these six

industries contributing 37.4 per cent of the total increase in value of products for all manufacturing industries of the city during that period. The increase in the canning and preserving industry was particularly marked, the value of products for this industry in 1909 being more than fifteen times as great as in 1904.

In Sacramento, the capital of the state, steam-railroad repair shops constituted the most important industry, with steel works and rolling mills next in rank. The brewing of malt liquors, the flour-mill and gristmill industry, canning and preserving, and printing and publishing were other important industries. In Stockton the flour-mill and gristmill industry led all others, the value of its products representing nearly one-half of the total value of manufactures reported for the city. The manufacture of agricultural implements was also an important industry, 66.5 per cent of the total value of products for this industry in California being reported from Stockton.

In Fresno the canning and preserving industry, which is there confined largely to the drying of fruits, especially of raisins, was the leading industry in 1909, contributing 69.6 per cent of the total value of all manufactured products of the city. The city is one of the principal centers of the canning and preserving industry of the state, reporting nearly one-fourth of the total value of products for this industry in California and a much larger proportion of the total value of dried fruits. Canning and preserving was also the leading industry in San Jose, the output of the industry representing 31.4 per cent of the total value of all manufactured products for that city. Other important industries were printing and publishing, foundries and machine shops, and bakeries. The most important industries in San Diego were the lumber industry, flour mills and gristmills, slaughtering and meat packing, printing and publishing, and bakeries.

The foundry and machine-shop industry outranked all others in Berkeley in 1909, the value of its products in that year being nearly one hundred and twenty-one times that in 1904. Other leading industries, named in order of their relative importance, were the manufacture of cocoanut oil included under "Oil, not elsewhere specified," the fertilizer industry, and bakeries. The chief industry in Alameda was ship-building, this city reporting nearly one-fourth of the total value of products for this industry in the state. The lumber and the foundry and machine-shop industries, and the manufacture of pottery, terra-cotta, and fire-clay products were other important industries. In

Eureka the lumber industry was the leading branch of manufacture in 1909, contributing nearly one-half of the total value of manufactured products reported for the city. This city also reported a considerable output of factory-made butter.

In the remaining cities shown in the table the chief industries were as follows: In Bakersfield and San Bernardino, steam-railroad repair shops; in Vallejo and Long Beach, flour mills and gristmills; in Pasadena, the planing-mill branch of the lumber industry; in Riverside and Santa Barbara, slaughtering and meat packing; in Santa Cruz, the tanning, currying, and finishing of leather; and in Pomona and Redlands, canning and preserving.

Character of ownership.—The table on page 81 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 the statistics for 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. In all industries combined, 32.1 per cent of the total number of establishments were in 1909 under corporate ownership, as against 67.9 per cent under all other forms. The corresponding figures for 1904 were 28 per cent and 72 per cent, respectively. The establishments operated by corporations, however, reported 82.9 per cent of the total value of products in 1909, as against 17.1 per cent for those under all other forms of ownership, while in 1904 the corresponding figures were 76.5 per cent and 23.5 per cent, respectively. The greatest decrease in relative importance from 1904 to 1909 is shown for the establishments operated by individuals, which represented 45.9 per cent of the total number of establishments in 1909, as compared with 49.3 per cent in 1904, although the actual number increased from 3,375 to 3,516 during the same five-year period.

Establishments under corporate ownership reported more than one-half of the total value of products for each industry shown separately in the table, with the exception of the bakery industry, although in all but three of the industries such establishments constituted less than one-half of the total number.

INDUSTRY AND CHARACTER OF OWNERSHIP.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.	INDUSTRY AND CHARACTER OF OWNERSHIP.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
ALL INDUSTRIES:					Flour-mill and gristmill products, 1909				
1909.....	7,659	115,296	\$529,760,528	\$204,522,454	Individual.....	125	948	\$25,188,133	\$3,296,182
1904.....	6,839	100,355	367,218,494	151,492,080	Firm.....	33	109	2,471,416	275,069
Individual:					Corporation.....	21	51	651,061	114,929
1909.....	3,516	12,704	40,909,595	23,760,907	Per cent of total.....	71	788	21,765,656	2,905,234
1904.....	3,375	15,257	47,300,887	24,693,085	Individual.....	100.0	100.0	100.0	100.0
Firm.....	1,597	9,342	36,539,495	15,624,296	Firm.....	26.4	11.5	9.8	8.4
1904.....	1,472	10,527	37,343,541	16,371,024	Corporation.....	16.8	5.4	3.8	3.5
Corporation:					Other.....	56.8	83.1	86.4	88.1
1909.....	2,459	92,757	439,064,967	164,048,735	Food preparations, 1909				
1904.....	1,917	74,284	280,742,589	100,966,122	Individual.....	129	718	\$5,508,097	\$1,537,799
Other:					Individual.....	44	165	596,461	246,077
1909.....	87	433	4,186,471	1,088,516	Firm.....	42	147	991,648	289,221
1904.....	75	287	1,831,477	461,849	Corporation.....	36	392	3,361,175	983,829
Per cent of total:					Other.....	7	12	558,785	18,672
1909.....	100.0	100.0	100.0	100.0	Per cent of total.....	100.0	100.0	100.0	100.0
1904.....	100.0	100.0	100.0	100.0	Individual.....	34.1	23.0	10.8	16.0
Individual:					Firm.....	32.0	20.5	18.0	18.8
1909.....	45.9	11.1	9.4	11.6	Corporation.....	27.9	54.7	61.0	64.0
1904.....	49.3	15.2	12.9	16.3	Other.....	5.4	1.7	10.1	1.2
Firm.....	20.9	8.1	6.9	7.6	Foundry and machine-shop products, 1909				
1904.....	21.5	10.5	10.2	10.8	Individual.....	543	8,377	\$28,730,891	\$13,830,000
Firm.....	32.1	80.5	82.9	80.2	Individual.....	207	995	2,794,220	1,647,244
1909.....	32.1	80.5	82.9	80.2	Firm.....	118	694	2,017,447	1,201,107
1904.....	28.0	74.0	76.5	72.6	Corporation.....	218	6,688	21,919,218	10,981,649
Other:					Per cent of total.....	100.0	100.0	100.0	100.0
1909.....	1.1	0.4	0.8	0.5	Individual.....	38.1	11.9	10.5	11.9
1904.....	1.1	0.3	0.5	0.3	Firm.....	21.7	8.3	7.5	8.7
Bread and other bakery products, 1909					Corporation.....	40.1	70.8	82.0	79.4
Individual.....	864	4,018	\$17,708,633	\$7,332,268	Liquors, malt, 1909				
Individual.....	624	1,633	7,620,828	3,104,475	Individual.....	83	1,296	\$9,319,041	\$6,759,580
Firm.....	189	952	4,103,140	1,740,388	Individual.....	34	92	471,784	330,680
Corporation.....	51	1,433	6,070,665	2,421,405	Firm.....	5	11	85,518	51,005
Per cent of total.....	100.0	100.0	100.0	100.0	Corporation.....	44	1,193	8,761,739	6,377,274
Individual.....	72.2	40.6	42.5	43.2	Per cent of total.....	100.0	100.0	100.0	100.0
Firm.....	21.9	23.7	23.2	23.8	Individual.....	41.0	7.1	5.1	4.9
Corporation.....	5.9	35.7	34.3	33.0	Firm.....	6.0	0.8	0.9	0.8
Butter, cheese, and condensed milk, 1909					Corporation.....	53.0	92.1	94.0	94.3
Individual.....	181	597	\$12,760,670	\$1,620,970	Liquors, vinous, 1909				
Individual.....	52	155	2,293,798	351,602	Individual.....	181	1,287	\$8,898,848	\$4,262,907
Firm.....	28	51	694,872	153,344	Individual.....	85	232	1,245,037	556,841
Corporation.....	55	313	7,356,944	852,541	Firm.....	26	95	561,333	272,714
Other.....	26	78	2,145,956	263,483	Corporation.....	70	960	7,130,478	3,423,352
Per cent of total.....	100.0	100.0	100.0	100.0	Per cent of total.....	100.0	100.0	100.0	100.0
Individual.....	32.3	26.0	17.7	21.7	Individual.....	47.0	18.0	13.9	13.3
Firm.....	17.4	8.5	7.8	9.5	Firm.....	14.4	7.4	6.3	6.4
Corporation.....	34.2	62.4	67.7	62.6	Corporation.....	38.7	74.6	79.8	80.3
Other.....	16.1	13.1	10.8	16.3	Lumber and timber products, 1909				
Canning and preserving, 1909					Individual.....	644	22,935	\$45,000,276	\$26,631,376
Individual.....	196	7,757	\$32,914,829	\$8,965,007	Individual.....	199	1,412	3,463,708	1,842,676
Individual.....	43	573	1,960,264	601,530	Firm.....	149	1,118	3,029,374	1,748,632
Firm.....	34	383	1,613,248	428,489	Corporation.....	296	20,405	38,517,196	23,040,209
Corporation.....	119	6,796	29,041,317	7,875,588	Per cent of total.....	100.0	100.0	100.0	100.0
Per cent of total.....	100.0	100.0	100.0	100.0	Individual.....	30.9	6.2	7.7	6.9
Individual.....	21.9	7.5	5.0	6.8	Firm.....	23.1	4.9	6.7	6.6
Firm.....	17.3	4.9	4.9	4.8	Corporation.....	46.0	89.0	85.6	86.5
Corporation.....	60.7	87.0	90.1	88.4	Printing and publishing, 1909				
Clothing, men's, including shirts, 1909					Individual.....	1,240	7,558	\$25,031,877	\$18,704,574
Individual.....	74	2,385	\$5,120,509	\$2,225,613	Individual.....	709	1,855	6,762,762	5,142,337
Individual.....	29	104	380,068	193,383	Firm.....	194	4,719	1,813,749	1,598,227
Firm.....	24	559	1,187,147	500,814	Corporation.....	296	4,874	15,871,045	11,718,276
1904.....	21	1,062	3,553,294	1,531,410	Other.....	41	78	585,321	443,794
Per cent of total.....	100.0	100.0	100.0	100.0	Per cent of total.....	100.0	100.0	100.0	100.0
Individual.....	39.2	6.9	7.4	8.7	Individual.....	57.2	24.9	27.0	27.5
Firm.....	32.4	23.4	23.2	22.5	Firm.....	15.6	9.5	7.2	7.5
Corporation.....	28.4	69.7	69.4	68.8	Corporation.....	26.9	64.5	68.4	62.6
Copper, tin, and sheet-iron products, 1909					Other.....	3.3	1.0	2.3	2.4
Individual.....	233	1,938	\$6,803,761	\$3,238,905	Slaughtering and meat packing, 1909				
Individual.....	100	400	1,425,547	708,283	Individual.....	94	1,641	\$34,280,003	\$5,831,946
Firm.....	74	206	958,869	530,745	Individual.....	33	155	4,276,692	611,509
Corporation.....	59	1,266	4,419,345	1,939,877	Firm.....	34	171	4,444,852	546,152
Per cent of total.....	100.0	100.0	100.0	100.0	Corporation.....	27	1,315	25,538,559	4,674,285
Individual.....	45.5	20.9	21.0	23.7	Per cent of total.....	100.0	100.0	100.0	100.0
Firm.....	31.8	13.7	14.1	16.4	Individual.....	35.1	9.4	12.5	10.5
Corporation.....	22.7	65.3	65.0	59.9	Firm.....	39.2	10.4	13.0	9.4
					Corporation.....	25.7	80.1	74.6	80.1

* Includes the group "Other," to avoid disclosure of individual operations.

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

MANUFACTURES—CALIFORNIA.

Table with columns for 'INDUSTRY AND VALUE OF PRODUCTS', 'Number of establishments', 'Average number of wage earners', 'Value of products', 'Value added by manufacture', and similar columns for various industries like 'Copper, tin, and sheet-iron products', 'Flour-mill and gristmill products', 'Food preparations', 'Foundry and machine-shop products', 'Liquors, malt', 'Liquors, vinous', and 'Lumber and timber products'.

* 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.	INDUSTRY AND VALUE OF PRODUCTS.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
Printing and publishing, 1909 ..	1,240	7,556	\$25,031,877	\$18,704,574	Slaughtering and meat packing, 1909 ..	94	1,641	\$34,280,003	\$5,831,946
Less than \$5,000	584	510	1,491,046	1,202,493	Less than \$5,000	4	5	13,204	4,824
\$5,000 and less than \$20,000	451	1,532	4,420,462	3,526,771	\$5,000 and less than \$20,000	14	28	149,063	68,781
\$20,000 and less than \$100,000	164	2,405	6,072,722	5,026,255	\$20,000 and less than \$100,000	34	100	1,749,518	343,754
\$100,000 and less than \$1,000,000 ¹	41	3,049	12,447,647	8,949,052	\$100,000 and less than \$1,000,000	33	374	10,328,186	1,431,040
Per cent of total	100.0	100.0	100.0	100.0	\$1,000,000 and over	0	1,134	22,039,432	3,983,541
Less than \$5,000	47.1	6.7	6.0	6.4	Per cent of total	100.0	100.0	100.0	100.0
\$5,000 and less than \$20,000	36.4	20.3	17.7	18.9	Less than \$5,000	4.3	0.3	(²)	0.1
\$20,000 and less than \$100,000	13.2	32.6	26.7	26.9	\$5,000 and less than \$20,000	14.9	1.7	0.4	1.2
\$100,000 and less than \$1,000,000 ¹	3.3	40.4	49.7	47.8	\$20,000 and less than \$100,000	36.2	6.1	5.1	5.9
Average per establishment		6	\$20,187	\$16,084	\$100,000 and less than \$1,000,000	35.1	22.8	80.1	24.5
					\$1,000,000 and over	0.6	69.1	64.3	68.3
					Average per establishment		17	\$304,681	\$62,042

¹ Includes the group "\$1,000,000 and over."

² Less than one-tenth of 1 per cent.

This table shows that of the 7,659 manufacturing establishments in the state in 1909 only 71, or nine-tenths of 1 per cent, had a value of products exceeding \$1,000,000. These establishments, however, employed an average of 24,909 wage earners, or 21.6 per cent of the total number in all establishments, and reported 38.2 per cent of the total value of products and 27.1 per cent of the total value added by manufacture.

On the other hand, the very small establishments—that is, those having products valued at less than \$5,000—constituted a considerable proportion (28.3 per cent) of the total number of establishments, but the value of their products amounted to only 1.1 per cent of the total. The bulk of the manufacturing was done in establishments having products valued at not less than \$100,000.

During the five years from 1904 to 1909 there was a considerable increase in the relative importance, as measured by value of products, of the largest establishments—those reporting products of not less than \$1,000,000 in value—and a decrease in that of the remaining classes.

The fact that between 1904 and 1909 the average value of products per establishment increased from \$53,695 to \$69,168, and the value added by manufacture from \$22,151 to \$26,704, can not be taken as in itself indicating a tendency toward concentration. The increased values shown may be, and probably are, due in part, at least, to the general rise that has taken place in the prices of commodities. The average number of wage earners per establishment was 15 both in 1909 and in 1904.

The table shows further that when the size of establishments is measured by the average value of products per establishment the bakery industry, the manufacture of copper, tin, and sheet-iron products, and printing and publishing are conducted chiefly in rather small establishments, while the canning and

preserving, flour-mill and gristmill, brewery, and slaughtering and meat-packing industries are conducted mainly in comparatively large establishments.

In some respects, and especially from the standpoint of conditions under which persons engaged in manufactures work, the best classification of establishments to bring out the feature of size is a classification according to the number of wage earners employed. The table on page 84 shows, for 1909, such a classification for all industries combined and for 20 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 7,659 establishments reported for all manufacturing industries, 11.5 per cent employed no wage earners; 53.8 per cent employed from 1 to 5; 22.3 per cent, from 6 to 20; and 6.9 per cent, from 21 to 50. The most numerous single group consists of the 4,123 establishments employing from 1 to 5 wage earners, and the next of the 1,708 establishments employing from 6 to 20. There were 74 establishments that employed over 250 wage earners; 4 of these establishments, of which 2 were lumber mills and 2 steam-railroad repair shops, employed over 1,000 each.

Of the total number of wage earners, 60.6 per cent were in establishments employing over 50 wage earners each. The single group having the largest number of wage earners was the group comprising the establishments employing from 251 to 500. This group employed an aggregate of 20,103 wage earners, or 17.4 per cent of the total. Of the individual industries listed in the table but not in the preceding one, the steam-railroad repair shops, the manufacture of cement, the gas industry, the tanning, currying, and finishing of leather, and the refining of petroleum are industries in which comparatively large establishments do most of the business, as appears from the classification according to the number of wage earners employed.

MANUFACTURES—CALIFORNIA.

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.....	7,659	882	4,123	1,708	528	212	134	56	14	4
Bread and other bakery products.....	864	130	585	124	16	4	4	1		
Butter, cheese, and condensed milk.....	161	14	118	26	3					
Canning and preserving.....	190	4	37	58	51	29	13	4		
Cars and general shop construction and repairs by steam-railroad companies.....	42		2	10	5	4	9	7	3	2
Cement.....	8						3		3	
Clothing, men's, including shirts.....	74	5	26	23	8	6	4	2		
Coffee and spice, roasting and grinding.....	44		27	13	3	1				
Copper, tin, and sheet-iron products.....	233	21	143	52	9	7		1		
Flour-mill and gristmill products.....	125	6	78	28	11	2				
Food preparations.....	129	11	86	25	7					
Foundry and machine-shop products.....	643	23	266	174	44	24	9	2	1	
Gas, illuminating and heating.....	74		38	27	3	3	1	2		
Leather, tanned, curried, and finished.....	40		10	11	10	6	3			
Liquors, distilled.....	33	5	21	5	1	1				
Liquors, malt.....	83	6	38	23	10	5	1			
Liquors, vinous.....	181	2	133	33	6	1	2			
Lumber and timber products.....	644	13	276	179	95	35	26	16	3	2
Petroleum, refining.....	29		6	18	3			2		
Printing and publishing.....	1,240	343	643	180	42	16	10	1		
Slaughtering and meat packing.....	94	5	51	25	6	4	1	2		
All other industries.....	2,822	294	1,527	674	194	64	48	17	4	
AVERAGE NUMBER OF WAGE EARNERS.										
All industries.....	115,296		9,844	18,672	16,854	15,374	19,873	20,103	9,092	5,484
Bread and other bakery products.....	4,018		1,278	1,148	515	252	504	321		
Butter, cheese, and condensed milk.....	697		227	290	80					
Canning and preserving.....	7,757		96	701	1,798	2,069	1,918	1,175		
Cars and general shop construction and repairs by steam-railroad companies.....	9,342		7	123	218	201	1,396	2,444	2,028	2,925
Cement.....	2,407		6				656		1,745	
Clothing, men's, including shirts.....	2,385		79	277	241	451	572	765		
Coffee and spice, roasting and grinding.....	352		72	141	80	59				
Copper, tin, and sheet-iron products.....	1,938		329	535	277	512		285		
Flour-mill and gristmill products.....	948		174	283	333	158				
Food preparations.....	716		202	256	258					
Foundry and machine-shop products.....	8,377		713	1,969	1,445	1,749	1,178	808	515	
Gas, illuminating and heating.....	1,666		106	299	87	252	171	751		
Leather, tanned, curried, and finished.....	1,398		27	163	328	424	456			
Liquors, distilled.....	193		41	54	27	71				
Liquors, malt.....	1,296		90	296	332	463	125			
Liquors, vinous.....	1,287		352	321	164	60	300			
Lumber and timber products.....	22,935		689	1,973	2,057	2,645	4,001	5,911	2,200	2,559
Petroleum, refining.....	330		16	211	76			627		
Printing and publishing.....	7,556		1,505	1,961	1,347	1,113	1,369	261		
Slaughtering and meat packing.....	1,641		128	277	157	306	111	662		
All other industries.....	37,557		3,707	7,394	6,134	4,599	7,026	6,003	2,604	
PER CENT OF AVERAGE NUMBER OF WAGE EARNERS.										
All industries.....	100.0		8.5	16.2	14.4	13.3	17.2	17.4	7.9	4.8
Bread and other bakery products.....	100.0		31.8	28.6	12.3	6.3	12.5	8.0		
Butter, cheese, and condensed milk.....	100.0		38.0	48.0	13.4					
Canning and preserving.....	100.0		1.2	9.0	23.2	26.7	24.7	15.1		
Cars and general shop construction and repairs by steam-railroad companies.....	100.0		0.1	1.3	2.3	2.2	14.9	26.2	21.7	31.3
Cement.....	100.0		0.2				27.3		72.5	
Clothing, men's, including shirts.....	100.0		3.3	11.6	10.1	18.9	24.0	32.1		
Coffee and spice, roasting and grinding.....	100.0		20.5	40.1	22.7	16.8				
Copper, tin, and sheet-iron products.....	100.0		17.0	27.6	14.3	26.4		14.7		
Flour-mill and gristmill products.....	100.0		18.4	29.9	35.1	16.7				
Food preparations.....	100.0		28.2	35.8	36.0					
Foundry and machine-shop products.....	100.0		8.5	23.5	17.2	20.9	14.1	9.6	6.1	
Gas, illuminating and heating.....	100.0		6.4	17.9	5.2	15.1	10.3	45.1		
Leather, tanned, curried, and finished.....	100.0		1.9	11.7	23.5	30.3	32.6			
Liquors, distilled.....	100.0		21.2	28.0	14.0	36.8				
Liquors, malt.....	100.0		6.9	22.8	25.6	35.0				
Liquors, vinous.....	100.0		27.4	24.9	12.7	4.7	30.3			
Lumber and timber products.....	100.0		3.0	8.6	12.9	11.5	17.4	25.8	9.6	11.2
Petroleum, refining.....	100.0		1.7	22.7	8.2			67.4		
Printing and publishing.....	100.0		19.9	26.0	17.8	14.7	18.1	3.5		
Slaughtering and meat packing.....	100.0		7.8	16.9	9.6	18.6	6.8	40.3		
All other industries.....	100.0		9.9	19.7	16.3	12.2	18.7	16.2	6.9	

Expenses.—As stated in the Introduction, the census does not purport to furnish figures that can be used for determining the cost of manufacture and profits. Facts of interest can, however, be brought out concerning the relative importance of the different classes of expenses which make up the total. The next table shows, in percentages, for 1909, the distribution of expenses among the classes indicated for all industries combined and for certain important

industries separately. The figures on which the percentages are based appear in Table II, page 100.

The table shows that, for all industries combined, 68.3 per cent of the total expenses were incurred for materials, 22.5 per cent for services—that is, salaries and wages—and but 9.2 per cent for other purposes. As would be expected, these proportions vary greatly in the different industries. The flour-mill and grist-mill industry shows a higher percentage for materials

(92.2) and the distillery industry a lower percentage (16.7) than any other industry presented separately. The printing and publishing industry shows the highest percentage for services (48.8), while in the case of this item also the lowest percentage is that shown for the distillery industry (3.7). The high proportions which "miscellaneous expenses" represent of the total in the case of the distillery and brewery industries are due to the inclusion under this head of the internal-revenue tax. This tax, particularly in the case of the distillery industry, swells the item of "miscellaneous expenses" to such an extent as to cause abnormally small proportions to be shown for the other items of expense.

INDUSTRY.	PER CENT OF TOTAL EXPENSES REPORTED.			
	Salaries.	Wages.	Ma-terials.	Miscel-laneous ex-penses.
All industries.....	4.8	17.7	68.3	9.2
Bread and other bakery products.....	4.3	20.0	67.5	8.2
Butter, cheese, and condensed milk.....	1.7	3.8	91.3	3.2
Canning and preserving.....	3.5	11.1	77.4	7.9
Cars and general shop construction and repairs by steam-railroad companies.....	2.0	44.8	51.0	2.1
Cement.....	4.4	37.4	49.5	8.7
Clothing, men's, including shirts.....	4.4	22.8	62.7	10.2
Coffee and spice, roasting and grinding.....	8.8	4.1	76.5	10.6
Copper, tin, and sheet-iron products.....	5.3	27.6	59.4	7.7
Flour-mill and gristmill products.....	2.2	3.1	92.2	2.6
Food preparations.....	4.6	8.1	79.6	7.7
Foundry and machine-shop products.....	7.5	29.9	52.7	10.0
Gas, illuminating and heating.....	12.6	21.0	30.9	26.0
Leather, tanned, curried, and finished.....	2.4	11.2	80.2	6.1
Liquors, distilled.....	1.1	2.6	16.7	79.6
Liquors, malt.....	7.2	18.3	33.6	40.9
Liquors, vinous.....	5.8	9.2	63.3	21.7
Lumber and timber products.....	5.5	38.5	45.2	10.7
Petroleum, refining.....	2.3	5.1	87.9	4.7
Printing and publishing.....	18.2	30.6	30.1	21.1
Slaughtering and meat packing.....	1.7	4.1	90.2	3.9
All other industries.....	4.3	14.9	74.0	6.8

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 from 1904 to 1909 there was an increase of 118,741 horsepower, or 56.4 per cent, in the total power used in manufactures, while from 1899 to 1904 the increase was 83,406 horsepower, or 65.7 per cent. Of the total increase from 1904 to 1909, 40,348 horsepower was in that generated by steam engines and 77,174 horsepower in rented electric power. The more general use of gas engines is shown, there being 765 such engines, with an indicated capacity of 10,115 horsepower, reported in 1909, as against 689 engines, with 6,292 horsepower, in 1904, and 545 engines, with 3,244 horsepower, in 1899. Water wheels showed a decrease in number but an increase in total horsepower. The figures also show that the practice of renting electric power is increasing rapidly, 35.4 per cent of the total power being rented electric power in 1909, as against 18.7 per cent in 1904

and but 7.6 per cent in 1899. The proportion for 1909 is larger than for any other state in the Union.

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.....	14,249	3,313	2,874	329,100	210,359	126,953	100.0	100.0	100.0
Owned.....	3,447	3,313	2,874	211,341	168,474	114,723	64.2	80.1	90.4
Steam.....	2,520	2,408	2,153	193,529	153,178	105,190	58.5	72.8	82.9
Gas.....	765	689	545	10,115	6,292	3,244	3.1	3.0	2.6
Water wheels.....	115	137	171	7,390	9,965	4,630	2.2	3.3	3.7
Water motors.....	47	79	(²)	230	295	(²)	0.1	0.1	(²)
Other.....				30	1,744	1,600	(²)	0.8	1.3
Rented.....	10,802	(²)	(²)	117,759	41,885	12,230	35.8	19.9	9.6
Electric.....	10,802	(²)	(²)	116,537	39,303	9,624	35.4	18.7	7.6
Other.....				1,222	2,522	2,606	0.4	1.2	2.1
Electric motors	12,393	658	281	143,684	49,575	15,762	100.0	100.0	100.0
Run by current generated by establishment.....	1,501	658	281	27,147	10,212	6,138	18.0	20.6	38.9
Run by rented power.....	10,802	(²)	(²)	116,537	39,303	9,624	81.1	79.4	61.1

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

The use of electric motors for the purpose of applying the power generated within the establishments is shown to be rapidly becoming more common, the horsepower of such motors having increased from 6,138 in 1899 to 10,212 in 1904 and 27,147 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.	An-thra-cite coal (tons).	Bi-ferrous coal (tons).	Coke (tons).	Wood (cords).	Oil, including gasoline (barrels).	Gas (1,000 feet).
All industries.....	4,421	43,165	113,665	76,323	6,883,015	302,548
Bread and other bakery products.....	54	692	137	8,900	92,650	39,421
Butter, cheese, and condensed milk.....	65	347		7,269	27,119	820
Canning and preserving.....	83	1,797		3,529	141,958	12,816
Cars and general shop construction and repairs by steam-railroad companies.....	14	4,705	17	1,257	316,874	23,620
Cement.....					891,130	
Clothing, men's, including shirts.....	4	24		3	1,321	1,969
Coffee and spice, roasting and grinding.....		17	132		2,912	18,445
Copper, tin, and sheet-iron products.....	15	154	207	107	1,180	5,644
Flour-mill and gristmill products.....	55	471		871	150,034	
Food preparations.....	65	322	311	521	13,309	5,526
Foundry and machine-shop products.....	1,178	3,915	15,029	1,066	75,852	20,032
Gas, illuminating and heating.....		300			2,205,961	600
Leather, tanned, curried, and finished.....	232	2,297		717	45,322	
Liquors, distilled.....		21		590	48,019	
Liquors, malt.....	50	430	204	2,121	179,276	330
Liquors, vinous.....	95	208		3,875	68,500	
Lumber and timber products.....	20	389		13,285	46,216	23,607
Petroleum, refining.....					1,286,666	
Printing and publishing.....	98	751		482	3,018	33,586
Slaughtering and meat packing.....	108	294	32	1,501	153,290	990
All other industries.....	2,270	25,971	96,996	30,220	3,131,799	115,702

NOTE.—In addition, there were 15,164 tons of other varieties of fuel reported.

The most notable fact shown by the table is the large amount of oil and the small amounts of nearly all the other kinds of fuel used. The larger part of this oil is crude oil used as fuel in the generation of steam power, but increasing quantities of refined oil are being used in internal-combustion engines.

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 cost of materials and the quantity and value of products and other information for securing which no provision is made on the general schedule. Certain data of this character for eight important industries in California are here presented.

Lumber and timber products.—In the following tabular statement is shown the production of rough lumber, lath, and shingles in California for the census years 1909 and 1899:

PRODUCT.	QUANTITY.	
	1909	1899
Rough lumber..... M feet b. m.	1,143,507	737,035
Lath..... thousands..	32,615	11,507
Shingles..... thousands..	574,342	650,090

During the decade from 1899 to 1909 the output of rough lumber in California increased 55.1 per cent and that of lath 183.4 per cent, while the production of shingles decreased 11.7 per cent. The period of most rapid growth in the industry was from 1899 to 1904, when the output of lumber increased 46.2 per cent. The woods which supply the raw material are almost exclusively conifers, the hardwood cut in 1909, practically all of which was California or tan-bark oak, forming only one-fifth of 1 per cent of the total lumber production during the year. A total of 521,630 M feet board measure, or more than 45.6 per cent of the lumber output in 1909, was California redwood, a species of timber which does not occur in saw-log size outside of California. Chief among the other species sawed into lumber in 1909 were western pine, with a production of 364,748 M feet board measure, Douglas fir, with a production of 88,852 M feet, and sugar pine, with a production of 88,822 M feet.

A noteworthy peculiarity of the lumber industry in the state is the fact that the manufacture of shingles, while carried on to some extent in connection with that of lumber, nevertheless amounts practically to a separate and distinct industry. Over 88 per cent of the shingle output of the state for 1909 was manufactured from redwood, which timber possesses in very high degree the qualities most desirable in shingle material.

Slaughtering and meat packing.—The next table gives the quantity and cost of the various materials used in this industry and the quantity and value of the various products, for 1909, 1904, and 1899.

From 1904 to 1909 the number of beeves slaughtered increased 81,901, or 31.5 per cent; that of calves, 38,244, or 88.7 per cent; that of sheep, 81,484, or 8.2 per cent; and that of hogs, 30,234, or 9.6 per cent. The rate of increase in the cost of the animals slaugh-

tered was much higher than that in the number slaughtered.

MATERIAL OR PRODUCT.	1909	1904	1899
Materials used, total cost.....	\$28,448,057	\$18,751,744	\$13,616,305
Beeves slaughtered:			
Number.....	341,617	259,716	174,113
Cost.....	\$14,348,274	\$9,735,012	\$6,017,762
Calves slaughtered:			
Number.....	81,344	43,100	28,531
Cost.....	\$930,781	\$412,644	\$280,958
Sheep slaughtered:			
Number.....	1,071,998	990,514	695,058
Cost.....	\$4,436,805	\$3,284,003	\$2,197,362
Hogs slaughtered:			
Number.....	344,319	314,085	228,675
Cost.....	\$4,339,254	\$2,891,457	\$1,989,208
Dressed meat, purchased.....	\$2,088,065	\$1,439,004	\$1,897,909
Fuel and rent of power.....	\$184,764	\$85,889	\$75,162
All other materials.....	\$2,120,054	\$903,735	\$1,157,894
Products, total value.....	\$34,280,003	\$22,012,756	\$15,817,262
Beef, fresh:			
Pounds.....	186,315,779	140,301,999	93,818,021
Value.....	\$13,820,710	\$9,135,362	\$5,972,469
Beef, salted or cured:			
Pounds.....	1,455,480	2,380,927	2,512,762
Value.....	\$137,792	\$171,352	\$173,381
Veal, fresh:			
Pounds.....	12,077,330	6,470,074	3,964,808
Value.....	\$1,104,753	\$451,602	\$326,705
Mutton, fresh:			
Pounds.....	44,220,813	38,005,994	20,605,967
Value.....	\$4,215,624	\$3,080,546	\$2,173,934
Pork, fresh:			
Pounds.....	32,204,886	22,796,629	18,315,505
Value.....	\$3,472,610	\$1,821,101	\$1,424,794
Pork, salted or cured:			
Pounds.....	13,964,304	23,183,338	28,795,384
Value.....	\$2,305,753	\$2,732,575	\$2,878,861
Sausage, fresh or cured.....	\$935,408	\$666,125	\$215,023
All other fresh meat:			
Pounds.....	3,435,527	350,000	2,295,977
Value.....	\$216,755	\$17,500	\$191,283
Lard:			
Pounds.....	6,644,167	8,312,662	4,181,112
Value.....	\$839,623	\$635,500	\$380,620
Tallow, oleo stock, and stearin:			
Pounds.....	11,363,156	(¹)	(¹)
Value.....	\$904,712	(¹)	(¹)
Fertilizers and fertilizer materials:			
Tons.....	6,062	3,325	1,570
Value.....	\$162,509	\$87,689	\$37,328
Hides:			
Number.....	374,278	272,042	201,444
Pounds.....	21,134,504	14,875,503	10,221,863
Value.....	\$2,710,097	\$1,465,939	\$960,324
Pelts:			
Number.....	1,070,801	990,514	(¹)
Value.....	\$742,098	\$742,499	(¹)
Wool:			
Pounds.....	1,707,577	180,000	117,710
Value.....	\$430,967	\$51,100	\$23,742
All other products, including amount received for custom or contract work.....	\$2,580,592	\$964,886	\$1,108,798

¹ Figures not available.

With the exception of salted and cured beef and salted and cured pork, all the meat products show increases in value and, so far as figures are given, in quantity from 1904 to 1909, as well as from 1899 to 1904. The largest absolute gain in quantity during the more recent five-year period, 46,013,780 pounds, is shown for fresh beef, while the largest relative gain, 881.6 per cent, was in "All other fresh meat." The percentages of increase in value were generally greater than those in quantity, owing to the higher prices of meats that prevailed in 1909. One of the most interesting facts brought out by the table is the increasing production of fresh pork and the decreasing production of salted and cured pork. In 1899 the output of salted and cured pork was over one and one-half times that of fresh pork, while in 1909 the output of the latter was nearly two and one-third times that of the former.

The output of lard decreased in quantity, but increased in value from 1904 to 1909, while the value in 1909 of the products included under the head of "All other products" was nearly three times that in 1904, owing in a measure to the increased production of lard substitutes. The number of hides reported increased 102,236, or 37.6 per cent, from 1904 to 1909, and their value \$1,244,158, or 84.9 per cent.

Canning and preserving.—Although this industry in California dates from about 1875, its real importance and development did not commence until several years later. The value of its products, which in 1889 was \$6,621,931, more than doubled during each of the two following decades, amounting in 1909 to \$32,914,829. The quantity and value of the products, by classes, are given in the table in the next column for 1909, 1904, and 1899.

The case, which is used as the unit of measure for canned fruits and canned vegetables in the table, consists of 24 standard-size cans—No. 2 (also called 2-pound cans) for beans, peas, berries, cherries, and plums, and No. 3 (also called 3-pound cans) for all other fruits and vegetables. Where the output of fruits and vegetables has been reported in other forms by the canneries, the quantities so reported have been reduced to standard cases, as above specified.

California ranks first among the states in the production of canned asparagus, apricots, peaches, and pears, and of dried peaches and prunes; second in the production of canned sardines; and sixth in that of canned tomatoes. The state had a complete monopoly of the production of dried apricots and of raisins in the United States in 1909, neither of these products being reported from any other state.

The value of dried fruits constituted 49 per cent of the total value of products of the industry in 1909, as compared with 52.9 per cent in 1904 and 17.2 per cent in 1899. The increase in the value of the dried-fruit products during the decade 1899-1909 was 528 per cent, the greatest advance being from 1899 to 1904, when the gain was 437.1 per cent. The most important of the dried-fruit products, both in point of quantity and of value, were raisins and prunes. California reported the total output of raisins in the United States in 1909, as already stated, and 85.7 per cent of the total value of dried prunes produced.

Canned fruits, the second group of products in importance in respect to value, decreased in relative importance during both five-year periods, although the value of the output has remained approximately the same. The proportion which the value of this class of products formed of the total for the industry was 22 per cent in 1909, 26.8 per cent in 1904, and 49.1 per cent in 1899. The value of the output in 1909 shows an increase of \$270,259, or 3.9 per cent, as compared with 1904; this increase, however, was not sufficient to make up for the decrease from 1899 to

1904, so that a decrease of \$91,717, or 1.2 per cent, is shown for the decade as a whole. The fruit most largely canned in 1909 was peaches, the value of which constituted 9.2 per cent of the total reported for the canning and preserving industry.

The value of the vegetables canned increased throughout the period covered by the table, the rate of increase from 1904 to 1909 being much higher than that during the preceding five-year period. The value of canned asparagus formed over half of the value of all canned vegetables reported for the state in 1909.

PRODUCT.	1909	1904	1899
Total value	\$32,914,829	\$26,083,226	\$14,940,882
Canned vegetables	\$3,470,621	\$2,366,601	\$2,274,037
Asparagus—			
Cases.....	197,592		
Value.....	\$1,794,346		
Beans—			
Cases.....	47,505	85,041	34,209
Value.....	\$87,059	\$133,494	\$56,797
Peas—			
Cases.....	123,349	68,142	72,760
Value.....	\$250,624	\$144,033	\$145,087
Pumpkins—			
Cases.....	10,941	18,852	1,033
Value.....	\$15,165	\$30,156	\$1,800
Tomatoes—			
Cases.....	536,837	541,776	794,566
Value.....	\$1,120,632	\$546,805	\$2,068,997
All other—			
Cases.....	64,480	286,172	148
Value.....	\$202,795	\$1,218,173	\$396
Canned fruits	\$7,248,342	\$6,978,083	\$7,340,059
Apples—			
Cases.....	67,710	31,286	25,237
Value.....	\$130,855	\$67,591	\$71,427
Apricots—			
Cases.....	627,701	532,038	531,588
Value.....	\$1,819,568	\$1,619,757	\$1,582,927
Berries—			
Cases.....	95,092	67,407	67,534
Value.....	\$171,995	\$108,640	\$218,738
Cherries—			
Cases.....	224,084	171,298	49,375
Value.....	\$491,575	\$457,109	\$155,813
Peaches—			
Cases.....	1,140,500	744,715	903,676
Value.....	\$3,013,203	\$2,640,524	\$3,193,775
Pears—			
Cases.....	433,790	524,197	444,343
Value.....	\$1,316,022	\$1,677,823	\$1,619,900
Plums—			
Cases.....	138,695	196,379	358,298
Value.....	\$230,384	\$349,307	\$569,484
All other—			
Cases.....	20,613	54,215	
Value.....	\$68,750	\$97,272	
Dried fruits:			
Pounds.....	339,726,550	300,308,919	49,337,883
Value.....	\$16,137,716	\$13,809,601	\$2,569,520
Apples—			
Pounds.....	6,860,170	811,254	3,087,220
Value.....	\$481,173	\$40,650	\$158,893
Apricots—			
Pounds.....	20,205,569	19,559,573	5,310,217
Value.....	\$2,277,177	\$1,410,838	\$442,544
Peaches—			
Pounds.....	40,827,391	25,845,304	5,502,390
Value.....	\$2,422,043	\$1,701,105	\$301,495
Prunes—			
Pounds.....	118,917,876	114,680,431	24,102,329
Value.....	\$4,394,922	\$3,169,378	\$907,041
Raisins—			
Pounds.....	111,774,737	121,409,881	10,734,221
Value.....	\$4,837,933	\$6,349,381	\$720,263
All other—			
Pounds.....	26,140,777	18,102,416	601,509
Value.....	\$1,724,408	\$1,123,740	\$42,279
Fish and oysters:			
Pounds.....	12,657,233	16,582,300	11,238,460
Value.....	\$1,156,881	\$1,011,222	\$769,037
Canned fish—			
Sardines—			
Pounds.....	1,930,304	860,000	388,708
Value.....	\$238,607	\$78,000	\$78,860
All other—			
Pounds.....	2,286,610	5,300,923	3,480,416
Value.....	\$387,601	\$378,524	\$202,808
Smoked fish—			
Pounds.....	100,900	739,537	225,000
Value.....	\$14,680	\$71,088	\$9,000
Salted fish—			
Pounds.....	8,289,369	9,681,840	7,144,336
Value.....	\$515,993	\$483,610	\$445,969
All other products	\$4,901,209	\$1,926,659	\$1,990,629

The canning and curing of fish and the canning of oysters and clams, constitute, in California, a minor branch of the canning and preserving industry. Of the 196 establishments reported for the industry in 1909, 15 canned or cured fish and canned oysters; 2 others canned oysters; and 1 canned clams. Sardines were the chief kind of fish canned, salmon was the leading variety smoked, and cod was the principal species salted.

It is worthy of note that over half of the value of products reported for the industry in the state in 1909 was returned by eight corporations having 38 plants which were reported as 33 establishments.

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

PRODUCT.	1909	1904	1899
Total value.....	\$25,188,133	\$20,202,542	\$13,045,280
Wheat flour:			
White—			
Barrels.....	1,774,953	2,408,358	
Value.....	\$10,209,507	\$10,479,131	2,653,935
Graham—			\$7,928,449
Barrels.....	30,290	31,141	
Value.....	\$106,134	\$132,540	
Corn meal and corn flour:			
Barrels.....	50,969	52,254	92,356
Value.....	\$222,399	\$215,545	\$215,213
Rye flour:			
Barrels.....	9,214	22,733	14,582
Value.....	\$45,145	\$105,946	\$43,041
Buckwheat flour:			
Pounds.....	133,328	352,382	552,000
Value.....	\$4,514	\$12,753	\$19,572
Hominy and grits:			
Pounds.....	736,669	987,983	3,097,560
Value.....	\$20,937	\$33,905	\$36,385
Feed:			
Tons.....	336,431	228,069	111,944
Value.....	\$10,402,069	\$5,979,376	\$2,242,136
Offal:			
Tons.....	79,643	99,070	84,107
Value.....	\$2,056,372	\$2,057,448	\$1,155,775
All other products.....	\$2,000,996	\$1,185,598	\$1,403,639

Measured by value, the most important single product in 1909 was feed, the output of which more than trebled in quantity and considerably more than quadrupled in value during the decade 1899-1909. The greatest relative gains in both quantity and value, and the largest absolute gain in quantity, were from 1899 to 1904, but the largest absolute increase in value was from 1904 to 1909. Much of the feed made in California was from barley, the crop of which in 1909 was over four times as great as the wheat crop and exceeded the combined yield of all other cereals in the state.

Wheat flour was the second product in importance in 1909, having been displaced from first place since 1904 by feed. The output of this product decreased during both five-year periods, while its value increased from 1899 to 1904 and decreased slightly from 1904 to 1909. The proportion which the value of wheat flour formed of the total for all flour-mill and gristmill products in the state decreased from 60.8 per cent in 1899 to 52.5 per cent in 1904 and 41.2 per cent in 1909. These decreases are in a measure due to the in-

creasing quantities of wheat used in the manufacture of food preparations, the total value of which was \$5,503,000 in 1909, or nearly three and one-half times that in 1904.

The output of all other products shown separately in the table decreased in both quantity and value between 1904 and 1909, with the exception of corn meal and corn flour, for which a slight increase in value was reported.

The following tabular statement classifies the mills reporting wheat flour in 1909 and 1904 according to their output:

OUTPUT.	NUMBER OF MILLS.	
	1909	1904
Total.....	66	83
Less than 1,000 barrels.....	12	8
1,000 barrels but less than 5,000.....	22	31
5,000 barrels but less than 20,000.....	19	22
20,000 barrels but less than 100,000.....	9	18
100,000 barrels and over.....	4	4

The number of pairs of rolls in use in the industry increased from 1,146 in 1899 to 1,415 in 1904, but decreased to 1,215 in 1909. The number of runs of stone and steel burrs decreased from 148 in 1899 to 88 in 1904 and 57 in 1909.

Printing and publishing.—The number and the aggregate circulation of the different classes of newspapers and periodicals reported in 1909, 1904, and 1899 are shown in the following tabular statement:

PERIOD OF ISSUE.	NUMBER OF PUBLICATIONS.			AGGREGATE CIRCULATION PER ISSUE.		
	1909	1904	1899	1909	1904	1899
Total.....	854	845	656	3,025,250	2,627,234	1,448,656
Daily.....	166	148	117	902,752	669,556	475,596
Sunday.....	36	36	34	616,916	598,167	(1)
Semi-weekly.....	* 37	* 28	23	44,856	28,600	23,822
Weekly.....	495	487	397	730,424	709,155	618,146
Monthly.....	105	124	71	619,000	522,526	194,792
All other classes.....	15	22	14	110,402	39,230	136,300

* Included in circulation of dailies.
 † Includes six triweekly publications.
 ‡ Includes two triweekly publications.

The total number of publications and their aggregate circulation increased much more rapidly from 1899 to 1904 than from 1904 to 1909. The gain in number during the earlier five-year period, 1899-1904, was 189, and that in circulation 1,178,578, while during the five-year period following the corresponding increases were 9 and 398,016, respectively. The class of publications having the largest circulation in 1909 was the dailies, while in 1904 and in 1899 the weeklies had the largest circulation. The dailies also show the most pronounced absolute increase in circulation from 1904 to 1909, while the circulation of the weeklies decreased slightly during the same period. Of the 166 daily newspapers published in 1909, 65, with an aggregate circulation of 457,289, were morning papers.

The increase shown for the more recent five-year period in the circulation of the publications included under the head of "All other classes" was due to the fact that a religious periodical of large circulation which was not classed as a periodical in 1904 was reported as a quarterly in 1909, and to the inclusion in 1909 of a semimonthly agricultural magazine which was not reported in 1904. This class, in 1909, included six semimonthly, five bimonthly, and four quarterly publications.

The number and aggregate circulation of the different classes of newspapers and periodicals printed respectively in English and in foreign languages are shown in the following table:

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.....	864	3,025,250	800	2,890,086	54	134,564
Daily.....	160	902,752	153	854,119	13	48,633
Sunday.....	39	610,916	32	582,013	4	24,603
Semiweekly and triweekly.....	37	44,856	35	40,153	2	4,700
Weekly.....	495	730,424	465	694,246	30	36,178
Monthly.....	105	619,000	101	569,600	4	49,375
Quarterly.....	4	60,277	4	60,277	.....	.....
All other classes.....	11	50,125	10	49,375	1	21,050

¹ Including those publications which were printed in English and also in one or more foreign languages.

Of the 13 dailies printed in foreign languages, 6 were printed in Japanese, 3 in Chinese, 2 in Italian, and 1 each in German and in French, while 3 of the 4 Sunday editions were in Japanese, and the other was in German. Both the semiweekly and the triweekly were in Italian, 3 of the 4 monthlies were in Portuguese and the other in Swedish, while the bimonthly periodical shown under the head of "All other classes" was in Armenian and English. Of the 30 weekly publications in foreign languages, 8 were printed in German, 6 in Italian, 5 in Portuguese, 3 in Spanish, 2 each in French and in Greek, and 1 each in Danish, Swedish, Croatian, and Servian. Of the 16 newspapers and periodicals in Japanese reported for the United States in 1909, 9 were published in California.

Petroleum, refining.—In the production of crude petroleum California leads all other states in the Union, and its refineries were supplied entirely from the native product. In 1909 the output of crude oil in the state was reported as 54,433,010 barrels, valued at \$30,675,267, these figures representing 29.9 per cent of the total quantity and 23.9 per cent of the total value of crude oil produced in the United States. A large part of the California oils are heavy and useful mainly for the production of asphalt, as they have an asphaltum rather than a paraffin basis. The total number of refineries in the state increased from 4 in 1899 to 19 in 1904 and 29 in 1909.

The following table shows the quantity and cost of materials used in the refineries of the state, the quantity and value of the principal products, and the main equipment reported for 1909, 1904, and 1899:

MATERIAL, PRODUCT, AND EQUIPMENT.	1909	1904	1899
Materials used, total cost.....	\$13,897,721	\$4,130,809	\$489,989
Crude petroleum:			
Barrels (42 gallons).....	13,481,085	4,300,600	336,863
Cost.....	\$10,105,341	\$3,431,754	\$405,150
Containers.....	\$356,894	\$131,404	\$9,400
All other materials.....	\$2,995,486	\$567,651	\$75,439
Products, total value.....	\$17,878,006	\$5,748,598	\$697,877
Oils:			
Illuminating—			
Barrels (50 gallons).....	1,723,863	647,934	45,849
Value.....	\$5,047,759	\$2,023,738	\$170,066
Fuel (including gas oils)—			
Barrels.....	3,931,300	731,215	84,240
Value.....	\$3,802,603	\$618,178	\$98,237
Lubricating—			
Barrels.....	189,672	54,013	2,052
Value.....	\$1,137,061	\$221,168	\$10,262
Naphtha and gasoline (including gas naphtha)—			
Barrels.....	628,804	238,015	57,995
Value.....	\$3,256,209	\$926,063	\$201,269
All other products.....	\$4,573,774	\$1,958,869	\$218,103
Equipment:			
Stills, number.....	237	106	37
Heated by steam—			
Number.....	28	14	9
Capacity (barrels of 42 gallons).....	4,934	(¹)	(¹)
Heated by superheated steam—			
Number.....	1	.....	6
Capacity (barrels of 42 gallons).....	200	.....	(¹)
Heated by fire—			
Number.....	208	92	22
Capacity (barrels of 42 gallons).....	156,939	(¹)	(¹)
Agitators, number.....	56	47	7
Hydraulic or other presses, number.....	7	2	2
Storage tanks:			
For crude petroleum—			
Number.....	165	43	12
Capacity, gallons.....	29,037,397	12,430,724	(¹)
For refined petroleum—			
Number.....	636	375	62
Capacity, gallons.....	55,413,088	49,410,383	(¹)
Cooper shops, number.....	8	11	2
Tin shops, number.....	1	2	1

¹ Figures not available.

The output of fuel oils (including gas oils) refined in 1909 was greater than the combined output of all other products shown separately, forming 60.7 per cent of the total output of oils. The corresponding proportion for 1904 was 43.8 per cent and for 1899, 44.3 per cent. The fuel oils produced in California represented 11.6 per cent of the total output of fuel oils in the United States in 1909. Illuminating oils, the next product in importance, show a decided increase from census to census. The proportion which this latter class of oils formed of the total output of oils increased from 24.1 per cent in 1899 to 38.8 per cent in 1904, but decreased to 26.7 per cent in 1909.

In addition to the products shown separately in the table, a number of other products were reported, the most important being oil asphaltum, the output of which in 1909 was 139,473 tons of 2,000 pounds. No comparative figures, however, are available, as prior to 1909 this product was not reported separately. There was a great increase from 1899 to 1904 in the quantity of residuum or tar reported, but in 1909 the amount was very much reduced. Considerable quantities of

fuel and other distillates and some liquid asphalt were also reported in 1909.

The great increase in the industry is also reflected in the increase in equipment, such as stills, storage tanks, and agitators.

Butter, cheese, and condensed milk.—While this industry shows a decided increase in value of products for each of the five-year periods covered by the table, the number of establishments, as shown in Table I, page 92, though increasing considerably from 1899 to 1904, decreased 42.7 per cent from 1904 to 1909. The decrease is due entirely to a change in the manner of conducting the industry. In 1904 there were a number of local creameries which have since been abandoned or else are now used simply as collecting depots, from which the milk and cream are shipped to large central plants. In 1909 only one establishment in the industry was engaged primarily in the manufacture of condensed milk, whereas six were reported as so engaged in 1904 and two in 1899.

The following table gives the quantity and value of the chief products for 1909, 1904, and 1899:

PRODUCT.	1909	1904	1899
Total value.....	\$12,760,870	\$7,820,937	\$3,582,942
Butter:			
Pounds.....	37,283,450	26,837,386	13,147,137
Value.....	\$11,644,463	\$6,640,845	\$2,854,632
Packed solid—			
Pounds.....	7,764,696	3,070,637	2,983,262
Value.....	\$2,388,265	\$742,929	\$584,478
Prints or rolls—			
Pounds.....	29,518,754	23,766,749	10,163,875
Value.....	\$9,256,188	\$5,897,916	\$2,270,154
Cream sold:			
Pounds.....	2,674,825	921,334	1,036,600
Value.....	\$411,473	\$132,277	\$120,283
Cheese, full cream: 1			
Pounds.....	1,567,640	3,601,051	2,678,543
Value.....	\$252,682	\$425,231	\$279,125
All other products.....	\$452,162	\$622,584	\$328,902

1 Includes, in 1909, 123,000 pounds of part-cream cheese, valued at \$13,296; in 1904, 174,005 pounds of "other kinds," valued at \$26,375; and, in 1899, 251,638 pounds of "other kinds," valued at \$34,615.

The total quantity of butter manufactured in the state during 1909 was 37,283,450 pounds, an increase of 38.9 per cent as compared with 1904 and of 183.6 per cent as compared with 1899. The value of butter represented 91.3 per cent of the total value of all products reported for the industry in 1909, as compared with 84.9 per cent in 1904 and 79.7 per cent in 1899. Although by far the largest part of the butter manufactured was in prints and rolls, there were large relative increases from 1904 to 1909 in the quantity and value of butter packed solid, amounting to 152.9 per cent and 221.5 per cent, respectively.

The output of cheese increased decidedly in both quantity and value from 1899 to 1904, but the totals shown for 1909 were less than those presented for 1899. These decreases are no doubt due in part to the increasing practice of separating the cream on the farm, as it is now more profitable to sell the separated cream to the butter factories. The greater profit resulting from the sale of milk to the dealers in the

cities may also have been a factor in the decrease referred to.

Leather, tanned, curried, and finished.—The quantity and cost of the materials used and the quantity and value of the principal products reported for this industry are shown separately for 1909, 1904, and 1899 in the following table:

MATERIAL OR PRODUCT.	1909	1904	1899
Materials used, total cost.....	\$7,039,453	\$5,912,140	\$5,809,428
Cattle hides:			
Number.....	611,421	634,417	585,186
Cost.....	\$4,300,834	\$3,628,424	\$3,207,562
Calf and kip skins:			
Number.....	113,449	107,834	122,167
Cost.....	\$302,613	\$138,172	\$138,507
Goatskins:			
Number.....	20,724	20,022	27,052
Cost.....	\$10,501	\$13,814	\$12,000
Sheepskins:			
Number.....	1,328,712	1,510,067	1,381,579
Cost.....	\$926,139	\$829,275	\$890,014
All other skins:			
Number.....	82,047	112,720	106,319
Cost.....	\$77,921	\$82,774	\$147,280
Rough leather, purchased.....	\$44,020	\$113,160	\$434,214
All other materials.....	\$1,377,425	\$1,206,521	\$970,851
Products, total value.....	\$9,366,545	8,072,257	\$7,405,981
Leather.....	\$8,237,323	\$7,196,516	\$6,559,482
Sole—			
Sides.....	472,236	575,393	556,063
Value.....	\$3,100,226	\$2,971,579	\$2,532,988
Oak—			
Sides.....	429,716	575,393	556,063
Value.....	\$2,940,734	\$2,971,579	\$2,532,988
Chrome—			
Sides.....	42,520	.....	.....
Value.....	\$159,492	.....	.....
Upper, other than calf or kip skins.....	\$112,601	\$102,303	\$150,473
Grain, satin, pebble, etc. (side leather)—			
Sides.....	24,268	22,780	60,603
Value.....	\$83,776	\$69,690	\$139,572
Finished splits—			
Number.....	42,600	83,882	7,520
Value.....	\$28,825	\$32,623	\$10,901
Horsehides—			
Number.....	9,427	3,600	.....
Value.....	\$34,757	\$12,000	.....
Calf and kip skins, tanned and finished—			
Number.....	127,852	106,571	122,152
Value.....	\$408,957	\$241,728	\$195,124
Flesh—			
Number.....	5,583	68,688	85,000
Value.....	\$16,084	\$142,749	\$141,529
Grain—			
Number.....	122,269	37,883	37,152
Value.....	\$392,873	\$98,979	\$53,595
Goatskins—			
Number.....	10,360	3,000	6,400
Value.....	\$24,294	\$12,000	\$6,040
Sheepskins, tanned and finished—			
Number.....	601,802	1,012,816	1,135,250
Value.....	\$237,476	\$341,262	\$318,900
Harness—			
Sides.....	333,264	339,041	379,323
Value.....	\$2,571,122	\$1,904,647	\$1,976,755
Glove.....	\$733,587	\$530,480	\$525,507
Rough leather sold.....	\$210,051	\$352,799	\$309,405
All other.....	\$804,252	\$727,118	\$644,290
All other products.....	\$1,000,436	\$807,855	\$843,710
Amount received for work on materials for others.....	\$38,786	\$7,886	\$2,789

Untanned cattle hides constituted the principal material at each census, their value forming 61.1 per cent of the total reported for all materials in 1909, as against 59.7 per cent in 1904 and 55.2 per cent in 1899. The number of hides used increased 8.4 per cent from 1899 to 1904, but decreased slightly from 1904 to 1909. The number of calf and kip skins used in 1909 was somewhat larger than in 1904, and the number of goatskins also shows a slight increase; large decreases were, however, reported in the number of sheepskins and of the skins included under the head

of "All other skins." Each kind of skins used shows a decrease in 1909 as compared with 1899. There was also a pronounced decrease during the decade in both the quantity and cost of leather purchased in the rough for currying.

Measured by value, the most important individual class of products at each of the three censuses was oak sole leather, the output of which increased slightly in both quantity and value from 1899 to 1904, but decreased in both respects during the period from 1904 to 1909. The product next in importance was harness leather, which shows a decrease in both quantity and value of output from 1899 to 1904, but an increase in both respects during the next five years. Pronounced increases from 1904 to 1909 are shown for tanned and finished grain calf and kip skins, while decided decreases during the same period are shown for tanned and finished sheepskins and in the value of rough leather sold.

Laundries.—Statistics for steam laundries are not included in the general tables, or in the totals for manufacturing industries. In 1909 there were 321 such establishments in California, 87 of which were in San Francisco, 41 in Oakland, 31 in Los Angeles, and 10 in Sacramento.

The following statement summarizes the statistics:

Number of establishments.....	321
Persons engaged in the industry.....	9,060
Proprietors and firm members.....	308
Salaried employees.....	714
Wage earners (average number).....	8,038
Primary horsepower.....	8,961
Capital.....	\$6,295,915
Expenses.....	8,177,759
Services.....	5,260,743
Materials.....	1,612,112
Miscellaneous.....	1,304,904
Amount received for work done.....	9,541,795

Of the 321 establishments reporting, 146 were operated by individuals, 66 by firms, and 109 by corporations. Sixty-five establishments had receipts for the year's business of less than \$5,000; 130, receipts of \$5,000 but less than \$20,000; 107, receipts of \$20,000 but less than \$100,000; and 19, receipts of \$100,000 but less than \$1,000,000.

The number of wage earners employed each month and the percentage which this number represented of the greatest number employed in any month were as shown in the next table.

MONTH.	WAGE EARNERS.		MONTH.	WAGE EARNERS.	
	Number.	Per cent of maximum.		Number.	Per cent of maximum.
January.....	7,032	81.2	July.....	8,366	100.0
February.....	7,560	88.4	August.....	8,277	98.9
March.....	7,828	93.6	September.....	8,350	99.8
April.....	7,911	94.6	October.....	8,209	98.1
May.....	7,985	95.4	November.....	8,118	97.0
June.....	8,107	96.9	December.....	8,116	97.0

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.....		8,961
Owued:		
Steam.....	202	7,504
Gas.....	3	15
Water wheels.....	5	150
Water motor.....	1	10
Rented:		
Electric.....	235	1,224
Other.....		58

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

KIND.	Unit.	Quantity.
Anthracite coal.....	Tons.....	222
Bituminous coal.....	Tons.....	2,646
Coke.....	Tons.....	19
Wood.....	Cords.....	3,496
Oil.....	Barrels.....	270,919
Gas.....	1,000 feet.....	50,267

Custom sawmills and 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. Statistics can not be shown for custom sawmills without disclosing the operations of the one establishment reported.

	Custom gristmills.
Number of establishments.....	12
Persons engaged in the industry.....	28
Proprietors and firm members.....	9
Salaried employees.....	4
Wage earners (average number).....	15
Primary horsepower.....	518
Capital.....	\$65,411
Expenses.....	525,607
Services.....	11,663
Materials.....	1,503,559
Miscellaneous.....	10,475
Value of products.....	1,672,597

¹ Includes estimate of all grain ground.

MANUFACTURES—CALIFORNIA.

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.				Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
			Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).							
Expressed in thousands.													
SAN FRANCISCO—All industries.	1909 1904 1899	1,796 2,251 1,748	36,910 46,669	2,544 3,047	6,122 5,199 3,413	23,244 38,429 32,555	49,934	\$133,824 102,362 69,643	\$8,088 6,030 3,929	\$22,381 25,015 17,259	\$76,217 75,948 65,535	\$133,041 137,788 107,024	\$50,824 61,842 41,489
Artificial stone.....	1909 1904 1899	10 5	89 31	12 6	9 1	68 24	26	78 12	9 1	61 23	50 12	151 41	101 29
Baskets, and rattan and willow ware...	1909 1904 1899	7 7 8	129 40 102	7 8 7	5 1 2	117 31 93	23	107 11 81	11 1 3	49 13 27	118 22 70	211 37 145	93 15 75
Belting and hose, leather.....	1909 1904 1899	5 5 5	52 60	1 4	18 20 12	33 35 40	37	173 190 181	26 23 11	26 26 26	182 121 182	291 234 288	109 113 106
Boots and shoes, including cut stock and findings.	1909 1904 1899	8 15 20	425 613 987	73 54 79	31 41 48	321 548 860	131	672 1,002 1,181	36 41 46	294 313 403	553 731 949	1,288 1,627	423 557 678
Boxes, fancy and paper.....	1909 1904 1899	10 12 8	321 393 258	6 10 13	34 27 12	281 356 233	225	311 372 132	41 29 10	141 127 79	221 210 114	496 448 274	275 238 160
Brass and bronze products.....	1909 1904 1899	13 15 11	154 384 304	13 14 13	20 46 24	121 324 327	131	183 725 743	22 65 32	116 223 210	164 275 384	356 808 768	192 531 384
Bread and other bakery products.....	1909 1904 1899	167 184 137	1,065 1,722 1,048	263 233 161	100 123 90	1,203 1,866 707	786	3,513 1,088 976	238 100 60	1,003 982 417	2,065 2,548 1,608	5,268 4,582 2,601	2,303 2,334 1,093
Brooms and brushes.....	1909 1904 1899	0 11 15	138 130	45 45	8 3 10	85 88 144	18	82 66 113	4 2 15	46 47 71	129 83 120	266 169 255	77 86 135
Butter, cheese, and condensed milk.....	1909 1904 1899	3 7 5	8 20 18	3 7 8	5 10 10	4	11 79 31	3 4 6	35 333 53	47 396 67	12 63 14		
Canning and preserving.....	1909 1904 1899	17 33 34	1,011 1,735	7 33	101 109 81	903 1,693 1,000	660	3,343 2,719 1,080	171 177 105	382 554 489	3,482 3,080 2,377	4,776 4,636 3,513	1,204 1,556 1,136
Carriages and wagons and materials.....	1909 1904 1899	37 63 47	311 502	43 74	36 23 21	237 405 351	248	457 782 574	36 29 27	204 304 179	191 319 263	552 693 673	361 693 410
Chemicals.....	1909 1904 1899	4 0 10	139 150 188	..... 3 7	19 21 37	120 126 144	720	1,425 875 800	24 27 41	93 86 96	628 547 668	938 704 955	310 217 302
Clothing, men's, including shirts.....	1909 1904 1899	50 84 91	1,905 2,831	251 271	132 122 72	1,522 2,438 2,604	335	1,637 1,436 1,168	126 115 72	727 1,028 853	2,106 2,530 2,371	3,682 4,804 4,138	1,576 2,274 1,767
Clothing, women's.....	1909 1904 1899	41 48 49	835 1,191 1,494	190 212 102	66 57 46	570 922 1,256	83	493 518 659	71 52 48	252 303 420	647 810 982	1,225 1,633 1,003	578 823 921
Coffee and spice, roasting and grinding..	1909 1904 1899	19 25 22	492 532 412	13 21 23	254 275 168	225 275 231	775	2,440 1,941 1,438	427 325 204	153 157 140	3,549 2,750 2,050	4,973 3,980 2,766	1,424 1,230 716
Coffins, burial cases, and undertakers' goods.	1909 1904 1899	4 5 4	78 68 66	2 1 2	15 6 9	61 61 55	151	432 182 205	16 9 14	39 34 21	152 106 172	272 212 259	120 106 87
Confectionery.....	1909 1904 1899	27 37 14	689 761	36 43	114 133 92	539 585 378	299	1,151 850 424	188 115 61	249 241 99	930 770 448	1,718 1,778 845	788 1,092 397
Cooperage and wooden goods, not elsewhere specified.	1909 1904 1899	11 15 23	321 416 370	8 14 23	31 28 12	282 374 335	861	1,197 671 356	53 41 14	220 287 217	1,184 874 823	1,604 1,340 1,200	410 466 377
Copper, tin, and sheet-iron products....	1909 1904 1899	71 50 27	1,336 1,614	130 63	138 85 63	1,068 1,466 1,420	681	5,191 8,924 2,170	202 193 66	947 901 715	1,872 2,641 2,937	3,645 4,529 4,399	1,773 1,888 1,412
Electrical machinery, apparatus, and supplies.	1909 1904 1899	10 13 5	160 294 212	7 2 2	24 59 17	129 233 193	114	163 302 59	30 59 15	77 134 96	143 149 274	322 420 406	179 271 132
Electroplating.....	1909 1904 1899	5 4 4	42 38	5 5	19 3	27 30	59	84 15	7 3	24 25	23 18	70 81	47 68
Flour-mill and gristmill products.....	1909 1904 1899	9 9 8	172 314	6 6	59 97 35	107 211 171	1,225	1,532 2,409 898	84 150 55	80 153 107	2,403 2,780 1,584	2,781 3,423 1,956	378 643 422
Food preparations.....	1909 1904 1899	31 38 28	499 379	61 65	108 53 23	330 261 219	900	1,956 339 312	129 47 24	192 114 107	1,679 999 747	2,436 999 747	757 362 338

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

TABLE II.—DETAIL STATEMENT FOR

Table with columns for Industry, Persons Engaged in Industry (Total, Proprietors, Salaried officers, Clerks, Wage earners), Wage Earners (Total, 16 and over, Under 16), and Primary horse-power. Rows include various manufacturing sectors like Agricultural implements, Automobiles, and Lumber.

1 No figures given for reasons explained in the Introduction.

MANUFACTURES—CALIFORNIA.

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THE STATE, BY INDUSTRIES: 1909.

No.	Capital.	EXPENSES.										Value of products.	Value added by manufacture.
		Total.		Services.			Materials.		Miscellaneous.				
		Total.	Officals.	Clerks.	Wage earners.	Fuel and rent of power.	Other.	Rent of factory.	Taxes, including internal revenue.	Contract work.	Other.		
1	\$537,134,359	\$470,154,254	\$11,108,478	\$11,788,939	\$84,141,477	\$13,077,882	\$312,160,192	\$3,651,151	\$8,121,203	\$2,195,153	\$29,851,779	\$520,760,528	\$204,522,454

* Same number reported for one or more other months.

MANUFACTURES—CALIFORNIA.

TABLE II.—DETAIL STATEMENT FOR THE

INDUSTRY.	Number of establishments	PERSONS ENGAGED IN INDUSTRY.										WAGE EARNERS—NUMBER DEC. 15, OR NEAREST REPRESENTATIVE DAY.					Primary horse-power.	
		Total.	Proprietors and firm members.	Clerks.		Average number.	Wage earners.				Total.	16 and over.		Under 16.				
				Male.	Female.		Number.		Male.	Female.		Male.	Female.					
							Maximum month.	Minimum month.										
1 Marble and stone work.....	128	1,724	155	65	75	14	1,415	Ja	1,501	No	1,344	1,442	1,440	.....	2	.....	3,562
2 Mattresses and spring beds.....	35	671	25	45	45	28	528	No	588	Ap	495	589	517	62	9	1	727	
3 Millinery and lace goods.....	23	227	24	13	16	8	166	De	214	Je	61	238	83	150	.....	5	110
4 Mirrors.....	6	56	7	1	.....	2	46	Oc ¹	47	Ja	43	45	45	.....	.....	.....	110
5 Models and patterns, not including paper patterns.	26	135	36	.....	5	1	93	No	100	Jy	87	93	74	13	6	.....	193
6 Musical instruments and materials, not specified.	5	14	6	.....	.....	.....	8	Ja ²	8	Jy ²	8	9	9	.....	.....	.....	.....
7 Musical instruments, pianos and organs and materials.	11	78	9	8	2	2	57	Ja	74	Se	49	55	55	.....	.....	.....	53
8 Optical goods.....	6	59	7	4	10	6	32	My ¹	33	Ap ¹	31	32	31	.....	1	.....	14
9 Paint and varnish.....	35	530	14	54	51	15	396	Jy	440	Ja	357	378	353	21	4	.....	1,387
10 Paper and wood pulp.....	4	340	2	10	11	5	312	De	330	Oc	285	330	324	6	.....	.....	7,103
11 Paper goods, not elsewhere specified.	8	127	3	10	6	7	101	No	112	Se	94	117	52	65	.....	.....	86
12 Patent medicines and compounds and druggists' preparations.	89	574	56	61	55	92	310	My ¹	315	Je	304	329	159	160	6	4	347
13 Petroleum, refining.....	20	1,146	4	66	119	27	930	No	974	Mh	862	948	947	1	.....	.....	5,630
14 Photo-engraving.....	20	274	21	25	22	16	190	Fe ¹	199	Jy	150	200	190	5	5	.....	119
15 Pottery, terra-cotta, and fire-clay products.	26	1,167	12	46	71	11	1,027	Au	1,120	Ja	879	1,133	1,124	6	3	.....	2,856
16 Printing and publishing.....	1,240	12,215	1,151	652	2,209	647	7,556	De	7,925	Ja	7,350	7,967	6,525	1,253	178	11	7,074
17 Pumps, not including steam pumps.	6	66	4	5	6	1	50	Se	59	Ja	47	48	48	.....	.....	.....	128
18 Rubber goods, not elsewhere specified.	5	103	.....	9	15	5	74	Oc	88	De	61	61	42	19	.....	.....	209
19 Salt.....	19	469	22	23	18	4	402	No	519	Fe	313	408	464	4	.....	.....	1,228
20 Shipbuilding, including boat building.	43	2,006	39	48	67	8	1,844	No.	2,553	My	1,512	2,386	2,378	2	6	.....	3,129
21 Show cases.....	11	66	15	2	1	1	47	Ja ¹	56	Au	39	54	54	.....	.....	.....	82
22 Signs and advertising novelties.....	8	67	7	4	9	.....	47	De	59	Oc	44	56	54	2	.....	.....	24
23 Silverware and plated ware.....	3	16	4	.....	1	.....	11	Ja ²	11	Jy ²	11	11	11	.....	.....	.....	9
24 Slaughtering and meat packing.	94	2,135	111	105	249	29	1,641	De	1,709	Je	1,586	1,723	1,678	31	13	1	3,897
25 Stereotyping and electrotyping.....	3	29	6	4	1	2	16	Se ¹	17	Ja ¹	15	16	16	.....	.....	.....	42
26 Stoves and furnaces, including gas and oil stoves.	17	266	11	11	25	4	215	No	248	Je	185	244	242	.....	2	.....	152
27 Sulphuric, nitric, and mixed acids.....	6	247	.....	11	16	3	217	Fe	230	Au	203	210	210	.....	.....	.....	735
28 Surgical appliances and artificial limbs.	13	62	12	4	4	.....	42	Ja ¹	45	Au ¹	39	39	33	5	1	.....	26
29 Tobacco manufactures.....	332	2,189	613	41	62	8	1,465	Mh	1,499	Au	1,423	1,541	1,189	316	28	8	71
30 Typefounding and printing materials.	3	21	.....	4	4	1	12	De	14	Ja ¹	10	13	11	1	1	.....	21
31 Umbrellas and canes.....	4	10	5	.....	.....	.....	5	De	6	Ja ¹	5	6	2	4	.....	.....	2
32 Wall plaster.....	7	78	1	11	10	2	54	Au	63	Mh	36	68	68	.....	.....	.....	701
33 Whips.....	3	13	3	.....	1	.....	9	Ja ²	9	Jy ²	9	9	9	.....	.....	.....	.....
34 All other industries ²	554	12,282	551	506	1,080	306	9,339	.....	.....	.....	.....	.....	.....	.....	.....	.....	44,111

¹ Same number reported for one or more other months.

² Same number reported throughout the year.

³ All other industries embrace—

Artificial flowers and leathers and plumes.....	2	Cordage and twine and jute and linen goods.....	2	Glue.....	3
Awnings, tents, and sails.....	27	Cordials and sirups.....	7	Gold and silver, leaf and foil.....	2
Axle grease.....	1	Corsets.....	2	Gold and silver, reducing and refining, not from the ore.....	1
Bags, other than paper.....	7	Dyestuffs and extracts.....	1	Grease and tallow.....	7
Bags, paper.....	2	Engraving and diesinking.....	5	Hair work.....	12
Baking powders and yeast.....	4	Explosives.....	2	Hat and cap materials.....	1
Beet sugar.....	9	Files.....	1	Hats, fur-felt.....	2
Belting and hose, woven and rubber.....	1	Fireworks.....	1	House-furnishing goods, not elsewhere specified.....	3
Bluing.....	1	Flavoring extracts.....	17	Ink, printing.....	2
Candle.....	2	Foundry supplies.....	2	Ink, writing.....	1
Carrriages and sleds, children's.....	1	Fuel, manufactured.....	3	Instruments, professional and scientific.....	8
Cash registers and calculating machines.....	1	Galvanizing.....	2	Iron and steel, bolts, nuts, washers, and rivets, not made in steel works or rolling mills.....	1
Charcoal.....	1	Glass.....	3	Iron and steel forgings.....	3
Chocolate and cocoa products.....	2	Glass, cutting, staining, and ornamenting.....	28	.....	.....
Clocks and watches, including cases and materials.	2	Glucose and starch.....	1	.....	.....

MANUFACTURES—CALIFORNIA.

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	\$3,144,882	\$2,800,227	\$125,548	\$84,740	\$1,241,205	\$66,234	\$1,116,301	\$27,370	\$15,804	\$113,542	\$99,177	\$3,370,715	\$2,197,180
2	1,351,331	2,001,328	62,788	66,034	360,038	16,333	1,227,112	42,300	4,400	135	201,486	2,163,914	920,409
3	288,883	374,585	17,180	10,551	80,016	3,077	215,338	15,625	340	.....	19,540	412,582	194,167
4	133,740	163,710	2,400	635	44,990	4,400	100,057	1,380	2,318	1,020	6,504	185,806	81,943
5	72,420	151,422	.....	3,400	77,870	3,830	48,342	10,507	254	254	6,803	104,805	142,627
6	10,220	10,807	.....	.....	6,534	36	2,005	812	100	.....	441	10,103	13,107
7	180,183	135,099	12,301	1,485	60,403	2,104	38,770	4,070	845	.....	15,010	150,308	109,338
8	79,622	114,354	6,200	12,800	23,846	1,219	59,092	4,770	375	.....	5,056	137,505	77,284
9	2,074,066	3,244,074	104,140	54,041	275,177	35,560	2,014,528	10,188	8,785	267	133,382	3,758,090	1,105,090
10	2,008,048	757,108	25,840	10,410	206,622	60,432	340,903	2,505	0,554	.....	64,872	989,172	528,777
11	185,020	204,660	0,093	5,740	58,170	6,138	94,075	6,101	.....	.....	24,121	223,528	122,415
12	993,937	1,254,317	113,832	97,751	147,931	10,066	628,885	30,888	6,954	430	211,580	1,548,077	910,026
13	13,880,760	15,812,473	211,843	155,643	890,504	1,180,787	12,710,934	20,400	62,137	280	664,030	17,878,006	3,980,235
14	224,001	373,001	30,445	27,500	195,500	7,577	55,802	18,835	803	1,070	25,620	444,933	381,404
15	3,545,162	1,534,081	104,303	80,012	641,227	248,443	250,746	2,200	21,144	8,310	171,681	1,707,120	1,201,940
16	17,107,809	21,017,808	1,253,099	2,575,235	6,432,161	240,418	0,077,485	595,771	72,468	807,204	2,053,577	25,031,877	18,704,574
17	171,082	137,019	10,200	5,500	43,407	2,444	39,391	3,512	532	21,080	10,053	167,233	126,398
18	235,320	294,365	15,000	21,441	60,000	4,000	163,975	4,234	812	.....	23,313	323,727	153,763
19	2,022,693	570,661	34,960	20,670	211,673	26,925	215,420	21,675	3,656	.....	43,733	746,211	503,860
20	8,320,206	3,948,413	122,450	13,167	1,592,211	73,460	1,163,680	23,062	24,315	273,100	582,300	4,132,170	2,895,127
21	110,155	135,140	2,016	900	46,626	2,707	72,470	3,733	626	.....	5,072	154,418	70,145
22	51,333	103,745	7,278	9,685	40,041	2,098	20,180	3,778	208	600	4,373	118,850	86,900
23	12,830	20,085	.....	1,640	8,200	464	6,145	2,775	20	.....	835	25,190	18,581
24	11,403,407	31,533,926	246,164	303,557	1,308,840	184,794	28,263,293	49,849	41,875	3,743	1,133,855	34,280,003	5,831,046
25	60,981	60,670	5,880	1,952	11,647	2,258	19,690	3,036	114	.....	10,093	72,021	50,064
26	412,835	460,368	15,745	26,926	173,591	0,070	100,800	7,782	1,450	2,005	20,483	514,187	308,311
27	2,014,500	1,112,402	38,020	19,205	172,804	105,811	634,504	.....	8,880	.....	133,109	1,160,937	420,622
28	40,241	94,082	3,915	3,000	31,541	995	31,230	6,370	309	.....	16,653	114,251	82,026
29	1,622,147	2,820,358	65,069	67,005	857,260	4,023	1,212,923	77,755	280,405	10,107	245,148	3,360,495	2,143,540
30	43,608	40,450	3,120	1,070	0,709	619	20,243	2,080	137	.....	3,412	44,695	23,833
31	5,560	8,980	.....	.....	2,974	27	3,151	2,524	28	.....	276	12,174	8,996
32	342,301	212,544	10,902	6,679	67,533	13,642	95,613	1,500	1,100	.....	10,479	186,655	77,400
33	55,025	13,343	.....	576	5,504	43	5,215	300	187	.....	1,518	18,850	13,592
34	140,057,235	108,682,068	1,357,803	1,550,600	7,100,537	2,334,923	91,740,494	309,022	317,510	26,423	3,782,837	120,325,916	20,250,589

* All other industries embrace—Continued.

Iron and steel pipe, wrought.....	4	Photographic apparatus and materials.....	4	Stationery goods, not elsewhere specified.....	1
Jewelry and instrument cases.....	3	Pipes, tobacco.....	1	Statuary and art goods.....	17
Kaolin and ground earths.....	2	Roofing materials.....	7	Steam packing.....	2
Labels and tags.....	5	Safes and vaults.....	2	Sugar, refining, not including beet sugar.....	2
Lead, bar, pipe, and sheet.....	1	Saws.....	1	Typewriters and supplies.....	2
Looking-glass and picture frames.....	10	Scales and balances.....	1	Upholstering materials.....	5
Malt.....	4	Shoddy.....	1	Vault lights and ventilators.....	1
Matches.....	4	Silk and silk goods, including throwsters.....	3	Vinegar and cider.....	14
Mineral and soda waters.....	154	Smelting and refining, copper.....	3	Washing machines and clothes wringers.....	2
Mucilage and paste.....	3	Smelting and refining, lead.....	2	Window shades and fixtures.....	10
Oakum.....	2	Smelting and refining, not from the ore.....	1	Wirework, including wire rope and cable.....	20
Oil, essential.....	1	Soap.....	23	Wood, turned and carved.....	15
Oil, not elsewhere specified.....	8	Soda-water apparatus.....	2	Wood pulling.....	1
Paving materials.....	1	Sporting and athletic goods.....	3	Wool scouring.....	3
Pens, fountain, stylographic, and gold.....	1	Springs, steel, car and carriage.....	1	Woolen, worsted, and felt goods, and wool hats... 5	

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.

LOS ANGELES.

Table for Los Angeles showing Capital, Expenses (Total, Services, Materials, Miscellaneous), Value of products, and Value added by manufacture. Includes columns for Officials, Clerks, Wage earners, Fuel and rent of power, Other, Rent of factory, Taxes, Contract work, and Other.

and instrument cases, 1; labels and tags, 1; lapidary work, 10; looking-glass and picture frames, 6; millinery and lace goods, 6; mineral and soda waters, 6; mirrors, 2; muckage and paste, 2; musical instruments and materials, not specified, 3; musical instruments, pianos and organs and materials, 2; oil, not elsewhere specified, 1; optical goods, 1; paper and wood pulp, 1; pens, fountain, stylographic, and gold, 1; photographic apparatus and materials, 2; photo-engraving, 7; pipes, tobacco, 1; pumps, not including steam pumps, 2; rubber goods, not elsewhere specified, 1; scales and balances, 1; shipbuilding, including boat building, 6; show cases, 3; signs and advertising novelties, 3; soap, 6; soda-water apparatus, 2; stationary and art goods, 5; stereotyping and electrotyping, 1; stoves and furnaces, including gas and oil stoves, 7; sulphuric, nitric, and mixed acids, 1; type founding and printing materials, 1; umbrellas and canes, 3; upholstering materials, 1; vinegar and cider, 1; wall plaster, 2; whips, 2; window shades and fixtures, 3; wirework, including wire rope and cable, 5; wood, turned and carved, 6; woolen, worsted, and felt goods, and wool hats, 2.

OAKLAND.

Table for Oakland showing Capital, Expenses, Value of products, and Value added by manufacture. Columns include Capital, Total, Services, Materials, Miscellaneous, Value of products, and Value added by manufacture.

and tallow, 1; hand stamps and stencils and brands, 2; ice, manufactured, 3; iron and steel, steel works and rolling mills, 1; jewelry, 3; leather goods, 3; leather, tanned, curried, and finished, 1; liquors, vinous, 1; marble and stone work, 2; mattresses and spring beds, 6; millinery and lace goods, 3; mineral and soda waters, 4; mirrors, 1; models and patterns, not including paper patterns, 3; optical goods, 1; paint and varnish, 6; paper goods, not elsewhere specified, 1; patent medicines and compounds and druggists' preparations, 4; photo-engraving, 1; safes and vaults, 1; slaughtering and meat packing, 7; shipbuilding, including boat building, 6; show cases, 2; silverware and plated ware, 2; smelting and refining, not from the ore, 1; stationary and art goods, 1; stoves and furnaces, including gas and oil stoves, 3; sulphuric, nitric, and mixed acids, 1; surgical appliances and artificial limbs, 2; upholstering materials, 1; washing machines and clothes wringers, 1; window shades and fixtures, 4; wirework, including wire rope and cable, 4; wood, turned and carved, 2.

MANUFACTURES—CALIFORNIA.

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.

SAN FRANCISCO.

Table with columns: INDUSTRY AND CITY, Persons Engaged in Industry (Total, Proprietors, Salaried officials, Clerks, Wage earners), Wage Earners—Number Dec. 15, or Nearest Representative Day (Total, 16 and over, Under 16), Primary horse-power.

1 All other industries embrace: Automobiles, including bodies and parts, 5; awnings, tents, and sails, 4; axle grease, 1; babbitt metal and solder, 3; bags, other than paper, 5; bags, paper, 1; baking powders and yeast, 2; blacking and cleansing and polishing preparations, 3; bluing, 1; boxes, cigar, 1; brick and tile, 2; brooms, 7; brushes, 2; buttons, 2; candles, 1; carpets, rag, 4; carriages and sleds, children's, 1; cars and general shop construction and repairs by steam-railroad companies, 2; cars and general shop construction and repairs by street-railroad companies, 4; cars, steam-railroad, not including operations of railroad companies, 1; cement, 1; chocolate and cocoa products, 2; clocks and watches, including cases and materials, 2; cordage and twine and jute and linen goods, 1; cordials and sirups, 4; corsets, 1; cutlery and tools, not elsewhere specified, 3; dairymen's, poultrymen's, and apiarists' supplies, 2; engraving and diecasting, 2; fancy articles, not elsewhere specified, 1; fertilizers, 2; files, 1; fireworks, 1; flags, banners, regalia, society badges, and emblems, 3; flavoring extracts, 3; foundry supplies, 2; fur goods, 7; galvanizing, 2; gas, illuminating and heating, 3; glass, 2; glass, cutting, staining, and ornamenting, 12; glue, 3; gold and silver, reducing and refining, not from the ore, 1; grease and tallow, 4; hair work, 4; hats and caps, other than felt, straw, and wool, 4; hats, fur-felt, 2; hosiery and knit goods, 3; house-furnishing goods, not elsewhere specified, 2; ink, printing, 1; instruments, professional and scientific, 4; 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, 2; jewelry

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

Table listing data for cities of 10,000 to 50,000 inhabitants: ALAMEDA, BAKERSFIELD, BERKELEY, EUREKA, FRESNO, LONG BEACH, PASADENA, POMONA, REDLANDS, RIVERSIDE, SACRAMENTO, SAN BERNARDINO, SAN DIEGO, SAN JOSE, SANTA BARBARA, SANTA CRUZ, STOCKTON, VALLEJO. Columns include industry categories and counts.

MANUFACTURES—CALIFORNIA.

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.

SAN FRANCISCO.

	EXPENSES.										Value of products.	Value added by manufacture.	
	Capital.	Services.					Materials.		Miscellaneous.				
		Total.	Officials.	Clerks.	Wage earners.	Fuel and rent of power.	Other.	Rent of factory.	Taxes, including internal revenue.	Contract work.			Other.
1	\$133,823,673	\$119,782,203	\$3,588,131	\$4,497,432	\$22,381,452	\$2,275,306	\$73,942,015	\$1,779,773	\$1,139,233	\$1,124,547	\$9,054,264	\$133,041,069	\$56,823,748
2	77,670	123,474	8,425	965	60,630	488	49,843	4,011	170	.....	3,036	151,227	100,896
3	107,397	191,241	8,400	2,800	49,087	742	117,050	7,340	397	.....	4,825	210,617	92,225
4	172,973	253,045	15,000	10,785	26,302	2,910	170,334	4,920	958	.....	13,040	291,449	169,160
5	672,102	857,500	21,800	13,832	203,853	5,430	547,640	12,440	2,136	.....	50,463	976,361	423,385
6	310,858	460,289	20,020	15,001	141,027	4,302	210,227	10,853	507	1,360	44,827	490,020	275,407
7	182,643	322,630	14,561	7,091	115,965	13,234	151,059	11,748	730	100	3,133	355,076	161,083
8	3,512,789	4,556,077	109,825	128,612	1,002,810	88,562	2,370,703	95,802	10,800	.....	242,373	5,208,132	2,302,867
9	10,725	41,662	.....	.....	3,425	72	36,087	1,800	7	.....	1,211	46,000	11,441
10	3,342,797	4,324,425	95,746	75,385	330,939	30,308	3,451,850	26,535	11,200	24,791	223,575	4,775,955	1,269,797
11	450,930	486,463	25,840	10,156	204,398	14,745	170,732	26,815	1,590	3,380	22,780	552,212	360,735
12	1,425,269	846,831	13,200	10,980	62,856	43,660	583,733	.....	5,002	.....	96,464	938,462	810,763
13	1,637,274	3,332,178	52,070	73,707	727,463	13,717	2,992,461	60,381	5,526	107,099	198,864	3,682,468	1,570,290
14	463,342	1,077,201	10,590	61,585	232,131	7,741	639,052	23,143	1,349	13,044	63,390	1,224,563	577,170
15	2,440,324	4,049,744	92,084	334,987	152,077	24,506	3,524,062	57,338	8,318	.....	456,502	4,972,730	1,423,831
16	432,202	229,441	9,570	6,108	39,132	2,790	149,497	1,200	2,465	4,170	14,503	271,520	119,239
17	1,151,450	1,532,208	70,572	67,107	249,427	25,479	964,643	58,049	3,044	.....	154,482	1,717,598	783,071
18	1,196,560	1,546,173	32,474	20,772	219,538	3,585	1,190,793	9,948	5,250	.....	63,807	1,603,925	499,547
19	5,190,542	3,322,038	123,387	78,141	947,381	29,725	1,842,007	58,716	8,545	4,782	220,954	3,044,658	1,772,926
20	163,140	284,543	17,675	12,820	77,311	3,230	139,482	9,560	300	900	23,290	322,040	179,319
21	34,215	62,298	3,076	3,857	24,404	3,672	10,717	3,512	147	.....	3,013	60,873	46,484
22	1,523,348	2,650,901	25,932	58,191	88,651	21,017	2,380,815	4,300	2,069	.....	67,020	2,781,354	378,022
23	1,956,210	2,188,807	68,089	59,907	191,604	23,217	1,655,517	19,480	3,791	.....	160,642	2,435,567	753,833
24	10,849,081	9,150,014	437,633	296,067	2,689,886	175,278	4,725,995	149,074	32,713	60,860	574,708	9,622,461	4,721,128
25	241,904	488,355	5,400	15,110	42,650	660	397,717	6,023	979	.....	49,787	504,368	195,982
26	2,180,051	2,750,576	84,562	56,088	1,016,633	34,018	1,301,044	88,705	0,024	31,138	130,774	3,057,400	1,721,738
27	1,129,061	846,788	52,837	60,810	256,813	12,106	417,610	14,939	2,462	.....	20,115	917,325	487,513
28	323,662	265,071	6,170	13,030	79,493	1,118	147,224	2,806	327	900	13,013	360,040	152,298
29	109,063	147,611	13,773	23,492	52,447	1,371	42,250	12,303	125	.....	1,850	161,301	117,680
30	1,669,395	211,117	15,080	9,140	69,140	59,092	13,644	.....	5,370	8,618	32,283	229,277	
31	221,460	1,013,230	21,120	15,817	366,894	8,231	403,001	.....	34,520	561	72,396	1,121,161	619,220
32	724,691	696,003	22,793	32,691	203,539	3,639	344,754	18,520	1,897	.....	68,120	842,770	494,333
33	2,479,329	3,237,725	70,102	18,800	415,317	30,006	2,624,030	1,860	4,670	.....	122,425	3,622,171	967,520
34	7,567,270	2,971,409	129,150	91,187	508,241	81,183	1,814,106	12,810	400,327	.....	838,495	3,482,492	3,482,203
35	137,776	219,564	6,700	11,900	14,320	540	134,441	6,120	8,708	.....	38,135	236,821	102,240
36	2,892,701	4,081,117	179,353	95,310	1,346,671	40,941	2,992,442	115,084	11,721	2,910	196,085	4,377,645	2,244,202
37	1,221,483	1,529,253	63,258	64,312	419,111	24,830	772,530	17,036	6,357	100,079	52,231	1,634,982	837,013
38	783,039	985,084	43,733	33,932	172,549	8,038	568,358	22,998	2,133	.....	133,713	1,030,290	459,900
39	212,443	254,219	10,800	9,010	69,639	2,152	140,102	11,070	191	.....	18,355	298,861	120,607
40	67,890	127,558	.....	3,460	66,073	3,250	41,200	0,989	170	254	6,102	153,149	108,639
41	60,223	39,320	2,800	530	17,809	681	13,182	1,170	351	.....	2,743	53,556	39,693
42	728,875	622,960	38,660	18,222	60,459	10,819	445,077	8,220	2,453	.....	30,050	757,934	362,038
43	644,029	838,154	82,285	71,058	82,223	6,381	373,677	21,904	4,303	340	105,383	939,002	609,004
44	108,302	269,437	20,380	17,704	105,201	4,063	29,872	10,150	273	.....	21,758	228,051	194,086
45	7,100,659	10,650,230	577,082	1,317,569	3,094,155	99,065	3,050,810	270,640	17,519	568,884	1,709,903	12,201,232	9,044,757
46	84,135	57,900	1,716	900	29,897	564	27,864	2,100	122	.....	3,737	63,303	34,875
47	2,050,492	9,742,956	67,935	67,439	337,397	39,932	8,803,080	31,920	7,228	.....	827,369	10,269,912	1,300,244
48	855,225	1,524,946	35,081	49,032	423,760	2,111	612,261	35,408	181,835	10,062	174,143	1,833,293	1,218,831
49	63,004,994	33,717,795	740,704	1,060,211	5,214,062	1,268,780	22,548,318	388,431	234,665	2,047,721	38,163,420	14,346,322	

and instrument cases, 2; kaolin and ground earths, 1; labels and tags, 3; lapidary work, 3; lead, bar, pipe, and sheet, 1; looking-glass and picture frames, 8; malt, 3; mineral and soda waters, 14; mirrors, 3; musical instruments and materials, not specified, 2; oakum, 2; oil, not elsewhere specified, 4; optical goods, 3; paper goods, not elsewhere specified, 6; photographic apparatus and materials, 2; pumps, not including steam pumps, 2; roofing materials, 1; rubber goods, not elsewhere specified, 3; safes and vaults, 1; saws, 1; shipbuilding, including boat building, 10; shoddy, 1; signs and advertising novelties, 4; silk and silk goods, including throwsters, 1; silverware and plated ware, 1; soap, 8; sporting and athletic goods, 3; springs, steel, ear, and carriage, 1; stationary goods, not elsewhere specified, 1; statutory and art goods, 9; steam packing, 2; stereotyping and electrotyping, 2; stoves and furnaces, including gas and oil stoves, 4; sugar, refining, not including beet sugar, 1; sulphuric, nitric, and mixed acids, 1; surgical appliances and artificial limbs, 4; type founding and printing materials, 2; typewriters and supplies, 1; upholstering materials, 3; vault lights and ventilators, 1; vinegar and cider, 2; wall plaster, 3; whips, 1; window shades and fixtures, 6; wirework, including wire rope and cable, 5; wood, turned and carved, 4; wool scouring, 1.

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

1	\$3,002,220	\$2,307,413	\$105,410	\$65,482	\$796,947	\$57,775	\$871,678	\$10,002	\$24,747	\$8,226	\$360,346	\$2,554,417	\$1,625,064
2	1,791,474	2,535,056	42,180	51,043	664,325	65,309	1,041,202	6,981	12,535	.....	106,671	2,818,744	1,119,053
3	3,464,093	4,134,822	117,095	136,267	836,063	83,963	2,592,000	30,445	27,063	2,060	294,141	4,435,374	1,748,496
4	3,300,220	2,710,000	67,009	65,076	673,243	42,181	1,451,804	12,632	45,044	133,326	237,785	3,011,682	1,517,697
5	4,933,094	10,377,223	191,501	136,679	1,102,582	148,805	7,843,425	46,384	170,380	12,954	724,453	11,090,195	3,097,905
6	1,325,876	847,008	34,386	52,763	200,975	54,355	444,015	11,638	11,755	.....	838	927,180	428,810
7	1,346,992	1,474,303	50,045	67,480	379,076	42,270	811,128	31,860	11,355	15,810	64,462	1,724,304	870,960
8	620,860	447,841	6,520	15,412	152,413	25,077	205,269	6,860	4,914	.....	31,870	550,661	329,315
9	1,104,473	427,272	21,048	25,349	100,327	29,557	209,040	6,819	6,239	207	28,578	518,320	279,715
10	1,101,927	1,000,010	18,429	31,112	213,594	43,016	624,222	8,608	7,036	2,095	51,898	1,177,092	510,724
11	10,097,168	12,783,480	345,551	270,664	3,017,667	334,236	6,559,262	75,591	226,333	22,734	1,031,442	13,976,911	7,088,423
12	1,242,110	1,559,630	25,793	68,707	639,070	65,841	694,443	6,800	10,104	.....	39,932	1,650,705	896,421
13	5,325,551	4,000,102	127,845	135,097	903,379	101,464	2,555,396	56,800	65,301	6,422	225,380	4,740,900	2,740,130
14	3,815,492	5,058,338	126,621	122,265	306,248	139,308	3,106,181	51,453	220,791	12,534	372,347	5,610,427	2,307,348
15	894,508	1,034,458	34,027	29,103	190,864	30,							

COLORADO.

INDUSTRIES IN GENERAL.

General character of the state.—Colorado, situated partly within the Great Western Plain and partly in the wooded region of the Rocky Mountain section, with a land area of 103,658 square miles, is seventh in size among the states and territories of continental United States. Its population in 1910 was 799,024, as compared with 539,700 in 1900 and 413,249 in 1890. It ranked thirty-second among the 49 states and territories as regards population in 1910, which position it also held in 1900. The density of population for the state in 1910 was 7.7 persons per square mile, the corresponding figures for 1900 and 1890 being 5.2 and 4, respectively. Of the entire population of the state, 50.7 per cent resided in incorporated cities and towns having a population of 2,500 inhabitants or over, as against 48.3 per cent in 1900.

Denver, with a population of 213,381, was the only city in the state having over 50,000 inhabitants. There were three cities—Pueblo, Colorado Springs, and Trinidad—each having a population of less than 50,000 but exceeding 10,000. Eliminating the four cities mentioned, only 13.5 per cent of the population resided in incorporated places of 2,500 and over in 1910, and only 10.5 per cent in 1900. The transportation facilities of the state are good, Denver being a terminal and radial point for most of the main lines of the Rocky Mountain region.

Importance and growth of manufactures.—Colorado is preeminently a mining state, but at each census from 1869 to 1899 the proportion which the value of its manufactures formed of the total value of the manufac-

tures of the United States increased steadily. Since 1899, however, this proportion has decreased, being eight-tenths of 1 per cent in that year, seven-tenths of 1 per cent in 1904, and six-tenths of 1 per cent in 1909. During this period of 40 years the gross value of products per capita of the entire population of the state increased from \$72 in 1869 to \$163 in 1909.

Much of the manufacturing activity of the state, such as smelting, iron and steel operations, cement manufacture, and marble and stone work, is dependent upon the development of its extensive mineral resources. Furthermore, many manufacturing establishments owe their existence to the needs of the mining industry.

Irrigation of the fertile valleys of the Platte and Arkansas Rivers and other streams has made the beet-sugar production of Colorado greater than that of any other state. The canning industry is also the outgrowth of the development of irrigation in the state. Coal and timber as fuel for industrial consumption and timber as manufacturing material are abundant, and in general accessible.

The fact that Colorado is a natural grazing country has been responsible for the development of such industries as slaughtering and meat packing, the manufacture of butter, cheese, and condensed milk, the rendering of grease and tallow, and wool scouring.

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.....	2,034	1,606	1,323	26.6	21.4
Persons engaged in manufactures.....	34,115	25,888	(¹)	31.8	.....
Proprietors and firm members.....	1,722	1,398	(¹)	23.2	.....
Salaried employees.....	4,326	2,677	1,870	61.6	43.2
Wage earners (average number).....	28,067	21,813	19,498	28.7	11.9
Primary horsepower.....	154,615	124,907	43,434	23.8	187.6
Capital.....	\$102,668,000	\$107,664,000	\$58,173,000	51.1	85.1
Expenses.....	114,690,000	88,282,000	77,748,000	29.9	13.5
Services.....	25,560,000	18,649,000	13,767,000	37.1	35.5
Salaries.....	5,648,000	3,549,000	2,059,000	59.1	72.4
Wages.....	19,912,000	15,100,000	11,708,000	31.9	29.0
Materials.....	80,491,000	63,114,000	60,751,000	27.5	3.9
Miscellaneous.....	8,639,000	6,519,000	3,230,000	32.5	101.8
Value of products.....	130,044,000	100,144,000	89,068,000	29.9	12.4
Value added by manufacture (value of products less cost of materials).....	49,553,000	37,030,000	28,317,000	33.8	30.8

¹ Figures not available.

In 1909 the state of Colorado had 2,034 manufacturing establishments, which gave employment to an average of 34,115 persons during the year and paid

out \$25,560,000 in salaries and wages. Of the persons employed, 28,067 were wage earners. These establishments turned out products to the value of

\$130,044,000, to produce which materials costing \$80,491,000 were utilized. The value added by manufacture was thus \$49,553,000, 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 Colorado 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 26.7 per cent and the average number of wage earners 28.6 per cent,

while the value of products increased 29.9 per cent and the value added by manufacture 33.8 per cent. It is interesting to note that the percentage of increase for total expenses from 1904 to 1909, 29.9, is exactly the same as that shown for value of products and that the percentages of increase for number of establishments, average number of wage earners, and cost of materials vary but little from that percentage. No decreases are shown for either five-year period.

The relative importance and growth of a number 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.....	2,034	28,067	100.0	\$130,044,000	100.0	\$49,553,000	100.0	29.9	12.4	33.8	30.8
Slaughtering and meat packing.....	13	659	2.3	9,657,000	7.4	1,302,000	2.7	190.5	-23.5	151.3	-12.9
Flour-mill and gristmill products.....	77	282	1.0	7,868,000	6.1	1,196,000	2.4	36.1	30.2	21.3	40.7
Printing and publishing.....	439	2,366	8.4	6,962,000	5.4	5,156,000	10.4	27.3	47.0	24.1	44.6
Cars and general shop construction and repairs by steam-railroad companies.....	29	3,993	14.2	6,559,000	5.0	3,955,000	8.0	24.7	67.4	52.3	39.3
Foundry and machine-shop products.....	111	1,813	6.5	5,907,000	4.5	3,103,000	6.3				
Lumber and timber products.....	263	2,190	7.8	4,185,000	3.2	2,789,000	5.6	67.6	-5.3	64.9	9.9
Bread and other bakery products.....	250	889	3.2	3,966,000	3.1	1,672,000	3.4	49.4	65.3	42.9	57.7
Liquors, malt.....	11	424	1.5	3,311,000	2.5	2,494,000	4.9	56.2	3.8	44.6	-0.3
Butter, cheese, and condensed milk.....	89	210	0.7	2,340,000	1.8	416,000	0.8				
Brick and tile.....	69	922	3.3	1,670,000	1.3	1,159,000	2.3	104.4	64.4	77.5	58.9
Canning and preserving.....	30	518	1.8	1,528,000	1.2	856,000	1.7	86.1	102.2	118.4	151.3
Leather goods.....	30	269	1.0	1,054,000	0.8	515,000	1.0	32.7	30.5	61.4	67.1
Confectionery.....	35	349	1.2	1,023,000	0.8	492,000	1.0	49.3	63.1	28.8	100.5
Tobacco manufactures.....	99	427	1.5	1,021,000	0.8	663,000	1.3	4.3	44.0	3.1	44.2
Marble and stone work.....	44	267	1.0	626,000	0.5	406,000	0.8		-10.1	2.8	-16.3
Ice, manufactured.....	30	251	0.9	570,000	0.4	444,000	0.9	51.6	84.3	45.6	76.3
Furniture and refrigerators.....	14	176	0.6	542,000	0.4	285,000	0.6	25.5		12.2	
Pottery, terra-cotta and fire-clay products.....	6	214	0.8	436,000	0.3	328,000	0.7	-44.6	37.1	-33.2	18.9
All other industries.....	445	11,848	42.2	70,816,000	54.5	22,352,000	45.1				

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.

In addition to the 18 industries presented separately, there are 18 others which had a value of products in 1909 in excess of \$400,000. They are included under the head of "All other industries" in the table, because in some cases the operations of individual establishments would be disclosed if they were shown separately; in others, the returns do not present properly the true condition of the industry, for the reason that it is more or less interwoven with one or more industries of similar character; while for others, comparable statistics for the different census years can not be presented without disclosing the operations of individual establishments, or on account of changes in classification. These industries are: Awnings, tents,

and sails; beet sugar; cars, steam-railroad, not including operations of railroad companies; cement; clothing, men's, including shirts; coffee and spice, roasting and grinding; coke; explosives; food preparations; iron and steel, blast furnaces; iron and steel, steel works and rolling mills; mineral and soda waters; paint and varnish; petroleum, refining; smelting and refining, copper; smelting and refining, lead; smelting and refining, zinc; and sulphuric, nitric, and mixed acids.

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

Slaughtering and meat packing.—This industry is the most important for which figures can be shown separately. It includes wholesale slaughtering and meat-packing establishments and those engaged in the manufacture of sausage only. In 1904 it was fifth and

in 1909 fourth in importance among the industries of the state when measured by value of products. In view of the fact that this industry showed a decrease of 23.5 per cent in value of products from 1899 to 1904, its growth from 1904 to 1909, 190.5 per cent, has been remarkable. In 1909 the industry gave employment to an average of 659 wage earners, or 2.3 per cent of the total for all manufacturing industries, and the value of products, \$9,657,000, was 7.4 per cent of the total value of manufactured products for the state. The industry is confined largely to Denver and Colorado Springs.

Flour-mill and gristmill products.—In 1909 there were 77 establishments, an increase since 1904 of 25, or 48.1 per cent; and the increase in value of products was \$2,085,000, or 36.1 per cent. From 1899 to 1904 the number of establishments increased 3, or 6.1 per cent, and the value of products, \$1,342,000, or 30.2 per cent. Although these two periods show great variation in percentage of increase in the number of establishments, the increases in value of products are nearly the same. As a rule, the mills are small and located in the rural districts. Because of the comparatively simple processes involved 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.

Printing and publishing.—This classification includes bookbinding and blank-book making; engraving, steel and copper plate; lithographing; printing and publishing, book and job or music; and the printing and publishing of newspapers and periodicals. In 1909 there were 439 establishments reported under the combined classification, with a value of products of \$6,962,000, most of which was reported from the cities of over 10,000 inhabitants. Among the industries shown separately in the table, printing and publishing, measured by value of products, was third in importance in 1909, second in 1904, and fourth in 1899. Exclusive of 2 small establishments in 1904, the statistics for which can not be shown without divulging individual operations, the number of establishments increased 20, or 4.8 per cent, and the value of products \$1,495,000, or 27.3 per cent, from 1904 to 1909.

Cars and general shop construction and repairs by steam-railroad companies.—In 1909 there were 29 establishments reported, which gave employment to an average of 3,993 wage earners, or 14.2 per cent of the total for the manufacturing establishments of the state, the largest average number of wage earners reported for any of the industries shown separately. Although there was a decrease of 5, or 14.7 per cent, in the number of establishments from 1904 to 1909, there was an increase of 941, or 30.8 per cent, in the average number of wage earners and of \$1,300,000, or 24.7 per cent, in the value of products. The development of railroad repair shops in Colorado

is the result of the heavy upkeep of rolling stock in mountainous sections and of the establishment of many terminals within the state. The statistics do not include minor repairs made in roundhouses.

Foundry and machine-shop products.—The fact that the number of establishments in this industry increased from 84 to 111 and the value of products from \$4,159,000 to \$5,907,000 during the decade, while the average number of wage earners decreased from 1,875 to 1,813 during that time, indicates to some extent the growth of this industry in the state. The industry was really of greater importance in the state than is indicated by the statistics, as some machine shops manufactured a distinctive product and were assigned to other classifications.

Lumber and timber products.—Under this head are included statistics for logging and sawmill operations, for planing mills, and for establishments engaged in the manufacture of wooden packing boxes. The eastern part of the state is practically devoid of saw timber, so that the mills, which are generally small, are confined to the mountain districts. The number of establishments increased from 110 in 1904 to 263 in 1909, an increase of 153, or 139.1 per cent, and gave employment in 1909 to an average of 2,190 wage earners. The value of products increased \$1,688,000, or 67.6 per cent.

When measured by value added by manufacture, printing and publishing is of first importance among the industries listed in the table. Railroad repair shops and foundry and machine shops rank second and third, respectively, and are followed by the lumber and timber industry, the breweries, and the bakeries, in the order named. Slaughtering and meat-packing plants and the flour mills and gristmills, which occupied first and second places in value of products, ranked below the industries just mentioned in value added by manufacture.

The table shows also the percentages of increase for these leading industries in respect to value of products and value added by manufacture. Slaughtering and meat packing showed a greater rate of increase from 1904 to 1909 in value added by manufacture than any other of the specified industries, namely, 151.3 per cent. The same industry showed also the greatest increase in value of products, 190.5 per cent. The brick and tile, canning and preserving, and leather-goods industries also showed remarkable increases both in gross value of products and in value added by manufacture.

Several industries show marked fluctuations in respect to relative increases for the later five-year period, as compared with the earlier five years. None of the industries shown separately reports a decrease for both five-year periods. From 1904 to 1909 the manufacture of pottery, terra-cotta, and fire-clay products showed decreases in both value of products and value added by manufacture, this being the only

industry showing a decrease in either item during this period. During the earlier five-year period, however, slaughtering and meat packing, and marble and stone work decreased in both items, the lumber and timber industry showed a decrease in value of products, and the malt-liquor industry a decrease in value added by manufacture.

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

CLASS.	PERSONS ENGAGED IN MANUFACTURES.		
	Total.	Male.	Female.
All classes.....	34,115	31,381	2,734
Proprietors and officials.....	3,009	2,906	103
Proprietors and firm members.....	1,722	1,634	88
Salaried officers of corporations.....	422	413	9
Superintendents and managers.....	865	859	6
Clerks.....	3,039	2,513	521
Wage earners (average number).....	28,067	25,957	2,110
16 years of age and over.....	27,902	25,803	2,094
Under 16 years of age.....	165	149	16

The average number of persons engaged in manufactures during 1909 was 34,115, of whom 28,067 were wage earners. Of the remainder, 3,009 were proprietors and officials, and 3,039 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 gives the returns for all industries combined and for 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.....	34,115	8.8	8.9	32.3
Bread and other bakery products.....	1,325	22.1	10.8	67.1
Brick and tile.....	1,036	9.0	2.0	39.0
Butter, cheese, and condensed milk.....	304	14.8	15.1	69.1
Cars and general shop construction and repairs by steam-railroad companies.....	4,300	2.9	4.2	92.9
Flour-mill and gristmill products.....	429	20.5	13.8	65.7
Foundry and machine-shop products.....	2,250	9.2	10.3	80.6
Liquors, malt.....	514	7.2	10.3	82.5
Lumber and timber products.....	2,614	13.1	3.1	33.8
Printing and publishing.....	3,747	15.7	21.1	63.1
Slaughtering and meat packing.....	834	3.5	17.6	79.0
All other industries.....	16,782	6.9	7.6	85.4

Of the total number of persons engaged in all manufacturing industries, 8.8 per cent were proprietors and officials, 8.9 per cent clerks, and 82.3 per cent wage earners. In industries where the majority of the establishments are small and the work is to a large extent done by the proprietors or their immediate representatives, the proportion of persons engaged in the industries falling into the class of proprietors and officials is necessarily high. This condition is found in the bakeries, the flour mills and gristmills, and in the printing and publishing establishments, for which the ratios of the proprietors and officials to the total number employed in the industries are 22.1 per cent, 20.5 per cent, and 15.7 per cent, respectively. Similar conditions prevail to some extent in the lumber and timber and the butter, cheese, and condensed-milk industries. The smallest proportion for this class, 2.9 per cent, is shown for railroad repair shops, and is due partly to the fact that the establishments in this industry are under corporate ownership, and so reported no proprietors; and partly to the fact that the highest officials of railroad companies, who exercise general supervision over them, are not, as a rule, assigned to this particular branch of the work.

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

INDUSTRY.	Average number. ¹	WAGE EARNERS.		
		Per cent of total.		Under 16 years of age.
		16 years of age and over.		
		Male.	Female.	
All industries.....	28,067	92.0	7.5	0.6
Bread and other bakery products.....	889	71.2	27.1	1.7
Brick and tile.....	923	98.4	0.1	1.5
Butter, cheese, and condensed milk.....	210	77.6	22.4	.....
Cars and general shop construction and repairs by steam-railroad companies.....	3,993	99.9	0.1	.....
Flour-mill and gristmill products.....	282	99.0	.....	0.4
Foundry and machine-shop products.....	1,813	99.1	0.2	0.7
Liquors, malt.....	424	99.3	.....	0.7
Lumber and timber products.....	2,190	98.9	1.0	0.1
Printing and publishing.....	2,365	81.7	16.0	2.4
Slaughtering and meat packing.....	659	95.9	2.1	2.0
All other industries.....	14,319	90.0	9.7	0.3

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

For all industries combined, 92 per cent of the average number of wage earners were males 16 years of age and over; 7.5 per cent females 16 years of age and over; and six-tenths of 1 per cent persons under

the age of 16. In general, the table shows a very limited employment of women and children. The largest proportions of women employees were in the bakeries, creameries, and the printing and publishing establishments, and the largest proportions of children, in the printing and publishing and the slaughtering and meat-packing establishments. Of the total of 2,094 female wage earners in all industries combined, about one-ninth were employed in bakeries. Of the total number of wage earners in all industries under 16 years of age, over one-third were in printing and publishing establishments. With these two industries omitted, the females 16 years of age and over in all industries combined would represent 5.3 per cent of the total number of wage earners, and children under 16 years of age, but four-tenths 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 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.....	34,115	100.0	25,858	100.0	31.8
Proprietors and firm members.....	1,722	5.0	1,398	5.4	23.2
Salaried employees.....	4,320	12.7	2,577	10.3	61.6
Wage earners (average number).....	28,067	82.3	21,813	84.3	28.7

Comparable figures are not obtainable for 1899. The table shows a much greater percentage of increase in the salaried employees than in the other two classes. There was, however, no very great change from 1904 to 1909 in the proportion of persons engaged in manufactures who were in each class.

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.....	28,067	100.0	21,813	100.0	19,498	100.0
16 years of age and over.....	27,902	99.4	21,507	98.6	19,295	99.0
Male.....	25,808	92.0	20,164	92.4	18,214	93.4
Female.....	2,094	7.5	1,343	6.2	1,081	5.5
Under 16 years of age.....	165	0.6	306	1.4	203	1.0

This table indicates that for all industries combined there has been a decrease during the 10 years in the employment of children under 16 years of age, although from 1899 to 1904 the total number of children employed increased. The number of female wage earners 16 years of age and over more than doubled between 1899 and 1909 and their proportion of the total number of wage earners increased. In 1909 males 16 years of age and over formed 92 per cent of all wage earners, as compared with 93.4 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 beet-sugar 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 124, are shown, for practically all of the important industries of 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.		Beet-sugar.		All other industries.	
	Number.	Per cent of maximum.	Number.	Per cent of maximum.	Number.	Per cent of maximum.
January.....	27,902	87.2	3,113	60.7	24,849	91.3
February.....	25,181	78.6	615	12.0	24,500	90.3
March.....	25,374	79.2	727	14.2	24,647	90.6
April.....	25,531	79.7	765	14.9	24,766	91.0
May.....	25,835	80.6	720	14.2	25,100	92.3
June.....	27,050	84.4	763	14.9	26,290	90.6
July.....	28,060	87.7	886	17.3	27,213	100.0
August.....	28,238	88.1	1,160	22.6	27,078	99.5
September.....	28,415	88.7	1,272	24.8	27,143	99.7
October.....	31,020	96.8	4,127	80.5	26,899	98.3
November.....	32,050	100.0	5,125	100.0	26,925	98.9
December.....	32,034	99.9	4,963	96.8	27,071	99.5

The beet-sugar industry is the only seasonal industry of importance in the state. The usual period during which the factories run continuously is from 60 to 100 days, during which time the industry employs a sufficiently large number of wage earners to affect considerably the total movement of employment in the state during the year. In this industry the smallest number, 615, was employed in February and the largest number, 5,125, in November. During each month from February through September the number employed represented only from 12 to 24.8 per cent of the number employed in November. Several other industries are slightly seasonal, but fluctuations in employment are not sufficient to influence greatly the steadiness of total employment for all industries. For all industries combined the number of wage earners employed changed considerably, there being a gradual increase from February until November, when the sugar factories were at the height of their production.

Prevailing hours of labor.—In the following table wage earners have been classified according to hours of labor prevailing in the establishments in which they are employed. In making this classification the average number of wage earners employed during the

year is used, and the number employed in each establishment is classified as a total according to the hours prevailing in that establishment, even though some few employees work a greater or less number of hours.

INDUSTRY.	AVERAGE NUMBER OF WAGE EARNERS IN ESTABLISHMENTS GROUPED ACCORDING TO PREVAILING HOURS OF WORK PER WEEK.								
	Total.	48 and under.	Between 48 and 54.	54.	Between 54 and 60.	60.	Between 60 and 72.	72.	Over 72.
All industries.....	28,087	4,587	1,787	3,463	3,588	8,211	3,213	2,198	1,020
Bread and other bakery products.....	880	88	1	83	178	505	21	11	2
Brick and tile.....	922	328		30	40	524			
Butter, cheese, and condensed milk.....	210	6		60	2	39	102		1
Canning and preserving.....	518	48		24	3	438	7		
Cars and general shop construction and repairs by steam-railroad companies.....	3,993		682	263	100	726	2,222		
Confectionery.....	349	15		19	144	160	9		2
Flour-mill and gristmill products.....	282	11		10	16	172	71	2	
Foundry and machine-shop products.....	1,813	171	353	909	8	349	23		
Furniture and refrigerators.....	170	121		35		20			
Ice, manufactured.....	251	4		6	68	2	2	29	140
Leather goods.....	269	22	4	165	20	58			
Liquors, malt.....	424	259		47	59	59			
Lumber and timber products.....	2,190	218	306	161	27	1,437	41		
Marble and stone work.....	267	202	14	1		50			
Pottery, terra-cotta, and fire-clay products.....	214	11		72		131			
Printing and publishing.....	2,366	1,759	77	173	308	39	10		
Slaughtering and meat packing.....	659			287		372			
Tobacco manufactures.....	427	400		3		24			
All other industries.....	11,848	924	350	1,116	2,616	3,108	705	2,156	876

It is evident from these figures that for more than one-half of the wage earners employed in the manufacturing industries of Colorado the prevailing hours of labor ranged from 54 to 60 a week. Of the total number of wage earners, 22.7 per cent are employed in establishments where the prevailing hours are less than 54 a week and 22.9 per cent are employed in establishments where the prevailing hours are more than 60 a week. It will be noticed that in the case of railroad repair shops, which report a larger number of employees than any of the other industries shown separately, most of the wage earners work where the prevailing hours ranged from 60 to 72 a week. In the printing and publishing industry the greater number of wage earners work 48 hours per week or less.

Location of establishments.—The next table shows the extent to which the manufactures of Colorado are centralized in cities of 10,000 population and over. (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 came within the group having over 10,000 inhabitants.

In 1909, 44.2 per cent of the total value of products was reported from the cities having over 10,000 inhabitants and 55.8 per cent from the remainder of the state. The addition of Trinidad to the group of cities in 1909, and the marked growth of the establishments

located in Denver, were not sufficient to overcome the loss of Cripple Creek and Leadville, which two cities, from a population of over 10,000 each in 1900 had less than that number in 1910, thus placing their statistics with the districts outside the cities in 1909. This change has caused the city group to be overtaken by the outside districts in respect to the relative importance of their manufacturing industries, as judged by value of products, and value added by manufacture. In number of wage earners alone do the industries of the cities remain the more important; although the cities contain only 37.2 per cent of the population of the state, they employ 50.3 per cent of the wage earners. Even in this respect, however, the importance of their industries has declined, as in 1899 the percentage of wage earners in cities having more than 10,000 inhabitants was 56.9. That the manufacturing industries outside of these cities show a more rapid growth than do those of the cities is also due in part to the development of the beet-sugar industry, in which all the establishments reported are located outside of the cities in question, and in part to the growth of various industries in the mining districts.

The four cities in Colorado having a population of 10,000 and over in 1910 were Denver, Pueblo, Colorado Springs, and Trinidad. Prior to 1910 Trinidad had less than 10,000 inhabitants, and so was not included in the city group for 1900.

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	799,024	297,058	501,966	37.2	62.8
	1900	539,700	205,703	333,997	38.1	61.9
Number of establishments.	1909	2,034	949	1,085	46.7	53.3
	1899	1,323	746	577	56.4	43.6
Average number of wage earners.	1909	28,067	14,114	13,953	50.3	49.7
	1899	19,493	11,093	8,405	56.9	43.1
Value of products..	1909	\$130,044,312	\$57,490,448	\$72,613,864	44.2	55.8
	1899	89,067,879	46,514,613	42,553,266	52.2	47.8
Value added by manufacture.	1909	49,553,498	23,372,383	25,681,025	48.2	51.8
	1899	28,317,095	15,989,943	12,327,152	56.5	43.5

The following statement shows general statistics for 1909 and 1899 for Cripple Creek and Leadville, which had a population in 1900 in excess of 10,000 but which fell below this figure in 1910 and therefore are not included in the city group but in the districts outside for 1909 in the preceding table.

ITEM.	Year.	Leadville.	Cripple Creek.
Number of establishments.....	1909	20	9
	1899	34	35
Average number of wage earners.....	1909	650	40
	1899	1,227	167
Value of products.....	1909	\$4,477,746	\$117,723
	1899	5,882,949	440,659
Value added by manufacture.....	1909	1,065,526	74,267
	1899	1,042,783	265,491

The manufactures of both of the cities shown in this table are largely dependent upon the mining interests. In Cripple Creek each of the industries reported in 1899 and in 1909 shows a decrease at the later census, and several industries, among which are the foundries and machine shops, disappeared altogether. During the decade the total number of establishments decreased from 35 to 9, the average number of wage earners from 167 to 40, the value of products from \$440,659 to \$117,723, and the value added by manufacture from \$265,491 to \$74,267. In Leadville the decreases in number of establishments, value of products, and average number of wage earners, although large, were less pronounced. The number of establishments decreased from 34 to 20, the average number of wage earners from 1,227 to 650, the value of products from \$5,882,949 to \$4,477,746. The value added by manufacture, however, shows a slight increase, from \$1,042,783 to \$1,065,526. The smelting and refining

of lead is the chief manufacturing industry in the city.

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

CITY.	1910	1900
Denver.....	213,381	133,859
Pueblo.....	44,395	28,157
Colorado Springs.....	29,078	21,085
Trinidad.....	10,204	15,345
Leadville.....	27,508	12,455
Cripple Creek.....	26,206	10,147

¹ Population less than 10,000 in 1900, therefore, in the first table on this page, the statistics for 1899 are included with those for the districts outside cities.
² Population less than 10,000 in 1910, therefore, in the first table on this page, the statistics for 1909 are included with those for the districts outside cities.

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

CITY.	AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.		
	1909	1904	1899	1909	1904	1899
Denver.....	12,068	9,972	8,600	\$51,638,547	\$36,600,410	\$37,900,171
Pueblo.....	1,323	941	790	3,344,789	2,107,293	1,430,609
Colorado Springs.....	510	410	409	1,732,759	1,100,771	845,226
Trinidad.....	220	(¹)	(¹)	814,363	(¹)	(¹)

¹ Figures not available.

Denver, Pueblo, and Colorado Springs all show increases in the average number of wage earners and in the value of products both from 1899 to 1904 and from 1904 to 1909, except that the value of products manufactured in Denver decreased from 1899 to 1904. The increases were generally greater from 1904 to 1909 than during the earlier period.

Denver, the largest and most important city in the state, shows an increase in 1909, as compared with 1904, of \$14,878,137, or 40.6 per cent, in the value of products, and of 2,386, or 24.7 per cent, in the average number of wage earners. Forty-three per cent of all wage earners reported for the state were employed in this city in 1909.

The leading industries in Denver in 1909 were slaughtering and meat packing, the smelting and refining of lead and of copper, printing and publishing, foundries and machine shops, steam-railroad repair shops, bakeries, breweries, the manufacture of butter, cheese, and condensed milk, flour mills and gristmills, lumber and timber products, brick and tile, and gas—each of which had a value of products in excess of \$1,000,000. For many of the minor industries of the state, Denver reported all of the establishments.

The most important industries within the city limits of Pueblo are the railroad repair shops and printing and publishing; those of Colorado Springs are printing and publishing and butter making; and those of Trinidad, breweries.

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.	INDUSTRY AND CHARACTER OF OWNERSHIP.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
ALL INDUSTRIES:					Butter, cheese, and condensed milk, 1909.....	39	210	\$2,339,765	\$416,168
1909.....	2,034	28,067	\$130,044,312	\$49,553,408	Individual.....	15	48	649,221	90,724
1904.....	1,606	21,813	100,143,999	37,029,602	Firm.....	5	13	81,154	17,761
Individual:					Corporation.....	10	138	1,514,069	292,191
1909.....	887	2,539	8,104,923	4,499,519	Other.....	9	11	95,321	15,487
1904.....	886	2,586	7,794,408	4,542,091	Per cent of total.....	100.0	100.0	100.0	100.0
Firm:					Individual.....	38.5	22.9	27.7	21.8
1909.....	333	1,355	4,772,280	2,828,216	Individual.....	12.8	6.2	3.5	4.3
1904.....	230	1,045	2,896,013	1,751,143	Corporation.....	25.6	65.7	64.7	70.2
Corporation:					Other.....	23.1	5.2	4.1	3.7
1909.....	698	24,152	116,991,543	42,158,021	Flour-mill and gristmill products, 1909.....	77	282	\$7,867,706	\$1,195,892
1904.....	478	18,169	89,377,061	30,677,368	Individual.....	15	12	303,675	53,129
Other:					Firm.....	14	15	357,289	85,114
1909.....	16	21	175,566	67,652	Corporation.....	48	255	7,206,745	1,057,149
1904.....	6	13	75,487	59,900	Per cent of total.....	100.0	100.0	100.0	100.0
Per cent of total:					Individual.....	19.5	4.3	3.9	4.4
1909.....	100.0	100.0	100.0	100.0	Individual.....	18.2	5.3	4.5	7.1
1904.....	100.0	100.0	100.0	100.0	Firm.....	62.3	90.4	91.6	88.4
Individual:					Corporation.....				
1909.....	48.5	9.0	6.2	9.1	Foundry and machine-shop products, 1909.....	111	1,813	\$5,906,595	\$3,102,635
1904.....	55.2	11.9	7.8	12.3	Individual.....	38	173	641,931	300,777
Firm:					Firm.....	17	111	303,695	176,551
1909.....	16.4	4.8	3.7	5.7	Corporation.....	56	1,529	4,909,969	2,625,307
1904.....	14.7	4.8	2.9	4.7	Per cent of total.....	100.0	100.0	100.0	100.0
Corporation:					Individual.....	34.2	9.5	10.9	9.7
1909.....	34.3	86.1	90.0	85.1	Individual.....	15.3	6.1	5.1	5.7
1904.....	29.8	83.3	89.2	82.8	Corporation.....	50.5	84.3	84.0	84.6
Other:					Lumber and timber products, 1909.....	263	2,190	\$4,184,864	\$2,788,905
1909.....	0.8	0.1	0.1	0.1	Individual.....	133	535	1,067,967	756,664
1904.....	0.4	0.1	0.1	0.2	Firm.....	59	204	434,529	334,208
Bread and other bakery products, 1909.....	250	889	\$3,968,760	\$1,671,752	Corporation.....	71	1,391	2,682,368	1,698,043
Individual.....	188	313	1,521,651	680,734	Per cent of total.....	100.0	100.0	100.0	100.0
Firm.....	40	61	355,002	148,756	Individual.....	50.6	24.4	25.5	27.1
Corporation.....	22	515	2,092,107	842,262	Individual.....	22.4	12.1	10.4	12.0
Per cent of total.....	100.0	100.0	100.0	100.0	Corporation.....	27.0	63.5	64.1	60.9
Individual.....	75.2	35.2	38.3	40.7	Printing and publishing, 1909.....	439	2,368	\$6,961,721	\$5,155,609
Firm.....	16.0	6.9	8.9	8.9	Individual.....	253	480	1,275,015	1,023,225
Corporation.....	8.8	57.9	52.7	50.4	Firm.....	64	171	306,552	312,011
Brick and tile, 1909.....	69	922	\$1,670,042	\$1,158,639	Corporation.....	116	1,715	5,244,351	3,774,970
Individual.....	26	126	177,728	142,586	Other.....	6	.....	45,803	45,403
Firm.....	10	57	70,470	56,279	Per cent of total.....	100.0	100.0	100.0	100.0
Corporation.....	33	739	1,421,846	959,774	Individual.....	57.6	20.3	18.3	19.8
Per cent of total.....	100.0	100.0	100.0	100.0	Individual.....	14.6	7.2	5.7	6.1
Individual.....	37.7	13.7	10.6	12.3	Corporation.....	26.4	72.5	75.3	73.2
Firm.....	14.5	6.2	4.2	4.9	Other.....	1.4	.....	0.7	0.9
Corporation.....	47.8	80.2	85.1	82.8					

The most important distinction shown is that between corporate and all other forms of ownership. In 1909, for all industries combined, 34.3 per cent of the total number of establishments were under corporate ownership, as against 65.7 per cent for all other forms. The corresponding figures for 1904 were 29.8 per cent and 70.3 per cent, respectively. In respect to value of products the corresponding proportions are reversed. In 1909 the establishments operated by corporations reported 90 per cent of the total value of products, as against 10 per cent for those under all other forms of ownership, while in 1904 the corresponding figures were 89.2 per cent and 10.8 per cent, respectively. Establishments un-

der individual ownership decreased for all items in percentages of distribution, while those under firm ownership increased in percentages of distribution in number of establishments, value of products, and value added by manufacture.

Size of establishment.—The tendency for manufacturing to become concentrated in large establishments, or the reverse, is a matter of interest from the standpoint of industrial organization. In order to throw some light upon it the following table groups the establishments according to the value of their products. The table also shows the average size of establishments for all industries combined and for important industries separately, as measured by number of

wage earners, value of products, and value added by manufacture. The totals for all industries are shown for the last two censuses, while for certain important industries figures are given for 1909 only.

INDUSTRY AND VALUE OF PRODUCTS.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.	INDUSTRY AND VALUE OF PRODUCTS.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
ALL INDUSTRIES:	2,034	28,067	\$130,044,312	\$49,553,408	Butter, cheese, and condensed milk, 1909:	39	210	\$2,339,795	\$419,163
1909.....	2,034	28,067	\$130,044,312	\$49,553,408	Less than \$5,000.....	11	7	20,565	7,504
1904.....	1,606	21,813	100,143,999	37,029,602	\$5,000 and less than \$20,000.....	13	20	143,800	30,151
Less than \$5,000:					\$20,000 and less than \$100,000.....	9	24	292,778	57,231
1909.....	760	731	1,862,031	1,257,050	\$100,000 and less than \$1,000,000.....	6	159	1,873,602	321,217
1904.....	627	644	1,629,067	1,137,197	Per cent of total.....	100.0	100.0	100.0	100.0
\$5,000 and less than \$20,000:					Less than \$5,000.....	28.2	3.3	1.3	1.8
1909.....	748	2,885	7,504,776	4,692,917	\$5,000 and less than \$20,000.....	33.3	9.5	6.1	7.2
1904.....	575	2,294	5,712,075	3,730,117	\$20,000 and less than \$100,000.....	23.1	11.4	12.5	13.8
\$20,000 and less than \$100,000:					\$100,000 and less than \$1,000,000.....	15.4	75.7	80.1	77.2
1909.....	351	4,632	14,497,582	7,038,415	Average per establishment.....	.....	5	\$50,004	\$10,071
1904.....	272	3,970	11,250,352	6,322,990	Flour-mill and gristmill products, 1909:	77	282	\$7,867,706	\$1,196,302
\$100,000 and less than \$1,000,000:					Less than \$5,000.....	14	8	39,952	8,171
1909.....	155	11,914	47,533,323	20,433,582	\$5,000 and less than \$20,000.....	21	18	239,572	46,389
1904.....	116	9,300	30,811,848	14,811,848	\$20,000 and less than \$100,000.....	24	68	1,136,350	224,001
\$1,000,000 and over:					\$100,000 and less than \$1,000,000.....	18	190	6,451,823	616,252
1909.....	20	7,905	58,045,700	15,231,444	Per cent of total.....	100.0	100.0	100.0	100.0
1904.....	16	5,596	50,670,463	11,027,441	Less than \$5,000.....	18.2	2.8	0.5	0.7
Per cent of total:					\$5,000 and less than \$20,000.....	27.3	6.4	3.0	3.9
1909.....	100.0	100.0	100.0	100.0	\$20,000 and less than \$100,000.....	31.2	23.4	14.4	18.8
1904.....	100.0	100.0	100.0	100.0	\$100,000 and less than \$1,000,000.....	23.4	67.4	82.0	76.6
Less than \$5,000:					Average per establishment.....	.....	4	\$102,178	\$15,525
1909.....	37.4	2.6	1.4	2.5	Foundry and machine-shop products, 1909:	111	1,313	\$5,906,595	\$3,102,633
1904.....	39.0	3.0	1.0	3.1	Less than \$5,000.....	21	23	63,185	43,030
\$5,000 and less than \$20,000:					\$5,000 and less than \$20,000.....	37	146	351,710	230,204
1909.....	36.8	10.3	6.8	9.5	\$20,000 and less than \$100,000.....	30	569	1,690,093	622,024
1904.....	35.8	10.5	6.7	10.1	\$100,000 and less than \$1,000,000.....	17	1,075	3,800,698	1,899,871
\$20,000 and less than \$100,000:					Per cent of total.....	100.0	100.0	100.0	100.0
1909.....	17.3	16.5	11.1	16.0	Less than \$5,000.....	18.9	1.8	1.1	1.4
1904.....	10.9	18.2	11.2	17.1	\$5,000 and less than \$20,000.....	33.3	8.1	6.0	7.6
\$100,000 and less than \$1,000,000:					\$20,000 and less than \$100,000.....	32.4	31.4	28.6	20.7
1909.....	7.6	42.4	36.6	41.2	\$100,000 and less than \$1,000,000.....	15.3	59.3	64.3	61.2
1904.....	7.2	42.7	30.8	40.0	Average per establishment.....	.....	10	\$53,213	\$27,952
\$1,000,000 and over:					Lumber and timber products, 1909:	263	2,190	\$4,184,864	\$2,788,905
1909.....	1.0	28.2	45.1	30.7	Less than \$5,000.....	107	155	224,892	170,638
1904.....	1.0	25.7	50.6	29.8	\$5,000 and less than \$20,000.....	111	669	1,219,195	850,501
Average per establishment:					\$20,000 and less than \$100,000.....	37	530	1,532,738	894,428
1909.....	14	\$63,935	\$24,363		\$100,000 and less than \$1,000,000.....	8	830	1,408,000	897,245
1904.....	14	62,356	23,057		Per cent of total.....	100.0	100.0	100.0	100.0
Bread and other bakery products, 1909:	250	889	\$3,968,700	\$1,071,752	Less than \$5,000.....	40.7	7.1	5.4	6.3
Less than \$5,000.....	103	43	289,743	120,509	\$5,000 and less than \$20,000.....	42.2	30.5	29.1	30.5
\$5,000 and less than \$20,000.....	117	233	1,115,805	505,074	\$20,000 and less than \$100,000.....	14.1	24.2	31.8	31.0
\$20,000 and less than \$100,000.....	25	201	919,499	396,224	\$100,000 and less than \$1,000,000.....	3.0	38.2	32.0	32.2
\$100,000 and less than \$1,000,000.....	5	412	1,640,708	643,945	Average per establishment.....	.....	8	\$15,912	\$10,604
Per cent of total.....	100.0	100.0	100.0	100.0	Printing and publishing, 1909:	439	2,366	\$6,061,721	\$5,155,609
Less than \$5,000.....	41.2	4.8	7.2	7.6	Less than \$5,000.....	242	245	607,125	490,709
\$5,000 and less than \$20,000.....	46.8	26.2	28.1	30.2	\$5,000 and less than \$20,000.....	140	408	1,295,515	1,051,127
\$20,000 and less than \$100,000.....	10.0	22.6	23.2	23.7	\$20,000 and less than \$100,000.....	44	541	1,694,825	1,802,328
\$100,000 and less than \$1,000,000.....	2.0	40.3	41.6	38.5	\$100,000 and less than \$1,000,000.....	13	1,082	3,394,256	2,511,385
Average per establishment.....	4	\$16,876	\$6,687		Per cent of total.....	100.0	100.0	100.0	100.0
Brick and tile, 1909:	69	922	\$1,670,048	\$1,158,639	Less than \$5,000.....	55.1	10.4	8.7	9.5
Less than \$5,000.....	25	60	61,229	46,550	\$5,000 and less than \$20,000.....	31.9	21.0	18.0	20.4
\$5,000 and less than \$20,000.....	30	207	805,851	239,287	\$20,000 and less than \$100,000.....	10.0	22.9	23.0	25.3
\$20,000 and less than \$100,000.....	19	605	1,302,962	899,790	\$100,000 and less than \$1,000,000.....	3.0	45.7	48.8	44.8
Per cent of total.....	100.0	100.0	100.0	100.0	Average per establishment.....	.....	5	\$15,858	\$11,744
Less than \$5,000.....	29.0	5.4	3.7	4.3					
\$5,000 and less than \$20,000.....	43.5	22.5	18.3	20.7					
\$20,000 and less than \$100,000.....	27.5	72.1	78.0	75.1					
Average per establishment.....	13	\$24,204	\$10,792						

1 Includes the group "\$100,000 and less than \$1,000,000."

This table shows that, in 1909, of the 2,034 establishments only 20, or 1 per cent, had a value of products exceeding \$1,000,000. These 20 establishments, however, employed 7,905 wage earners, or 28.2 per cent of the total for all establishments, and reported 45.1 per cent of the total value of products and 30.7 per cent of the total value added by manufacture. The corresponding percentages for 1904 were 25.7, 50.6, and 29.8, respectively. It is interesting to note that this group, which showed increased percentages in average number of wage earners and value added by manufacture for 1909, as compared with 1904, showed a decrease in its percentage of the total value of products.

On the other hand, the very small establishments—that is, those having a value of products of less than

\$5,000—constituted in 1909 a large proportion (37.4 per cent) of the total number of establishments, but the value of their products amounted to only 1.4 per cent of the total. There has been a decrease in the relative importance of this group since 1904. Approximately 82 per cent of the total value of products was reported from establishments having products valued at not less than \$100,000.

While the average number of wage earners per establishment remained constant during the five-year period, the average value of products per establishment increased from \$62,356 in 1904 to \$63,935 in 1909, and the average value added by manufacture from \$23,057 to \$24,363. The increased values shown may be, and probably are, due wholly or in part to the increase that has taken place in the prices of com-

modities. Of the industries shown separately only the flour mills and gristmills show an average value of products per establishment in excess of \$100,000.

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 classi-

fication 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 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.....	2,084	325	1,113	398	84	63	32	16	2	1
Bread and other bakery products.....	250	67	161	16	2	2	2			
Brick and tile.....	69		34	26	7	1	1			
Butter, cheese, and condensed milk.....	39	4	28	5	1					
Cars and general shop construction and repairs by steam-railroad companies.....	29		5	5	5	3	5	5	1	
Flour-mill and gristmill products.....	77	12	50	15						
Foundry and machine-shop products.....	111	6	47	34	12	10	2			
Liquors, malt.....	11		2	3	1	5				
Lumber and timber products.....	263	15	149	85	8	3	2	1		
Printing and publishing.....	439	118	246	57	9	5	4			
Slaughtering and meat packing.....	13	2	3	3	1	2	1	1		
All other industries.....	733	101	388	149	38	31	15	9	1	1
AVERAGE NUMBER OF WAGE EARNERS.										
All industries.....	28,087		2,525	4,334	2,573	4,369	5,105	5,782	1,227	2,152
Bread and other bakery products.....	889		308	148	66	160	207			
Brick and tile.....	922		103	302	214	62	236			
Butter, cheese, and condensed milk.....	210		44	68	22	76				
Cars and general shop construction and repairs by steam-railroad companies.....	3,993		12	66	165	234	843	2,001	667	
Flour-mill and gristmill products.....	232		101	181						
Foundry and machine-shop products.....	1,813		135	395	342	644	307			
Liquors, malt.....	424		3	45	47	329				
Lumber and timber products.....	2,190		349	837	222	220	231	331		
Printing and publishing.....	2,398		540	595	236	326	609			
Slaughtering and meat packing.....	659		10	40	23	120	184	232		
All other industries.....	14,319		915	1,667	1,176	2,198	2,483	3,168	560	2,152
PER CENT OF AVERAGE NUMBER OF WAGE EARNERS.										
All industries.....	100.0		9.0	15.4	9.2	15.6	18.2	20.6	4.4	7.7
Bread and other bakery products.....	100.0		34.6	16.6	7.4	18.0	23.3			
Brick and tile.....	100.0		11.7	32.8	23.2	6.7	25.6			
Butter, cheese, and condensed milk.....	100.0		21.0	32.4	10.5	36.2				
Cars and general shop construction and repairs by steam-railroad companies.....	100.0		0.3	1.7	4.1	5.9	21.2	50.1	16.7	
Flour-mill and gristmill products.....	100.0		35.8	64.2						
Foundry and machine-shop products.....	100.0		7.4	21.2	18.9	35.5	16.9			
Liquors, malt.....	100.0		0.7	10.6	11.1	77.0				
Lumber and timber products.....	100.0		15.9	38.2	10.1	10.0	10.6	15.1		
Printing and publishing.....	100.0		22.8	25.1	12.5	13.8	25.7			
Slaughtering and meat packing.....	100.0		1.5	6.1	3.5	18.2	27.9	42.8		
All other industries.....	100.0		6.4	11.6	8.2	15.4	17.3	22.1	3.9	16.0

The per cent distribution of the number of establishments is not shown in this table; of the 2,034 establishments reported for all industries, 16 per cent employed no wage earners; 54.7 per cent, 1 to 5; 19.6 per cent, 6 to 20; and 4.1 per cent, 21 to 50. The largest single group consists of the 1,113 establishments employing from 1 to 5 wage earners, and the next of the 398 establishments employing from 6 to 20 wage earners, the two groups representing 74.3 per cent of all establishments. Only 1 establishment employed over 1,000 wage earners, and only 2 reported between 501 and 1,000.

Of the total number of wage earners, 32.6 per cent were in establishments employing over 250 wage

earners. The single group having the largest number of employees was the group comprising the establishments employing from 251 to 500 wage earners. This group employed 5,782 wage earners, or 20.6 per cent of the total. The group employing from 101 to 250 reported 5,105 wage earners, or 18.2 per cent of the total, and the group employing from 51 to 100 reported 4,369, or 15.6 per cent. In the railroad repair shops 2,668, or 66.8 per cent of the total average number of wage earners, and in the slaughtering and meat-packing plants, 282, or 42.8 per cent, were employed in establishments having over 250 wage earners. None of the flour mills and gristmills employed over 20 wage earners.

Expenses.—As stated in the Introduction, the census does not purport to furnish figures that can be used for determining the cost of manufacture and profits. Facts of interest can, however, be brought out concerning the relative importance of the different classes of expenses which make up the total. The 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.....	4.9	17.4	70.2	7.5
Bread and other bakery products.....	4.8	16.0	68.2	10.4
Brick and tile.....	5.8	40.9	37.0	9.6
Butter, cheese, and condensed milk.....	3.0	5.8	85.9	5.2
Cars and general shop construction and repairs by steam-railroad companies.....	5.0	52.0	30.9	2.0
Flour-mill and gristmill products.....	1.8	3.0	91.5	3.0
Foundry and machine-shop products.....	10.4	24.0	54.0	11.0
Liquors, malt.....	7.2	12.9	33.0	40.3
Lumber and timber products.....	4.9	41.9	40.2	12.9
Printing and publishing.....	18.5	30.0	30.3	20.6
Slaughtering and meat packing.....	2.3	4.2	89.7	3.8
All other products.....	3.9	14.4	76.2	5.6

This table shows that, for all industries combined, 70.2 per cent of the total expense was incurred for materials, 22.3 per cent for services—that is, salaries and wages—and but 7.5 per cent for other purposes. As would be expected, these proportions vary greatly in the different industries. The very large miscellaneous expense shown for the malt-liquor industry is due to the inclusion of internal-revenue taxes. The labor cost in the industries manufacturing food products is relatively low.

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

The table indicates that the increase in owned primary power was in that generated by steam and gas engines, that generated by water wheels, water motors, and the forms of owned power included under the head of "Other" showing decreases. During the five years 1904-1909 the number of steam engines increased from 873 to 1,207, the number of gas engines from 78 to 141, and the number of water wheels from 25 to 28. In 1909, 87.7 per cent of the total primary power was generated by steam

engines, a somewhat smaller proportion than is shown for either 1904 or 1899. As will be seen, the practice of renting power is increasing, 10.3 per cent of the total power reported being rented in 1909, as compared with 3.1 per cent and 3.5 per cent in 1904 and 1899, respectively. The use of electric motors for the purpose of applying the power generated within the establishments is also becoming more common, the horsepower of such motors increasing from 709 in 1899 to 11,965 in 1904 and 20,070 in 1909. The horsepower of electric motors run by rented power increased from 1,187 in 1899 to 3,765 in 1904 and 15,874 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.....	9,239	1,059	919	154,615	134,907	43,434	100.0	100.0	100.0
Owned.....	1,387	1,059	919	138,640	121,071	41,895	89.7	9.9	96.5
Steam.....	1,207	873	783	135,045	117,539	39,400	87.7	94.1	90.7
Gas.....	141	78	81	1,404	317	510	0.9	0.3	1.2
Water wheels.....	28	25	55	1,377	1,751	1,493	0.9	1.4	3.4
Water motors.....	11	83	(²)	49	348	(²)	(²)	(²)	(²)
Other.....				105	1,121	483	0.1	0.9	1.1
Rented.....	1,852	(²)	(²)	15,975	3,830	1,539	10.3	3.1	3.5
Electric.....	1,852	(²)	(²)	15,874	3,765	1,187	10.3	3.0	2.7
Other.....				101	71	352	0.1	0.1	0.8
Electric motors.....	2,927	550	40	35,844	15,730	1,896	100.0	100.0	100.0
Run by current generated by establishment.....	1,075	550	40	20,070	11,965	700	55.8	76.1	37.4
Run by rented power.....	1,852	(²)	(²)	15,874	3,765	1,187	44.2	23.9	62.6

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 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 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.....	9,616	3,325,135	691,837	10,103	91,275	342,577
Beet sugar.....		230,221	9,300		30	
Brick and tile.....	2,732	110,420	195	1,652	1	
Cars and general shop construction and repairs by steam-railroad companies.....	77	147,291	440	3	1,184	2,033
Cement.....		123,765				
Foundry and machine-shop products.....	16	15,026	11,724	660	774	1,074
Gas, illuminating and heating.....		99,516	223		29,130	
Iron and steel, blast furnaces.....		35,233	529,493			
Iron and steel, steel works and rolling mills.....		308,968	26,007	4,539	23,341	314,313
Petroleum, refining.....		17,333			33,350	
Smelting and refining, lead.....		102,152	109,020	96		
All other industries.....	6,791	2,075,130	5,429	3,123	3,459	24,557

NOTE.—In addition, there were 334 tons of other varieties of fuel reported.

SUPPLEMENTARY DATA REGARDING IMPORTANT INDUSTRIES.

(With statistics for laundries.)

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 four important industries in Colorado are here presented.

Slaughtering and meat packing.—The following table includes, for 1909, two establishments reporting sausage as the chief product, while for previous years no establishments of this character were reported; it also shows the quantities and values of the different products for the last three census years.

PRODUCT.	1909	1904	1899
Total value.....	\$9,656,810	\$3,323,503	\$4,343,983
Beef, fresh:			
Pounds.....	33,521,352	15,589,090	20,789,680
Value.....	\$2,548,947	\$1,091,070	\$1,501,233
Veal, fresh:			
Pounds.....	1,369,852	498,089	417,000
Value.....	\$128,314	\$41,583	\$39,940
Mutton, fresh:			
Pounds.....	2,405,106	2,790,676	3,138,745
Value.....	\$237,668	\$250,377	\$270,729
Pork, fresh:			
Pounds.....	12,191,600	3,337,911	10,454,600
Value.....	\$1,198,459	\$313,799	\$663,687
Pork, salted or cured:			
Pounds.....	20,530,615	11,087,849	17,377,000
Value.....	\$2,048,836	\$982,129	\$1,044,050
Sausage, fresh or cured.....	\$289,058	\$117,444	\$153,866
Lard:			
Pounds.....	12,633,806	2,613,133	7,678,000
Value.....	\$1,418,794	\$181,197	\$417,960
Fertilizers and fertilizer materials:			
Tons.....	2,024	707	190
Value.....	\$54,413	\$8,303	\$2,030
Hides:			
Number.....	67,946	30,807	38,284
Pounds.....	4,071,771	1,784,820	2,128,830
Value.....	\$480,589	\$153,521	\$162,397
Pelts:			
Number.....	55,085	63,822	(¹)
Value.....	\$54,505	\$52,871	
All other products.....	\$597,227	\$125,203	\$68,091

¹ Figures not available.

In general, the industry shows a remarkable increase in value of products from 1904 to 1909. The increases in the quantities and values of beef and pork products are very large without exception, but mutton shows decreases in both quantity and value. During the five years the production of fresh beef, veal, sausage, and hides more than doubled, that of fresh pork increased over twofold, and that of lard nearly fourfold. The output of fertilizers and the value of "All other products," which includes the amount received for custom and contract work and for a number of by-products, show marked increases.

Flour-mill and gristmill products.—Colorado is not an important agricultural state, but the development of dry farming has in general brought about an increase in the production of wheat, corn, oats, and barley. The next table gives the quantities and values of the different flour-mill and gristmill products reported for the census years 1909 and 1904.

PRODUCT.	QUANTITY.		VALUE.	
	1909	1904	1909	1904
Total value.....			\$7,867,708	\$5,783,421
Wheat flour:				
White..... barrels..	970,448	962,862	5,136,352	4,348,518
Graham..... barrels..	7,331	7,226	36,286	28,959
Corn meal and corn flour, barrels..	21,958	18,410	74,764	47,658
Rye flour..... barrels..	1,728	2,246	7,176	7,657
Buckwheat flour..... pounds..		2,500		75
Barley meal..... pounds..	367,800	114,000	8,190	912
Hominy and grits..... pounds..		8,038		286
Feed..... tons..	54,350	25,411	1,567,745	539,460
Offal..... tons..	41,770	44,349	978,663	776,310
All other products.....			58,530	33,586

A comparison of quantities rather than values best indicates the growth of the industry. Wheat flour, of which 99.3 per cent is white flour, is by far the most important product of this industry. Only slight gains are shown, however, for the five years in the quantities of white and Graham flour produced. Corn meal and corn flour shows a gain of 3,539 in the number of barrels produced since 1904. The amount of barley meal produced in 1909 was more than three times the amount produced in 1904. Feed shows an increase in tonnage of 113.9 per cent, the largest increase in quantity shown in the table. The by-product, offal, decreased in quantity, and rye flour, relatively unimportant, decreased in both quantity and value. In 1909, 644 pairs of rolls and 25 runs of stone were reported as the equipment of the mills of the state. In the same year eight establishments manufactured sacks.

Printing and publishing.—The best index of the development of this industry is the growth in the number of publications and their aggregate circulation per issue. The following table gives these details for the different classes of publications for the years 1909, 1904, and 1899:

PERIOD OF ISSUE.	NUMBER OF PUBLICATIONS.			AGGREGATE CIRCULATION PER ISSUE.		
	1909	1904	1899	1909	1904	1899
Total.....	362	331	265	1,133,364	1,092,697	521,213
Daily.....	63	42	42	835,147	209,185	1167,016
Sunday.....	13	14	17	223,008	222,854	(¹)
Semiweekly.....	6	7	4	5,609	5,301	2,500
Weekly.....	278	274	179	338,062	294,242	285,425
Monthly.....	31	38	19	230,308	348,815	72,947
All other classes.....	1	6	4	1,200	12,300	3,325

¹ Sunday issues included with dailies.² Includes one triweekly.

As shown in the table, the aggregate circulation per issue more than doubled from 1899 to 1904, while the increase was slight from 1904 to 1909. This irregular development of the state's newspapers and periodicals as a whole is due almost entirely to the fluctuations in the circulation of the monthlies, which increased nearly

fourfold from 1899 to 1904 and fell off decidedly during the succeeding five-year period. From 1904 to 1909 the dailies and weeklies increased in number and in circulation, while Sunday publications, semiweeklies, monthlies, and "All other classes" decreased in number, and monthlies and "All other classes" in circulation.

There were published in the state, in 1909, four Italian weeklies and two semiweeklies; three Spanish weeklies; two Spanish-English weeklies; one German daily and two weeklies; one Servian, one Slavonian, and one Swedish weekly; and one Japanese semiweekly.

Lumber and timber products.—The state has a very extensive and largely undeveloped timber area. The following statement shows the quantities of the principal products of the sawmills of the state for 1909 and 1899:

PRODUCT.	1909	1899
Rough lumber.....M feet b. m.	141,710	133,746
Shingles.....thousands	657	5,105
Lath.....thousands	11,494	6,558

Laundries.—Statistics for steam laundries are not included in the general tables, or in the totals for manufacturing industries. In 1909 there were 99 such establishments in the state of Colorado, 36 of which were in Denver, 5 in Pueblo, 4 in Colorado Springs, and 2 in Trinidad.

The following statement summarizes the statistics:

Number of establishments.....	99
Persons engaged in the industry.....	2,076
Proprietors and firm members.....	103
Salaried employees.....	140
Wage earners (average number).....	1,833
Primary horsepower.....	1,895
Capital.....	\$1,270,656
Expenses.....	1,595,638
Services.....	1,055,461
Materials.....	290,814
Miscellaneous.....	249,863
Amount received for work done.....	1,980,693

Forty-five out of the 99 establishments reported were under individual ownership, 28 under firm, and 26 under corporate ownership. Three establishments had receipts for the year's business amounting to be-

tween \$100,000 and \$1,000,000, 27 had receipts of between \$20,000 and \$100,000, and 69 receipts of less than \$20,000 each.

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.....	1,696	82.9	July.....	1,996	97.6
February.....	1,684	82.3	August.....	2,046	100.0
March.....	1,707	83.4	September.....	1,967	95.9
April.....	1,756	85.8	October.....	1,855	90.7
May.....	1,763	83.2	November.....	1,850	90.4
June.....	1,844	90.1	December.....	1,835	89.7

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.....		1,895
Owued.....		1,443
Steam.....	67	1,428
Water motors.....	1	15
Rented.....		452
Electric.....	42	272
Other.....		180

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

KIND.	Unit.	Quantity.
Coal:		
Anthracite.....	Tons.....	428
Bituminous.....	Tons.....	25,655
Wood.....	Cords.....	20
Oil.....	Barrels.....	65
Gas.....	1,000 feet.....	7,493

Custom sawmills and gristmills.—Statistics for custom sawmills and gristmills are not included in the general tables or in the totals for manufacturing industries and can not be presented separately here without divulging individual operations.

MANUFACTURES—COLORADO.

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.				Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
			Total.	Proprietors and firm members.	Salaries and employees.	Wage earners (average number).							
			Expressed in thousands.										
STATE—All industries.....	1909	2,034	34,115	1,722	4,326	28,067	154,615	\$162,668	\$5,648	\$19,912	\$80,491	\$130,044	\$49,558
	1904	1,606	25,888	1,398	2,877	21,813	124,907	107,664	3,649	15,100	63,114	100,144	37,030
	1899	1,323	.....	.....	1,870	19,498	43,434	58,173	2,059	11,708	60,751	89,068	28,317
Bread and other bakery products.....	1909	250	1,325	272	164	889	613	1,076	163	559	2,297	3,969	1,672
	1904	188	934	200	64	670	231	943	77	411	1,487	2,657	1,170
	1899	132	621	135	66	420	.....	562	48	236	365	1,607	742
Brick and tile.....	1909	69	1,036	46	68	922	3,923	2,421	79	637	511	1,670	1,159
	1904	63	580	52	33	495	2,192	1,039	39	322	164	817	653
	1899	65	532	76	18	438	1,083	523	18	237	86	497	411
Butter, cheese, and condensed milk.....	1909	39	304	26	68	210	657	1,221	68	130	1,924	2,340	416
	1904	20	141	16	28	97	476	583	31	59	1,081	1,290	209
	1899	38	133	35	18	80	403	204	11	40	471	618	147
Canning and preserving.....	1909	20	630	15	97	518	1,349	1,486	107	250	672	1,528	856
	1904	15	358	14	29	315	541	554	39	136	429	821	392
	1899	12	.....	.....	27	237	.....	312	29	76	250	406	156
Cars and general shop construction and repairs by steam-railroad companies.	1909	29	4,300	.....	307	3,993	3,947	4,708	363	3,393	2,604	6,559	3,955
	1904	34	3,267	.....	215	3,052	2,422	1,646	253	2,265	2,663	5,259	2,596
	1899	29	2,824	.....	137	2,687	1,152	1,082	148	1,677	1,278	3,142	1,864
Confectionary.....	1909	35	483	32	102	349	145	580	92	136	531	1,023	492
	1904	19	296	14	43	239	99	341	44	105	294	685	391
	1899	10	.....	.....	70	153	.....	277	46	62	225	420	196
Flour-mill and gristmill products.....	1909	77	429	47	100	282	6,810	4,835	134	220	6,672	7,868	1,196
	1904	59	362	26	92	244	5,927	2,326	104	203	4,797	5,783	986
	1899	49	.....	.....	87	272	4,701	1,977	76	167	3,769	4,441	672
Foundry and machine-shop products.....	1909	111	2,250	75	362	1,813	4,325	7,056	539	1,280	2,804	5,907	3,103
	1904	83	1,677	80	146	1,451	2,530	3,241	211	1,062	1,933	4,108	2,175
	1899	84	.....	.....	122	1,875	.....	2,909	153	1,162	1,720	4,159	2,439
Furniture and refrigerators.....	1909	14	224	7	41	176	253	494	45	146	257	542	285
	1904	11	186	10	19	157	164	167	22	137	178	432	254
	1899	4	60	2	7	51	24	77	8	34	90	170	80
Ice, manufactured.....	1909	30	315	11	53	251	4,361	2,415	65	190	126	570	444
	1904	16	182	9	35	138	2,187	1,240	35	93	71	376	305
	1899	6	117	6	18	93	292	664	21	54	31	204	173
Leather goods.....	1909	30	363	29	65	269	109	585	68	172	539	1,054	515
	1904	22	280	19	36	175	38	364	36	125	258	577	319
	1899	16	.....	.....	97	154	.....	230	22	100	239	442	203
Liquors, malt.....	1909	11	514	5	85	424	2,434	7,327	103	349	907	3,311	2,404
	1904	11	367	7	60	300	3,001	4,702	137	243	458	2,120	1,662
	1899	14	371	9	39	323	1,050	5,682	78	257	376	2,043	1,667
Lumber and timber products.....	1909	263	2,614	261	163	2,190	11,177	3,472	172	1,458	1,396	4,185	2,789
	1904	110	1,631	109	92	1,430	6,659	1,892	83	896	806	2,497	1,661
	1899	148	.....	.....	90	1,507	5,789	1,605	80	790	1,099	2,638	1,539
Marble and stone work.....	1909	44	346	52	27	267	694	967	32	208	220	626	406
	1904	33	276	36	23	212	359	283	33	200	231	626	395
	1899	39	.....	.....	12	399	.....	410	14	279	224	606	472
Pottery, terra-cotta, and fire-clay products....	1909	6	231	3	14	214	460	1,079	26	143	108	486	328
	1904	11	511	4	31	476	2,108	832	51	208	296	787	491
	1899	10	423	7	42	374	1,005	856	60	216	161	574	413
Printing and publishing.....	1909	439	3,747	406	975	2,366	2,045	4,941	1,104	1,823	1,806	6,962	5,156
	1904	419	2,916	399	615	1,902	1,531	3,604	701	1,343	1,311	5,467	4,156
	1899	288	.....	.....	372	1,896	.....	2,670	353	1,130	823	3,697	2,874
Slaughtering and meat packing.....	1909	13	834	5	170	659	2,450	3,653	210	389	8,265	9,657	1,362
	1904	11	303	4	52	247	888	1,107	55	175	2,782	3,324	542
	1899	14	316	7	43	261	.....	1,331	61	171	3,722	4,344	622
Tobacco manufactures.....	1909	99	563	104	32	427	.....	427	59	306	353	1,021	603
	1904	117	632	123	23	481	.....	299	28	308	330	979	643
	1899	80	457	97	23	337	.....	200	20	223	234	680	446
All other industries.....	1909	445	13,607	326	1,433	11,848	108,868	113,325	2,129	8,123	48,464	70,816	22,352
	1904	363	11,039	271	1,036	8,732	93,554	82,489	1,570	6,749	43,539	61,539	18,000
	1899	281	.....	.....	577	7,941	.....	35,959	813	4,788	45,083	58,290	13,202

¹ Excluding statistics for one establishment, to avoid disclosure of individual operations.
² Excluding statistics for six establishments, to avoid disclosure of individual operations.
³ Excluding statistics for two establishments, to avoid disclosure of individual operations.

MANUFACTURES—COLORADO.

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.				Pri- mary horse- power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manu- facture.
			Total.	Proprietors and firm members.	Salaried employ-ees.	Wage earners (average number).							
DENVER—All industries.....	1909	766	15,037	586	2,393	12,058	25,185	\$47,534	\$3,019	\$8,405	\$30,927	\$51,539	\$20,612
	1904	722	11,752	596	1,484	9,672	.....	27,434	1,818	6,711	21,000	36,660	15,660
	1899	574	.....	.....	1,036	8,500	.....	31,271	1,181	5,236	24,472	37,906	13,434
Brass and bronze products.....	1909	5	51	5	4	42	52	45	5	30	75	145	70
	1904	4	35	2	1	32	.....	58	1	22	48	92	44
	1899	3	22	2	1	19	.....	30	2	12	35	65	27
Bread and other bakery products.....	1909	91	707	88	117	594	487	1,177	134	339	1,515	2,546	1,081
	1904	75	506	72	52	442	.....	669	68	250	931	1,656	725
	1899	79	440	70	59	311	.....	405	44	103	506	1,132	536
Brick and tile.....	1909	26	627	17	34	576	1,367	908	44	376	357	1,041	634
	1904	29	345	31	11	303	.....	422	12	208	83	474	386
	1899	20	237	22	7	208	.....	295	9	128	41	262	221
Canning and preserving.....	1909	9	152	8	30	114	300	303	37	65	202	505	303
	1904	8	128	10	15	103	.....	251	26	57	178	347	169
	1899	5	.....	.....	9	81	.....	35	5	13	27	63	36
Carriages and wagons and materials.....	1909	12	105	15	6	84	64	96	6	55	45	160	115
	1904	25	152	27	4	121	.....	195	4	39	85	251	166
	1899	14	89	18	4	77	.....	112	3	55	45	142	97
Cars and general shop construction and repairs by steam-railroad companies.	1909	5	1,845	.....	139	1,708	1,485	2,473	154	1,477	1,226	2,998	1,740
	1904	5	1,368	.....	67	1,271	.....	621	112	954	950	2,072	1,116
	1899	5	1,075	.....	90	1,005	.....	905	60	628	579	1,295	716
Confectionery.....	1909	21	338	19	65	254	97	403	65	94	407	760	353
	1904	14	230	10	36	134	.....	262	37	83	241	500	319
	1899	6	.....	.....	40	95	.....	169	28	39	159	290	131
Foundry and machine-shop products.....	1909	67	1,573	38	267	1,268	3,040	5,234	409	875	2,300	4,593	2,298
	1904	60	1,244	38	109	1,097	.....	2,373	170	802	1,551	3,275	1,724
	1899	51	.....	.....	85	1,221	.....	1,971	117	759	1,134	2,534	1,400
Leather goods.....	1909	17	254	18	50	177	70	382	60	108	318	651	393
	1904	16	195	15	29	121	.....	278	28	84	158	369	231
	1899	9	.....	.....	19	95	.....	166	16	60	158	281	123
Liquors, malt.....	1909	4	201	.....	51	210	1,283	4,894	126	178	432	1,675	1,243
	1904	3	191	.....	35	156	.....	3,159	95	121	293	1,226	938
	1899	4	230	3	21	200	.....	4,954	50	108	225	1,440	1,215
Lumber and timber products.....	1909	22	578	17	46	515	1,509	821	43	354	577	1,177	600
	1904	19	331	7	17	307	.....	321	20	229	255	603	343
	1899	10	332	6	25	301	.....	649	31	222	378	734	355
Marble and stone work.....	1909	26	195	30	14	151	389	303	16	133	160	425	257
	1904	30	263	32	25	206	.....	273	31	191	214	589	375
	1899	25	.....	.....	0	282	.....	221	10	230	203	580	377
Printing and publishing.....	1909	150	2,354	111	707	1,536	1,030	2,759	345	1,215	1,350	4,833	3,433
	1904	155	1,818	125	440	1,253	.....	2,018	517	896	1,018	4,836	3,818
	1899	124	.....	.....	203	1,131	.....	1,583	262	733	537	2,459	1,922
Tobacco manufactures.....	1909	51	441	51	32	358	.....	347	59	246	265	792	527
	1904	56	435	56	19	360	.....	212	29	232	234	711	477
	1899	41	.....	.....	28	241	.....	129	20	104	160	485	325
All other industries.....	1909	260	5,406	171	822	4,473	13,986	27,329	1,017	2,856	21,639	29,264	7,575
	1904	243	4,481	171	594	3,716	.....	16,322	671	2,493	14,805	19,579	4,774
	1899	178	.....	.....	396	3,275	.....	19,057	518	1,867	20,192	26,144	5,952

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

Colorado Springs.....	1909	59	694	40	133	516	907	\$2,023	\$144	\$413	\$323	\$1,733	\$910
	1904	49	547	45	92	410	.....	1,611	84	284	412	1,101	689
	1899	34	.....	.....	78	409	.....	1,127	50	225	365	845	480
Pueblo.....	1909	94	1,637	73	244	1,320	2,276	4,137	264	937	1,497	3,345	1,848
	1904	80	1,120	65	114	941	.....	2,040	129	661	941	2,197	1,256
	1899	69	.....	.....	70	790	.....	1,184	70	458	672	1,440	768
Trinidad.....	1909	30	279	20	39	220	851	869	37	170	310	814	504
	1904	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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 Excluding statistics for five establishments, to avoid disclosure of individual operations.
⁴ Figures not available.

MANUFACTURES—COLORADO.

TABLE II.—DETAIL STATEMENT FOR:

INDUSTRY.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.										WAGE EARNERS—NUMBER DEC. 15, OR NEAREST REPRESENTATIVE DAY.					Primary horse-power.
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks.		Wage earners.			Total.	16 and over.		Under 16.				
					Male.	Female.	Average number.	Number.			Male.	Female.	Male.	Female.			
								Maximum month.	Minimum month.								
1 All industries.....	2,034	34,115	1,722	1,287	2,518	521	28,087	No 32,050	Fe 25,181	(1)	(1)	(1)	(1)	(1)	154,615		
2 Artificial stone.....	33	112	31	8	5	68	My 95	Ja 33	85	85					36		
3 Boxes, cigar.....	3	26	4			21	Je 22	Fe 20	21	9	12				14		
4 Brass and bronze products.....	5	51	5	2	2	42	No 48	Mh 35	43	41		2			52		
5 Bread and other bakery products.....	250	1,325	272	21	85	58	889	Au 939	Ja 840	899	840	244	14	1	613		
6 Brick and tile.....	69	1,036	40	47	18	3	922	Jy 1,308	Ja 575	1,213	1,194	1	18		3,923		
7 Brooms.....	6	57	6	2	2	47	Au 49	Ap 46	48	44	4				32		
8 Brushes.....	4	10	4		1	5	No 6	My 5	6	5	1				11		
9 Butter, cheese, and condensed milk.....	39	304	26	19	27	22	210	Jy 247	Ja 187	200	155	45			657		
10 Canning and preserving.....	30	630	15	37	42	18	518	Au 1,161	Ap 157	1,314	433	867	5	6	1,349		
11 Carriages and wagons and materials.....	21	158	25	6	3	124	Jy 142	Ja 108	108	108					125		
12 Cars and general shop construction and repairs by steam-railroad companies.....	20	4,300		125	180	2	3,993	De 4,373	Jy 3,572	4,239	4,237	2			3,947		
13 Cars and general shop construction and repairs by street-railroad companies.....	6	234		5	4		225	Jy 240	Mh 212	218	217		1		454		
14 Confectionery.....	35	483	32	21	47	34	349	De 419	Fe 310	423	169	254			145		
15 Copper, tin, and sheet-iron products.....	21	137	23	7	2	1	104	De 122	Ja 82	132	130		2		44		
16 Fancy articles, not elsewhere specified.....	3	16	3		3		10	Au 14	Ja 7	10	3	7					
17 Flour-mill and gristmill products.....	77	429	47	41	58	1	282	Oc 320	Jy 253	289	288		1		6,310		
18 Foundry and machine-shop products.....	111	2,250	75	131	201	30	1,813	Se 2,001	Ja 1,672	1,813	1,802	3	13		4,325		
19 Furniture and refrigerators.....	14	224	7	12	23	6	176	De 195	Ja 150	195	189	3	3		258		
20 Ice, manufactured.....	30	315	11	24	28	1	251	Au 416	De 165	181	180		1		4,361		
21 Jewelry.....	11	98	13	3	4	5	73	De 77	Fe 70	79	74	3	2		33		
22 Leather goods.....	30	363	29	19	37	9	269	No 286	Ja 254	284	243	41			109		
23 Liquors, malt.....	11	514	5	32	53		424	Jy 478	Ja 384	423	420		3		2,434		
24 Lumber and timber products.....	283	2,614	261	81	77	5	2,190	Au 2,577	Ap 1,793	2,409	2,377	28	4		11,177		
25 Marble and stone work.....	44	346	52	15	11	1	267	Je 297	Ja 224	278	278				694		
26 Mattresses and spring beds.....	6	141	1	11	9	2	118	Oc 138	Fe 71	124	82	39	3		274		
27 Models and patterns, not including paper patterns.....	4	15	5				10	Ap 13	No 8	8	8				29		
28 Patent medicines and compounds and druggists' preparations.....	23	72	8	11	3		50	Mh 59	Ja 43	64	41	23			60		
29 Photo-engraving.....	4	28	2	3		1	22	De 24	Fe 20	24	23	1			49		
30 Pottery, terra-cotta, and fire-clay products.....	6	231	3	7	2	5	214	Jy 267	Ja 181	228	222	4	2		450		
31 Printing and publishing.....	439	3,747	406	184	625	166	2,366	De 2,483	My 2,307	2,508	2,048	401	54	5	2,045		
32 Slaughtering and meat packing.....	13	834	5	24	136	10	659	Je 602	No 634	647	620	14	13		2,450		
33 Stoves and furnaces, including gas and oil stoves.....	6	45	3	5	5	2	30	No 31	Ap 28	30	30				15		
34 Tobacco manufactures.....	99	563	104	12	15	5	427	De 445	Mh 385	434	351	79	4				
35 Wall plaster.....	4	70		5	1		64	Oc 68	Ja 52	61	61				410		
36 All other industries ¹	285	12,337	193	307	812	130	10,835								107,200		

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—

Agricultural implements.....	3	Cars, street-railroad, not including operations of railroad companies.....	1	Explosives.....	1
Artificial limbs.....	2	Cement.....	2	Firearms and ammunition.....	2
Automobiles, including bodies and parts.....	4	Charcoal.....	1	Fireworks.....	1
Awnings, tents, and sails.....	7	Clothing, men's, including shirts.....	4	Flags, banners, regalia, society badges, and emblems.....	1
Babbit metal and solder.....	3	Clothing, women's.....	2	Flavoring extracts.....	1
Baking powders and yeast.....	2	Coffee and spice, roasting and grinding.....	10	Food preparations.....	22
Beet sugar.....	15	Coffins, burial cases, and undertakers' goods.....	2	Fur goods.....	2
Bicycles, motorcycles, and parts.....	4	Coke.....	12	Furnishing goods, men's.....	2
Blackening and cleansing and polishing preparations.....	2	Coopers' and wooden goods, not elsewhere specified.....	2	Furs, dressed.....	3
Boots and shoes, including cut stock and findings.....	1	Cutlery and tools, not elsewhere specified.....	2	Gas and electric fixtures and lamps and reflectors.....	2
Boxes, fancy and paper.....	3	Dairymen's, poultrymen's, and apiarists' supplies.....	1	Gas, illuminating and heating.....	10
Butter, reworking.....	1	Electrical machinery, apparatus, and supplies.....	4	Glass, cutting, staining, and ornamenting.....	8
Carpets, rag.....	2	Electroplating.....	1	Gloves and mittens, leather.....	1
Cars, steam-railroad, not including operations of railroad companies.....	2			Gold and silver, reducing and refining, not from the ore.....	1

MANUFACTURES—COLORADO.

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	\$162,667,801	\$114,689,902	\$2,827,671	\$2,820,013	\$19,012,342	\$8,528,516	\$71,962,388	\$644,057	\$1,359,224	\$308,002	\$6,827,689	\$180,044,812	\$49,553,408
2	146,662	119,760	7,632	3,350	44,537	681	53,134	1,130	700	1,084	6,852	152,873	99,058
3	30,415	31,465	.....	832	8,804	408	19,406	320	315	.....	1,320	41,895	22,081
4	45,207	122,394	2,800	2,144	36,116	4,463	70,585	3,060	440	.....	2,180	145,082	70,044
5	1,676,438	3,368,683	48,985	113,870	559,172	72,320	2,224,688	71,810	14,086	431	202,411	3,968,760	1,671,762
6	2,420,670	1,358,835	63,056	10,165	637,220	294,161	217,242	2,125	13,904	.....	114,962	1,670,042	1,158,639
7	70,113	90,816	1,800	1,880	26,368	1,284	65,378	1,867	542	.....	1,180	118,758	52,086
8	14,595	15,951	.....	750	3,670	380	9,400	1,170	90	.....	476	19,160	6,371
9	1,220,524	2,238,279	30,000	88,097	129,712	16,225	1,997,377	6,664	6,464	224	104,516	2,339,765	416,168
10	1,486,325	1,219,959	63,835	43,385	250,241	19,978	652,440	11,277	6,561	.....	172,233	1,527,779	855,352
11	160,264	196,393	6,080	2,016	87,301	3,935	81,515	7,165	1,743	166	6,392	260,295	174,845
12	4,707,532	6,520,442	216,403	146,270	3,393,142	130,147	2,473,923	100	62,524	5,814	101,110	6,558,920	3,954,850
13	231,482	273,635	6,893	3,406	140,346	1,624	113,411	.....	5,030	.....	2,916	273,635	158,600
14	579,826	894,850	20,782	62,138	135,701	10,081	521,082	34,871	3,940	.....	97,255	1,023,073	491,910
15	201,965	249,941	8,333	2,988	88,720	1,563	131,523	6,741	818	791	8,514	283,673	150,687
16	35,500	16,395	.....	3,058	4,819	115	5,348	930	35	.....	1,590	24,000	18,537
17	4,835,438	7,292,244	73,928	60,400	219,908	53,085	6,619,220	2,122	20,646	150	233,776	7,867,706	1,195,392
18	7,056,055	5,196,417	344,314	194,495	1,280,148	147,637	2,656,323	40,917	37,355	44,266	449,962	5,908,505	3,102,635
19	493,564	496,939	17,915	27,511	145,891	3,871	253,288	14,415	2,563	903	20,582	542,122	284,963
20	2,415,090	445,382	36,830	28,200	180,803	93,163	32,042	1,610	16,270	.....	47,655	560,839	443,734
21	144,475	205,572	5,460	11,100	72,205	1,399	81,687	13,271	1,142	.....	19,218	278,883	195,797
22	584,788	883,170	29,260	28,495	172,319	2,710	535,701	18,446	4,648	.....	81,501	1,054,388	515,837
23	7,326,513	2,698,504	103,652	89,350	348,928	64,325	842,655	1,600	489,119	.....	768,977	3,310,755	2,403,775
24	3,472,112	3,475,460	112,820	58,937	1,457,889	37,977	1,357,982	9,338	32,123	3,200	465,128	4,184,864	2,788,905
25	966,612	516,957	21,320	10,381	208,465	12,855	207,039	2,989	3,460	12,848	37,610	625,681	405,787
26	176,187	337,770	14,480	7,533	44,839	4,010	237,842	10,410	1,117	.....	16,633	369,371	126,613
27	7,402	12,036	.....	.....	3,056	305	2,389	1,344	88	.....	465	19,677	16,983
28	115,450	122,013	10,073	1,975	23,821	1,080	62,689	3,936	911	100	17,428	168,433	104,664
29	25,039	41,030	2,850	650	23,204	2,161	6,813	2,380	97	.....	2,875	50,180	41,206
30	1,078,694	330,267	15,545	10,550	142,741	38,641	69,380	96	4,347	.....	48,717	435,822	327,551
31	4,941,071	5,959,377	427,078	670,743	1,823,196	70,125	1,729,987	146,941	35,881	224,556	818,270	6,961,721	5,155,609
32	3,653,300	6,243,976	61,054	148,519	389,133	67,007	3,226,872	1,970	19,141	.....	329,380	9,656,810	1,362,031
33	44,545	90,072	4,840	5,825	27,011	1,158	38,740	3,310	263	4,800	4,125	98,285	53,387
34	426,817	894,727	32,840	25,759	305,661	1,440	356,683	10,958	69,819	100	85,467	1,021,241	633,118
35	152,500	109,322	5,400	1,080	36,523	11,016	44,412	.....	1,116	.....	9,775	162,469	107,041
36	111,724,576	59,604,273	1,021,807	982,193	7,446,905	7,349,061	40,653,294	203,878	492,976	7,903	2,046,226	68,351,860	20,940,505

* All other industries embrace—Continued.

Grease and tallow.....	2	Lime.....	3	Scales and balances.....	2
Hair work.....	1	Looking-glass and picture frames.....	1	Show cases.....	1
Hand stamps and stencils and brands.....	3	Malt.....	1	Signs and advertising novelties.....	1
Hats and caps, other than felt, straw, and wool.....	1	Mineral and soda waters.....	55	Silverware and plated ware.....	2
Hosiery and knit goods.....	1	Mirrors.....	1	Smelting and refining, copper.....	1
House-furnishing goods, not elsewhere specified.....	1	Mucilage and paste.....	1	Smelting and refining, lead.....	6
Ink, printing.....	1	Musical instruments and materials, not specified.....	1	Smelting and refining, zinc.....	1
Ink, writing.....	2	Red.....	1	Soap.....	3
Instruments, professional and scientific.....	4	Musical instruments, pianos and organs and materials.....	1	Soda-water apparatus.....	1
Iron and steel, blast furnaces.....	1	Optical goods.....	2	Starch.....	1
Iron and steel, steel works and rolling mills.....	1	Paint and varnish.....	4	Statuary and art goods.....	3
Iron and steel forgings.....	1	Paper goods, not elsewhere specified.....	1	Steam packing.....	4
Jewelry and instrument cases.....	1	Petroleum, refining.....	4	Sulphuric, nitric, and mixed acids.....	1
Keolin and ground earths.....	1	Photographic apparatus and materials.....	2	Vinegar and cider.....	3
Lapidary work.....	1	Roofing materials.....	1	Window shades and fixtures.....	1
Lead, bar, pipe, and sheet.....	1	Safes and vaults.....	1	Wirework, including wire rope and cable.....	4
Leather, tanned, curried, and finished.....	1			Wool scouring.....	1

MANUFACTURES—COLORADO.

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

INDUSTRY AND 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 All industries.....	768	15,037	586	616	1,436	341	12,058	10,521	1,430	107	12,576	10,963	1,500	103	10	25,165.
2 Brass and bronze products.....	5	51	5	2	2	2	42	40	2	2	43	41	2	2	52	
3 Bread and other bakery products.....	91	797	86	17	69	31	594	379	206	9	599	382	208	9	487	
4 Brick and tile.....	26	627	17	23	11	11	576	564	12	12	711	696	15	15	1,367	
5 Canning and preserving.....	9	152	8	0	13	8	114	50	64	124	54	70	70	300		
6 Carriages and wagons and materials.....	12	105	16	4	2	2	84	84	0	0	71	71	0	0	64	
7 Cars and general shop construction and repairs by steam-railroad companies.....	5	1,845	48	89	2	2	1,706	1,704	2	2	1,751	1,740	2	2	1,485	
8 Confectionery.....	21	338	19	10	23	26	254	89	165	9	299	116	183	9	97	
9 Foundry and machine-shop products.....	67	1,573	38	92	152	23	1,268	1,253	2	13	1,296	1,281	2	13	3,040	
10 Leather goods.....	17	254	18	18	34	7	177	145	32	138	154	34	34	70		
11 Liquors, malt.....	4	261	12	39	0	0	210	210	0	0	214	214	0	0	1,283	
12 Lumber and timber products.....	22	578	17	25	20	1	515	511	4	4	558	554	4	4	1,509	
13 Marble and stone work.....	26	105	30	7	6	1	151	151	0	0	143	143	0	0	389	
14 Printing and publishing.....	150	2,354	111	111	473	123	1,536	1,280	230	26	1,624	1,352	244	26	1,036	
15 Tobacco manufactures.....	51	441	51	12	15	5	353	284	73	1	343	276	71	1	.....
16 All other industries.....	260	5,466	171	220	488	114	4,473	3,767	666	40	4,607	3,880	686	33	8	13,986

1 All other industries embrace: Agricultural implements, 1; artificial stone, 5; automobiles, including bodies and parts, 3; awnings, tents, and sails, 5; babbitt metal and solder, 3; baking powders and yeast, 1; bicycles, motorcycles, and parts, 4; blacking and cleansing and polishing preparations, 2; boots and shoes, including cut stock and findings, 1; boxes, cigar, 3; boxes, fancy and paper, 2; brooms, 2; brushes, 4; butter, cheese, and condensed milk, 5; butter, reworking, 1; carpets, rag, 2; cars and general shop construction and repairs by street-railroad companies, 2; cars, steam-railroad, not including operations of railroad companies, 1; cars, street-railroad, not including operations of railroad companies, 1; clothing, men's, including shirts, 4; clothing, women's, 2; coffee and spice, roasting and grinding, 6; coffins, burial cases, and undertakers' goods, 2; cooperage and wooden goods, not elsewhere specified, 1; copper, tin, and sheet-iron products, 14; cutlery and tools, not elsewhere specified, 1; electrical machinery, apparatus, and supplies, 4; electroplating, 1; fancy articles, not elsewhere specified, 3; firearms and ammunition, 2; fireworks, 1; flags, banners, regalia, society badges, and emblems, 1; flavoring extracts, 1; flour-mill and gristmill products, 7; food preparations, 9; fur goods, 1; glass, furnishing goods, men's, 2; furniture and refrigerators, 14; furs, dressed, 1; gas and electric fixtures and lamps and reflectors, 2; gas, illuminating and heating, 1; glass, cutting, staining, and ornamenting, 3; gloves and mittens, leather, 1; gold and silver, reducing and refining, not from the ore, 1; grease and tallow, 1; hair work, 1; hand

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

1	COLORADO SPRINGS.....	59	694	40	40	77	21	518	459	55	2	542	482	58	2	907
2	FUEBLO.....	94	1,637	73	70	144	30	1,320	1,208	111	1	1,405	1,285	118	2	2,276
3	TRINIDAD.....	30	279	20	10	13	10	220	206	14	.....	220	206	14	.....	854

MANUFACTURES—COLORADO.

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.

DENVER.

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 \$47,533,994	\$46,942,303	\$1,400,088	\$1,618,670	\$8,405,217	\$1,078,773	\$29,848,532	\$411,343	\$609,666	\$220,219	\$3,349,795	\$51,538,547	\$20,611,242
2 45,267	122,394	2,800	2,144	36,116	4,463	70,585	3,660	440	.....	2,188	145,092	70,044
3 1,176,627	2,241,944	44,586	89,178	338,540	41,783	1,473,406	34,032	9,072	.....	210,688	2,546,015	1,030,820
4 907,822	838,058	32,818	11,420	379,168	177,447	179,242	1,925	8,040	.....	50,998	1,041,089	684,400
5 863,384	409,837	20,875	16,567	64,934	5,934	198,439	4,920	2,104	.....	98,064	505,050	302,687
6 95,035	112,595	4,080	1,441	54,734	2,391	42,474	4,110	584	166	2,215	160,207	115,342
7 2,472,549	2,966,480	80,855	72,842	1,477,251	64,764	1,161,345	100	36,526	.....	72,797	2,966,480	1,740,371
8 403,488	668,643	23,952	40,634	99,977	6,724	400,711	29,351	2,950	.....	70,344	759,067	352,172
9 5,233,977	4,033,149	257,784	145,001	874,661	115,741	2,184,697	39,781	26,674	2,494	386,816	4,597,727	2,297,259
10 382,209	574,815	26,260	33,775	107,932	1,829	316,077	12,837	3,346	.....	72,759	651,001	333,085
11 4,894,063	1,447,997	55,838	69,820	175,633	31,797	400,664	.....	275,245	.....	438,905	1,675,287	1,242,826
12 820,534	1,073,730	32,270	16,140	354,304	11,128	566,302	6,958	4,681	366	81,491	1,177,257	590,827
13 393,034	352,514	10,100	5,881	132,905	5,907	163,069	2,623	2,271	10,848	19,110	426,292	257,316
14 2,793,639	4,317,386	319,670	525,434	1,215,104	43,158	1,306,889	94,035	18,190	198,278	599,619	4,833,001	3,482,954
15 346,926	712,577	32,840	25,750	246,305	1,156	293,066	8,921	55,871	.....	77,750	792,090	629,968
16 27,329,940	27,069,584	455,301	502,034	2,856,558	564,551	21,122,666	108,030	162,063	8,267	1,169,454	29,232,342	7,575,125

stamps and stencils and brands, 2; hats and caps, other than felt, straw, and wool, 1; hosiery and knit goods, 1; house-furnishing goods, not elsewhere specified, 1; ice, manufactured, 2; ink, printing, 1; ink, writing, 2; instruments, professional and scientific, 4; iron and steel forgings, 1; jewelry, 9; jewelry and instrument cases, 1; kaolin and ground earths, 1; lapidary work, 1; lead, bar, pipe, and sheet, 1; leather, tanned, curried, and finished, 1; looking-glass and picture frames, 1; mattresses and spring beds, 4; mineral and soda waters, 9; mirrors, 1; models and patterns, not including paper patterns, 4; muckage and paste, 1; musical instruments and materials, not specified, 1; musical instruments, pianos and organs and materials, 1; optical goods, 2; paint and varnish, 4; paper goods, not elsewhere specified, 1; patent medicines and compounds and druggists' preparations, 20; photographic apparatus and materials, 2; photo-engraving, 2; pottery, terra-cotta, and fire-clay products, 4; roofing materials, 1; safes and vaults, 1; scales and balances, 2; signs and advertising novelties, 1; silverware and plated ware, 2; slaughtering and meat packing, 7; smelting and refining, copper, 1; smelting and refining, lead, 1; soap, 2; soda-water apparatus, 1; statuary and art goods, 3; steam packing, 4; stoves and furnaces, including gas and oil stoves, 4; sulphuric, nitric, and mixed acids, 1; surgical appliances and artificial limbs, 2; vinegar and cider, 2; wall plaster, 1; window shades and fixtures, 1; wirework, including wire rope and cable, 1; wool scouring, 1.

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

1 \$2,023,418	\$1,554,071	\$69,320	\$75,085	\$112,576	\$50,754	\$772,240	\$18,312	\$12,900	\$17,001	\$125,933	\$1,732,759	\$909,785
2 4,137,029	2,994,601	110,444	153,070	957,398	112,750	1,384,553	23,305	31,560	4,230	211,076	3,344,789	1,847,486
3 869,471	649,107	21,204	16,234	170,460	17,420	293,043	12,980	52,838	592	64,356	814,353	603,890

CONNECTICUT.

INDUSTRIES IN GENERAL.

General character of the state.—Connecticut, with a gross area of 4,965 square miles, of which 145 represent water surface, is one of the smallest of the states and territories of continental United States—only two states, Delaware and Rhode Island, having a less area. Its population in 1910 was 1,114,756, as compared with 908,420 in 1900 and 746,258 in 1890. In 1910 the density of population for the state was 231.3 per square mile, the corresponding figure for 1900 being 188.5. Only three states had a greater average number of inhabitants per square mile. It ranked thirty-first among the 49 states and territories as regards population in 1910 and twenty-ninth in 1900. Eighty-nine and seven-tenths per cent of the entire population of the state resided in places having a population of 2,500 inhabitants or over, as against 87.2 per cent in 1900.

The state has four cities having a population of over 50,000—Bridgeport, Hartford, New Haven, and Waterbury. There are also 11 cities and boroughs having a population of over 10,000 but less than 50,000—Ansonia, Danbury, Meriden, Middletown, Naugatuck, New Britain, New London, Norwich, Stamford, Torrington, and Willimantic. These 15 cities and boroughs contained 56.6 per cent of the total population of the state and were credited with 68.2 per cent of the total value of its manufactures. Apart from the cities and boroughs named, 33.1 per cent of the population of the state resided in places of 2,500 inhabitants or over.

The prominence of Connecticut as a manufacturing state is due to several causes, chief of which are the early establishment of a number of important industries in the state and the unusually large amount of capital available for investment in manufacturing industries. Additional causes are the comparatively abundant water power in the state and its geographic location near New York City, with which many of the manufacturing centers of Connecticut have direct water transportation facilities. Bridgeport, New Haven, and New London are seaports of considerable prominence, and afford ample opportunities for domestic coastwise commerce. In addition, the main line of the most important railroad system in New England traverses Connecticut and gives direct and adequate connection with all parts of the country.

Importance and growth of manufactures.—Connecticut is preeminently a manufacturing state, and the growth and concentration of its population have been closely related to the increase in the importance of its manufacturing industries. During 1849 an average of 50,731 wage earners, representing 13.7 per cent of the total population, were employed in manufactures, while in 1909 an average of 210,792 wage earners, or 18.9 per cent of the total population, were so engaged. In 1849 the total value of the manufactures of the state, including the products of the neighborhood and hand industries, amounted to \$47,115,000, while in 1909, exclusive of the value of products of the neighborhood and hand industries, it reached \$490,272,000. These figures represent increases of 315.5 per cent in number of wage earners and 940.6 per cent in value of products. During this period the gross value of products per capita of the total population of the state increased from \$127 to \$440. Nevertheless the state's proportion of the total value of products manufactured in the United States fell from 4.6 per cent in 1849 to 2.8 per cent in 1899 and 2.4 per cent in 1909.

The rank of Connecticut among the states in regard to the value of its manufactured products was twelfth in 1909, as compared with eleventh in 1899, and fifth in 1849.

The next 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.

In 1909 the state of Connecticut had 4,251 manufacturing establishments, which gave employment to an average of 233,871 persons during the year and paid out \$135,756,000 in salaries and wages. Of the persons employed, 210,792 were wage earners.

These establishments turned out products to the value of \$490,272,000, to produce which materials costing \$257,259,000 were used. The value added by manufacture was thus \$233,013,000, 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 Connecticut as a whole showed greater development during the more recent five-year period, 1904-1909, than during the preceding five-year period, 1899-1904, although a marked increase is shown for both periods in all items, except in the number of establishments from 1899 to 1904. During the later period the number of establishments increased 22.3 per cent, the average number of wage

earners 16.1 per cent, the value of products 32.8 per cent, and the value added by manufacture 31.1 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 the figures representing values, since the increase shown is certainly due, in part, to the increase that has taken place in the price of commodities.

	NUMBER OR AMOUNT.			PER CENT OF INCREASE.	
	1909	1904	1899	1904-1909	1899-1904
Number of establishments.....	4,251	3,477	3,382	22.3	2.8
Persons engaged in manufactures.....	233,871	198,046	(¹)	18.1	-----
Proprietors and firm members.....	3,468	2,918	(¹)	18.8	-----
Salaried employees.....	19,611	13,523	9,258	45.0	46.1
Wage earners (average number).....	210,792	181,605	159,733	16.1	13.7
Primary horsepower.....	400,275	304,204	256,331	31.6	18.7
Capital.....	\$517,547,000	\$373,284,000	\$299,207,000	38.6	24.8
Expenses.....	429,904,000	323,610,000	274,170,000	30.8	19.9
Services.....	135,756,000	104,983,000	85,149,000	29.3	23.3
Salaries.....	25,637,000	17,040,000	11,755,000	50.5	45.0
Wages.....	110,119,000	87,943,000	73,394,000	25.2	19.8
Materials.....	257,259,000	191,302,000	169,672,000	34.5	12.7
Miscellaneous.....	36,889,000	32,325,000	19,349,000	14.1	67.1
Value of products.....	490,272,000	369,082,000	315,106,000	32.8	17.1
Value added by manufacture (value of products less cost of materials).....	233,013,000	177,780,000	145,434,000	31.1	22.2

¹ Figures not available.

The relative importance and growth of the leading manufacturing industries of the state are shown in the table on page 131.

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.

In addition to the industries presented separately in the following table there are 20 other important industries, each of which had a value of products in 1909 in excess of \$1,000,000. They are included under "All other industries" in the table in some cases 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 other industries, or because comparable statistics for the different census years can not be presented on account of changes in classification. These industries are as follows: Belting and hose, leather; bicycles, motorcycles, and parts; boots and shoes, rubber; brick and tile; carpets and rugs, other than rag; dentists' materials; furnishing goods, men's; gas and electric fixtures and lamps and reflectors; gold and silver, reducing and refining, not

from the ore; house-furnishing goods, not elsewhere specified; iron and steel, steel works and rolling mills; iron and steel, bolts, nuts, washers, and rivets, not made in steel works or rolling mills; iron and steel, nails and spikes, cut and wrought, not made in steel works or rolling mills; phonographs and graphophones; rubber goods, not elsewhere specified; screws, machine; screws, wood; sewing machines, cases, and attachments; soap; and wire. Statistics, however, for the manufacture of men's furnishing goods, gas and electric fixtures and lamps and reflectors, of rubber goods, "not elsewhere specified," and of sewing machines, cases, and attachments are presented in Table II for 1909.

Connecticut ranked second among the states in the production of rubber boots and shoes, measured by value of products, and the three gold and silver refineries of Connecticut reported a greater value of products than did those of any other state.

Although a few industries predominate in importance, it will be seen from Table II that there is, on the whole, a wide diversity in the manufacturing activities of the state. The most important industries listed in the next table, in which they are arranged in the order of the value of products, are briefly considered, by classification, in the paragraphs following the table.

INDUSTRY.	Number of establishments.	WAGE EARNERS.		VALUE OF PRODUCTS.		VALUE ADDED BY MANUFACTURE.		PER CENT OF INCREASE. ¹			
		Average number.	Per cent distribution.	Amount.	Per cent distribution.	Amount.	Per cent distribution.	Value of products.		Value added by manufacture.	
								1904-1909	1899-1904	1904-1909	1899-1904
All industries.....	4,251	210,792	100.0	\$490,272,000	100.0	\$233,013,000	100.0	52.8	17.1	81.1	22.2
Brass and bronze products.....	80	16,817	8.0	66,923,000	13.7	19,069,000	8.2	24.1	0.0	19.2	28.5
Foundry and machine-shop products.....	403	37,736	17.9	65,535,000	13.4	40,715,000	17.5	46.2	12.0	38.2	21.1
Cotton goods, including cotton small wares.....	52	14,300	6.8	24,232,000	4.9	12,272,000	5.3	31.5	19.0	49.3	5.4
Silk and silk goods, including throwsters.....	47	8,703	4.1	21,063,000	4.3	9,229,000	3.9	34.8	26.2	41.4	26.0
Firearms and ammunition.....	10	8,533	4.0	19,948,000	4.1	9,882,000	4.2	12.3	57.2	4.6	63.2
Woolen, worsted, and felt goods, and wool hats.....	56	7,789	3.7	19,363,000	3.9	6,525,000	2.8	25.1	22.5	20.6	14.8
Silverware and plated ware.....	31	6,223	3.0	15,837,000	3.2	8,005,000	3.7	94.9	-14.8	91.8	-7.7
Corsets.....	17	6,643	3.2	12,815,000	2.6	6,139,000	2.6	129.2	-18.3	111.2	-29.7
Automobiles, including bodies and parts.....	28	3,815	1.8	11,668,000	2.4	6,812,000	2.9	341.3	.....	360.0	.....
Cutlery and tools, not elsewhere specified.....	82	7,547	3.6	10,717,000	2.2	7,407,000	3.2	28.6	39.5	34.5	41.5
Hats, fur-felt.....	80	5,217	2.5	10,400,000	2.1	5,551,000	2.4	20.0	14.8	17.9	22.0
Electrical machinery, apparatus, and supplies.....	41	3,565	1.7	9,824,000	2.0	4,613,000	2.0	98.9	56.9	111.0	83.1
Lumber and timber products.....	393	3,495	1.7	7,846,000	1.6	3,928,000	1.7	63.7	13.2	69.8	12.0
Clocks and watches, including cases and materials.....	16	5,851	2.8	7,300,000	1.5	5,292,000	2.3	4.7	53.6	7.0	79.1
Bread and other bakery products.....	431	1,899	0.9	7,310,000	1.5	2,847,000	1.2	23.9	13.2	16.1	6.9
Printing and publishing.....	303	2,878	1.4	4,370,000	1.3	4,001,000	2.0	25.7	23.1	21.4	23.2
Hosiery and knit goods.....	21	3,340	1.6	6,801,000	1.2	2,752,000	1.2	8.0	32.8	8.1	38.3
Musical instruments, pianos and organs and materials.....	17	2,304	1.1	5,538,000	1.1	2,510,000	1.1	5.0	55.3	-12.4	67.2
Taper and wood pulp.....	51	1,720	0.8	5,527,000	1.1	2,224,000	1.0	9.7	41.3	-3.8	45.4
Slaughtering and meat packing.....	28	432	0.2	4,572,000	0.9	923,000	0.3	42.1	-10.1	52.3	-29.0
Liquors, malt.....	19	475	0.2	4,426,000	0.9	3,051,000	1.3	51.2	16.3	44.7	4.8
Needles, pins, and hooks and eyes.....	8	2,048	1.2	4,236,000	0.8	2,530,000	1.1	38.3	98.7	35.1	74.0
Typewriters and supplies.....	8	2,934	1.4	4,016,000	0.8	2,975,000	1.3	145.3	108.8	132.1	103.4
Copper, tin, and sheet-iron products.....	48	2,475	1.2	3,604,000	0.7	2,039,000	0.9	33.1	36.5	23.1	51.8
Dyeing and finishing textiles.....	10	1,719	0.8	3,582,000	0.7	2,082,000	0.9	60.8	-2.4	61.6	-6.5
Gas, illuminating and heating.....	28	926	0.4	3,446,000	0.7	2,441,000	1.0	34.7	80.0	40.9	63.6
Wirework, including wire rope and cable.....	28	1,420	0.7	3,345,000	0.7	1,697,000	0.7	28.7	108.7	25.6	97.8
Boxes, fancy and paper.....	38	1,849	0.9	2,911,000	0.6	1,525,000	0.7	6.2	84.6	14.1	17.7
Tobacco manufactures.....	265	1,513	0.7	2,735,000	0.6	1,674,000	0.7	16.5	32.3	11.7	35.7
Flour-mill and gristmill products.....	98	145	0.1	2,024,000	0.4	293,000	0.1	2.1	16.6	0.3	-3.0
Clothing, women's.....	17	1,382	0.7	1,716,000	0.4	918,000	0.4	50.3	78.5	62.8	44.6
Boots and shoes, including cut stock and findings.....	10	520	0.2	1,058,000	0.2	570,000	0.2	25.7	-13.1	14.2	-5.8
Buttons.....	20	1,057	0.5	1,035,000	0.2	900,000	0.4	13.1	35.0	6.3	28.9
Cars and general shop construction and repairs by steam-railroad companies.....	5	1,226	0.6	1,580,000	0.3	820,000	0.3	-20.7	-11.3	-33.4	15.3
Fertilizers.....	12	265	0.1	1,578,000	0.3	452,000	0.2	66.8	141.2	15.3	159.4
Paint and varnish.....	17	236	0.1	1,543,000	0.3	718,000	0.3	199.6	23.8	237.1	28.3
Paper goods, not elsewhere specified.....	10	632	0.3	1,521,000	0.3	938,000	0.3	-27.1	40.8	-1.7	17.6
Hat and cap materials.....	14	478	0.2	1,508,000	0.3	806,000	0.3	82.6	40.5	107.2	75.2
Clothing, men's, including shirts.....	28	751	0.4	1,382,000	0.3	630,000	0.3	-5.6	56.8	-10.4	45.8
Patent medicines and compounds and druggists' preparations.....	64	237	0.1	1,342,000	0.3	854,000	0.4	31.2	-27.0	16.5	-24.2
Marble and stone work.....	88	782	0.4	1,237,000	0.3	867,000	0.4	-17.4	76.7	-20.8	83.7
Confectionery.....	22	233	0.1	1,223,000	0.3	344,000	0.1	93.9	45.9	22.4	26.6
Carrriages and wagons and materials.....	92	578	0.3	1,077,000	0.2	694,000	0.3	-51.0	-30.6	-50.5	-28.0
Leather, tanned, curried, and finished.....	8	150	0.1	1,047,000	0.2	242,000	0.1	40.0	-16.0	18.0	-2.4
Furniture and refrigerators.....	25	298	0.1	786,000	0.2	418,000	0.2	41.1	13.9	31.0	35.7
Butter, cheese, and condensed milk.....	30	105	(²)	745,000	0.2	122,000	0.1	-8.6	-25.5	-15.9	-31.6
Fancy articles, not elsewhere specified.....	8	307	0.2	730,000	0.1	307,000	0.1	53.0	32.1	26.3	24.6
Leather goods.....	18	272	0.1	588,000	0.1	258,000	0.1	8.5	-60.3	4.9	-41.8
Cordage and twine and jute and linen goods.....	8	286	0.1	561,000	0.1	130,000	0.1	55.4	26.7	26.2	-2.8
Lime.....	10	325	0.2	558,000	0.1	278,000	0.1	86.8	3.1	87.8	7.2
All other industries.....	950	85,671	16.9	93,280,000	19.0	40,093,000	17.2	.....	.....	.....	.....

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

Textiles.—The textile manufactures of the state, consisting of cotton goods, including cotton small wares; silk and silk goods, including throwsters; woolen, worsted, and felt goods; and hosiery and knit goods, but exclusive of cordage and twine, and shoddy, form its leading manufacturing industry. Combined, these four branches gave employment to an average of 34,192 wage earners during 1909, or 16.2 per cent of the total for all manufacturing industries in the state, and the value of their products amounted to \$70,459,000, or 14.4 per cent of the total value of manufactured products. Of the total value of products for these four branches of the textile industry, 34.4 per cent was contributed by the cotton mills, 29.9 per cent by the silk mills, 27.5 per cent by the woolen and worsted mills, and 8.2 per cent by the hosiery and knitting mills.

Brass and bronze products.—This is the leading individual industry of the state, measured by value of products, reporting 13.7 per cent of the total value of products for the state in 1909. It includes the manufacture of rolled brass and copper, which composed the major portion of the product, and of brass ware, in the manufacture of which Connecticut is particularly prominent. Brass castings, brass finishing, and bronze castings, also included in this classification, form only a small part of the total output. At the census of 1904 Connecticut reported more than four-fifths of the total value of the output of rolled brass and copper of the country, and also led in the production of brass ware, with over one-half of the total value of output. In 1909 it ranked first among the states in the combined value of brass and bronze products, reporting 44.6 per cent of the total for the United States.

Foundry and machine-shop products.—This industry is of greater importance in the state than is indicated by the statistics, as some machine shops manufactured a distinctive product and were assigned to other classifications. The most important product consists of hardware, of which more than two-fifths of the total value reported for the United States in 1909 was reported from Connecticut. Some of the largest establishments, other than those producing hardware, were engaged in the manufacture of textile and metal-working machinery and internal-combustion engines.

Firearms and ammunition.—This industry is now mainly centralized in New Haven and Bridgeport. The increase in the value of products was much greater from 1899 to 1904 than from 1904 to 1909, being 57.2 per cent and 12.3 per cent, respectively, for the two five-year periods. In 1904, exclusive of governmental establishments, almost four-fifths of the total value of the ammunition and over one-fourth of the total value of the firearms manufactured in the United States was reported from establishments located in this state. Connecticut was the leading state in the total value of products reported for the combined industries in 1909.

Silverware and plated ware.—In 1909 the combined products of this industry for the state formed over one-third of the total value for the country. The manufacture of plated ware comprises the principal part of this industry. In 1904 and 1909 over two-thirds of the total value of plated ware in the United States was reported from Connecticut.

Corsets.—Of the 17 establishments reported in 1909 as primarily engaged in the manufacture of corsets, 5 were located in Bridgeport and 9 in New Haven. The value of products for the industry increased from \$5,591,000 in 1904 to \$12,815,000 in 1909, a gain of \$7,224,000, or 129.2 per cent, for the five years. This increase is noteworthy in view of the fact that from 1899 to 1904 the value of products decreased 18.3 per cent. In 1904 and in 1909 Connecticut was the leading state in the production of corsets, reporting over one-third of the total value of products for the United States in both years.

Automobiles, including bodies and parts.—This industry includes 8 establishments reporting the manufacture of automobiles and 20 establishments (with about one-fourth of the total value of products for the whole industry) reporting automobile bodies and parts as the most important product. A marked increase is shown in value of products and in value added by manufacture from 1904 to 1909.

Cutlery and tools, not elsewhere specified.—Connecticut ranked second in this industry in the United States in 1909, and in 1904 it ranked first among the states in the value of its manufactures of cutlery and edge tools, and fourth in tools "not elsewhere specified."

Hats, fur-felt.—The manufacture of hats in Connecticut was begun in 1780 at Danbury, which city is still

the leading center of the industry. In 1904 and in 1909 this state was second in importance in the industry, with 23.6 per cent of the total value of products for the United States in 1904 and 21.7 per cent in 1909.

Electrical machinery, apparatus, and supplies.—The exceptionally rapid progress during recent years in the use of electricity has created a demand for appliances with which to utilize this energy. The establishments engaged in this industry in Connecticut are devoted primarily to the production of insulated wires and cables and electric-light fixtures.

Lumber and timber products.—Under this classification are included the statistics for establishments engaged in logging, as well as for sawmills, planing mills, and wooden packing-box factories. About three-fifths of the total value of products reported for the entire industry in the state was contributed by the planing-mill branch.

Clocks and watches, including cases and materials.—The state ranked first in the total value of products for this industry in 1909. Nine of the 16 establishments in the state were engaged primarily in the manufacture of clocks. This branch of the industry in Connecticut dates from early in 1800, and much of its early development took place in that state, where it has been largely centralized. In 1904 nearly three-fourths of the total value of the output of clocks in the United States was reported from Connecticut factories.

Of the first 10 industries shown separately in the preceding table, the cotton-goods industry is the only one which occupies the same position when measured by value added by manufacture as when measured by value of products. The positions of the first two, the foundry and machine-shop and the brass and bronze products industries, are reversed; the firearms and ammunition industry exchanges places with the silk industry; and the silverware and plated-ware industry takes sixth place instead of the woolen, worsted, and felt goods industry, which latter falls to ninth place. The cutlery industry becomes seventh in order, having advanced from tenth place, and the automobile industry moves from ninth to eighth place, while the manufacture of corsets drops from eighth to tenth place.

This table shows also the percentages of increase for these leading industries in respect to value of products and value added by manufacture. The automobile industry showed greater rates of increase from 1904 to 1909 in value of products and in value added by manufacture than any other of the important industries shown separately in the table, namely, 341.3 per cent and 360 per cent, respectively. Remarkable increases in both these items also are shown for the manufacture of silverware and plated ware, corsets, electrical machinery, apparatus, and supplies, typewriters and typewriter supplies, and paint and varnish.

Some striking differences appear among the several industries as respects the increase from 1899 to 1904 as compared with that from 1904 to 1909. All but six of the industries listed separately showed an increase from 1904 to 1909 in value of products, and all but eight an increase in value added by manufacture. None of the industries showing decreases are among the first 15 industries shown separately. From 1899 to 1904, 11 of the industries given separately showed losses in value of products, and 12 showed decreases in value added by manufacture. Of the 15 most important industries, measured by value of products, which are presented separately, the silverware and the corset industries were the only ones that showed decreases during this period.

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

CLASS.	PERSONS ENGAGED IN MANUFACTURES.		
	Total.	Male.	Female.
All classes.....	233,871	176,478	57,393
Proprietors and officials.....	9,030	8,600	304
Proprietors and firm members.....	3,408	3,311	157
Salaried officers of corporations.....	2,124	2,088	36
Superintendents and managers.....	3,438	3,267	171
Clerks.....	14,049	10,153	3,896
Wage earners (average number).....	210,792	157,659	53,133
16 years of age and over.....	205,371	154,724	50,647
Under 16 years of age.....	5,421	2,935	2,486

The average number of persons engaged in manufactures during 1909 was 233,871, of whom 210,792 were wage earners. Of the remainder, 9,030 were proprietors and officials and 14,049 were clerks. Corresponding figures for individual industries will be found in Table II, page 156.

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 19 important industries individually.

Of the total number of persons engaged in all manufacturing industries, 3.9 per cent were proprietors and officials, 6 per cent clerks, and 90.1 per cent wage earners. In the bakery and the printing and publishing industries the majority of the establishments are small and the work is done to a large extent by the proprietors or their immediate representatives, so that the proportion of persons engaged in these industries falling into the class of proprietors

and officials is much higher than for most other industries or for all industries combined. Similar conditions prevail to some extent in the manufacture of lumber and timber products, where the proprietors and officials formed 13.1 per cent of the total number of persons engaged.

On account of the large average number of wage earners employed in the textile, the corset, and the brass and bronze industries, they show the smallest 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.....	233,871	3.9	6.0	90.1
Automobiles, including bodies and parts.....	4,444	3.5	10.7	85.8
Brass and bronze products.....	17,890	1.0	4.4	94.0
Bread and other bakery products.....	2,611	19.7	8.7	71.6
Clocks and watches, including cases and materials.....	6,195	2.2	3.3	94.4
Corsets.....	7,177	1.0	5.5	92.6
Cotton goods, including cotton small wares.....	14,887	1.5	2.1	96.5
Cutlery and tools, not elsewhere specified.....	8,094	2.3	4.4	93.2
Electrical machinery, apparatus, and supplies.....	4,120	4.1	10.8	85.1
Firearms and ammunition.....	9,205	2.2	5.1	92.7
Foundry and machine-shop products.....	42,101	3.0	7.4	89.6
Hats, fur-felt.....	5,877	3.9	7.3	88.8
Hosiery and knit goods.....	3,524	1.6	3.0	94.8
Lumber and timber products.....	4,219	13.1	4.1	82.8
Musical instruments, pianos and organs and materials.....	2,469	2.6	4.0	93.3
Paper and wood pulp.....	1,920	6.2	4.2	89.6
Printing and publishing.....	4,103	12.8	17.0	70.1
Silk and silk goods, including throwsters.....	9,335	1.8	5.4	92.7
Silverware and plated ware.....	6,812	2.0	6.7	91.4
Woolen, worsted, and felt goods, and wool hats.....	8,140	2.8	1.5	95.7
All other industries.....	70,998	5.2	6.5	88.3

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

For all industries combined, 73.4 per cent of the average number of wage earners were males 16 years of age and over, 24 per cent females 16 years of age and over, and 2.6 per cent persons under the age of 16. Nearly one-third of the total number of female wage earners were employed in the textile industries. In the cotton-goods industry nearly two-fifths of the wage earners were women 16 years of age and over; in the hosiery and knit-goods industry, about two-thirds; in the silk industry, nearly one-half; and in the woolen and worsted industry, over one-fourth. The manufacture of corsets shows the largest proportion of this class of female wage earners, namely, 82.1 per cent.

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.....	210,792	73.4	24.0	2.6
Automobiles, including bodies and parts.....	3,815	98.3	0.7	0.6
Brass and bronze products.....	16,817	88.3	10.4	1.3
Bread and other bakery products.....	1,869	87.2	12.0	0.9
Clocks and watches, including cases and materials.....	5,851	65.4	30.9	3.7
Corsets.....	6,643	14.5	52.1	3.4
Cotton goods, including cotton small wares.....	14,300	55.8	39.4	4.8
Cutlery and tools, not elsewhere specified.....	7,547	89.5	9.3	1.2
Electrical machinery, apparatus, and supplies.....	3,505	64.1	31.1	4.8
Firearms and ammunition.....	8,533	75.4	23.6	1.0
Foundry and machine-shop products.....	37,730	89.2	8.9	2.0
Hats, fur-felt.....	5,217	70.2	20.1	0.7
Hosiery and knit goods.....	3,340	30.8	66.1	3.1
Lumber and timber products.....	3,495	98.7	0.9	0.3
Musical instruments, pianos and organs and materials.....	2,304	84.2	13.5	2.4
Paper and wood pulp.....	1,720	84.2	15.1	0.7
Printing and publishing.....	2,678	77.4	19.3	3.2
Silk and silk goods, including throwsters.....	8,703	46.1	49.6	4.3
Silverware and plated ware.....	6,223	30.5	17.1	2.4
Woolen, worsted, and felt goods, and wool hats.....	7,789	66.4	28.9	4.7
All other industries.....	62,447	71.5	25.7	2.8

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.	Per cent distribution.	Number.	Per cent distribution.	
Total.....	233,871	100.0	198,046	100.0	18.1
Proprietors and firm members.....	3,468	1.5	2,918	1.5	18.8
Salariated employees.....	19,611	8.4	13,523	6.8	45.0
Wage earners (average number).....	210,792	90.1	181,605	91.7	16.1

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

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

This table indicates that for all industries combined there has been only a slight change during the 10 years in the proportion of male and female wage earners, although there has been a decided actual increase in the number of both classes of employees. In 1909 males 16 years of age and over formed 73.4

per cent of all wage earners, as compared with 73.1 in 1904 and 72.3 in 1899. During the same period there has been a small actual and proportional increase in the employment of persons under 16 years of age.

CLASS.	AVERAGE NUMBER OF WAGE EARNERS.					
	1909		1904		1899	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total.....	210,792	100.0	181,605	100.0	159,733	100.0
16 years of age and over.....	205,371	97.4	177,304	97.6	150,319	97.9
Male.....	154,724	73.4	132,750	73.1	115,499	72.3
Female.....	50,647	24.0	44,554	24.5	40,820	25.6
Under 16 years of age.....	5,421	2.6	4,301	2.4	3,414	2.1

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 156, 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.		MONTH.	WAGE EARNERS.	
	Number.	Per cent of maximum.		Number.	Per cent of maximum.
January.....	201,545	80.2	July.....	206,295	91.3
February.....	199,325	88.2	August.....	211,295	93.6
March.....	202,523	89.7	September.....	218,637	96.8
April.....	203,599	90.1	October.....	222,052	98.3
May.....	205,198	90.9	November.....	224,439	99.4
June.....	208,732	92.4	December.....	225,862	100.0

There are no seasonal industries of importance in Connecticut, and few of the important industries show conditions which differ from those for all industries combined.

The number of wage earners employed in all industries combined was smallest in February. With the exception of July, the increase was steady month by month to the end of the year, when the largest number was employed. During the month of least employment 11.8 per cent fewer wage earners were employed than during the month of greatest employment.

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.

AVERAGE NUMBER OF WAGE EARNERS IN ESTABLISHMENTS GROUPED ACCORDING TO PREVAILING HOURS OF WORK 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.....	210,793	6,634	11,068	33,849	117,395	38,978	1,908	499	541
Automobiles, including bodies and parts.....	3,815		72	1,308	884	1,461			
Boots and shoes, including cut stock and findings.....	520			40	480				
Boxes, fancy and paper.....	1,849	11	110	79	991				
Brass and bronze products.....	16,817	24	198	323	13,441	2,831			
Bread and other bakery products.....	1,899	188	80	206	80	1,238	46	27	4
Butter, cheese, and condensed milk.....	105	32		4	10	44			5
Buttons.....	1,057	1	184	10	387	466			
Carriages and wagons and materials.....	578	6	6	288	125	153			
Cars and general shop construction and repairs by steam-railroad companies.....	1,220	651	108	384			23		
Clocks and watches, including cases and materials.....	5,351			3,302	1,306	1,183			
Clothing, men's, including shirts.....	751	28	11	61	584	47	20		
Clothing, women's.....	1,382	2	678	16	681	5			
Confectionery.....	233	5	20	12	166	28	2		
Copper, tin, and sheet-iron products.....	2,475	189	145	51	1,293	411	386		
Cordage and twine and jute and linen goods.....	280				283	3			
Corsets.....	6,643		1,470		5,165	2			
Cotton goods, including cotton small wares.....	14,360		83		13,448	879			
Cutlery and tools, not elsewhere specified.....	7,547	248	342	1,022	4,710	1,210			
Dyeing and finishing textiles.....	1,710			2	351	1,366			
Electrical machinery, apparatus, and supplies.....	3,695	7		592	2,693	273			
Fancy articles, not elsewhere specified.....	307		70		22	283	13		
Fertilizers.....	295			46	66	164			
Firearms and ammunition.....	8,533			708	7,825				
Flour-mill and gristmill products.....	145	23		4	4	114			
Foundry and machine-shop products.....	37,736	187	1,235	13,600	18,682	4,126	6		
Furniture and refrigerators.....	268			82	168	58			
Gas, illuminating and heating.....	920	11		1	57	173	264		420
Hat and cap materials.....	478	4	6		97	371			
Hats, fur-felt.....	5,217	583	3,010	23	1,408	123			
Hosiery and knit goods.....	3,340	2		441	2,622	275			
Leather goods.....	272		6	100	82	24			
Leather, tanned, curried, and finished.....	150				65	55			
Lime.....	325		10	24	179	39			67
Liquors, malt.....	475	85	145	215	30	30			
Lumber and timber products.....	3,495	365	317	1,248	113	1,462			
Marble and stone work.....	782	510	50	69	114	24			
Musical instruments, pianos and organs and materials.....	2,304			760	356	1,198			
Needles, pins, and hooks and eyes.....	2,648				334	2,314			
Paint and varnish.....	236	78	40	17	8	93			
Paper and wood pulp.....	1,720			229	112	542	587	270	
Paper goods, not elsewhere specified.....	632		7	225	306	4			
Patent medicines and compounds and druggists' preparations.....	237	48	32	41	108	5	3		
Printing and publishing.....	2,878	1,372	650	474	340	27			
Silk and silk goods, including throwsters.....	8,703				8,064	639			
Silverware and plated ware.....	622		230	525	3,561	1,007			
Slaughtering and meat packing.....	432	3	205	26	39	46	10	4	
Tobacco manufactures.....	1,513	1,442	31	10	24	6			
Typewriters and supplies.....	2,934		171	2,681	132				
Wirework, including wire rope and cable.....	1,420		26	34	881	470			
Woolen, worsted, and felt goods, and wool hats.....	7,789			87	4,741	2,961			
All other industries.....	35,671	515	1,198	4,422	19,555	6,189	553	164	45

It is evident from these figures that for the great majority of wage earners employed in the manufacturing industries of Connecticut the prevailing hours of labor range from 54 to 60 a week, only 8.4 per cent of the total number being employed in establishments where the prevailing hours are less than 54 a week, and but 1.4 per cent in establishments where more than 60 hours a week prevail.

The foundries and machine shops gave employment to 37,736 wage earners, or more than twice as many as any other single industry in the state, and 96.2 per cent of these were employed from 54 to 60 hours per week, inclusive. In most of the other industries employing large numbers of wage earners, employment was for a week of over 54 but less than 60 hours. Of those employed in the tobacco manufacturing industry, 95.3 per cent were employed 48 hours per week or less, and of those employed in railroad repair shops and in

printing and publishing, 53.1 per cent and 47.7 per cent, respectively. Nearly 70 per cent of the wage earners employed in making fur-felt hats worked less than 54 hours a week. The majority of the wage earners in the bakery and flour-mill and gristmill industries and in establishments engaged in the manufacture of needles, pins, and hooks and eyes were in plants operating 60 hours a week, while for the majority of the wage earners in the gas industry the prevailing hours of labor were over 60 a week.

Location of establishments.—The next table shows the extent to which the manufactures of Connecticut are centralized in cities or boroughs of 10,000 inhabitants or over. (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 or boroughs that came within the group having over 10,000 inhabitants.

MANUFACTURES—CONNECTICUT.

ITEM.	Year.	Aggregate.	CITIES AND BOROUGHS HAVING A POPULATION OF 10,000 AND OVER.								DISTRICTS OUTSIDE OF CITIES AND BOROUGHS 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 1900	1,114,756 908,420	630,732 445,581	56.6 49.0	126,698 114,851	11.4 12.6	268,375 222,703	24.1 24.5	235,659 108,027	21.1 11.9	484,024 462,839	43.4 50.9
Number of establishments.....	1909 1899	4,251 3,382	2,367 1,710	55.7 50.6	528 459	12.4 18.6	882 814	20.7 24.1	957 437	22.5 12.9	1,884 1,672	44.3 49.4
Average number of wage earners.	1909 1899	210,792 159,733	138,499 91,209	65.7 57.1	29,038 24,656	13.8 15.4	60,139 48,969	28.5 30.6	49,322 17,594	23.4 11.0	72,293 68,524	34.3 42.9
Value of products.....	1909 1899	\$400,271,095 \$15,106,150	\$334,336,355 193,446,554	83.2 61.4	\$79,549,035 59,755,550	16.2 19.0	\$138,107,117 98,791,507	28.2 31.4	\$116,680,203 34,899,437	23.8 11.1	\$155,935,340 121,659,596	31.8 38.6
Value added by manufacture...	1909 1899	233,012,302 145,434,502	158,754,210 89,456,008	68.1 61.5	31,797,437 23,354,908	13.6 16.1	72,542,476 47,337,239	31.1 32.5	54,414,247 18,763,921	23.4 12.9	74,258,092 55,978,434	31.9 38.5

In 1909, 68.2 per cent of the total value of products was reported from cities and boroughs having over 10,000 inhabitants, and 65.7 per cent of the average number of wage earners were employed in these places. The figures indicate that not only has a considerable change taken place during the last decade in the relative importance of the manufacturing industries of the different groups of cities and boroughs having over 10,000 inhabitants, but the combined industries of such places have gained considerably on those of the districts outside.

The increase in the population of the different places has affected the grouping in the table. In 1900 Meriden and Stamford were included in the group of cities and boroughs having from 10,000 to 25,000 inhabitants, but both now belong to the group made up of cities having between 25,000 and 100,000 inhabitants. New Haven was the only city in the state in 1900 which had over 100,000 inhabitants, but in 1910 Bridgeport had reached that group. Prior to 1910 Middletown, Torrington, and Willimantic each had less than 10,000 inhabitants, and their statistics, therefore, were included with the districts outside in 1899.

The group of cities having over 100,000 inhabitants shows a decided gain in its proportions of the total, largely as the result of the addition of Bridgeport, while the other two groups show losses. Of the total value of the products reported for the state in 1909, 16.2 per cent was reported from the eight cities and boroughs having from 10,000 to 25,000 inhabitants, 28.2 per cent from the five cities having between 25,000 and 100,000 inhabitants, and 23.8 per cent from the two cities having more than 100,000 inhabitants. The corresponding proportions for 1899 were 19 per cent, 31.4 per cent, and 11.1 per cent, respectively.

The population for 1910 and 1900 of the 15 cities and boroughs which had 10,000 inhabitants or over in 1910 is given in the next statement.

CITY OR BOROUGH.	1910	1900	CITY OR BOROUGH.	1910	1900
New Haven.....	138,605	108,027	Danbury.....	20,234	16,537
Bridgeport.....	102,054	70,995	New London.....	19,659	17,548
Hartford.....	98,915	79,850	Torrington.....	15,433	8,300
Waterbury.....	78,141	45,859	Ansonia.....	15,152	12,681
New Britain.....	43,916	25,998	Naugatuck.....	12,722	10,541
Meriden.....	27,265	24,296	Middletown.....	11,851	9,589
Stamford.....	25,138	15,997	Willimantic.....	11,230	8,937
Norwich.....	20,307	17,251			

The relative importance of each of these 15 cities and boroughs in the manufacturing industries is shown in the following table, in which the value of products and average number of wage earners are shown for each city for 1909, 1904, and 1899.

CITY OR BOROUGH.	AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.		
	1909	1904	1899	1909	1904	1899
Bridgeport.....	25,775	19,492	17,038	\$95,608,806	\$44,580,519	\$38,536,276
New Haven.....	23,547	21,437	17,594	51,071,397	39,000,118	34,899,437
Waterbury.....	20,170	15,406	13,225	50,849,810	32,307,359	30,350,300
Hartford.....	14,027	11,221	10,677	40,079,508	25,073,651	23,828,961
New Britain.....	13,513	10,073	8,019	22,021,241	14,059,543	11,090,030
Ansonia.....	4,127	3,394	3,293	20,088,269	16,132,455	15,515,043
Meriden.....	7,845	4,025	6,689	16,810,918	13,702,548	11,750,440
Torrington.....	4,483	4,028	3,161	12,549,372	9,674,124	9,178,320
Naugatuck.....	3,464	3,028	3,160	11,039,836	11,000,573	8,886,676
Danbury.....	4,310	4,515	3,930	10,317,875	8,065,652	6,827,163
Norwich.....	4,470	3,706	3,172	9,838,960	6,022,301	5,935,100
Stamford.....	3,984	3,341	2,445	8,730,544	5,800,416	5,020,010
Willimantic.....	3,020	2,852	2,258	6,733,185	4,902,447	3,022,862
Middletown.....	2,434	2,318	2,405	4,054,799	4,351,201	4,152,071
New London.....	2,225	2,554	1,963	4,483,230	4,700,028	4,221,058

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

Every city and borough for which comparable figures are available, except New London, shows an increase in value of products for the 10 years and for each of the five-year periods. New London shows a decrease of 4.8 per cent from 1904 to 1909, due to the decline in shipbuilding. The largest relative gains in value of products during the decade were as follows: Stamford, 122.9 per cent; Willimantic, 122.7 per cent; New Britain, 98.5 per cent; and Bridgeport, 95.6 per cent. For most of the cities shown in the table the percentages of increase in value of products were greater from 1904 to 1909 than from 1899 to 1904.

During the later period the average number of wage earners employed in the manufacturing industries of each place, except New London and Ansonia, increased much less, relatively, than the value of products. In New London there was an actual decrease in the number of wage earners.

Bridgeport, the foremost city of the state in manufactures, shows an increase in 1909, as compared with 1904, of 47.1 per cent in value of products and 32.2 per cent in average number of wage earners. The gain in value of products was due largely to the increases in the output of automobiles, corsets, electrical machinery, foundry and machine-shop products, and gold and silver reducing and refining. Compared with other manufacturing cities of the country, Bridgeport ranked thirty-ninth in 1899, thirty-fifth in 1904, and thirty-third in 1909 in value of products. In 1909 the foundries and machine shops of this city turned out products valued at \$9,752,000, or 14.9 per cent of the corresponding total for the state. The corset industry was also of considerable importance, with an output valued at \$6,899,000, or 53.8 per cent of the total for this industry in the state, while the establishments engaged in the manufacture of electrical machinery, apparatus, and supplies reported products valued at \$3,321,000, or 33.8 per cent of the state total. Other industries of importance in which this city produced over half of the value of products for the state are the manufacture of phonographs and graphophones and of sewing machines and attachments.

New Haven, the second city of the state in importance when measured by value of products, shows an increase from 1904 to 1909 of 28.8 per cent in value of products and 9.8 per cent in average number of wage earners. These gains were due largely to increases in the production of automobiles, firearms and ammunition, corsets, rubber goods, and foundry and machine-shop products (including hardware), and in the output of slaughtering and meat-packing establishments. The value of the clocks and watches made in New Haven during 1909 is considerable, but exact figures can not be given without disclosing individual operations. The statistics for some of the most important industries are included with "All other industries" because they can not be presented separately in Table I without disclosing the operations of individual establishments. Among these industries, each of which reported products amounting to more than \$1,000,000 in value, are automobiles, including bodies and parts; boots and shoes, including cut stock and findings; boots and shoes, rubber; boxes, fancy and paper; clocks and watches, including cases and materials; confectionery; corsets; firearms and ammunition; gas, illuminating and heating; rubber goods, not elsewhere specified; and slaughtering and meat packing.

Waterbury shows an increase of 55.6 per cent in value of products and 30.9 per cent in number of wage earners in 1909 as compared with 1904. Unlike the manufactures of the other cities of importance in the state, those of Waterbury are concentrated largely in a single industry, that of brass and bronze manufactures, which in 1909 reported products amounting to \$31,462,000, or 62.5 per cent of the total for the city. Twenty-four and three-tenths per cent of the total value of rolled brass and copper and 42.2 per cent of the total value of brass ware manufactured in the United States during 1904 were reported from this city, and in 1909, of the value of all brass and bronze products, 21 per cent was reported from this city. Over two-fifths of the total value of clocks and watches manufactured in the state during 1909 was reported from Waterbury. Other industries of importance in the city are the manufacture of foundry and machine-shop products; gas and electric fixtures and lamps and reflectors; needles, pins, and hooks and eyes; and buttons.

Hartford shows an increase of 56.6 per cent in value of products and 30.4 per cent in number of wage earners from 1904 to 1909. These gains are due largely to the increase in the manufacture of automobiles, foundry and machine-shop products, rubber goods, and typewriters and typewriter supplies, the four leading industries in the city. The major portion of the total value of the output for the state of dentists' materials, nails and spikes not made in steel works or rolling mills, leather belting, and machine screws was reported from Hartford.

Of the other cities given separately in the preceding table Norwich shows the greatest relative increase from 1904 to 1909 in value of products, 55.9 per cent, and New Britain the greatest in number of wage earners, 34.2 per cent. The manufacturing interests of New Britain are so centralized in the manufacture of hardware that the output of this industry represents 52.9 per cent of the total value of products for the city. Forty-four and two-tenths per cent of the value of the cutlery and tools made in the state in 1909 was reported from New Britain. In Norwich the textile industries are of most importance.

The manufacture of brass and bronze products is the most important industry in Ansonia and in Torrington. The silverware and plated-ware industry is the most important in Meriden. In 1909 this city reported 65.9 per cent of the total value of gas and electric fixtures and lamps and reflectors manufactured in the state. The leading industries in Naugatuck are the manufacture of rubber boots and shoes and of rubber goods. The manufacture of men's furnishing goods (elastic goods) is the most important industry in Middletown. In Danbury the leading industry is the manufacture of

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fur-felt hats, the output of which in 1909 was valued at \$7,114,683, and formed 68.4 per cent of the total value reported for this industry in the state. The manufacture of locks makes the foundry and machine-shop industry the most important in Stamford; and the textile industries predominate in Willimantic and in New London.

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.	INDUSTRY AND CHARACTER OF OWNERSHIP.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
ALL INDUSTRIES:					Electrical machinery, etc.—				
1909	4,251	210,792	\$490,271,695	\$233,012,302	Continued.				
1904	3,477	181,605	369,082,091	177,780,210	Per cent of total	100.0	100.0	100.0	100.0
Individual:					Individual ¹	14.6	0.6	0.5	0.7
1909	2,119	12,944	28,436,151	14,810,245	Corporation	85.4	99.4	99.5	99.3
1904	1,737	14,591	28,550,567	14,552,890	Foundry and machine-shop products, 1909.				
Firm:					Individual	403	37,736	\$55,535,155	\$40,715,099
1909	589	8,752	19,807,920	9,793,593	Individual	108	875	1,012,871	1,075,623
1904	519	11,003	25,395,624	10,623,148	Firm	42	463	1,117,841	577,430
Corporation:					Firm	253	36,398	52,504,443	39,032,046
1909	1,501	188,932	441,267,987	203,213,680	Per cent of total	100.0	100.0	100.0	100.0
1904	1,187	155,875	314,484,099	152,413,853	Individual	28.8	2.3	2.9	2.6
Other:					Individual	10.4	1.2	1.7	1.4
1909	42	164	759,637	194,779	Corporation	62.8	96.5	95.4	95.9
1904	34	131	651,801	185,313	Hats, fur-felt, 1909				
Per cent of total					Individual	80	5,217	\$10,399,860	\$5,550,877
1909	100.0	100.0	100.0	100.0	Individual	20	248	531,682	223,714
1904	100.0	100.0	100.0	100.0	Firm	18	1,034	2,120,383	1,112,795
Individual:					Corporation	44	3,935	7,747,795	4,214,368
1909	49.8	6.1	5.8	6.4	Per cent of total	100.0	100.0	100.0	100.0
1904	50.0	8.0	7.7	8.2	Individual	25.0	4.8	5.1	4.0
Firm:					Firm	20.0	10.8	20.4	20.1
1909	13.9	4.2	4.0	4.2	Corporation	55.0	75.4	74.5	75.9
1904	14.9	6.1	6.9	6.0	Lumber and timber products, 1909				
Corporation:					Individual	393	3,495	\$7,845,521	\$3,927,063
1909	35.3	89.6	90.0	80.4	Individual	257	1,635	2,779,579	1,665,721
1904	34.1	85.8	85.2	85.7	Firm	84	611	1,313,973	646,584
Other:					Corporation	52	1,249	3,751,969	1,614,488
1909	1.0	0.1	0.2	0.1	Per cent of total	100.0	100.0	100.0	100.0
1904	1.0	0.1	0.2	0.1	Individual	65.4	46.8	35.4	42.4
Brass and bronze products, 1909					Firm	21.4	17.5	16.7	16.5
Individual	80	16,817	\$66,932,969	\$19,069,029	Corporation	13.2	85.7	47.8	41.1
Individual	29	279	849,584	401,703	Printing and publishing, 1909				
Firm	8	57	134,988	78,757	Individual	363	2,878	\$6,370,480	\$4,601,233
Corporation	43	10,481	65,948,097	18,583,506	Individual	211	768	1,055,722	1,183,745
Per cent of total	100.0	100.0	100.0	100.0	Firm	40	250	407,012	310,114
Individual	36.2	1.7	1.3	2.1	Corporation	94	1,823	4,208,438	3,085,801
Firm	10.0	0.3	0.2	0.4	Other	18	31	98,678	66,673
Corporation	53.8	98.0	98.5	97.5	Per cent of total	100.0	100.0	100.0	100.0
Bread and other bakery products, 1909					Individual	58.1	26.7	28.0	25.8
Individual	431	1,869	\$7,809,817	\$2,846,908	Firm	11.0	8.0	6.4	6.7
Individual	360	1,194	4,735,935	1,392,935	Corporation	28.9	63.3	66.1	65.0
Firm	49	218	524,266	318,204	Other	5.0	1.1	1.5	1.4
Corporation	25	457	1,749,616	635,769	Silk and silk goods, including throwsters, 1909				
Per cent of total	100.0	100.0	100.0	100.0	Individual	47	8,708	\$21,062,687	\$9,226,342
Individual	83.5	63.0	64.8	66.5	Individual	8	633	1,030,757	583,018
Firm	10.7	11.7	11.3	11.2	Firm	10	623	1,109,736	612,329
Corporation	5.8	24.5	23.9	22.3	Corporation	29	7,447	18,922,194	8,132,995
Cotton goods, including cotton small wares, 1909					Per cent of total	100.0	100.0	100.0	100.0
Individual	52	14,360	\$24,231,881	\$12,372,159	Individual	17.0	7.3	4.9	6.3
Individual	7	457	1,215,338	430,251	Firm	21.2	7.2	5.3	5.9
Firm	7	387	487,231	195,691	Corporation	61.7	85.6	89.8	88.1
Corporation	38	13,536	22,529,312	11,640,217	Silverware and plated ware, 1909				
Per cent of total	100.0	100.0	100.0	100.0	Individual	31	6,228	\$15,836,608	\$8,604,607
Individual	13.5	3.2	5.0	3.6	Individual	4	31	49,601	25,723
Firm	13.5	2.6	2.0	1.6	Corporation	27	6,192	15,787,007	8,578,884
Corporation	73.1	94.3	93.0	94.8	Per cent of total	100.0	100.0	100.0	100.0
Cutlery and tools, not elsewhere specified, 1909					Individual	12.9	0.5	0.3	0.3
Individual	82	7,547	\$10,716,918	\$7,406,943	Corporation	87.1	99.5	99.7	99.7
Individual	23	137	255,121	177,303	Woolen, worsted, and felt goods, and wool hats, 1909				
Firm	7	43	73,660	52,559	Individual	56	7,789	\$19,363,228	\$6,525,086
Corporation	52	7,342	10,380,137	7,177,081	Individual	9	665	1,484,710	520,444
Per cent of total	100.0	100.0	100.0	100.0	Firm	7	395	972,985	448,798
Individual	28.0	2.1	2.4	2.4	Corporation	40	6,720	16,905,533	5,555,844
Firm	8.5	0.6	0.7	0.7	Per cent of total	100.0	100.0	100.0	100.0
Corporation	63.4	97.3	96.9	96.9	Individual	16.1	8.5	7.0	8.0
Electrical machinery, apparatus, and supplies, 1909					Individual	12.5	5.1	5.0	6.9
Individual	41	3,505	\$9,824,373	\$4,612,069	Corporation	71.4	86.4	87.3	85.1
Individual	6	22	49,504	30,083					
Corporation	35	3,483	9,774,869	4,582,976					

¹ Includes the group "Firm," 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 35.3 per cent of the total number of establishments were in 1909 under corporate ownership, as against 64.7 per cent under all other forms. The corresponding figures for 1904 were 34.1 per cent and 65.9 per cent, respectively. In 1909 the establishments operated by corporations reported 90 per cent of the total value of manufactured products for the state, as against 10 per cent for those under all other forms of ownership, while in 1904 the corresponding figures were 85.2 per cent and 14.8 per cent, respectively. This gain in the relative importance of establishments under corporate ownership was due largely to increases in the manufacture of automobiles, brass and bronze products, corsets, cotton goods, firearms and ammunition, foundry and machine-shop products, silk and silk goods, and silverware and plated ware. All but three-tenths of 1 per cent of the value of silverware and plated ware and all but five-tenths of 1 per cent of the value of electrical machinery, apparatus, and supplies reported for 1909 were returned by establishments under corporate ownership. There are three other industries shown in the table in which over 95 per cent of the value of products was reported by this class of establishments.

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 4,251 establishments only 93, or 2.2 per cent, had a value of products exceeding \$1,000,000. These 93 establishments, however, employed an average of 95,373 wage earners, or 45.2 per cent of the total number in all establishments, and reported 49.3 per cent of the total

value of products and 44.7 per cent of the total value added by manufacture.

On the other hand, the very small establishments—that is, those having a value of products less than \$5,000—constituted a considerable proportion (30.9 per cent) of the total number of establishments, but the value of their products amounted to only six-tenths of 1 per cent of the total. The great bulk of the manufacturing was reported by establishments having products valued at not less than \$100,000.

It will be seen from the table that during the five years from 1904 to 1909 there was a considerable increase in the relative importance, as measured by value of products, of the largest establishments—those reporting products of not less than \$1,000,000 in value—and a decrease in the importance of all other classes except that having a value of products of less than \$5,000, the proportion in that class remaining unchanged. Of the 93 establishments whose products in 1909 exceeded \$1,000,000 in value, 13 were engaged in the manufacture of brass and bronze products, 4 in the manufacture of cotton goods, 3 in the manufacture of cutlery and edge tools, 14 in the manufacture of foundry and machine-shop products, 6 in the manufacture of silk goods, and 5 in the manufacture of silverware and plated ware.

The fact that the average value of products per establishment increased from \$106,150 to \$115,331, and the value added by manufacture from \$51,130 to \$54,814, can not be taken as in itself indicating a tendency toward concentration. These increased values shown may be, and probably are, due wholly or in part to the increase that has taken place in the prices of commodities.

The average number of wage earners per establishment decreased from 52 to 50. The table shows further that when the size of establishments is measured by the average value of products per establishment, the bakery, the lumber, and the printing and publishing industries are conducted chiefly in rather small establishments, while the manufacture of brass and bronze products, cotton goods, cutlery, electrical machinery, foundry and machine-shop products, felt hats, silk and silk goods, silverware, and woolen and worsted goods is mainly carried on in larger establishments.

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INDUSTRY AND VALUE OF PRODUCTS.	Number of establishments.	Average number of wage earners.	Value of products.	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.....	4,251	210,792	\$490,271,695	\$233,012,302					
1904.....	3,477	181,605	369,062,091	177,780,210					
Less than \$5,000:									
1909.....	1,312	1,629	3,047,313	1,956,061					
1904.....	932	1,338	2,297,644	1,459,806					
\$5,000 and less than \$20,000:									
1909.....	1,296	6,514	13,621,192	7,709,840					
1904.....	1,099	5,981	11,676,232	6,871,487					
\$20,000 and less than \$100,000:									
1909.....	909	19,981	40,437,942	21,893,012					
1904.....	827	19,888	37,466,372	20,763,437					
\$100,000 and less than \$1,000,000:									
1909.....	641	87,295	191,603,190	97,294,219					
1904.....	554	88,202	159,950,425	82,214,624					
\$1,000,000 and over:									
1909.....	93	95,378	241,562,058	104,129,170					
1904.....	65	66,246	157,691,418	66,480,804					
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.....	30.9	0.8	0.6	0.9					
1904.....	26.8	0.7	0.6	0.8					
\$5,000 and less than \$20,000:									
1909.....	30.5	3.1	2.8	3.3					
1904.....	31.0	3.3	3.2	3.9					
\$20,000 and less than \$100,000:									
1909.....	21.4	9.5	8.2	9.4					
1904.....	23.8	10.9	10.2	11.7					
\$100,000 and less than \$1,000,000:									
1909.....	15.1	41.4	39.1	41.8					
1904.....	15.9	48.6	43.3	46.2					
\$1,000,000 and over:									
1909.....	2.2	45.2	49.3	44.7					
1904.....	1.9	36.5	42.7	37.4					
Average per establishment:									
1909.....		50	\$115,331	\$54,814					
1904.....		52	106,150	\$51,180					
Brass and bronze products, 1909.....	80	16,817	\$66,982,969	\$19,069,029					
Less than \$5,000.....	12	7	29,179	15,115					
\$5,000 and less than \$20,000.....	23	82	219,529	95,094					
\$20,000 and less than \$100,000.....	15	206	576,023	286,375					
\$100,000 and less than \$1,000,000.....	17	1,821	5,030,877	1,997,609					
\$1,000,000 and over.....	13	14,701	61,077,661	16,674,836					
Per cent of total:									
1909.....	100.0	100.0	100.0	100.0					
1904.....	15.0	(1)	(1)	0.1					
\$5,000 and less than \$20,000.....	28.8	0.5	0.3	0.5					
\$20,000 and less than \$100,000.....	18.8	1.2	0.9	1.5					
\$100,000 and less than \$1,000,000.....	21.2	10.8	7.5	10.5					
\$1,000,000 and over.....	16.2	87.4	81.5	87.4					
Average per establishment:		210	\$886,062	\$238,363					
Bread and other bakery products, 1909.....	431	1,869	\$7,309,817	\$2,846,908					
Less than \$5,000.....	107	62	290,263	132,789					
\$5,000 and less than \$20,000.....	219	597	2,378,743	958,914					
\$20,000 and less than \$100,000.....	96	842	3,214,366	1,222,262					
\$100,000 and less than \$1,000,000.....	9	368	1,426,445	532,943					
Per cent of total:									
1909.....	100.0	100.0	100.0	100.0					
1904.....	24.8	3.3	4.0	4.7					
\$5,000 and less than \$20,000.....	50.8	31.9	32.5	33.7					
\$20,000 and less than \$100,000.....	22.3	45.0	44.0	42.9					
\$100,000 and less than \$1,000,000.....	2.1	19.7	19.5	18.7					
Average per establishment:		4	\$16,960	\$6,605					
Cotton goods, including cotton small wares, 1909.....	52	14,360	\$24,231,881	\$12,272,159					
Less than \$5,000.....	3	17	21,223	5,879					
\$5,000 and less than \$20,000.....	11	364	685,730	242,105					
\$20,000 and less than \$100,000.....	34	8,909	14,132,852	6,787,837					
\$100,000 and less than \$1,000,000.....	4	5,010	9,492,865	5,233,338					
Per cent of total:									
1909.....	100.0	100.0	100.0	100.0					
1904.....	5.8	0.1	0.1	0.1					
\$5,000 and less than \$20,000.....	21.2	2.5	2.4	2.0					
\$20,000 and less than \$100,000.....	65.4	62.5	58.3	55.3					
\$100,000 and over.....	7.7	34.9	39.2	42.6					
Average per establishment:		276	\$465,998	\$236,003					
Cutlery and tools, not elsewhere specified, 1909.....	82	7,547	\$10,716,918	\$7,406,943					
Less than \$5,000.....	16	27	36,522	27,538					
\$5,000 and less than \$20,000.....	10	143	177,516	114,387					
\$20,000 and less than \$100,000.....	24	885	1,204,084	811,859					
\$100,000 and less than \$1,000,000.....	20	2,040	3,687,794	2,584,452					
\$1,000,000 and over.....	3	3,552	5,711,002	3,868,707					
Per cent of total:									
1909.....	100.0	100.0	100.0	100.0					
1904.....	19.5	0.4	0.3	0.4					
\$5,000 and less than \$20,000.....	23.2	1.9	1.7	1.5					
\$20,000 and less than \$100,000.....	23.3	11.7	11.2	11.0					
\$100,000 and less than \$1,000,000.....	24.4	39.0	33.5	34.9					
\$1,000,000 and over.....	3.7	47.1	53.3	52.2					
Average per establishment:		92	\$130,694	\$90,329					
Electrical machinery, apparatus, and supplies, 1909.....	41	3,505	\$9,824,373	\$4,613,069					
Less than \$5,000.....	5	9	7,645	3,745					
\$5,000 and less than \$20,000.....	10	50	132,232	64,523					
\$20,000 and less than \$100,000.....	6	195	370,003	236,000					
\$100,000 and less than \$1,000,000.....	20	3,251	9,307,252	4,304,901					
Electrical machinery, etc.—Continued.									
Per cent of total:									
1909.....	100.0	100.0	100.0	100.0					
1904.....	12.2	0.3	0.2	0.2					
\$5,000 and less than \$20,000.....	24.4	1.4	1.3	1.4					
\$20,000 and less than \$100,000.....	14.6	5.6	3.8	5.1					
\$100,000 and less than \$1,000,000.....	48.8	92.8	94.7	98.3					
Average per establishment:		85	\$239,610	\$112,514					
Foundry and machine-shop products, 1909.....	408	37,736	\$65,535,156	\$40,715,099					
Less than \$5,000.....	64	82	163,445	119,125					
\$5,000 and less than \$20,000.....	100	535	1,044,200	697,573					
\$20,000 and less than \$100,000.....	123	3,311	6,163,133	3,847,650					
\$100,000 and less than \$1,000,000.....	102	15,500	20,772,161	18,008,882					
\$1,000,000 and over.....	14	18,258	28,392,207	18,041,869					
Per cent of total:									
1909.....	100.0	100.0	100.0	100.0					
1904.....	15.9	0.2	0.2	0.3					
\$5,000 and less than \$20,000.....	24.8	1.6	1.0	1.7					
\$20,000 and less than \$100,000.....	30.5	8.8	9.4	9.5					
\$100,000 and less than \$1,000,000.....	25.3	41.1	45.4	44.2					
\$1,000,000 and over.....	3.5	48.4	43.3	44.3					
Average per establishment:		94	\$162,560	\$101,030					
Hats, fur-felt, 1909.....	80	5,217	\$10,399,860	\$5,550,877					
Less than \$5,000.....	11	20	36,917	18,958					
\$5,000 and less than \$20,000.....	9	46	99,846	46,759					
\$20,000 and less than \$100,000.....	24	592	1,128,473	582,476					
\$100,000 and less than \$1,000,000.....	36	4,559	9,134,624	4,902,684					
Per cent of total:									
1909.....	100.0	100.0	100.0	100.0					
1904.....	13.8	0.4	0.4	0.3					
\$5,000 and less than \$20,000.....	11.2	0.0	1.0	0.8					
\$20,000 and less than \$100,000.....	30.0	11.3	10.9	10.5					
\$100,000 and less than \$1,000,000.....	45.0	87.4	87.8	88.3					
Average per establishment:		65	\$129,998	\$69,396					
Lumber and timber products, 1909.....	393	3,495	\$7,845,521	\$3,927,068					
Less than \$5,000.....	177	356	304,502	234,174					
\$5,000 and less than \$20,000.....	131	960	1,400,527	967,651					
\$20,000 and less than \$100,000.....	75	1,477	2,000,043	1,637,898					
\$100,000 and less than \$1,000,000.....	10	702	3,030,359	1,037,370					
Per cent of total:									

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 19 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.....	4,251	444	1,847	886	428	223	251	94	48	35
Automobiles, including bodies and parts.....	28	1	4	4	6	5	0	1	1	1
Brass and bronze products.....	80	7	28	11	10	5	4	0	3	0
Bread and other bakery products.....	431	53	272	90	9	2	1	1	1	2
Clocks and watches, including cases and materials.....	16	1	2	4	1	1	1	4	1	2
Corsets.....	17	1	2	3	2	3	2	2	3	2
Cotton goods, including cotton small wares.....	62	1	1	2	9	4	15	12	5	3
Cutlery and tools, not elsewhere specified.....	82	6	17	19	12	10	13	2	1	2
Electrical machinery, apparatus, and supplies.....	41	1	11	6	5	4	13	1	1	2
Firearms and ammunition.....	10	1	1	1	1	1	2	2	2	2
Foundry and machine-shop products.....	403	18	110	85	69	40	44	16	8	7
Hats, fur-felt.....	80	2	17	12	17	13	14	5	1	1
Hosiery and knit goods.....	21	1	2	1	1	1	11	4	1	1
Lumber and timber products.....	393	10	222	129	20	3	3	2	1	1
Musical instruments, pianos and organs and materials.....	17	1	1	4	3	3	4	2	1	1
Paper and wood pulp.....	51	1	6	19	19	4	3	1	1	1
Printing and publishing.....	303	82	169	76	28	6	2	1	1	1
Silk and silk goods, including throwsters.....	47	1	1	10	11	8	11	4	2	1
Silverware and plated ware.....	31	1	2	4	5	4	8	0	1	1
Woolen, worsted, and felt goods, and wool hats.....	56	1	1	2	11	10	25	6	1	1
All other industries.....	2,032	287	976	406	178	98	90	22	10	7
AVERAGE NUMBER OF WAGE EARNERS.										
All industries.....	210,732	4,390	9,911	14,024	15,880	38,187	32,730	34,219	61,451	
Automobiles, including bodies and parts.....	3,815	9	38	188	354	1,000	857	1,200		
Brass and bronze products.....	10,817	82	110	325	314	627	2,000	2,057	10,300	
Bread and other bakery products.....	1,890	641	305	201	132	58	1,442	793	3,303	
Clocks and watches, including cases and materials.....	5,351	5	50	22	58	112	354	2,087	3,227	
Corsets.....	6,043	4	43	60	287	340	2,595	4,040	2,605	4,407
Cotton goods, including cotton small wares.....	14,300	2	24	287	413	709	1,858	683	845	2,706
Cutlery and tools, not elsewhere specified.....	7,847	48	225	413	330	1,075	371	670		
Electrical machinery, apparatus, and supplies.....	3,605	39	53	168	30	89	422	575	1,198	6,224
Firearms and ammunition.....	8,333	808	1,059	2,273	2,814	5,807	5,807	5,000	13,102	
Foundry and machine-shop products.....	37,736	47	172	629	884	1,983	1,502			
Hats, fur-felt.....	5,217	0	15	40	141	1,749	1,389			
Hosiery and knit goods.....	3,340	527	1,651	806	253	358				
Lumber and timber products.....	3,496	35	111	203	734	610	611			
Musical instruments, pianos and organs and materials.....	2,304	23	254	701	324	418				
Paper and wood pulp.....	1,720	410	854	397	324					
Printing and publishing.....	2,878	142	387	500	1,718	1,390	1,595	2,899		
Silk and silk goods, including throwsters.....	8,703	7	35	177	280	1,404	2,218	909	1,187	
Silverware and plated ware.....	6,223	14	404	804	3,560	1,655	1,892	1,392		
Woolen, worsted, and felt goods, and wool hats.....	7,789	2,232	4,420	5,820	0,753	10,304	8,027	13,437	11,394	
All other industries.....	62,447									
PER CENT OF AVERAGE NUMBER OF WAGE EARNERS.										
All industries.....	100.0	2.1	4.7	6.7	7.5	18.1	15.5	16.2	29.2	
Automobiles, including bodies and parts.....	100.0	0.2	1.0	4.9	9.3	26.4	25.1	33.0		
Brass and bronze products.....	100.0	0.5	0.7	1.9	1.9	5.7	12.5	17.6	61.2	
Bread and other bakery products.....	100.0	34.3	43.1	15.6	7.1	1.9	24.0	13.0	57.5	
Clocks and watches, including cases and materials.....	100.0	0.1	1.0	0.4	1.0	2.1	5.3	31.4	48.6	
Corsets.....	100.0	0.1	0.6	1.0	2.4	17.9	23.1	18.1	31.8	
Cotton goods, including cotton small wares.....	100.0	(1)	0.2	2.0	10.2	24.6	9.0	11.2	35.9	
Cutlery and tools, not elsewhere specified.....	100.0	0.0	3.0	5.5	10.2	24.6	10.6	10.3		
Electrical machinery, apparatus, and supplies.....	100.0	1.1	1.5	4.5	9.7	54.9	6.7	14.0	72.9	
Firearms and ammunition.....	100.0	0.8	2.8	6.0	7.7	17.4	15.6	15.0	34.7	
Foundry and machine-shop products.....	100.0	0.9	3.3	12.1	10.9	38.0	23.8			
Hats, fur-felt.....	100.0	0.2	0.4	1.2	4.2	52.4	41.6			
Hosiery and knit goods.....	100.0	15.1	44.4	23.1	7.2	10.2				
Lumber and timber products.....	100.0	1.5	4.8	8.8	31.9		20.5	20.5		
Musical instruments, pianos and organs and materials.....	100.0	1.3	14.8	40.8	18.8	24.3				
Paper and wood pulp.....	100.0	14.2	29.7	31.0	13.8	13.3				
Printing and publishing.....	100.0	1.6	4.5	6.6	19.7	10.0	18.3	33.3		
Silk and silk goods, including throwsters.....	100.0	0.1	0.6	2.8	4.6	22.6	35.6	14.0	19.1	
Silverware and plated ware.....	100.0	0.2	6.2	5.2	11.1	45.7	21.2		16.6	
Woolen, worsted, and felt goods, and wool hats.....	100.0	0.2	7.1	9.3	10.8	16.0	21.5	18.2		
All other industries.....	100.0	3.6								

1 Less than one-tenth of 1 per cent.

Of the 4,251 establishments reported for all industries, 9.6 per cent employed no wage earners; 44.6 per cent, from 1 to 5; 21 per cent, 6 to 20; 9.6 per cent, 21 to 50; and 15.2 per cent, over 50. The most numerous single group consists of the 1,896 establishments employing from 1 to 5 wage earners, and the next of the 893 establishments employing from 6 to 20. There were 84 establishments that employed over 500 wage earners, and 37 that employed over 1,000.

Of the total number of wage earners, 60.9 per cent were in establishments employing over 250 wage earners. The single group having the largest number of employees was the group comprising establishments employing over 1,000 wage earners. Of the 11 industries represented in this group for which separate presentation is made in the table, the foundries and machine shops reported the largest number of wage earners, 13,102. Five other industries, however, exceeded the

foundries and machine shops in the proportion of their wage earners in this group, namely, firearms and ammunition, brass and bronze products, clocks and watches, corsets, and cutlery and tools. The industries listed in this table but not in the preceding one, namely, automobiles, clocks and watches, corsets, firearms and ammunition, hosiery and knit goods, musical instruments, and paper and wood pulp, are all industries in which comparatively large establishments do most of the business, as appears from the classification according to the number of wage earners.

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, page 156.

INDUSTRY.	PER CENT OF TOTAL EXPENSES REPORTED.			
	Salaries.	Wages.	Materials.	Miscellaneous expenses.
All industries.....	6.0	25.6	59.8	8.6
Automobiles, including bodies and parts.....	6.7	30.5	51.5	11.3
Brass and bronze products.....	2.4	15.6	77.3	4.7
Bread and other bakery products.....	2.7	19.4	70.7	7.3
Clocks and watches, including cases and materials.....	6.9	50.3	34.8	7.9
Corsets.....	8.1	23.2	61.4	7.4
Cotton goods, including cotton small wares.....	3.9	28.5	60.1	7.6
Cutlery and tools, not elsewhere specified.....	8.4	44.5	37.0	10.1
Electrical machinery, apparatus, and supplies.....	9.5	18.7	60.7	11.1
Firearms and ammunition.....	6.1	28.8	58.4	6.7
Foundry and machine-shop products.....	9.0	37.5	43.7	9.8
Hats, fur-felt.....	6.1	36.0	51.6	6.3
Hosiery and knit goods.....	6.2	29.1	58.3	9.4
Lumber and timber products.....	4.3	28.7	58.9	8.1
Musical instruments, pianos and organs and materials.....	6.3	25.1	60.7	8.0
Paper and wood pulp.....	6.9	18.2	65.0	10.0
Printing and publishing.....	16.4	33.3	34.0	16.3
Silk and silk goods, including throwsters.....	5.5	20.8	65.7	8.0
Silverware and plated ware.....	7.2	25.8	54.2	12.7
Woolen, worsted, and felt goods, and wool hats.....	3.2	19.9	73.3	3.6
All other industries.....	6.0	23.1	60.8	10.1

This table shows that, for all industries combined, 59.8 per cent of the total expense was for materials, 31.6 per cent for services—that is, salaries and wages—and but 8.6 per cent for other purposes. 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.

Of the owned power in 1909, 75.9 per cent was steam, as compared with 72 per cent in 1899. Water power, although showing an actual increase during the decade of 6,723 horsepower, decreased in proportion of owned power from 27.2 per cent in 1899 to 20.4 per cent in 1909. The more general use of gas engines is shown,

the number of such engines being 460 in 1909, as against 254 in 1904 and 171 in 1899. The figures also show that the practice of renting power is on the increase, 9.5 per cent of the total power being rented in 1909, as against 4.7 per cent in 1904 and 3.6 per cent in 1899. The use of electric motors for the purpose of applying the power generated within the establishment is also shown to be rapidly increasing, the horsepower of such motors having increased from 8,710 in 1899 to 26,346 in 1904 and 64,051 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.....	7,357	3,535	3,967	400,375	304,204	256,331	100.0	100.0	100.0
Owned.....	3,980	3,535	3,907	362,217	289,924	247,080	90.5	95.3	96.4
Steam.....	2,574	2,331	2,695	274,942	218,668	177,819	68.7	71.9	69.4
Gas.....	400	254	171	12,844	3,393	1,608	3.2	1.1	0.6
Water wheels.....	369	616	1,101	73,097	66,667	67,211	18.4	21.0	26.2
Water motors.....	27	34	(²)	237	141	(²)	0.1	(³)	(²)
Other.....				497	1,055	451	0.1	0.3	0.2
Rented.....	3,427	(²)	(²)	38,058	14,280	9,242	9.5	4.7	3.6
Electric.....	3,427	(²)	(²)	33,620	8,233	4,215	8.4	2.7	1.6
Other.....				4,438	6,047	5,027	1.1	2.0	2.0
Electric motors.....	8,536	1,521	442	97,671	84,579	12,925	100.0	100.0	100.0
Run by current generated by establishment.....	5,100	1,521	442	64,051	26,340	8,710	65.6	76.2	67.4
Run by rented power.....	3,427	(²)	(²)	33,620	8,233	4,215	34.4	23.8	32.6

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.—The following table shows the quantity of each kind of fuel used in 1909, by totals, for all industries 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.....	387,424	1,511,473	60,527	149,224	494,498	593,991
Automobiles, including bodies and parts.....	820	16,115	44	4	15,740	21,732
Brass and bronze products.....	70,473	210,109	1,329	45,000	113,337	31,812
Bread and other bakery products.....	11,524	2,134	2,340	1,958	35	10,789
Clocks and watches, including cases and materials.....	366	17,329			98	4,035
Corsets.....	427	9,658		1	2	2,110
Cotton goods, including cotton small wares.....	26,603	83,617		5,100	77	36
Cutlery and tools, not elsewhere specified.....	17,449	43,852	2,335	498	6,017	9,996
Electrical machinery, apparatus, and supplies.....	485	18,771		119	257	3,229
Firearms and ammunition.....	12,284	34,092	232	25	18,280	20,065
Foundry and machine-shop products.....	47,796	197,347	40,306	5,427	43,325	402,164
Gas, illuminating and heating.....	33,925	89,977	5,091	7	192,670	1,419
Hats, fur-felt.....	1,499	33,102	39	6	109	8,478
Hosiery and knit goods.....	110	14,414		27	88	1,515
Iron and steel, steel works and rolling mills.....	47,057	62,511	2,020	200	78,712	3,860
Liquors, malt.....	2,782	28,319			50	
Lumber and timber products.....	558	5,647	50	311	414	1,642
Musical instruments, pianos and organs and materials.....	4,185	9,955		3		500
Paper and wood pulp.....	23,184	92,807		64	97	540
Printing and publishing.....	3,496	3,119		68	202	8,540
Silk and silk goods, including throwsters.....	2,268	39,794		557	135	484
Silverware and plated ware.....	1,464	27,393	116	216	3,759	4,742
Woolen, worsted, and felt goods, and wool hats.....	1,993	76,533		14,684	131	229
All other industries.....	70,706	394,848	6,025	74,343	25,888	55,174

NOTE.—In addition, there were 20,180 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, the quantity and value of products, and the number of machines used in manufactures which do not appear on the general schedule. Certain data of this character for nine important industries in Connecticut are here presented.

Textiles.—The following statement shows the number of producing spindles, looms, knitting machines, sets of woolen cards, and wool-combing machines used by the four most important textile industries in Connecticut during 1909, 1904, and 1899, and indicates the progress during the decade of the four industries combined as well as each of the branches separately.

MACHINE.	Cen- sus.	Total.	Cotton goods, including cotton small wares.	Silk and silk goods, including throw- sters.	Woolen, worsted, and felt goods, and wool hats. ¹	Hosiery and knit goods.
Producing spindles....	1909 1904 1899	1,593,418 1,510,793 1,353,157	1,241,524 1,150,615 1,001,474	118,302 100,704 90,415	179,688 166,422 170,892	53,904 80,752 78,376
Looms.....	1909 1904 1899	32,785 28,204 25,633	24,370 20,803 19,550	5,000 4,260 2,975	3,400 3,201 3,108	.....
Knitting machines....	1909 1904 1899	2,501 2,557 2,002	.....	.....	.....	2,501 2,557 2,002
Woolen cards (sets)...	1909 1904 1899	522 551 549	.....	.....	408 442 415	114 109 134
Wool-combing ma- chines.	1909 1904 1899	33 25 40	.....	.....	33 18 40	..... 7 9

¹ Statistics for 1899 not available for two establishments manufacturing felt goods.

The above table shows that from 1904 to 1909 the number of producing spindles increased 82,625, or 5.5 per cent, and the number of looms 4,521, or 16 per cent, while knitting machines show a decrease of 56, or 2.2 per cent. The number of sets of woolen cards decreased 29, or 5.3 per cent, and the number of wool-combing machines increased 8, or 32 per cent. Of the total number of producing spindles reported in 1909 for these four industries combined, 1,241,524, or 77.9 per cent, were in cotton mills; 118,302, or 7.4 per cent, in silk mills; 179,688, or 11.3 per cent, in woolen, worsted, and felt mills; and 53,904, or 3.4 per cent, in hosiery and knitting mills. The cotton industry made the largest absolute gain in number of spindles during the last five years, the increase being 90,609, or 7.9 per cent. The largest relative gain in number of spindles, however, was in the silk industry, where there was an increase of 11,598, or 10.9 per cent. The falling off in the number of spindles in knitting mills is due to the tendency to purchase yarn already spun. In addition to the spindles shown in the table there were 13,756 producing spindles employed in the manufacture of cordage and twine in 1909. There were 3,567 more looms used in the cotton industry and 746 more in the silk industry in 1909 than in 1904.

Cotton goods, including cotton small wares.—Cotton manufacturing maintains the lead in the textile group, although the silk industry has grown more rapidly during the last decade.

The quantity and cost of the principal materials used in the manufacture of cotton goods and the quantity and value of the principal products reported in 1909, 1904, and 1899 are given below.

MATERIAL OR PRODUCT.	1909	1904	1899 ¹
Materials used, total cost.....	\$11,959,723	\$10,203,269	\$7,585,926
Cotton:			
Domestic—			
Pounds.....	51,004,051	49,775,004	50,910,381
Cost.....	\$9,425,319	\$9,241,393	\$3,770,503
Foreign—			
Pounds.....	6,058,400	3,503,478	5,955,428
Cost.....	\$1,058,728	\$619,173	\$656,019
Yarns, purchased:			
Cotton—			
Pounds.....	3,671,011	3,958,078	4,808,512
Cost.....	\$1,430,813	\$1,526,080	\$1,151,503
Other—			
Pounds.....	154,757	184,813	99,831
Cost.....	\$450,801	\$204,237	\$225,102
Cotton waste, purchased:			
Pounds.....	2,224,582	1,049,150	2,087,074
Cost.....	\$149,207	\$90,007	\$98,781
Starch:			
Pounds.....	2,044,826	2,284,201	2,073,522
Cost.....	\$111,808	\$69,453	\$70,434
Chemicals and dyestuffs.....	\$225,354	\$218,977	\$250,129
Fuel and rent of power and heat.....	\$478,710	\$478,301	\$342,021
All other materials.....	\$1,020,302	\$848,519	\$1,001,334
Products, total value.....	\$24,331,881	\$18,426,384	\$15,489,442
Plain cloths for printing or converting:			
Square yards.....	59,730,700	63,974,935	60,560,820
Value.....	\$4,571,037	\$3,830,725	\$3,382,225
Brown or bleached sheetings and shirt- ings:			
Square yards.....	33,411,424	29,917,408	17,307,180
Value.....	\$2,240,023	\$1,580,420	\$884,900
Twills and satens:			
Square yards.....	40,827,992	24,504,276	19,724,407
Value.....	\$3,162,075	\$1,402,558	\$952,385
Fancy woven fabrics:			
Square yards.....	17,222,224	14,310,168	20,518,750
Value.....	\$1,747,789	\$1,278,519	\$1,405,208
Ticks, denims, and stripes:			
Square yards.....	14,888,985	10,470,607	7,180,513
Value.....	\$1,012,030	\$1,097,082	\$1,528,744
Yarns for sale:			
Pounds.....	7,014,873	6,385,473	6,010,502
Value.....	\$2,840,742	\$2,459,139	\$1,636,206
Thread:			
Pounds.....	5,203,776	4,028,361	3,432,159
Value.....	\$5,199,313	\$3,745,906	\$2,801,134
Cotton waste for sale:			
Pounds.....	11,315,800	9,023,878	10,153,771
Value.....	\$400,811	\$406,200	\$254,150
All other products.....	\$2,382,802	\$1,906,037	\$2,594,280

¹ Excluding statistics for two establishments, to avoid disclosure of individual operations.

The cotton consumed in this industry in 1909 amounted to 57,723,360 pounds, costing \$7,484,047, and representing an increase over 1904 of 4,444,878 pounds, or 8.3 per cent, in quantity, and \$623,481, or 9.1 per cent, in cost. In 1909 the quantity and cost of domestic cotton represented 89.5 per cent and 85.9 per cent, respectively, of the total quantity and cost of all cotton consumed, proportions somewhat smaller than the corresponding figures for 1904, which were 93.4 per cent and 91 per cent, respectively. The consumption of foreign cotton increased considerably between 1899 and 1909, although a pronounced decrease occurred from 1899 to 1904. Cotton waste purchased increased for the decade as a whole, although a decrease is shown for the period from 1899 to 1904.

Each kind of product presented separately shows an increase in value from 1904 to 1909, with the exception of ticks, denims, and stripes. Twills and sateens made the largest gain during the period, the increase in value being \$1,749,520, or 124.7 per cent. Plain cloths for printing and converting were the most important class of fabrics manufactured in both quantity and value, although the output shows a decrease in 1909 of 7,244,235 square yards as compared with 1904 and 830,120 square yards as compared with 1899; there has, however, been an increase during the decade in the value of this class of products. Twills and sateens stand next to plain cloths in the quantity manufactured in 1909. The increase for the decade in the output of this class of goods was 21,103,585 square yards, or 107 per cent, the greater part of which occurred between 1904 and 1909. The increases in the quantity and value of sheetings and shirtings were very much less than the gains shown for twills and sateens. Fancy woven fabrics, which are made in considerable quantities, show a decrease of 3,296,535 square yards, or 16.1 per cent, for the 10-year period, and an increase in value of \$252,491, or 16.9 per cent. It will be noted that the value of the thread manufactured exceeds that reported for any other class of products.

Silk and silk goods, including throwsters.—The second industry of importance in respect to value of products among the textile industries of Connecticut is the manufacture of silk and silk goods. The state has one of the largest factories in the country manufacturing broad silks and other woven silk goods. Of the 47 establishments reported in 1909 a number are engaged solely in throwing silk for others on contract.

The quantity and cost of the various materials used in the silk mills and the quantity and value of the different classes of products reported for 1909, 1904, and 1899 are shown in the next table.

Cotton and mercerized yarns formed the principal material according to weight, and showed the most marked increase, while raw silk was the material of greatest value.

Three groups of products furnished nearly equal proportions of the total value, namely, velvets and plushes, with \$5,959,175, or 28.3 per cent of the total; broad silks, with \$5,890,233, or 28 per cent; and machine twist, sewing, embroidery, wash, fringe, and floss silks, with \$5,108,180, or 24.3 per cent.

The output of velvets and plushes increased 125.9 per cent in quantity and 114.7 per cent in value during the 10-year period, that of broad silks 108.4 per cent in quantity and 93.4 per cent in value, and that of machine twist and other sewing and embroidery silks 5.4 per cent in quantity and 12.3 per cent in value. Organzine, tram, and spun silk yarns, which ranked

next in value of output, increased 76.4 per cent in quantity and 80.2 per cent in value between 1899 and 1909. Ribbons show a gain of 71.7 per cent in value for the decade as a whole, although a decrease of 2.5 per cent occurred during the last five years.

Ribbons constitute the only item which shows a decrease in value between 1904 and 1909. "All other products," on the other hand, which fell off somewhat during the earlier five-year period, increased 324.2 per cent between 1904 and 1909.

In 1909, 290,253 pounds of silk were thrown on commission, 150,332 pounds into organzine, and 139,921 pounds into tram. The corresponding total for 1904 was 216,454 pounds, of which 131,038 pounds were thrown into organzine and 85,416 pounds into tram.

MATERIAL OR PRODUCT.	1909	1904	1899
Materials used, total cost.....	\$11,834,345	\$9,098,196	\$7,198,008
Silk:			
Raw—			
Pounds.....	1,624,701	1,320,509	1,159,961
Cost.....	\$6,099,209	\$5,067,381	\$4,537,720
Spun—			
Pounds.....	606,379	716,607	502,558
Cost.....	\$1,425,057	\$1,609,162	\$998,566
Organzine and tram, purchased—			
Pounds.....	54,619	28,844	31,041
Cost.....	\$238,785	\$144,358	\$154,881
Yarns, purchased:			
Cotton, including mercerized—			
Pounds.....	2,439,405	1,380,581	1,189,505
Cost.....	\$370,707	\$446,362	\$390,252
Wool, mohair, and other—			
Pounds.....	832,204	120,215	3,661
Cost.....	\$326,208	\$124,434	\$6,468
Chemicals and dyestuffs.....	\$294,025	\$268,675	(¹)
Fuel and rent of power.....	\$214,733	\$126,061	\$98,917
All other materials.....	\$1,804,991	\$1,308,773	\$1,013,204
Products, total value.....	\$21,082,687	\$15,623,693	\$12,378,981
Organzine, tram, and spun silk yarns for sale:			
Pounds.....	455,678	378,104	258,265
Value.....	\$1,623,722	\$1,411,085	\$901,191
Machine twist, sewing, embroidery, wash, fringe, and floss silks:			
Pounds.....	823,678	782,434	786,261
Value.....	\$5,108,180	\$4,573,582	\$4,548,802
Broad silks:			
Yards.....	11,404,011	7,562,166	5,470,874
Value.....	\$5,890,233	\$4,037,599	\$3,045,669
Velvets and plushes:			
Yards.....	11,912,753	9,048,494	5,272,665
Value.....	\$5,959,175	\$3,935,014	\$2,775,318
Ribbons.....	\$1,125,697	\$1,153,983	\$955,807
Embroideries, braids and bindings, fringes and gimps.....	\$210,427	\$80,393	\$38,685
Amount received for contract work.....	\$293,332	\$230,614	\$136,362
All other products.....	\$551,921	\$200,823	\$277,247

¹ Not reported separately.

Woolen, worsted, and felt goods.¹—Three establishments were primarily engaged in the manufacture of felt goods in 1909, one in 1904, and two in 1899. The following table gives the details concerning the cost of the different materials used in the manufacture of woolen and worsted goods and the quantity and value of the leading kinds of products for these two branches of the industry in 1909, 1904, and 1899, the cost of materials used and the value of products for felt goods also being included for 1909.

¹ The title of this industry in the tables, being uniform for all states, is "Woolen, worsted, and felt goods, and wool hats," but in Connecticut no wool hats were reported.

MATERIAL OR PRODUCT.	1909	1904 ¹	1899 ¹
Materials used, total cost	\$12,838,142	\$10,073,219	\$7,023,088
Wool:			
Foreign (in condition purchased)—			
Pounds.....	1,088,035	934,051	1,493,025
Cost.....	\$223,687	\$221,325	\$220,433
Domestic (in condition purchased)—			
Pounds.....	9,084,587	11,831,189	9,709,048
Cost.....	\$3,474,052	\$3,523,040	\$2,718,264
Equivalent in scoured condition, pounds.....	7,045,150	8,205,794	7,271,804
Cotton:			
Pounds.....	558,585	1,504,567	1,097,350
Cost.....	\$82,852	\$175,022	\$159,424
Shoddy:			
Pounds.....	1,593,181	2,457,223	4,401,072
Cost.....	\$295,442	\$323,970	\$489,970
Waste and noils of wool, mohair, etc.:			
Pounds.....	1,871,548	2,263,438	1,186,670
Cost.....	\$406,078	\$517,193	\$254,204
Yarns, purchased:			
Worsted—			
Pounds.....	5,113,210	2,558,669	2,352,505
Cost.....	\$5,020,603	\$2,498,100	\$2,036,673
Cotton—			
Pounds.....	1,103,955	1,089,875	1,475,188
Cost.....	\$201,770	\$387,894	\$300,802
All other—			
Pounds.....	65,573	345,239	55,681
Cost.....	\$134,628	\$300,751	\$30,101
Chemicals and dyestuffs.....	\$534,281	\$502,057	\$410,404
Fuel and rent of power.....	\$320,872	\$304,732	\$220,189
All other materials.....	\$1,305,877	\$1,217,611	\$755,608
Products, total value.....	\$19,302,328	\$15,483,499	\$12,637,032
All-wool woven goods, whether woolen or worsted:			
Wool cloths, etc.—			
Square yards.....	4,371,202	4,318,078	2,201,081
Value.....	\$3,834,073	\$2,845,913	\$1,601,205
Worsted coatings, etc.—			
Square yards.....	6,093,858	3,078,070	2,075,355
Value.....	\$9,733,563	\$3,550,183	\$3,149,000
Woolen overcoatings, etc.—			
Square yards.....	2,827,601	1,905,798	2,213,987
Value.....	\$2,018,265	\$1,679,030	\$1,953,424
Wool dress goods, cashmeres, buntings, etc.—			
Square yards.....	1,010,080	4,171,501	2,301,173
Value.....	\$902,800	\$2,080,833	\$930,008
All other—			
Square yards.....	2,183,833	4,003,771	1,858,213
Value.....	\$904,942	\$1,207,707	\$230,000
Union or cotton mixed woven goods:			
Union tweeds, etc.—			
Square yards.....	800,666	2,821,517	2,001,035
Value.....	\$399,593	\$1,100,101	\$803,243
All other—			
Square yards.....	1,307,818	1,350,983	1,375,027
Value.....	\$730,074	\$707,374	\$745,018
Goods woven on cotton warp:			
Wool filling cassimeres, jeans, etc.—			
Square yards.....	2,108,071	1,700,051	1,027,154
Value.....	\$544,445	\$501,412	\$342,055
All other—			
Square yards.....	2,288,745	4,138,150	3,730,325
Value.....	\$710,840	\$982,038	\$1,080,009
Yarns, for sale:			
Pounds.....	751,185	413,681	801,029
Value.....	\$976,155	\$202,612	\$010,706
Waste and noils, for sale:			
Pounds.....	487,020	213,610	300,713
Value.....	\$78,653	\$43,974	\$41,208
Amount received for contract work.....	\$32,848	\$10,185	\$13,470
All other products.....	\$1,111,953	\$466,462	\$457,110

¹ Excluding statistics for one establishment in 1904 and two in 1899, to avoid disclosure of individual operations.

² Includes tapes.

The increase during the decade in the total cost of materials was proportionally greater than the increase in the value of products. Both the quantity and the cost of foreign wool consumed have decreased since 1899, although there has been a slight gain in quantity since 1904. From 1899 to 1904 there was a decided gain in the quantity and cost of domestic wool consumed, but from 1904 to 1909 a decrease occurred in both items. For the decade the quantity of domestic wool decreased slightly, although its cost shows a considerable increase. The most conspicuous gain was for worsted yarns purchased, which increased during the last five-year period, 1904-1909, 99.8 per cent in quantity and 125.4 per cent in cost.

The quantity of all-wool woven goods reported, whether woolen or worsted, was 17,987,303 square yards in 1909, 18,377,887 square yards in 1904, and 11,549,809 square yards in 1899. The combined value of these classes of goods represented 78 per cent of the total value of products for the industry in 1909, 72.8 per cent in 1904, and 63.1 per cent in 1899. The quantity and value of union tweeds increased from 1899 to 1904, but decreased from 1904 to 1909, with the result that both items were smaller in 1909 than in 1899. The output of all other union or cotton-mixed woven goods decreased steadily from 1899 to 1909, and their value was also lower in 1909 than in 1899, although somewhat higher than in 1904. For each of the two classes into which goods woven on cotton warps are divided in the table, the values declined regularly from 1899 to 1909, but the output of wool-filling cassimeres and jeans was greatest in 1909 and that of the cotton-warp goods included under the head of "All other" was greatest in 1904.

Hosiery and knit goods.—Twenty-one establishments—three less than in 1904 and four less than in 1899—were reported in this industry at the census of 1909. The quantity and cost of the principal materials used and the quantity and value of the products reported for the hosiery and knit-goods industry at the last three censuses were as follows:

MATERIAL OR PRODUCT.	1909	1904	1899
Materials used, total cost.....	\$3,048,547	\$3,325,014	\$2,202,640
Cotton:			
Domestic—			
Pounds.....	1,102,924	1,489,447	2,008,413
Cost.....	\$140,000	\$171,439	\$176,729
Foreign—			
Pounds.....	808,688	654,414	(¹)
Cost.....	\$139,870	\$120,075	(¹)
Wool:			
Domestic (in condition purchased)—			
Pounds.....	768,190	1,078,520	1,201,104
Cost.....	\$354,254	\$615,320	\$344,178
Foreign (in condition purchased)—			
Pounds.....	251,055	307,454	1,181,663
Cost.....	\$113,000	\$113,030	\$479,436
Wool waste and noils:			
Pounds.....	2,015,712	930,683	493,216
Cost.....	\$930,130	\$225,964	\$117,035
Yarns, purchased:			
Cotton—			
Pounds.....	1,539,828	1,221,624	901,497
Cost.....	\$469,922	\$304,634	\$260,011
Woolen, worsted, and merino—			
Pounds.....	403,026	397,103	271,444
Cost.....	\$419,887	\$353,004	\$254,219
All other—			
Pounds.....	7,194	8,091	16,650
Cost.....	\$24,742	\$21,906	\$38,700
Chemicals and dyestuffs.....	\$52,240	\$37,004	\$40,094
Fuel and rent of power.....	\$37,043	\$73,845	\$47,603
All other materials.....	\$336,932	\$691,224	\$453,735
Products, total value.....	\$5,800,692	\$5,971,452	\$4,043,977
Hose and half hose:			
Dozen pairs.....	500,100	672,242	393,111
Value.....	\$1,109,617	\$1,018,327	\$562,145
Shirts and drawers:			
Merino or mixed—			
Dozens.....	338,589	286,049	298,148
Value.....	\$2,941,515	\$2,308,443	\$1,999,994
All wool ² —			
Dozens.....	19,516	42,574	62,993
Value.....	\$239,100	\$402,061	\$619,969
All cotton—			
Dozens.....	113,603	112,108	180,169
Value.....	\$475,545	\$411,793	\$440,073
Combination suits:			
Merino or mixed—			
Dozens.....	2,998	1,832	898
Value.....	\$48,253	\$27,407	\$13,450
All other—			
Dozens.....	39,615	1,630	250
Value.....	\$300,772	\$16,300	\$2,828
All other products.....	\$85,890	\$1,007,121	\$409,518

¹ Included with domestic cotton.

² Includes silk or silk mixed.

The consumption of domestic cotton was 26 per cent less in 1909 than in 1904. Because of the demand for long fiber the quantity of foreign cotton increased 32.7 per cent from 1904 to 1909. The consumption of both domestic and foreign wool decreased, the quantity reported being 966,738 pounds less in 1909 than in 1904. Waste and noils show the largest gain; the increase during the last five years being 116.6 per cent in quantity and 178.9 per cent in cost. Both the quantity and the cost of cotton and woolen, worsted, and merino yarns purchased in 1909 were greater than in 1904.

The gain shown in both quantity and value of hose and half hose during the 10-year period is marked, although the quantity decreased considerably from 1904 to 1909. The growth in the production of merino and mixed shirts and drawers is noticeable; there was, however, a falling off in the production of all-wool underwear.

Automobiles, including bodies and parts.—The number and value of the different classes of machines manufactured as reported at the censuses of 1909 and 1904 are shown in the following table:

PRODUCT.	NUMBER.		VALUE.	
	1909	1904	1909	1904
Total.....	2,913	832	\$11,668,228	\$2,644,334
Passenger vehicles:				
Gasoline.....	2,913	386	7,359,652	1,125,863
Electric.....	(?)	319	(?)	747,420
Steam.....		127		85,399
All other products, including parts.....			4,107,809	331,253
Custom work and repairing.....			200,767	354,399

¹ Excluding statistics for one establishment, to avoid disclosure of individual operations.

² Included with gasoline.

This table shows a remarkable increase in the number of machines manufactured and also in their value. The increase in value was, however, somewhat greater relatively than that in number, so that the average value per machine in 1909, \$2,526, was higher than in 1904, when it was \$2,354. The value of all other products reported increased even more rapidly than that of the complete machines, on account of the increased production of bodies and parts. In 1909 there were 20 establishments primarily engaged in making bodies and parts, as compared with 1 in 1904.

Although the electric machine was the type first produced in Connecticut, practically all machines built in the state in 1909 were of the gasoline type.

A detailed statement by classes of the automobiles manufactured is not presented, because to do so would disclose the operations of individual establishments. Touring cars rank first in number, runabouts second, and closed pleasure and family vehicles third. Cabs, patrol wagons, and ambulances rank in the order named. Nearly all the machines were equipped with engines of from 30 to 50 horsepower, although a few

pleasure and family vehicles exceeded that rating and a limited number fell below it.

Hats, fur-felt.—The manufacture of fur-felt hats has long been an important industry in the state, but the development was greater during the last five-year period. The following table shows the quantity and cost of materials used and the quantity and value of products reported for the industry at the last three censuses:

MATERIAL OR PRODUCT.	1909	1904	1899
Materials used, total cost.....	\$4,848,983	\$3,953,093	\$3,685,748
Hatters' fur:			
Pounds.....	1,673,332	1,385,325	1,499,787
Cost.....	\$1,909,915	\$1,535,579	\$1,493,491
Fur-felt hat bodies and hats in the rough, purchased:			
Dozens.....	87,117	30,783	61,726
Cost.....	\$491,161	\$194,207	\$381,362
Chemicals and dyestuffs.....	\$315,598	\$501,640	\$272,635
Fuel and rent of power and heat.....	\$175,078	\$162,748	\$119,584
All other materials.....	\$1,957,233	\$1,559,519	\$1,448,376
Products, total value.....	\$10,399,860	\$8,662,799	\$7,546,882
Fur-felt hats:			
Dozens.....	530,558	600,312	497,683
Value.....	\$7,863,382	\$8,198,376	\$6,543,736
Fur-felt hat bodies and hats in the rough, for sale:			
Dozens.....	335,947	63,676	153,188
Value.....	\$2,407,044	\$396,056	\$946,957
Amount received for contract work.....	\$123,273	\$50,612	\$52,371
All other products.....	\$10,661	\$17,755	\$3,818

The cost of hatters' fur, which was the principal material reported, represented 39.4 per cent of the total cost of all materials in 1909 and about the same proportion in 1904 and 1899. The quantity and cost were both highest in 1909, although the quantity decreased from 1899 to 1904. A decided increase is shown from 1904 to 1909 in the number and cost of hat bodies used, which followed a decided decrease in both items between 1899 and 1904.

The proportion that the value of finished hats represents of the total value of products for the industry has varied greatly during the last decade, being 86.7 per cent in 1899, 94.6 per cent in 1904, and 75.6 per cent in 1909. The decrease in the value of finished hats from 1904 to 1909 was more than offset by the gain in that of hat bodies and hats in the rough.

Electrical machinery, apparatus, and supplies.—This industry has developed rapidly during recent years, which may have been due, to some extent, to the fact that Connecticut is a center of the brass and bronze industry. The following tabular statement gives the quantity and value of the different products reported at the last two censuses. Comparable statistics are not available for 1899.

PRODUCT.	1909	1904
Total value.....	\$9,824,373	\$4,939,831
Sockets, receptacles, bases, etc.....	1,652,686	1,022,287
Electric-lighting fixtures of all kinds.....	111,054	195,098
Electric switches, signals, and attachments.....	1,382,183	(?)
Insulated wires and cables.....	3,772,881	2,156,369
All other products.....	2,905,609	1,566,077

¹ Included under "All other products," to avoid disclosure of individual operations.

The totals for this industry do not include the electric machinery and apparatus, to the value of \$689,696 in 1909 and \$591,094 in 1904, which were manufactured by establishments primarily engaged in some other industry.

Insulated wires and cables formed the products of highest value at both censuses. The largest relative gain was in the value of the different classes of machinery and apparatus included under the head of "All other products," which consisted mainly of electric lamps, dynamos, motors, storage and primary batteries, telephones and telephone parts, and magneto-ignition apparatus.

Printing and publishing.—The following table shows the number of the several classes of publications in the state during 1909, 1904, and 1899, and their aggregate circulation per issue:

PERIOD OF ISSUE.	NUMBER OF PUBLICATIONS.			AGGREGATE CIRCULATION PER ISSUE.		
	1909	1904	1899	1909	1904	1899
Total.....	160	158	158	539,765	568,701	457,622
Daily.....	38	30	44	258,543	220,367	208,816
Sunday.....	10	5	3	80,201	59,085	(1)
Semiweekly.....	9	11	22	23,612	27,500	20,325
Weekly.....	78	80	74	134,849	135,470	155,567
Monthly.....	18	19	0	28,650	40,950	44,375
All other classes.....	7	7	0	7,850	38,350	10,000

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

An increase of 82,143, or 17.9 per cent, is shown in the total circulation per issue of all publications during the last decade, yet a decided decrease is shown for 1909 as compared with 1904. With the exception of the dailies and the Sunday papers, each class shows a loss during the five-year period 1904-1909. The growth from 1904 to 1909 in the circulation of Sunday papers was 46 per cent, and the increase in that of the dailies was 12.7 per cent. Between 1904 and 1909 the number of Sunday papers increased by five and the number of dailies by two. The circulation of the dailies constituted 47.9 per cent of the total circulation of all publications in 1909, that of the weeklies 25 per cent, and that of the Sunday papers 16 per cent. The corresponding proportions in 1904 were 40.5 per cent, 29.2 per cent, and 10.4 per cent, respectively, while in 1899 the circulation of dailies and Sunday publications combined constituted 45.6 per cent of the total and the circulation of the weeklies 34 per cent. The circulation of evening newspapers increased from 177,728 in 1904 to 186,601 in 1909 and that of morning papers from 51,629 to 71,942. All of the publications were in the English language except one daily, which was in Italian; 10 weeklies, 4 of which were in German, 4 in Italian, 1 in Polish, and 1 in Swedish; and 1 semimonthly included under the head of "All other classes," which was in German.

Paper and wood pulp.—The quantity and value of the various products of this industry, as reported for the censuses of 1909, 1904, and 1899, are shown in the next table.

PRODUCT.	1909	1904	1899
Total value.....	\$5,527,334	\$5,039,147	\$3,565,021
Book paper:			
Tons.....	3,180	4,425	6,076
Value.....	\$309,856	\$517,562	\$676,248
Writing and other fine paper:			
Tons.....	2,896	6,439	2,298
Value.....	\$559,054	\$864,055	\$361,412
Wrapping paper:			
Tons.....	6,316	7,056	14,219
Value.....	\$538,830	\$502,544	\$743,747
Boards:			
Tons.....	65,567	64,610	30,762
Value.....	\$2,386,945	\$2,354,053	\$1,168,400
Tissue:			
Tons.....	2,041	2,169	1,740
Value.....	\$438,097	\$406,075	\$283,378
All other paper products:			
Tons.....	12,224	4,950	4,712
Value.....	\$750,633	\$357,442	\$270,312
All other products.....	\$452,000	\$30,810	\$71,425

The output of each class of products for which statistics as to quantity are given, with the exception of boards and "All other paper products," decreased from 1904 to 1909. Book paper and writing and other fine paper also show decreases in value. Slight increases in both quantity and value are reported for paper boards, which form the chief product of the industry in the state. Book paper showed a marked decrease in both quantity and value during each five-year period. "All other paper products" comprises principally news paper and blotting paper and card and bristol boards, the first of which was made much more extensively in 1909 than in 1904 or 1899.

The paper-making machinery in the mills of the state in 1909 consisted mainly of 17 Fourdrinier and 66 cylinder machines, having a yearly capacity of 127,025 tons and in 1904 of 17 Fourdrinier and 64 cylinder machines, with an annual capacity of 110,121 tons.

Laundries.—Statistics for steam laundries are not included in the general tables or in the totals for manufacturing industries. In 1909 there were 95 such establishments in Connecticut, 15 of which were in New Haven, 12 in Hartford, 7 in Bridgeport, 7 in Waterbury, 5 in New London, 4 each in Danbury, Meriden, and Stamford, and 3 in Norwich. The following statement summarizes the statistics:

Number of establishments.....	95
Persons engaged in the industry.....	1,638
Proprietors and firm members.....	101
Salaried employees.....	96
Wage earners (average number).....	1,441
Primary horsepower.....	1,852
Capital.....	\$870,567
Expenses.....	1,089,900
Services.....	684,373
Materials.....	246,066
Miscellaneous.....	159,461
Amount received for work done.....	1,416,122

Of these establishments, 53 were operated by individuals, 23 by firms, and 19 by corporations. Twenty-two establishments had receipts for the year's business

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of less than \$5,000; 50 of \$5,000 but less than \$20,000, and 23 of \$20,000 but less than \$100,000.

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

MONTH.	WAGE EARNERS.		MONTH.	WAGE EARNERS.	
	Number.	Per cent of maximum.		Number.	Per cent of maximum.
January.....	1,350	86.3	July.....	1,564	100.0
February.....	1,342	85.8	August.....	1,547	98.9
March.....	1,343	85.9	September.....	1,503	96.1
April.....	1,363	87.1	October.....	1,436	94.9
May.....	1,399	89.4	November.....	1,451	92.8
June.....	1,497	95.7	December.....	1,451	92.8

The returns of 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.	Horsepower.
Primary power, total.....		1,852
Owned—Steam.....	85	1,695
Rented:		
Electric.....	21	135
Other.....		22

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

KIND.	Unit.	Quantity.
Anthracite coal.....	Tons.....	3,492
Bituminous coal.....	Tons.....	10,448
Coke.....	Tons.....	11
Wood.....	Cords.....	39
Oil.....	Barrels.....	102
Gas.....	1,000 feet.....	12,249

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.....	31	59
Persons engaged in the industry.....	86	80
Proprietors and firm members.....	36	61
Wage earners (average number).....	50	19
Primary horsepower.....	873	1,982
Capital.....	\$51,408	\$132,577
Expenses.....	23,026	187,152
Services.....	19,478	5,737
Materials.....	1,045	178,750
Miscellaneous.....	2,503	2,665
Value of products.....	46,481	1,220,775

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

MANUFACTURES—CONNECTICUT.

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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.				Primary horsepower.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
			Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).							
STATE—All industries.....	1909	4,251	233,371	3,468	10,611	210,792	400,275	\$517,547	\$25,637	\$110,119	\$257,259	\$490,272	\$333,013
	1904	3,477	188,046	2,918	13,523	181,605	304,204	373,284	17,040	87,943	191,302	369,082	177,780
	1899	3,382	.....	.....	9,258	169,733	256,331	299,207	11,755	73,394	169,672	315,106	145,434
Automobiles, including bodies and parts.....	1909	28	4,444	8	621	3,815	3,937	12,131	694	2,878	4,856	11,068	6,812
	1904	17	1,131	4	62	1,005	1,283	3,713	80	784	1,163	2,644	1,481
	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Boots and shoes, including cut stock and findings.....	1909	10	582	15	47	520	235	746	56	226	1,038	1,058	570
	1904	12	559	13	47	499	253	589	54	209	820	1,319	499
	1899	15	787	28	40	710	379	700	38	208	987	1,517	530
Boxes, fancy and paper.....	1909	38	2,074	20	205	1,840	1,300	2,337	262	748	1,380	2,911	1,525
	1904	37	2,180	24	130	2,032	1,140	1,837	158	704	1,432	2,768	1,336
	1899	34	1,740	16	62	1,632	.....	1,423	100	553	922	2,057	1,135
Brass and bronze products.....	1909	80	17,800	47	1,026	10,817	50,034	47,873	1,478	0,667	47,864	60,933	19,069
	1904	64	16,400	29	1,079	15,382	38,915	40,571	1,506	8,100	37,913	53,916	16,003
	1899	62	.....	.....	907	12,747	.....	25,582	916	6,754	36,693	49,659	12,456
Bread and other bakery products.....	1909	431	2,011	407	275	1,869	608	2,532	169	1,222	4,463	7,310	2,847
	1904	327	2,376	355	270	1,751	557	2,200	183	1,019	3,446	5,898	2,452
	1899	360	2,140	332	205	1,612	.....	2,115	133	801	2,915	5,209	2,294
Butter, cheese, and condensed milk.....	1909	30	148	9	34	105	231	211	17	53	623	745	122
	1904	41	140	17	28	95	209	150	15	57	670	815	145
	1899	71	262	40	47	193	531	275	24	35	882	1,004	212
Buttons.....	1909	20	1,133	10	60	1,057	1,673	1,501	107	405	735	1,635	600
	1904	11	1,118	5	69	1,044	831	1,308	95	410	590	1,440	847
	1899	11	834	10	24	800	491	532	31	306	430	1,087	657
Carriages and wagons and materials.....	1909	92	720	99	43	578	957	1,220	41	372	383	1,077	604
	1904	109	1,730	122	101	1,507	1,329	2,326	131	707	793	2,196	1,403
	1899	135	.....	.....	112	1,644	.....	3,529	130	1,032	1,245	3,166	1,921
Cars and general shop construction and repairs by steam-railroad companies.....	1909	5	1,300	.....	74	1,226	595	948	77	742	700	1,580	820
	1904	5	2,103	.....	133	1,975	810	1,331	87	1,256	923	2,155	1,232
	1899	6	1,657	.....	100	1,557	613	1,639	78	944	1,366	2,430	1,004
Clocks and watches, including cases and materials.....	1909	16	0,195	5	330	5,851	4,273	0,846	415	3,030	2,008	7,390	5,292
	1904	13	0,137	2	370	5,765	3,699	8,288	364	2,639	2,110	7,060	4,944
	1899	15	4,088	8	124	3,953	.....	5,110	199	1,924	1,836	4,690	2,760
Clothing, men's, including shirts.....	1909	28	854	30	73	751	418	958	106	304	720	1,362	636
	1904	22	1,012	19	41	952	108	708	76	344	733	1,443	710
	1899	22	.....	.....	20	697	.....	562	22	285	434	920	486
Clothing, women's.....	1909	17	1,473	13	78	1,382	401	677	102	415	798	1,716	918
	1904	17	942	19	57	866	301	435	66	246	534	1,068	504
	1899	14	523	10	13	494	.....	194	12	182	225	615	390
Confectionery.....	1909	22	312	27	52	233	96	332	91	82	880	1,233	344
	1904	20	322	25	75	222	204	302	57	82	365	636	281
	1899	11	.....	.....	29	143	.....	178	19	65	214	436	222
Copper, tin, and sheet-iron products.....	1909	48	2,655	27	153	2,475	1,520	4,091	213	949	1,565	3,004	2,039
	1904	43	2,359	37	163	2,169	1,504	3,077	192	911	1,049	2,705	1,656
	1899	20	.....	.....	67	1,683	.....	1,505	96	799	890	1,981	1,091
Cordage and twine and jute and linen goods.....	1909	8	314	7	21	280	1,134	481	19	85	431	501	130
	1904	15	210	3	5	202	910	280	5	56	253	361	193
	1899	17	255	6	4	245	.....	277	3	63	179	285	196
Corsets.....	1909	17	7,177	15	519	6,643	1,566	6,031	876	2,520	6,670	12,815	6,139
	1904	13	4,784	12	360	4,412	1,507	3,025	489	1,418	2,084	5,501	2,907
	1899	24	6,124	32	337	5,755	.....	2,079	443	1,796	3,179	6,847	3,668
Cotton goods, including cotton small wares.....	1909	52	14,887	20	501	14,300	58,197	30,243	778	5,666	11,960	24,232	12,272
	1904	52	13,479	18	350	13,111	47,950	31,159	616	4,653	10,203	18,425	8,222
	1899	55	13,494	19	281	13,194	41,184	27,352	396	4,394	7,536	15,489	7,953
Cutlery and tools, not elsewhere specified.....	1909	82	8,094	45	502	7,547	14,135	13,758	751	3,980	3,310	10,717	7,407
	1904	71	6,170	43	374	5,753	8,658	8,090	479	3,098	2,839	8,336	5,596
	1899	71	4,846	54	252	4,540	.....	6,528	311	2,315	2,085	5,977	3,892
Dyeing and finishing textiles.....	1909	10	1,817	3	95	1,710	5,851	5,375	198	872	1,480	3,562	2,082
	1904	10	1,480	2	88	1,406	4,883	4,502	163	640	927	2,215	1,288
	1899	5	1,339	.....	39	1,300	4,724	3,244	101	579	907	2,270	1,303
Electrical machinery, apparatus, and supplies.....	1909	41	4,120	7	668	3,505	4,457	0,852	813	1,603	5,211	9,824	4,613
	1904	32	1,942	10	225	1,707	2,505	4,184	278	724	2,754	4,940	2,186
	1899	17	1,111	8	142	901	987	2,514	170	406	1,074	3,168	1,194

¹ Excluding statistics for one establishment, to avoid disclosure of individual operations.
² Not reported separately.
³ Excluding statistics for two establishments, to avoid disclosure of individual operations.

MANUFACTURES—CONNECTICUT.

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.				Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
			Total.	Proprietors and firm members.	Salaries employed.	Wage earners (average number).							
Expressed in thousands.													
STATE—Continued.													
Fancy articles, not elsewhere specified.....	1909	8	437	4	36	397	526	\$574	\$47	\$172	\$423	\$730	\$307
	1904	11	325	10	23	292	271	282	30	123	234	477	243
	1899	10	259	7	26	226	.....	313	35	80	166	361	195
Fertilizers.....	1909	12	374	9	70	295	1,273	1,591	78	137	1,091	1,573	482
	1904	10	348	6	32	310	607	987	37	124	525	943	418
	1899	9	171	8	30	133	.....	383	28	54	228	391	163
Firearms and ammunition.....	1909	10	9,205	1	671	8,533	9,391	21,681	1,048	4,968	10,066	19,948	9,882
	1904	13	8,049	9	347	7,693	5,125	11,776	4,601	8,311	17,762	17,762	9,451
	1899	13	5,473	13	182	5,278	.....	7,606	342	2,919	5,509	11,301	5,792
Flour-mill and gristmill products.....	1909	98	288	122	21	145	3,616	1,277	22	72	1,731	2,024	293
	1904	86	311	98	46	167	3,108	1,330	39	86	1,690	1,982	292
	1899	84	.....	.....	32	170	.....	1,042	23	76	1,399	1,700	301
Foundry and machine-shop products.....	1909	403	42,101	202	4,163	37,736	49,167	89,715	5,144	21,332	24,820	65,535	40,715
	1904	349	32,545	204	2,513	29,828	32,248	57,909	3,148	15,417	15,362	44,816	29,454
	1899	361	.....	.....	1,828	27,041	.....	48,728	2,315	13,766	15,669	39,997	24,328
Furniture and refrigerators.....	1909	25	383	18	67	298	803	651	79	179	368	780	418
	1904	19	328	14	31	283	537	292	30	166	238	557	319
	1899	9	241	9	24	208	.....	277	20	101	254	489	235
Gas, illuminating and heating.....	1909	28	1,211	.....	285	926	4,100	16,016	286	557	1,005	3,446	2,441
	1904	26	849	1	208	640	2,237	11,036	190	330	820	2,558	1,732
	1899	21	488	.....	134	354	.....	7,906	117	231	362	1,421	1,059
Hat and cap materials.....	1909	14	514	9	27	478	1,024	1,183	42	183	702	1,508	806
	1904	11	398	13	20	385	599	597	22	135	437	526	389
	1899	14	325	21	6	298	.....	442	6	102	366	588	222
Hats, fur-felt.....	1909	80	5,877	59	601	5,217	5,019	7,144	574	3,384	4,849	10,400	5,551
	1904	56	5,664	57	449	5,158	3,729	4,272	2,696	3,954	3,868	8,003	4,709
	1899	58	5,126	85	173	4,868	3,370	3,198	173	2,415	3,686	7,647	3,861
Hosiery and knit goods.....	1909	21	3,524	2	182	3,340	3,540	0,404	324	1,363	3,049	5,801	2,752
	1904	24	3,703	7	102	3,594	3,642	5,815	163	1,305	2,825	5,871	2,546
	1899	25	3,356	12	101	3,243	3,108	6,149	159	1,131	2,203	4,044	1,841
Leather goods.....	1909	18	315	15	28	272	277	403	41	143	330	588	258
	1904	20	325	19	25	281	75	351	26	142	296	542	246
	1899	14	.....	.....	14	265	.....	247	10	129	267	490	223
Leather, tanned, curried, and finished.....	1909	8	176	5	21	150	356	777	35	95	805	1,047	242
	1904	9	197	7	21	109	371	894	28	82	543	748	205
	1899	7	201	10	12	179	216	639	14	90	631	891	210
Lime.....	1909	10	347	1	21	325	170	1,373	28	160	275	553	278
	1904	6	141	1	5	135	57	1,381	5	70	148	296	148
	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Liquors, malt.....	1909	19	588	9	104	475	2,580	5,310	218	426	1,375	4,426	3,051
	1904	22	518	17	107	394	2,171	3,956	205	315	818	2,927	2,109
	1899	20	445	20	81	344	2,134	3,109	133	279	640	2,653	2,013
Lumber and timber products.....	1909	393	4,219	443	281	3,495	15,153	0,109	288	1,907	3,918	7,840	3,928
	1904	178	2,496	206	181	2,109	7,275	3,372	168	1,123	2,479	4,792	2,313
	1899	191	.....	.....	130	2,064	.....	2,776	107	899	2,169	4,234	2,065
Marble and stone work.....	1909	86	940	96	62	782	2,317	1,297	74	514	370	1,237	867
	1904	69	1,203	72	80	1,051	2,080	1,494	87	655	402	1,407	1,095
	1899	49	.....	.....	36	845	.....	832	25	411	251	847	596
Musical instruments, pianos and organs and materials.....	1909	17	2,469	5	100	2,304	2,559	5,627	312	1,251	3,022	5,538	2,516
	1904	17	2,715	6	126	2,583	2,224	5,226	240	1,337	2,402	5,273	2,871
	1899	15	1,953	6	84	1,863	.....	3,586	146	890	1,570	3,396	1,826
Needles, pins, and hooks and eyes.....	1909	8	2,825	4	173	2,648	3,190	3,209	226	1,311	1,697	4,236	2,539
	1904	13	2,463	7	130	2,326	1,654	2,835	158	1,065	1,182	3,062	1,880
	1899	15	1,329	10	63	1,256	.....	2,289	89	643	740	1,815	1,076
Paint and varnish.....	1909	17	360	6	118	236	1,024	1,100	171	147	825	1,543	718
	1904	10	83	6	24	53	170	369	44	28	302	515	213
	1899	8	55	6	17	32	62	374	22	19	234	400	166
Paper and wood pulp.....	1909	51	1,920	24	176	1,720	19,509	7,195	351	924	3,303	5,527	2,224
	1904	56	1,933	29	154	1,750	18,021	5,893	236	843	2,738	5,039	2,301
	1899	49	1,576	36	115	1,425	14,621	3,968	152	633	1,982	3,565	1,583
Paper goods, not elsewhere specified.....	1909	10	708	4	72	632	593	2,101	72	255	883	1,521	638
	1904	10	814	5	66	743	675	1,781	80	288	1,437	2,080	649
	1899	4	633	.....	44	589	.....	1,570	48	280	930	1,482	552

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

MANUFACTURES—CONNECTICUT.

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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.				Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
			Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).							
STATE—Continued.													
Patent medicines and compounds and druggists' preparations.	1909	64	432	30	156	237	381	\$808	\$217	\$88	\$488	\$1,342	\$854
	1904	52	296	37	113	146	174	632	122	67	200	1,023	733
	1899	42	.....	.....	150	286	.....	826	165	123	435	1,402	967
Printing and publishing.....	1909	303	4,103	205	630	2,878	3,425	6,322	855	1,736	1,700	6,370	4,601
	1904	328	3,426	285	613	2,528	2,530	4,768	632	1,602	1,276	5,066	3,790
	1899	286	2,824	252	377	2,195	.....	4,328	355	1,234	1,037	4,114	3,077
Silk and silk goods, including throwsters.....	1909	47	9,385	37	645	8,703	8,504	19,730	996	3,740	11,834	21,003	9,229
	1904	43	8,157	83	327	7,792	7,821	16,078	470	3,124	9,008	16,624	6,526
	1899	38	6,880	23	323	6,514	5,415	12,167	403	2,393	7,198	12,379	5,181
Silverware and plated ware.....	1909	31	6,812	5	534	6,223	5,761	17,247	907	3,440	7,232	15,837	8,605
	1904	22	4,161	2	305	3,854	3,500	10,569	450	2,099	3,640	8,126	4,486
	1899	20	4,747	3	253	4,491	.....	13,067	507	2,293	4,070	9,538	4,859
Slaughtering and meat packing.....	1909	28	523	28	63	432	590	1,967	62	230	3,040	4,572	623
	1904	26	426	20	26	371	461	733	22	204	2,809	3,218	479
	1899	10	.....	.....	38	403	.....	587	37	188	3,269	3,835	576
Tobacco manufactures.....	1909	205	1,801	289	59	1,513	48	1,370	57	008	1,004	2,738	1,674
	1904	220	1,593	253	73	1,267	24	1,174	70	708	852	2,350	1,498
	1899	210	1,206	238	26	1,032	.....	864	29	571	672	1,776	1,104
Typewriters and supplies.....	1909	8	3,510	.....	576	2,934	2,034	8,408	486	1,898	1,041	4,010	2,975
	1904	6	1,611	.....	104	1,507	1,113	2,201	132	809	355	1,637	1,282
	1899	4	718	1	24	693	.....	1,142	39	374	103	784	621
Wirework, including wire rope and cable.....	1909	28	1,557	20	117	1,420	1,517	2,487	197	684	1,648	3,345	1,997
	1904	29	1,417	20	136	1,261	2,410	2,444	210	575	1,249	2,600	1,351
	1899	21	804	22	51	791	.....	1,320	74	350	563	1,246	683
Woolen, worsted, and felt goods, and wool hats.	1909	56	8,140	31	320	7,789	17,518	20,011	564	3,485	12,838	19,303	9,525
	1904	59	7,748	39	280	7,429	14,949	15,031	416	2,908	10,073	15,483	5,410
	1899	61	7,113	47	200	6,866	16,454	14,195	313	2,603	7,023	12,637	4,714
All other industries.....	1909	950	39,067	800	3,496	35,671	82,030	97,291	4,579	18,428	53,187	93,280	40,083
	1904	708	37,112	662	2,839	33,611	60,651	78,028	3,502	16,310	42,809	77,256	34,947
	1899	783	.....	.....	2,140	31,720	.....	68,948	2,044	14,681	39,628	71,580	31,952

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

BRIDGEPORT—All industries.....	1909	367	28,952	243	2,934	25,775	43,887	\$62,779	\$3,709	\$13,349	\$37,947	\$65,809	\$27,662
	1904	306	21,681	234	1,965	19,492	.....	49,881	2,511	9,480	22,335	44,587	22,252
	1899	286	.....	.....	1,067	17,038	.....	31,625	1,434	7,865	17,987	33,536	16,849
Artificial stone.....	1909	5	50	4	4	48	53	172	4	27	23	80	57
	1904	3	21	1	3	17	.....	42	3	11	8	33	25
Bread and other bakery products.....	1909	49	342	40	31	202	117	235	20	180	591	964	373
	1904	42	328	52	39	237	.....	338	20	148	453	801	348
	1899	41	204	42	36	180	.....	310	19	111	301	586	285
Carriages and wagons and materials.....	1909	6	88	4	11	73	108	150	13	47	50	145	95
	1904	5	180	3	19	104	.....	438	26	109	128	347	219
	1899	8	.....	.....	9	109	.....	501	11	113	104	315	211
Copper, tin, and sheet-iron products.....	1909	9	320	3	30	287	253	423	42	124	263	492	229
	1904	9	188	7	26	150	.....	258	20	78	148	299	151
	1899	6	.....	.....	8	97	.....	88	7	43	48	136	88
Corsets.....	1909	5	3,889	.....	230	3,050	984	4,205	401	1,340	3,802	6,899	3,097
	1904	6	2,404	2	203	2,289	.....	2,694	354	667	1,251	2,954	1,703
	1899	7	3,122	11	127	2,984	.....	1,361	247	878	1,677	3,224	1,547
Cutlery and tools, not elsewhere specified.....	1909	7	814	2	44	768	843	983	88	406	205	654	659
	1904	8	744	2	65	677	.....	891	68	374	248	833	635
	1899	3	.....	.....	13	350	.....	194	16	148	105	304	259
Electrical machinery, apparatus, and supplies.....	1909	5	1,631	.....	231	1,400	1,440	3,220	217	575	1,842	3,321	1,479
	1904	3	644	.....	95	549	.....	1,064	64	196	594	1,104	510
	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Foundry and machine-shop products.....	1909	48	5,657	14	739	4,004	10,555	13,426	882	2,716	4,330	9,752	5,416
	1904	36	2,214	17	198	1,699	.....	3,503	201	1,007	1,239	3,269	2,030
	1899	39	.....	.....	160	2,124	.....	3,238	201	1,102	1,371	3,427	2,056
Liquors, malt.....	1909	3	86	.....	14	72	365	810	36	59	160	518	358
	1904	4	75	.....	18	49	.....	648	30	46	104	414	310
	1899	5	76	.....	9	10	.....	611	18	52	108	521	413

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

MANUFACTURES—CONNECTICUT.

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.			Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.	
			Total.	Proprietors and firm members.	Salaried employees.								Wage earners (average number).
Expressed in thousands.													
BRIDGEPORT—Continued.													
Marble and stone work.....	1909	7	58	3	7	43	148	\$73	\$6	\$32	\$43	\$102	\$59
	1904	14	32	4	2	26	.....	14	2	21	24	58	34
	1899	3	26	1	7	18	.....	34	4	12	13	41	28
Models and patterns, not including paper patterns.	1909	7	47	5	4	38	27	27	5	33	10	56	46
	1904	5	23	5	.....	18	.....	9	.....	11	3	24	21
	1899	3	9	3	.....	6	.....	4	.....	3	1	11	10
Printing and publishing.....	1909	35	297	28	97	172	303	855	102	120	127	512	385
	1904	22	229	16	53	160	.....	426	55	118	110	409	299
	1899	18	193	10	44	139	.....	429	42	82	61	289	228
Tobacco manufactures.....	1909	16	54	19	.....	35	.....	41	.....	20	21	69	48
	1904	20	61	22	5	34	.....	41	4	19	22	76	54
	1899	17	41	18	1	22	.....	24	1	11	17	47	30
All other industries.....	1909	165	15,613	107	1,492	14,014	28,191	38,150	1,894	7,655	26,384	41,745	15,361
	1904	139	14,442	95	1,230	13,117	.....	39,015	1,556	6,675	18,003	33,910	15,913
	1899	136	.....	.....	652	10,886	.....	24,831	868	5,330	13,481	24,575	11,094
HARTFORD—All industries.													
	1909	396	17,447	320	2,500	14,627	16,410	\$48,085	\$2,710	\$9,374	\$17,863	\$40,680	\$22,817
	1904	349	12,907	303	1,383	11,221	.....	28,359	1,693	6,562	11,487	25,974	14,437
	1899	322	.....	.....	1,149	10,677	.....	28,057	1,374	5,950	11,369	23,829	12,460
Boxes, fancy and paper.....	1909	3	54	2	2	50	13	25	4	14	32	60	28
	1904	3	53	2	3	48	.....	20	6	15	23	47	24
	1899	3	53	2	1	50	.....	24	1	19	30	56	26
Brass and bronze products.....	1909	6	58	5	2	51	43	65	5	39	104	183	79
	1904	4	38	4	4	30	.....	110	6	17	43	70	27
	1899	3	36	5	2	29	.....	62	2	21	23	56	33
Bread and other bakery products.....	1909	37	328	37	50	241	89	423	27	172	668	1,105	437
	1904	26	258	26	43	199	.....	324	31	124	451	843	392
	1899	34	229	36	16	177	.....	192	11	105	298	542	244
Brick and tile.....	1909	5	57	6	.....	51	415	80	.....	29	15	66	51
	1904	4	50	6	1	43	.....	66	1	23	7	42	35
	1899	7	78	8	2	68	.....	114	1	31	11	60	49
Carriages and wagons and materials.....	1909	6	132	5	9	118	87	149	7	80	53	178	125
	1904	17	133	12	12	109	.....	125	8	67	66	219	153
	1899	25	.....	.....	5	47	.....	47	4	32	31	93	62
Clothing, men's, including shirts.....	1909	3	39	3	1	35	13	43	1	17	55	97	42
	1904	4	32	4	7	71	.....	48	5	23	113	174	61
	1899	3	49	4	1	44	.....	22	1	14	32	58	26
Clothing, women's.....	1909	6	378	8	9	361	32	60	10	103	99	269	170
	1904	6	116	10	12	94	.....	64	10	25	63	142	79
	1899	4	63	5	.....	53	.....	29	.....	13	51	77	26
Copper, tin, and sheet-iron products.....	1909	6	54	6	5	43	89	83	4	29	36	95	59
	1904	7	53	10	6	42	.....	89	7	28	50	108	58
	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Electrical machinery, apparatus, and supplies.	1909	10	901	1	120	780	599	1,537	192	382	622	1,704	1,082
	1904	7	591	3	40	548	.....	709	80	244	362	1,132	710
	1899	7	373	3	29	341	.....	586	54	129	360	872	512
Foundry and machine-shop products.....	1909	52	3,180	19	393	2,768	4,128	11,576	570	2,014	2,142	6,549	4,407
	1904	39	2,562	19	221	2,322	.....	6,202	320	1,458	1,328	4,117	2,789
	1899	40	.....	.....	168	2,622	.....	6,697	298	1,550	1,396	3,773	2,377
Leather goods.....	1909	6	199	3	20	176	203	249	29	97	201	342	141
	1904	3	202	3	16	183	.....	220	16	93	181	314	133
	1899	3	.....	.....	9	205	.....	204	8	95	203	366	163
Liquors, malt.....	1909	4	169	1	30	138	483	1,352	56	125	444	1,266	812
	1904	4	129	1	26	102	.....	980	38	71	254	760	506
	1899	4	132	1	32	99	.....	889	44	82	209	742	533
Lumber and timber products.....	1909	15	227	11	21	195	929	308	27	141	224	473	249
	1904	29	186	9	30	147	.....	335	34	99	270	477	207
	1899	17	118	7	13	98	.....	179	11	63	311	430	119
Marble and stone work.....	1909	7	67	8	16	43	154	113	17	38	84	175	91
	1904	4	38	3	10	25	.....	74	11	17	36	101	65
	1899	3	.....	.....	7	35	.....	88	4	25	42	87	45

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

MANUFACTURES—CONNECTICUT.

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.				Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
			Total.	Proprietors and firm members.	Salaries employed.	Wage earners (average number).							
Expressed in thousands.													
HARTFORD—Continued.													
Models and patterns, not including paper patterns.	1909	6	67	6	5	56	63	\$35	\$4	\$47	\$12	\$90	\$78
	1904	3	50	2	4	44	.....	26	4	38	7	57	50
	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Patent medicines and compounds and druggists' preparations.	1909	7	34	4	17	13	.....	47	13	5	25	79	54
	1904	11	36	9	13	14	.....	28	10	4	32	70	38
	1899	7	.....	.....	10	10	.....	43	10	8	18	83	65
Printing and publishing.....	1909	68	1,155	59	230	866	1,111	1,827	229	541	620	2,008	1,388
	1904	67	1,002	55	186	761	.....	1,671	204	401	453	1,647	1,214
	1899	62	.....	.....	100	692	.....	1,482	125	401	380	1,437	1,057
Tobacco manufactures.....	1909	28	316	36	8	272	2	234	7	184	213	517	304
	1904	24	302	30	11	261	.....	205	14	107	102	494	302
	1899	25	269	31	3	235	.....	234	3	138	164	392	228
All other industries.....	1909	121	10,032	100	1,502	8,370	10,057	20,840	1,508	5,317	12,214	25,434	13,220
	1904	108	7,011	95	738	6,178	.....	17,050	888	3,553	7,558	15,140	7,584
	1899	105	.....	.....	752	5,858	.....	17,215	707	3,219	7,810	14,005	7,005
NEW HAVEN—All Industries.....													
Brass and bronze products.....	1909	7	75	5	9	61	71	229	19	32	250	354	104
	1904	4	61	5	10	46	.....	243	15	27	177	204	87
	1899	7	.....	.....	13	72	.....	180	12	40	152	222	70
Bread and other bakery products.....	1909	65	502	63	69	370	163	537	50	230	876	1,473	597
	1904	53	392	52	86	264	.....	305	57	155	637	926	389
	1899	41	372	43	50	279	.....	579	40	168	513	644	431
Canning and preserving.....	1909	3	45	2	12	31	45	100	12	14	50	127	77
	1904	3	38	2	11	25	.....	66	6	13	36	75	39
	1899	3	29	2	7	20	.....	35	3	0	16	44	28
Carriages and wagons and materials.....	1909	15	113	10	6	91	73	223	8	62	98	223	125
	1904	28	921	27	41	853	.....	1,141	69	374	329	947	618
	1899	30	978	30	58	890	.....	1,072	67	597	669	1,726	1,057
Clothing, men's, including shirts.....	1909	10	58	14	2	42	6	51	1	10	67	111	44
	1904	4	27	5	.....	22	.....	26	.....	11	47	68	21
	1899	3	20	5	.....	15	.....	10	.....	5	21	29	8
Cutlery and tools, not elsewhere specified.....	1909	6	265	3	30	232	101	510	49	133	87	400	313
	1904	3	124	8	15	101	.....	141	27	50	53	196	143
	1899	3	.....	.....	11	90	.....	131	17	51	40	143	103
Electroplating.....	1909	3	40	4	1	25	35	11	1	16	9	34	25
	1904	3	16	3	.....	13	.....	6	.....	7	1	14	13
	1899	4	14	6	.....	8	.....	5	.....	4	2	11	9
Foundry and machine-shop products.....	1909	55	5,770	33	547	5,100	4,393	8,561	501	2,885	3,005	7,806	4,801
	1904	58	4,569	39	355	4,170	.....	6,260	410	2,050	1,818	5,395	3,577
	1899	52	.....	.....	245	3,433	.....	6,638	251	1,688	1,836	4,510	2,674
Furniture and refrigerators.....	1909	10	130	8	27	101	254	268	27	57	133	252	110
	1904	7	81	8	11	62	.....	41	11	38	56	135	79
	1899	4	71	3	18	50	.....	144	15	25	141	245	104
Hats and caps, other than felt, straw, and wool.	1909	6	90	12	12	66	11	72	12	43	116	240	124
	1904	4	48	4	7	37	.....	37	0	27	56	109	53
	1899	7	35	7	1	27	.....	19	.....	12	24	54	30
Jewelry.....	1909	7	27	6	6	15	5	44	2	7	27	55	28
	1904	4	19	3	3	13	.....	18	2	7	12	32	20

Liquors, malt.....	1909	4	142	3	25	114	607	1,392	54	100	326	1,290	964
	1904	4	131	3	30	98	.....	1,177	68	85	217	905	688
	1899	4	117	3	20	94	.....	929	40	80	180	769	619
Lumber and timber products.....	1909	20	324	16	29	279	1,073	584	31	166	533	899	276
	1904	19	174	6	29	149	.....	470	28	82	404	538	194
	1899	25	159	1	21	137	.....	632	27	64	411	559	158
Marble and stone work.....	1909	10	64	13	4	47	65	98	5	41	25	80	61
	1904	6	41	9	4	28	.....	64	4	18	22	65	43
	1899	3	.....	.....	1	25	.....	27	1	11	17	42	25

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

MANUFACTURES—CONNECTICUT.

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.	PERSONS ENGAGED IN INDUSTRY.					Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
		Number of establishments.	Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).							
NEW HAVEN—Continued.													
Patent medicines and compounds and druggists' preparations.	1909	23	99	14	28	57	24	\$130	\$17	\$14	\$70	\$145	\$75
	1904	10	24	10	8	6	.....	40	7	3	26	70	44
	1899	19	.....	.....	66	33	.....	129	31	12	62	245	183
Printing and publishing.	1909	72	840	53	275	512	508	999	199	332	334	1,325	991
	1904	66	711	53	148	510	.....	799	147	331	234	1,101	837
	1899	53	.....	.....	90	422	.....	755	80	225	237	952	685
Shipbuilding, including boat building.	1909	4	16	4	.....	12	16	32	.....	11	8	28	20
	1904	5	11	5	.....	6	.....	12	.....	5	4	14	10
	1899	5	16	5	.....	11	.....	17	.....	7	7	20	13
Tobacco manufactures.	1909	61	739	70	22	647	43	564	22	338	455	1,141	686
	1904	38	512	48	19	445	.....	382	19	274	304	799	495
	1899	36	357	41	3	313	.....	160	3	183	229	558	329
All other industries.	1909	209	17,529	197	1,687	15,645	23,799	37,303	2,392	8,226	17,850	35,172	17,322
	1904	181	15,811	166	1,043	14,602	.....	20,269	1,150	7,641	14,188	27,953	13,765
	1899	168	.....	.....	792	11,675	.....	16,300	856	5,443	11,549	23,736	12,237
WATERBURY—All Industries.													
Brass and bronze products.	1909	169	21,800	97	1,333	20,170	37,518	\$44,653	\$1,926	\$11,244	\$28,726	\$50,850	\$21,624
	1904	143	16,871	92	1,173	15,406	.....	32,950	1,521	8,016	17,770	32,367	14,597
	1899	124	.....	.....	595	13,225	.....	21,987	912	6,691	18,202	30,330	12,128
Bread and other bakery products.	1909	15	10,031	.....	428	9,603	26,530	24,663	718	5,451	21,599	31,462	9,863
	1904	14	7,879	1	433	7,445	.....	19,985	655	3,081	13,183	19,987	6,804
	1899	11	.....	.....	253	6,404	.....	12,597	429	3,435	14,111	20,238	6,127
Carriages and wagons and materials.	1909	20	182	24	25	133	40	172	15	90	325	505	180
	1904	18	153	19	2	137	.....	91	1	86	302	453	151
	1899	17	98	5	10	85	.....	99	7	51	208	332	124
Copper, tin, and sheet-iron products.	1909	5	901	.....	43	858	396	1,076	75	366	430	1,046	616
	1904	4	904	.....	53	851	.....	1,344	78	354	364	1,038	674
	1899	4	852	.....	32	820	.....	713	56	353	444	976	532
Foundry and machine-shop products.	1909	23	2,167	4	156	2,007	2,359	3,985	231	1,282	1,308	3,553	2,252
	1904	13	899	7	71	821	.....	1,409	111	517	340	1,335	986
	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lumber and timber products.	1909	7	246	2	39	205	369	748	37	134	300	681	372
	1904	3	69	4	6	59	.....	164	6	48	77	180	83
	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Printing and publishing.	1909	15	239	10	48	181	186	395	52	129	97	399	302
	1904	14	183	10	47	126	.....	294	42	32	55	269	214
	1899	10	168	7	21	140	.....	205	17	96	43	200	157
Tobacco manufactures.	1909	18	89	19	3	67	1	49	2	36	41	115	74
	1904	9	36	10	.....	26	.....	26	.....	15	20	49	29
	1899	11	28	12	.....	16	.....	27	.....	13	14	41	27
All other industries.	1909	61	7,703	31	588	7,084	7,591	13,497	793	3,733	4,601	12,526	7,925
	1904	62	6,483	34	561	5,888	.....	9,583	628	2,897	3,396	9,001	5,605
	1899	68	.....	.....	277	5,674	.....	8,281	402	2,729	3,371	8,507	5,136

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

MANUFACTURES—CONNECTICUT.

TABLE I.—COMPARATIVE SUMMARY FOR 1909, 1904, AND 1899—Continued.
CITIES OF 10,000 TO 50,000 INHABITANTS—ALL INDUSTRIES COMBINED.

CITY OR BOROUGH.	Census.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.				Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
			Total.	Proprietors and firm members.	Salaries employed.	Wage earners (average number).							
Expressed in thousands.													
Ansonia.....	1909	53	4,488	46	315	4,127	13,209	\$9,703	\$438	\$2,384	\$14,611	\$20,088	\$6,477
	1904	49	3,739	40	305	3,304	.....	7,026	377	1,683	15,308	19,132	3,824
	1899	49	.....	.....	.....	180	.....	6,240	202	1,707	14,956	18,515	3,559
Danbury.....	1909	131	5,499	122	507	4,810	5,600	7,786	402	2,858	4,879	10,318	5,439
	1904	103	5,030	107	408	4,515	.....	4,037	340	2,264	3,095	8,066	4,371
	1899	104	.....	.....	154	3,039	.....	3,423	139	1,845	3,258	6,527	3,269
Meriden.....	1909	120	8,730	80	805	7,845	6,615	17,075	1,194	4,235	6,043	16,317	9,374
	1904	97	7,945	82	582	7,281	.....	10,442	807	3,069	5,644	13,764	8,120
	1899	92	.....	.....	374	6,089	.....	15,417	605	3,243	6,106	11,750	6,044
Middletown.....	1909	58	2,478	38	200	2,434	3,333	3,544	247	1,003	2,043	4,955	2,012
	1904	66	2,507	58	131	2,318	.....	3,583	145	677	2,503	4,351	1,788
	1899	60	.....	.....	144	2,405	.....	4,816	162	1,012	2,353	4,152	1,799
Naugatuck.....	1909	24	3,657	19	174	3,464	5,067	8,642	211	1,067	7,320	11,033	3,704
	1904	22	3,787	14	145	3,628	.....	7,900	184	1,008	7,260	11,010	3,750
	1899	22	.....	.....	82	3,160	.....	6,607	121	1,601	6,072	8,887	2,315
New Britain.....	1909	111	14,755	80	1,102	13,513	14,863	31,700	1,477	6,741	8,328	22,021	13,093
	1904	95	10,921	65	783	10,073	.....	19,080	862	4,687	5,068	14,950	9,292
	1899	82	.....	.....	439	8,019	.....	13,708	533	3,618	4,506	11,096	6,500
New London.....	1909	70	2,467	52	190	2,225	2,912	5,407	183	926	2,531	4,483	1,952
	1904	57	2,747	42	151	2,554	.....	4,500	162	1,070	2,627	4,710	2,183
	1899	54	.....	.....	130	1,903	.....	4,250	126	801	2,262	4,221	1,959
Norwich.....	1909	91	4,795	65	200	4,470	12,027	12,531	386	2,164	4,302	9,380	4,587
	1904	87	4,014	67	241	3,704	.....	8,475	310	1,694	3,043	6,022	2,979
	1899	89	.....	.....	154	3,172	.....	6,438	193	1,423	3,046	5,955	2,389
Stamford.....	1909	86	4,719	64	671	3,084	6,554	11,026	741	2,350	3,704	8,740	5,036
	1904	62	3,810	58	417	3,341	.....	7,526	439	1,722	2,330	5,890	3,590
	1899	49	.....	.....	281	2,445	.....	4,813	261	1,193	1,700	3,920	2,220
Torrington.....	1909	54	4,853	42	323	4,488	7,165	15,092	421	2,384	7,463	12,550	5,087
	1904	43	4,252	33	194	4,025	.....	9,157	270	1,953	5,615	9,674	3,759
	1899	37	.....	.....	146	3,101	.....	6,039	212	1,500	6,261	9,178	2,917
Willimantic.....	1909	47	3,278	41	217	3,020	10,500	9,919	223	1,235	3,194	6,733	3,539
	1904	35	3,005	34	119	2,852	.....	6,682	139	1,057	2,070	4,902	2,332
	1899	30	.....	.....	78	2,258	.....	5,621	87	833	1,360	3,023	1,663

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.

MANUFACTURES—CONNECTICUT.

TABLE II.—DETAIL STATEMENT FOR

INDUSTRY.	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.		Average number.	Wage earners.		Total.	16 and over.		Under 16.				
					Male.	Female.		Number.			Male.	Female.	Male.	Female.			
								Maximum month.	Minimum month.								
1 All industries.....	4,251	233,871	3,468	5,562	10,153	3,896	210,792	De 225,862	Fe 199,325	(1)	(1)	(1)	(1)	(1)	400,278		
2 Agricultural implements.....	4	210	1	11	4	3	191	Mh 206	Au 172	198	108				730		
3 Artificial stone.....	43	320	40	21	2	6	251	Oc 322	Ja 152	321	321				173		
4 Automobiles, including bodies and parts.	28	4,444	8	146	302	113	3,815	De 4,556	Ja 3,820	4,996	4,936	32	28		3,987		
5 Baskets, and rattan and willow ware.....	5	12	4	2			6	Jy 2	Ja 3	8	8				31		
6 Blecking and cleansing and polishing preparations.	12	42	11	1	2	3	25	No 30	Fe 21	30	18	11	1		35		
7 Boots and shoes, including cut stock and findings.	10	582	15	20	17	10	520	Mh 2	Au 493	568	256	304	6	2	235		
8 Boxes, fancy and paper.....	38	2,074	20	107	58	40	1,849	No 2,055	Ap 1,668	2,053	812	1,057	28	156	1,306		
9 Brass and bronze products.....	80	17,860	47	245	647	134	16,817	De 18,601	Ap 15,871	18,434	16,452	1,944	138	100	50,038		
10 Bread and other bakery products.....	431	2,611	407	48	117	110	1,869	De 1,901	Ja 1,808	1,932	1,684	231	12	5	654		
11 Brooms.....	7	43	7	1			34	Ja 2	Jy 34	34	22	10	2		16		
12 Brushes.....	12	157	14	8	5	1	129	De 2	Ja 122	135	87	48			138		
13 Butter, cheese, and condensed milk.....	30	148	9	31	3		105	Je 108	De 2	104	103	1			231		
14 Buttons.....	20	1,133	16	27	23	20	1,057	Ap 1,144	Au 982	1,003	404	567	18	14	1,073		
15 Canning and preserving.....	12	166	8	7	16	7	128	Se 300	Ap 62	306	143	103			199		
16 Carpets, rag.....	7	23	8				15	Ap 20	Au 12	13	9	4			20		
17 Carriages and wagons and materials.....	92	720	99	23	12	8	578	My 641	Ja 521	547	545	2			957		
18 Cars and general shop construction and repairs by steam-railroad companies.	5	1,300		7	66	1	1,226	Ja 1,268	Ja 1,137	1,268	1,267		1		585		
19 Cars and general shop construction and repairs by street-railroad companies.	15	533		6	2	1	524	De 2	My 515	527	526	1			388		
20 Clocks and watches, including cases and materials.	16	6,195	5	132	126	81	5,851	De 6,509	Jy 4,251	6,610	4,326	2,042	172	70	4,273		
21 Clothing, men's, including shirts.....	28	854	30	19	43	11	751	De 893	My 604	930	214	709		7	415		
22 Clothing, women's.....	17	1,473	13	35	21	22	1,382	Mh 1,533	Au 1,052	1,485	1,110	1,314	8	44	461		
23 Coffins, burial cases, and undertakers' goods.	5	165	3	6	35	8	113	De 1	No 109	117	106	10	1		237		
24 Confectionery.....	22	312	27	4	41	7	233	Je 267	Fe 102	216	99	107		10	96		
25 Coopers and wooden goods, not elsewhere specified.	8	52	10	1	2		39	Au 41	De 37	37	37				78		
26 Copper, tin, and sheet-iron products.....	48	2,655	27	74	42	37	2,475	Oc 2,591	Ja 2,209	2,575	1,712	759	51	53	1,526		
27 Cordage and twine and jute and linen goods.	8	314	7	13	3	5	286	Au 315	No 114	297	148	140	7	2	1,134		
28 Corsets.....	17	7,177	15	122	270	127	6,643	No 7,044	Ja 6,239	7,111	1,034	5,835	31	211	1,566		
29 Cotton goods, including cotton small wares.	52	14,887	26	193	202	106	14,360	De 14,556	Jy 14,109	14,760	8,238	5,810	331	381	58,137		
30 Cutlery and tools, not elsewhere specified.	82	8,094	45	145	260	97	7,547	De 8,007	Jy 7,288	8,028	7,189	743	77	19	14,135		
31 Dyeing and finishing textiles.....	10	1,817	3	36	46	13	1,719	Ap 1,768	Se 1,679	1,730	1,474	211	33	12	5,851		
32 Electrical machinery, apparatus, and supplies.	41	4,120	7	161	294	153	3,505	De 4,062	My 3,215	4,149	2,659	1,290	102	98	4,457		
33 Electroplating.....	14	135	17	7	6	2	103	No 116	Ja 2	118	108	4	6		172		
34 Fancy articles, not elsewhere specified.	8	437	4	17	10	9	397	No 438	Je 351	448	284	153	2	9	529		
35 Fertilizers.....	12	374	9	18	41	11	295	My 394	Ja 185	224	202	20	2		1,273		
36 Firearms and ammunition.....	10	9,205	1	198	341	132	8,533	Ap 8,703	De 8,213	8,213	6,192	1,938	25	58	9,391		
37 Flour-mill and gristmill products.....	98	238	122	11	6	4	145	De 2	Je 2	155	152	2	1		3,619		
38 Foundry and machine-shop products.....	403	42,101	202	1,049	2,223	891	37,736	De 41,560	Ja 35,870	41,657	37,141	3,704	582	230	40,167		
39 Fur goods.....	6	30	6		2	2	20	No 30	Jy 13	25	10	15			167		
40 Furnishing goods, men's.....	16	2,392	4	46	47	13	2,282	De 2,346	Jy 2,227	2,370	1,083	1,252	22	13	1,674		
41 Furniture and refrigerators.....	25	383	13	25	33	9	298	Se 317	Ja 279	298	275	20	3		803		
42 Gas and electric fixtures and lamps and reflectors.	12	2,512	3	59	154	47	2,240	No 2,350	Ja 2,169	2,336	1,736	511	27	12	1,946		
43 Gas, illuminating and heating.....	23	1,211		78	145	62	926	Au 1,069	Fe 738	916	900	3	4		4,100		
44 Hand stamps and stencils and brands.....	7	35	7	4			22	De 2	Ap 20	24	23	1			24		
45 Hat and cap materials.....	14	514	9	17	8	2	478	Ja 545	My 441	484	397	85	1	1	1,024		
46 Hats and caps, other than felt, straw, and wool.	8	100	13	4	7	2	74	No 2	My 60	78	63	15			11		
47 Hats, fur-felt.....	80	5,877	59	170	343	88	5,217	Se 7,289	Fe 1,940	7,656	5,373	2,231	42	10	5,619		
48 Hosiery and knit goods.....	21	3,524	2	56	98	23	3,340	Je 3,501	Au 2,918	3,493	1,076	2,308	24	85	3,540		
49 Ice, manufactured.....	7	89	5	10	5	3	66	Jy 84	Ja 44	63	63				1,029		
50 Jewelry.....	15	319	12	16	13	14	264	No 281	Jy 196	274	202	69	1	2	83		
51 Kaolin and ground earths.....	6	135	3	6	2	2	122	My 157	Au 94	155	155				1,240		
52 Leather goods.....	18	315	15	14	9	4	272	De 295	Ap 245	299	249	41	8	1	277		
53 Leather, tanned, curried, and finished.....	8	176	5	15	4	3	150	De 167	Ap 126	167	148	19			356		
54 Lime.....	10	347	1	16	3	2	325	My 370	Ja 249	321	320		1		170		
55 Liquors, distilled.....	10	33	6	3	2	1	19	No 2	Au 15	24	24				111		
56 Liquors, malt.....	19	588	9	37	63	4	475	Au 488	My 468	469	469				2,530		
57 Lumber and timber products.....	393	4,219	443	110	109	62	3,495	De 4,039	Jy 2,850	4,400	4,344	41	15		15,153		
58 Marble and stone work.....	86	940	95	21	35	6	782	Se 944	Fe 499	794	794				2,317		
59 Mattresses and spring beds.....	16	187	16	9	5	5	152	Oc 163	Au 145	164	130	25	9		116		
60 Millinery and lace goods.....	7	142	11	4	1	2	124	De 143	Ja 97	143	37	101	3	2	59		

1 No figures given for reasons explained in the Introduction.

MANUFACTURES—CONNECTICUT.

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.		
\$517,548,554	\$420,904,044	\$13,052,310	\$12,584,996	\$110,119,045	\$9,761,707	\$247,507,596	\$1,353,244	\$3,205,744	\$1,279,258	\$30,990,054	\$490,271,695	\$233,012,302
2 397,996	200,505	18,640	5,523	76,370	10,237	125,778		2,239		21,704	331,542	195,527
3 405,634	312,118	21,738	3,294	138,101	4,812	114,530	0,445	1,833	1,450	20,415	424,301	304,959
4 12,191,142	9,430,363	343,540	290,013	2,878,187	120,719	4,729,685	26,007	51,201	4,700	981,321	11,663,228	6,811,924
5 11,643	7,708	400		2,803	227	3,750	186	10		200	13,151	0,174
6 74,204	08,075	225	2,900	11,296	1,106	60,995		750	272	20,531	125,234	63,133
7 746,199	1,466,375	26,740	20,427	225,924	5,418	1,082,820	5,532	2,066	12,116	76,323	1,657,878	569,331
8 2,337,205	2,521,858	199,373	62,375	747,778	29,046	1,356,103	21,443	10,922	75	63,843	2,910,697	1,524,648
9 47,872,781	61,941,189	689,757	788,473	9,606,536	1,542,861	46,321,080	20,004	108,815	18,081	2,686,383	66,932,969	16,069,629
10 2,632,067	6,311,870	53,723	114,842	1,221,770	136,045	4,325,964	100,068	17,444	1,707	338,504	7,309,817	2,846,908
11 23,274	53,513	1,200	100	9,062	848	40,803	100	72		1,328	70,067	28,416
12 106,907	184,536	8,370	4,830	53,021	2,097	107,127	1,793	520		6,170	210,496	101,282
13 210,618	709,495	14,781	1,800	52,409	6,090	617,013	482	718		16,193	745,450	122,338
14 1,500,680	1,423,920	66,030	40,619	465,457	23,770	711,470	3,870	9,007	850	103,457	1,636,133	890,043
15 829,344	275,430	12,020	13,582	45,127	3,024	171,067	8,056	1,657		19,367	345,740	170,710
16 27,143	15,481			6,655	411	4,653	516	73		3,273	27,479	22,516
17 1,225,850	873,724	28,664	12,780	371,838	19,018	363,623	15,758	6,661	15,655	30,727	1,076,582	693,941
18 943,151	1,580,285	13,736	63,006	742,377	45,407	714,902		430		337	1,580,285	810,880
19 2,061,013	904,698	8,489	1,242	368,044	6,817	505,700		302		14,104	904,700	392,183
20 9,845,689	6,021,599	236,023	178,720	3,029,903	65,736	2,032,744	2,120	48,507	17,431	409,716	7,300,051	5,291,571
21 953,219	1,270,957	48,508	57,984	304,008	10,000	716,406	10,412	2,581	20,678	100,314	1,362,312	635,840
22 677,073	1,576,617	65,707	35,803	415,175	12,999	784,527	10,261	5,367		240,718	1,715,700	918,174
23 429,992	342,773	14,496	45,376	74,549	5,791	161,823	4,900	1,751		33,962	400,717	233,098
24 331,514	1,125,668	55,000	35,592	81,994	6,418	882,853	20,803	1,198	921	40,889	1,238,308	344,037
25 63,321	95,363	1,560	5,200	21,358	720	61,373	1,735	454		3,063	111,576	49,563
26 4,030,948	3,100,610	162,451	50,247	1,049,364	61,027	1,503,775	21,847	16,558	389	234,052	3,003,760	2,038,504
27 480,582	555,742	13,570	5,224	84,737	4,003	427,203	3,035	2,368		15,508	561,264	129,903
28 6,931,145	10,872,871	355,186	521,117	2,510,982	37,178	6,035,803	21,146	22,207	85,910	671,853	12,814,730	6,138,605
29 39,243,161	19,908,236	539,394	247,399	5,065,830	478,710	11,481,012	37,280	180,627	2,268	1,284,404	24,231,881	12,272,150
30 13,757,976	8,940,300	374,828	370,370	3,970,723	237,126	3,072,840	11,005	80,085	6,754	800,897	10,716,918	7,406,943
31 5,375,233	2,828,323	122,880	75,404	872,202	109,458	1,280,610	1,000	32,320		244,443	3,561,927	2,081,859
32 9,852,232	8,578,600	446,061	307,246	1,602,987	100,469	5,110,335	32,181	23,818	1,278	894,225	9,824,373	4,613,009
33 90,717	117,925	4,535	4,681	53,307	4,693	38,795	4,824	338		6,452	152,902	109,414
34 673,971	690,346	33,055	14,039	171,879	13,239	409,749	540	1,914		45,935	729,695	306,712
35 1,590,640	1,413,704	39,823	37,630	136,893	25,788	1,065,273		5,137		102,920	1,672,575	481,514
36 21,681,237	17,230,426	490,356	551,695	4,967,511	204,715	9,861,534	2,503	88,170		1,067,876	19,948,235	9,881,086
37 1,276,512	1,855,389	10,321	5,028	72,008	6,837	1,714,102	4,840	6,322	300	18,941	2,023,909	202,880
38 89,715,440	56,855,031	2,514,151	2,630,215	21,332,185	1,513,006	23,306,450	114,542	417,955	178,888	4,847,050	65,635,155	40,715,099
39 42,270	60,776	1,600		13,178	480	38,947	2,280	145		4,237	74,922	35,486
40 3,104,620	2,586,029	111,320	58,022	930,193	50,950	2,156,701	5,120	11,051	480	261,692	3,038,702	1,731,051
41 650,797	738,115	52,641	26,588	178,732	8,034	360,283	11,402	4,610	18,059	77,787	780,258	417,941
42 3,901,731	3,191,408	137,471	247,000	1,180,312	54,216	1,276,038	5,564	26,010	404	254,424	4,023,237	2,092,773
43 10,016,124	2,297,645	127,122	150,016	557,271	827,511	177,429	34,050	114,015	19,394	280,987	3,445,061	2,441,021
44 49,310	32,200	4,600	672	11,157	832	11,518	924	853	214	2,036	40,580	23,235
45 1,182,503	1,319,347	28,461	12,035	182,903	26,471	675,493	8,046	4,747		380,661	1,607,928	805,994
46 75,346	206,276	4,830	7,500	46,560	1,997	124,305	3,524	347	2,065	15,133	259,123	132,821
47 7,143,713	9,395,203	297,723	276,013	3,384,364	175,076	4,673,007	42,689	21,766	28,013	495,022	10,399,860	5,550,877
48 6,463,632	5,225,820	158,412	105,825	1,363,148	67,643	2,980,904	13,372	44,370	31,518	400,628	5,800,692	2,752,145
49 558,152	121,168	13,537	4,762	42,264	27,740	15,770	1,000	2,080		13,115	159,348	115,839
50 395,082	393,487	31,550	38,128	142,755	3,299	105,175	4,415	5,873	1,090	60,260	457,430	348,056
51 330,771	172,677	7,770	2,060	67,172	10,723	59,952	2,081	1,933		14,086	184,118	107,443
52 402,902	540,505	29,071	11,465	143,053	6,043	323,712	5,144	3,224		18,793	688,098	353,343
53 778,708	975,971	29,534	5,271	94,538	10,494	794,414	3,700	2,930		35,084	1,047,343	242,435
54 1,372,785	484,582	24,305	3,848	160,195	131,052	144,318	3,405	2,048		15,411	653,200	277,830
55 219,771	249,793	14,450	3,684	11,564	5,014	65,721	428	141,420		7,512	325,784	256,040
56 5,309,840	3,489,083	127,828	89,677	425,838	109,536	1,264,096		715,700		756,108	4,426,061	3,051,529
57 6,103,887	6,649,538	159,279	128,491	1,907,220	43,501	3,874,897	45,377	28,296	98,078	364,339	7,845,621	3,927,093
58 1,297,095	1,028,281	38,919	35,343	514,410	20,114	344,140	8,126	6,132	2,993	52,090	1,236,054	860,394
59 280,704	389,121	15,164	5,836	68,378	3,043	270,347	5,936	1,253		18,564	422,646	148,656
60 164,314	255,131	6,594	2,295	49,101	1,661	184,254	1,606	226		9,395	293,383	107,468

* Same number reported for one or more other months.

* Same number reported throughout the year.

TABLE II.—DETAIL STATEMENT FOR THE

INDUSTRY.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.										WAGE EARNERS—NUMBER DEC. 15, OR NEAREST REPRESENTATIVE DAY.					Primary horse-power.
		Total.	Proprietors and firm members.	Salaries officers, superintendents, and managers.	Clerks.		Average number.	Wage earners.		Total.	16 and over.		Under 16.				
					Male.	Female.		Maximum month.	Minimum month.		Male.	Female.	Male.	Female.			
															Number.		
1 Models and patterns, not including paper patterns.	25	153	22	10	.....	1	120	De	141	Ja	102	142	138	4	.....	.....	141
2 Musical instruments and materials, not specified.	3	5	3	.....	.....	.....	2	Ja ¹	2	Jy ¹	2	2	2	.....	.....	.....	4
3 Musical instruments, pianos and organs and materials.	17	2,469	5	60	72	28	2,304	Oc	2,378	Jy	2,188	2,297	1,933	309	34	21	2,559
4 Needles, pins, and hooks and eyes.	8	2,825	4	48	80	45	2,648	De	2,864	Ja	2,491	2,879	1,447	1,271	66	95	3,190
5 Paint and varnish.	17	360	6	29	68	21	236	My	244	No	229	230	222	8	.....	.....	1,024
6 Paper and wood pulp.	51	1,920	24	95	51	30	1,720	De	1,861	Ja	1,638	1,868	1,573	282	7	6	19,509
7 Paper goods, not elsewhere specified.	10	708	4	17	37	18	632	No	692	Au	574	657	280	346	10	21	593
8 Patent medicines and compounds and druggists' preparations.	64	432	39	46	69	41	237	De	261	Au	210	276	138	138	.....	.....	381
9 Photo-engraving.	7	95	8	15	4	5	63	Je	70	Oc	52	65	59	4	2	.....	54
10 Printing and publishing.	363	4,103	295	232	506	192	2,878	Fe	2,944	Au	2,793	2,951	2,285	570	88	8	3,425
11 Rubber goods, not elsewhere specified.	13	2,397	2	42	165	73	2,115	De	2,534	Fe	1,648	2,534	2,010	497	13	14	6,138
12 Sewing machines, cases, and attachments.	6	2,865	.....	51	98	20	2,696	Au	2,872	Ja	2,323	2,773	2,450	196	101	17	1,870
13 Shipbuilding, including boat building.	43	502	37	15	18	5	427	Je	550	Fe	347	423	428	.....	.....	.....	1,454
14 Shoddy.	6	114	5	5	6	.....	98	De	107	Se	88	106	97	9	.....	.....	1,170
15 Silk and silk goods, including throwsters.	47	9,385	37	135	418	92	8,703	Se	9,248	Ja	8,370	9,296	4,283	4,614	145	254	8,564
16 Silverware and plated ware.	31	6,812	5	129	326	129	6,223	No	7,077	Jy	5,385	6,842	5,507	1,171	115	49	5,761
17 Slaughtering and meat packing.	28	523	28	11	37	15	432	Ja	465	My	397	456	450	3	3	.....	590
18 Stereotyping and electrotyping.	5	81	5	4	4	2	66	Ap	68	Jy	63	68	68	.....	.....	.....	82
19 Stoves and furnaces, including gas and oil stoves.	5	126	4	7	12	4	99	Oc	110	De	90	90	89	.....	1	.....	82
20 Surgical appliances and artificial limbs.	6	8	4	.....	.....	.....	4	De ²	5	Au ²	4	5	3	2	.....	.....	1
21 Tobacco manufactures.	265	1,861	289	19	32	8	1,513	De	1,557	Ap	1,453	1,579	1,241	317	21	.....	48
22 Typewriters and supplies.	8	3,510	.....	46	391	139	2,934	Mh	3,118	Au	2,446	3,097	2,574	444	66	13	2,034
23 Wall plaster.	3	37	4	4	3	2	24	De	27	Fe ²	22	27	27	.....	.....	.....	235
24 Wirework, including wire rope and cable.	28	1,557	20	36	52	29	1,420	De	1,580	My	1,307	1,581	969	542	39	31	1,517
25 Woolen, worsted, and felt goods, and wool hats.	56	8,140	31	196	96	28	7,789	De	8,071	Ja	7,110	8,179	5,434	2,361	178	206	17,518
26 All other industries ³ .	574	25,752	497	636	1,172	442	23,005	.....	.....	.....	.....	.....	.....	.....	.....	.....	62,288

¹ Same number reported for entire year.
² Same number reported for one or more other months.
³ All other industries embrace—

Artificial flowers and feathers and plumes.	1	Charcoal.	1	Flags, banners, regalia, society badges, and emblems.	2
Artists' materials.	1	Chemicals.	3	Flavoring extracts.	8
Awings, tents, and sails.	10	Chocolate and cocoa products.	1	Food preparations.	13
Babbitt metal and solder.	3	Coffee and spice, roasting and grinding.	9	Foundry supplies.	2
Bags, other than paper.	1	Cordials and sirups.	1	Galvanizing.	1
Bags, paper.	1	Crucibles.	2	Glass, cutting, staining, and ornamenting.	15
Belting and hose, leather.	4	Dairymen's, poulterers', and apiarists' supplies.	1	Gloves and mittens, leather.	3
Belting and hose, woven and rubber.	1	Dentists' materials.	3	Glucose and starch.	2
Bicycles, motorcycles, and parts.	4	Dyestuffs and extracts.	1	Glue.	2
Billiard tables and materials.	1	Emery and other abrasive wheels.	2	Gold and silver, leaf and foil.	2
Boots and shoes, rubber.	5	Enameling and japanning.	1	Gold and silver, reducing and refining, not from the ore.	3
Boxes, cigar.	4	Engravers' materials.	1	Grease and tallow.	8
Brick and tile.	36	Engraving and diesinking.	3	Hair work.	2
Card cutting and designing.	1	Engraving, wood.	6	Hats, straw.	3
Carpets and rugs, other than rag.	3	Explosives.	1	Hones and whetstones.	1
Carriages and sleds, children's.	1	Files.	3	Horseshoes, not made in steel works or rolling mills.	2
Cash registers and calculating machines.	2	Fire extinguishers, chemical.	1
Cement.	1	Fireworks.	2

MANUFACTURES—CONNECTICUT.

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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	\$90,293	\$152,672	\$11,401	\$200	\$96,882	\$3,637	\$27,692	\$8,681	\$411	\$230	\$5,538	\$192,518	\$191,186
2	5,100	4,976			1,092	122	3,194	96	31		441	10,850	7,534
3	5,626,585	4,984,149	201,612	110,483	1,251,303	56,708	2,064,983	16,540	22,189	7,731	352,444	5,538,018	2,516,267
4	3,208,746	3,674,067	110,792	109,260	1,311,227	38,406	1,658,591	110,102	15,901		319,608	4,236,036	2,539,039
5	1,100,131	1,404,872	69,322	101,821	146,891	23,468	801,995	2,364	3,605	2,063	253,343	1,543,010	717,547
6	7,194,953	5,085,020	268,589	82,111	923,600	407,218	2,898,198	2,412	31,003	9,314	464,575	5,527,334	2,223,918
7	2,101,082	1,397,152	37,095	34,879	255,476	12,277	870,245	4,452	10,305		172,423	1,521,158	638,636
8	808,166	1,106,977	138,014	79,044	87,755	8,078	470,919	10,665	3,148	983	359,371	1,341,567	853,870
9	85,694	108,837	23,751	6,381	38,541	1,976	24,442	3,184	376	3,411	6,775	123,790	97,372
10	6,322,398	5,207,118	415,042	439,701	1,736,499	89,985	1,679,232	119,508	29,168	196,105	502,378	6,370,450	4,801,233
11	8,728,886	10,000,816	118,625	225,685	1,115,725	116,130	7,010,351	10,768	16,276	2,777	1,384,539	11,004,556	3,878,075
12	3,182,483	2,377,062	91,228	118,326	1,505,183	51,224	487,304	16,115	18,840		88,779	2,119,768	1,581,180
13	1,467,617	669,723	22,576	11,709	253,604	12,856	302,351	2,701	2,600	1,012	60,074	742,254	427,047
14	450,459	267,170	5,700	5,970	45,305	9,040	188,151	160	1,781		11,004	324,251	127,051
15	19,730,268	18,022,348	404,230	591,920	3,749,186	214,763	11,619,582	47,287	84,964	369,832	940,584	21,062,687	9,228,342
16	17,247,495	13,339,995	353,457	613,386	3,445,571	127,263	7,104,738	15,911	61,640	5,375	1,612,654	15,836,608	8,604,607
17	1,966,631	4,341,420	18,920	48,453	239,172	20,948	3,918,985	6,000	9,930		74,982	4,572,225	623,292
18	136,818	87,083	6,320	3,504	39,953	2,449	24,217	3,022	857		7,271	112,529	85,863
19	188,537	183,230	8,101	11,278	60,984	2,503	65,297	1,980	1,585	7,178	24,264	219,962	152,102
20	11,703	7,517			2,584	95	2,684	540	53		1,104	16,674	13,895
21	1,370,270	2,348,175	20,576	36,165	907,718	7,677	1,065,963	38,588	203,839	1,125	76,824	2,738,330	1,674,690
22	8,468,310	3,940,161	160,850	325,513	1,898,184	41,720	969,427	2,282	25,310	10	486,895	4,016,023	2,974,881
23	114,849	65,790	6,500	1,462	12,016	2,598	38,528	480	9,723		4,204	81,708	40,584
24	2,486,530	2,828,683	130,351	66,597	684,249	20,973	1,621,405	18,749			243,056	3,345,118	1,606,740
25	20,011,122	17,514,379	417,619	145,959	3,485,157	329,872	12,508,270	42,873	68,044	5,782	510,803	19,363,228	6,525,086
26	69,667,043	58,080,537	1,552,088	1,451,670	11,822,689	1,671,862	37,232,740	134,578	261,002	67,088	3,687,320	64,933,965	26,129,863

* All other industries embrace—Continued.

House-furnishing goods, not elsewhere specified.....	6	Oakum.....	11	Soap.....	9
Ink, printing.....	1	Oil, essential.....	1	Sporting and athletic goods.....	3
Ink, writing.....	1	Optical goods.....	4	Springs, steel, car and carriage.....	3
Instruments, professional and scientific.....	2	Paving materials.....	1	Stationery goods, not elsewhere specified.....	5
Iron and steel, blast furnaces.....	2	Pens, fountain, stylographic, and gold.....	1	Statuary and art goods.....	3
Iron and steel, steel works and rolling mills.....	5	Pens, steel.....	3	Steam packing.....	3
Iron and steel, steel works and rolling mills, not made in steel works or rolling mills.....	13	Photographs and graphophones.....	2	Sulphuric, nitric, and mixed acids.....	13
Iron and steel forgings.....	13	Photographic apparatus and materials.....	2	Toys and games.....	3
Iron and steel, bolts, nuts, washers, and rivets, not made in steel works or rolling mills.....	13	Pottery, terra-cotta, and fire-clay products.....	5	Type founding and printing materials.....	2
Iron and steel, nails and spikes, cut and wrought, including wire nails, not made in steel works or rolling mills.....	3	Pumps, not including steam pumps.....	1	Umbrellas and canes.....	3
Labels and tags.....	1	Roofing materials.....	1	Upholstering materials.....	72
Lapidary work.....	7	Rules, ivory and wood.....	4	Vinegar and cider.....	1
Looking-glass and picture frames.....	7	Saws.....	1	Wall paper.....	3
Mineral and soda waters.....	96	Scales and balances.....	7	Window shades and fixtures.....	3
Mirrors.....	1	Screws, machine.....	3	Wire.....	3
Moving pictures.....	1	Screws, wood.....	1	Wood, turned and carved.....	43
Mucilage and paste.....	3	Show cases.....	2	Wool scouring.....	1
		Signs and advertising novelties.....	1		
		Smelting and refining, not from the ore.....	4		

MANUFACTURES—CONNECTICUT.

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

INDUSTRY.	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 All industries.....	367	28,952	243	703	1,717	514	25,775	18,262	6,352	681	28,669	20,291	7,639	341	398	43,387
2 Artificial stone.....	5	56	4	3	1	1	48	48	20	1	43	43	20	1	1	53
3 Bread and other bakery products.....	49	342	49	9	14	8	262	241	20	1	262	241	20	1	117	
4 Carriages and wagons and materials.....	6	88	4	7	1	3	73	73			68	68			108	
5 Copper, tin, and sheet-iron products.....	9	220	3	18	6	6	287	146	101	40	305	155	107	17	26	253
6 Corsets.....	5	3,889		30	134	66	3,659	637	2,931	91	4,090	714	3,275	7	94	984
7 Cutlery and tools, not elsewhere specified.....	7	814	2	20	14	10	768	678	55	35	835	737	60	31	7	843
8 Electrical machinery, apparatus, and supplies.....	5	1,631		43	120	59	1,400	766	514	120	1,694	927	622	60	85	1,440
9 Foundry and machine-shop products.....	48	5,657	14	141	519	79	4,904	4,049	186	69	5,627	5,334	216	70	7	10,555
10 Liquors, malt.....	3	86		5	8	1	72	72			71	71				305
11 Marble and stone work.....	7	58	8	4	2	1	43	43			43	43				148
12 Models and patterns, not including paper patterns.....	7	47	5	4			38	35	3		45	41	4			27
13 Printing and publishing.....	35	297	28	29	57	11	172	148	21	3	180	155	22	3		303
14 Tobacco manufactures.....	16	54	19				35	32	3		37	34	3			148
15 All other industries ¹	165	15,613	107	300	833	269	14,014	10,694	3,018	302	15,369	11,728	3,310	152	170	28,191

¹ All other industries embrace: Automobiles, including bodies and parts, 4; awnings, tents, and sails, 1; habbit metal and solder, 1; bags, other than paper, 1; belting and hose, leather, 1; bicycles, motorcycles, and parts, 1; blacking and cleansing and polishing preparations, 3; boots and shoes, including cut stock and findings, 1; boxes, fancy and paper, 4; brass and bronze products, 7; buttons, 1; carpets and rugs, other than rag, 1; carpets, rag, 1; cars and general shop construction and repairs by street-railroad companies, 1; clothing, men's, including shirts, 3; clothing, women's, 2; coffee and spice, roasting and grinding, 2; coffins, burial cases, and undertakers' goods, 1; confectionery, 5; crucibles, 1; electroplating, 4; emery and other abrasive wheels, 1; enameling and japanning, 1; engraving and diesinking, 1; fertilizers, 1; firearms and ammunition, 1; flavoring extracts, 1; flour-mill and gristmill products, 2; food preparations, 1; fur goods, 1; furnishing goods, men's, 5; furniture and refrigerators, 3; gas and electric fixtures and lamps and reflectors, 4; gas, illuminating and heating, 1; glass, cutting, staining, and ornamenting, 1; gold and silver, reducing and refining, not from the ore, 1; grease and tallow, 1; hair work 2; hand stamps and stencils and brands, 1; hats, fur-felt, 1; hosiery and knit goods, 1; ice, manufactured

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1 All industries.....	396	17,447	320	608	1,498	494	14,627	12,224	2,217	186	16,863	14,147	2,502	177	37	19,410
2 Boxes, fancy and paper.....	3	54	2	2			50	8	41	1	56	9	46	1		13
3 Brass and bronze products.....	6	68	5	2			51	50	1		55	54	1			43
4 Bread and other bakery products.....	37	328	37	4	10	36	241	205	34	2	247	210	35	2		89
5 Brick and tile.....	5	67	6				61	51			75	75				415
6 Carriages and wagons and materials.....	6	132	5	4	5		118	118			112	112				87
7 Clothing, men's, including shirts.....	3	39	3		1		35	22	13		47	30	17			13
8 Clothing, women's.....	6	378	8	7	1	1	361	25	336		386	27	359			82
9 Copper, tin, and sheet-iron products.....	6	54	6	2	2	1	43	43			51	51				89
10 Electrical machinery, apparatus, and supplies.....	10	901	1	35	53	32	780	493	263	24	928	586	313	25	4	599
11 Foundry and machine-shop products.....	52	3,180	19	105	222	66	2,768	2,696	50	22	3,473	3,383	62	23	5	4,128
12 Leather goods.....	6	199	3	8	8	4	170	133	31	7	191	150	33	7	1	203
13 Liquors, malt.....	4	169	1	8	21	1	138	138			138	138				483
14 Lumber and timber products.....	15	227	11	9	9	3	195	193	1	1	192	190	1	1		929
15 Marble and stone work.....	7	67	8	3	12	1	43	43			38	38				154
16 Models and patterns, not including paper patterns.....	6	67	6	5			56	56			65	65				63
17 Patent medicines and compounds and druggists' preparations.....	7	34	4	7	5	5	13	7	6		21	12	9			
18 Printing and publishing.....	68	1,155	59	62	125	43	866	686	164	16	813	644	154	15		1,111
19 Tobacco manufactures.....	28	316	36	2	6		272	212	59	1	281	219	61	1		2
20 All other industries ¹	121	10,032	100	243	1,018	301	8,370	7,040	1,218	112	9,694	8,164	1,411	102	27	10,657

¹ All other industries embrace: Artificial stone, 1; automobiles, including bodies and parts, 7; belting and hose, leather, 1; billiard tables and materials, 1; blacking and cleansing and polishing preparations, 1; boots and shoes, including cut stock and findings, 1; boxes, cigar, 1; brooms, 2; brushes, 2; canning and preserving, 1; carpets, rag, 1; cars and general shop construction and repairs by steam-railroad companies, 1; cars and general shop construction and repairs by street-railroad companies, 1; cash registers and calculating machines, 1; coffee and spice, roasting and grinding, 4; coffins, burial cases, and undertakers' goods, 2; cotton goods, including cotton small wares, 1; cutlery and tools, not elsewhere specified, 2; dentists' materials, 1; electroplating, 3; engraving, wood, 3; fertilizers, 1; firearms and ammunition, 1; flavoring extracts, 1; flour-mill and gristmill products, 1; food preparations, 3; furniture and refrigerators, 2; gas, illuminating and heating, 1; glass, cutting, staining, and ornamenting, 2; glue, 1; gold and silver, leaf and foil, 2; hand stamps and stencils and brands, 3; hats and caps, other than felt, straw, and

MANUFACTURES—CONNECTICUT.

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.

BRIDGEPORT.

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 \$62,779,173	\$60,046,551	\$1,858,662	\$1,850,270	\$13,349,103	\$1,168,063	\$36,778,635	\$174,592	\$299,933	\$248,812	\$4,318,481	\$65,608,806	\$27,662,108
2 171,749	58,233	3,806	416	26,815	1,375	21,318	640	266	1,000	2,537	80,478	57,785
3 234,957	884,832	9,532	10,548	185,704	20,012	571,275	13,332	1,412	.....	72,957	963,880	372,593
4 149,733	129,695	9,640	3,000	47,282	3,143	47,220	4,180	1,313	.....	13,917	144,666	94,303
5 422,007	466,944	35,844	6,014	123,590	6,039	257,372	4,530	1,558	.....	31,721	492,156	223,745
6 4,205,485	6,064,982	190,391	210,773	1,349,070	20,171	3,782,323	7,550	10,104	85,219	409,381	6,898,875	3,098,381
7 983,211	867,343	57,823	30,025	405,977	13,970	280,593	300	3,215	.....	75,440	954,239	659,676
8 3,229,256	2,928,090	98,710	118,491	574,759	30,261	1,811,404	6,000	7,321	.....	281,144	3,321,448	1,470,783
9 13,425,698	8,667,787	393,745	488,415	2,716,202	235,306	4,101,125	13,299	50,300	112,300	557,029	9,752,304	5,415,873
10 810,295	429,909	20,800	13,984	58,063	14,436	145,360	.....	80,888	.....	89,778	518,149	358,353
11 72,588	90,616	5,100	1,383	32,140	1,343	41,618	.....	1,380	.....	7,440	101,074	58,713
12 26,772	53,296	5,405	.....	33,318	979	0,058	2,261	106	230	1,879	56,141	46,104
13 855,166	420,321	48,720	53,559	119,769	9,217	117,445	15,437	2,269	17,029	36,876	511,590	384,934
14 40,857	50,060	.....	.....	20,092	156	20,582	1,638	5,594	.....	2,089	69,170	48,433
15 38,150,769	38,934,443	979,026	913,062	7,055,752	811,656	25,571,942	104,045	129,300	32,758	2,736,293	41,744,030	15,360,432

1: ink, writing, 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; iron and steel forgings, 3; leather goods, 2; leather, tanned, curried, and finished, 1; lumber and timber products, 7; mattresses and spring beds, 2; millinery and lace goods, 2; mineral and soda waters, 10; paint and varnish, 4; paper and wood pulp, 1; paper goods, not elsewhere specified, 1; patent medicines and compounds and druggists' preparations, 3; phonographs and graphophones, 2; photo-engraving, 1; rubber goods, not elsewhere specified, 3; sewing machines, cases, and attachments, 3; show cases, 1; silk and silk goods, including throwsters, 1; silverware and plated ware, 6; slaughtering and meat packing, 3; soap, 1; springs, steel, car and carriage, 1; statuary and art goods, 1; steam packing, 1; stereotyping and electrotyping, 1; stoves and furnaces, including gas and oil stoves, 1; sulphuric, nitric, and mixed acids, 1; surgical appliances and artificial limbs, 1; toys and games, 4; type founding and printing materials, 1; typewriters and supplies, 3; umbrellas and canes, 1; wall plaster, 1; wirework, including wire rope and cable, 7; wood, turned and carved, 2.

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1 \$48,084,921	\$34,214,083	\$1,204,604	\$1,505,886	\$9,374,007	\$690,111	\$17,172,627	\$200,858	\$440,672	\$64,088	\$3,561,230	\$40,679,598	\$22,816,860
2 25,086	53,159	4,500	.....	14,036	623	81,108	2,064	104	.....	634	59,500	27,679
3 64,071	168,254	5,200	.....	38,874	3,532	100,450	735	130	.....	9,353	183,907	79,325
4 422,607	922,953	4,262	22,637	172,137	16,594	651,793	13,758	2,475	.....	39,297	1,105,056	436,669
5 79,850	55,883	.....	.....	29,054	14,056	1,294	1,800	408	3,000	0,271	65,625	50,275
6 148,926	149,733	2,000	4,052	80,120	3,029	60,412	2,244	650	.....	0,626	178,113	124,672
7 43,000	80,424	.....	520	16,880	776	54,096	1,932	140	.....	6,080	97,000	42,128
8 89,994	238,732	8,492	1,166	103,110	1,052	90,625	4,345	518	.....	22,521	268,982	170,402
9 82,675	73,248	2,444	1,300	28,522	750	35,520	1,620	533	.....	2,553	94,593	58,307
10 1,536,781	1,448,349	101,155	90,308	382,104	15,312	609,977	18,216	5,600	.....	228,527	1,708,815	1,081,526
11 11,575,974	5,252,974	283,819	286,399	2,014,341	202,557	1,939,043	30,213	47,499	24,061	410,042	6,548,027	4,407,027
12 249,222	343,323	17,931	10,715	97,245	3,785	197,346	2,775	2,493	.....	11,038	342,169	141,038
13 1,352,042	1,071,931	28,440	28,058	124,692	30,048	413,993	.....	187,778	.....	258,922	1,256,033	811,992
14 308,147	421,184	18,320	9,040	140,694	8,353	215,416	8,947	2,049	.....	18,359	473,323	249,554
15 113,025	152,683	5,900	11,552	38,154	2,764	81,320	2,590	641	300	9,762	176,108	91,025
16 34,887	67,235	4,236	.....	40,596	1,480	10,832	2,567	64	.....	1,454	89,988	77,670
17 47,420	62,280	6,900	6,010	4,931	125	24,894	1,500	587	.....	17,342	70,293	54,274
18 1,826,528	1,646,879	113,182	115,359	540,905	21,210	508,580	40,232	8,188	24,177	185,037	2,007,593	1,387,803
19 233,762	457,499	1,930	5,240	184,185	551	212,434	6,790	39,651	.....	6,718	516,850	303,905
20 29,850,234	21,557,355	595,593	913,434	5,317,427	362,092	11,850,401	49,530	141,104	12,550	2,314,714	25,434,592	13,221,589

wool, 1; horseshoes, not made in steel works or rolling mills, 2; hosiery and knit goods, 2; iron and steel, nails and spikes, cut and wrought, including wire nails, not made in steel works or rolling mills, 1; jewelry, 3; liquors, distilled, 1; looking-glass and picture frames, 5; mattresses and spring beds, 2; mineral and soda waters, 9; mudluge and paste, 1; musical instruments and materials, not specified, 1; musical instruments, pianos and organs and materials, 1; optical goods, 1; paper and wood pulp, 1; paper goods, not elsewhere specified, 2; photo-engraving, 3; pottery, terra-cotta, and fire-clay products, 2; rubber goods, not elsewhere specified, 1; screws, machine, 2; screws, wood, 1; sewing machines, cases, and attachments, 1; silk and silk goods, including throwsters, 1; silverware and plated ware, 1; slaughtering and meat packing, 3; smelting and refining, not from the ore, 1; soap, 2; statuary and art goods, 1; steam packing, 1; stereotyping and electrotyping, 1; surgical appliances and artificial limbs, 2; typewriters and supplies, 2; wall plaster, 1; wirework, including wire rope and cable, 2; wood, turned and carved, 2.

MANUFACTURES—CONNECTICUT.

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.

NEW HAVEN.

INDUSTRY AND 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 All industries	590	28,874	536	704	1,360	727	23,547	17,405	5,430	703	25,015	18,488	5,778	450	299	31,382
2 Brass and bronze products	7	75	5	3	5	1	61	58	3	.....	72	68	4	.....	.....	71
3 Bread and other bakery products	65	502	63	14	33	22	370	299	64	7	388	314	67	2	5	163
4 Canning and preserving	3	45	2	1	8	3	31	18	13	.....	29	17	12	.....	.....	45
5 Carriages and wagons and materials	15	113	16	4	1	1	91	91	.....	.....	84	84	.....	.....	.....	73
6 Clothing, men's, including shirts	10	58	14	.....	2	.....	42	23	19	.....	44	24	20	.....	.....	6
7 Cutlery and tools, not elsewhere specified	6	265	3	14	10	6	232	222	6	4	249	238	7	3	1	191
8 Electroplating	3	40	4	.....	1	.....	35	29	.....	6	38	32	.....	.....	.....	35
9 Foundry and machine-shop products	55	5,770	33	116	202	229	5,190	4,422	529	239	5,555	4,735	567	193	60	4,398
10 Furniture and refrigerators	10	139	8	8	17	2	101	96	4	1	92	87	4	1	.....	254
11 Hats and caps, other than felt, straw, and wool	6	90	12	4	6	2	60	52	14	.....	71	56	15	.....	.....	11
12 Jewelry	7	27	6	4	.....	2	15	14	.....	1	15	14	.....	1	.....	5
13 Liquors, malt	4	142	3	9	14	2	114	114	.....	.....	112	112	.....	.....	.....	607
14 Lumber and timber products	20	324	16	15	7	7	279	268	.....	11	305	293	.....	12	.....	1,073
15 Marble and stone work	10	64	13	2	1	1	47	47	.....	.....	49	49	.....	.....	.....	65
16 Patent medicines and compounds and druggists' preparations	23	99	14	10	3	15	57	22	35	.....	64	25	39	.....	.....	24
17 Printing and publishing	72	847	53	44	167	64	512	402	88	22	574	451	99	23	1	508
18 Shipbuilding, including boat building	4	16	4	.....	.....	.....	12	12	.....	.....	10	10	.....	.....	.....	16
19 Tobacco manufactures	61	739	70	6	11	5	647	468	174	5	684	495	184	5	.....	43
20 All other industries ¹	209	17,529	197	450	872	365	15,645	10,748	4,490	407	16,580	11,384	4,760	204	232	23,799

¹ All other industries embrace: Artificial flowers and feathers and plumes, 1; artificial stone, 5; automobiles, including bodies and parts, 11; awnings, tents, and sails, 4; baskets, and rattan and willow ware, 1; bicycles, motorcycles, and parts, 1; blacking and cleansing and polishing preparations, 3; boots and shoes, rubber, 1; boxes, cigar, 1; boxes, fancy and paper, 6; brushes, 2; buttons, 2; card cutting and designing, 1; carriages and sleds, children's, 1; cars and general shop construction and repairs by steam-railroad companies, 1; cars and general shop construction and repairs by street-railroad companies, 1; cash registers and calculating machines, 1; cement, 1; charcoal, 1; clocks and watches, including cases and materials, 1; clothing, women's, 3; coffee and spice, roasting and grinding, 3; coffins, burial cases, and undertakers' goods, 1; confectionery, 3; cooperage and wooden goods, not elsewhere specified, 2; copper, tin, and sheet-iron products, 11; corsets, 9; dentists' materials, 2; dyeing and finishing textiles, 2; electrical machinery, apparatus, and supplies, 2; engraving and diesinking, 1; fancy articles, not elsewhere specified, 1; fertilizers, 1; files, 1; firearms and ammunition, 2; fire extinguishers, chemical, 1; flags, banners, regalia, society badges, and emblems, 2; flour-mill and gristmill products, 1; food preparations, 3; foundry supplies, 1; fur goods, 1; gas and electric fixtures and lamps and reflectors, 2; gas, illuminating and heating, 2; glass, cutting, staining, and ornamenting, 2; gloves and mittens, leather, 1; glucose and starch, 2; hats, fur-felt, 4; hosiery and knit goods, 2; ice, manufactured, 1; iron and steel, steel works and rolling mills, 1; iron and steel, bolts, nuts,

WATERBURY.

1 All industries	169	21,600	97	447	603	283	20,170	15,088	4,648	434	22,041	16,407	5,065	239	240	37,518
2 Brass and bronze products	15	10,031	.....	114	235	79	9,603	7,990	1,479	134	10,667	8,879	1,638	63	87	26,580
3 Bread and other bakery products	20	152	24	8	7	10	133	119	14	.....	139	124	15	.....	.....	40
4 Carriages and wagons and materials	5	42	7	2	.....	1	32	32	.....	.....	32	32	.....	.....	.....	16
5 Copper, tin, and sheet-iron products	5	901	.....	13	17	8	858	573	268	17	881	538	275	10	8	396
6 Foundry and machine-shop products	23	2,167	4	68	51	37	2,007	1,760	219	28	2,146	1,833	233	17	13	2,359
7 Lumber and timber products	7	246	2	17	11	11	205	202	1	2	229	226	1	2	.....	399
8 Printing and publishing	15	239	10	17	16	15	181	151	20	10	195	163	21	10	1	186
9 Tobacco manufactures	18	89	19	1	2	.....	67	64	1	2	67	64	1	2	.....	1
10 All other industries ¹	61	7,703	31	202	204	122	7,084	4,197	2,646	241	7,685	4,538	2,881	135	131	7,591

¹ All other industries embrace: Artificial stone, 2; awnings, tents, and sails, 1; boots and shoes, including cut stock and findings, 1; boxes, fancy and paper, 2; buttons, 3; canning and preserving, 1; cars and general shop construction and repairs by street-railroad companies, 1; clocks and watches, including cases and materials, 4; confectionery, 1; crucibles, 1; cutlery and tools, not elsewhere specified, 2; electrical machinery, apparatus, and supplies, 2; flour-mill and gristmill products, 1; fur goods, 1; furnishing goods, men's, 1; gas, illuminating and heating, 1; grease and tallow, 1; hand stamps and stencils and brands, 1; hats, fur-felt, 2; hosiery and knit goods, 1; ice,

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

1 ANSONIA	53	4,488	46	76	197	42	4,127	3,743	347	37	4,568	4,144	383	31	10	13,209
2 DANBURY	131	5,499	122	170	306	91	4,810	3,391	1,271	48	6,693	4,721	1,906	51	15	5,690
3 MERIDEN	120	8,730	80	232	399	174	7,845	6,080	1,585	180	8,240	6,388	1,664	121	67	6,015
4 MIDDLETOWN	58	2,678	38	79	96	31	2,434	1,543	840	51	2,502	1,586	894	37	15	3,333
5 NAUGATUCK	24	3,657	19	65	93	16	3,464	2,113	1,261	90	3,595	2,194	1,307	42	52	5,067
6 NEW BRITAIN	111	14,755	80	211	666	285	13,513	10,500	2,675	338	14,405	11,198	2,853	173	181	14,363
7 NEW LONDON	70	2,467	52	52	111	27	2,225	1,466	692	67	2,232	1,470	694	16	52	2,912
8 NORWICH	91	4,795	65	94	123	43	4,470	3,281	1,077	112	4,605	3,378	1,111	60	50	12,027
9 STAMFORD	86	4,719	64	137	401	133	3,984	3,554	382	48	4,451	3,970	429	35	17	6,564
10 TORRINGTON	54	4,853	42	103	164	58	4,488	3,828	512	148	4,880	4,165	555	112	48	7,163
11 WILLIMANTIC	47	3,278	41	61	79	77	3,020	1,549	1,363	88	3,170	1,627	1,451	38	64	10,596

MANUFACTURES—CONNECTICUT.

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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.

NEW HAVEN.

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	\$52,014,121	\$44,846,334	\$1,599,555	\$1,862,932	\$12,775,963	\$947,515	\$23,371,743	\$197,217	\$533,273	\$224,986	\$3,333,150	\$51,071,397	\$26,752,139
2	229,098	312,134	12,080	7,856	32,089	0,007	243,606	2,472	439	.....	8,088	353,703	104,090
3	537,383	1,283,070	18,400	31,803	229,735	23,744	851,841	18,077	4,139	.....	104,671	1,473,375	597,790
4	90,584	91,083	3,120	8,927	13,702	1,206	48,370	6,756	269	.....	8,643	127,195	77,520
5	223,103	193,403	6,800	1,088	62,075	2,419	95,242	2,780	1,204	15,500	5,695	222,712	125,051
6	50,674	97,249	.....	1,190	19,284	762	65,920	2,730	131	1,729	5,497	111,029	44,347
7	516,368	811,371	35,619	13,397	133,093	5,071	81,495	1,060	443	.....	37,226	399,974	312,508
8	11,114	30,423	.....	910	10,318	202	9,015	2,040	17	.....	1,021	33,592	24,375
9	8,801,410	7,069,017	284,122	277,263	2,884,844	139,486	2,865,274	18,230	46,005	27,889	525,504	7,805,968	4,801,208
10	268,349	244,895	14,610	12,732	56,084	1,641	131,652	2,984	1,656	6,488	16,448	252,338	119,045
11	72,486	100,676	4,830	6,720	42,760	1,836	113,067	3,092	336	2,065	15,011	240,438	124,585
12	44,340	40,474	1,250	524	7,436	731	26,167	1,145	0	1,096	1,216	55,471	28,573
13	1,301,569	936,105	32,200	21,870	99,950	21,314	305,007	.....	204,542	.....	251,722	1,289,965	963,644
14	583,886	770,607	22,670	8,541	106,422	5,243	528,220	9,188	3,274	1,156	25,984	808,587	275,115
15	97,025	78,605	4,151	1,144	40,704	1,573	23,544	400	745	2,175	4,160	86,379	61,262
16	129,807	130,055	9,120	8,235	130,253	696	60,291	3,827	357	503	24,403	144,627	74,640
17	999,125	1,124,475	70,026	110,855	331,659	16,394	317,478	24,941	4,963	123,169	106,990	1,324,844	990,972
18	31,550	19,725	.....	10,541	10,541	220	7,852	431	109	.....	542	28,209	20,107
19	564,033	998,802	7,918	13,653	387,997	2,877	451,831	15,284	79,507	.....	40,135	1,140,574	685,800
20	37,302,617	30,924,165	1,063,679	1,327,009	8,227,450	715,053	17,135,932	80,280	182,504	42,373	2,140,285	35,172,417	17,321,432

washers, and rivets, not made in steel works or rolling mills, 2; iron and steel forgings, 4; kaolin and ground earths, 1; leather goods, 2; leather, tanned, curried, and finished, 1; liquors, distilled, 1; looking-glass and picture frames, 2; mattresses and spring beds, 5; millinery and lace goods, 2; mineral and soda waters, 13; mirrors, 1; models and patterns, not including paper patterns, 2; moving pictures, 2; paving materials, 1; photographic apparatus and materials, 1; photo-engraving, 1; pottery, terra-cotta, and fire-clay products, 2; roofing materials, 1; rubber goods, not elsewhere specified, 3; saws, 1; scales and balances, 1; screws, machine, 3; sewing machines, cases, and attachments, 1; signs and advertising novelties, 2; silk and silk goods, including throwsters, 1; slaughtering and meat packing, 4; smelting and refining, not from the ore, 1; springs, steel, car and carriage, 1; stationery goods, not elsewhere specified, 1; statuary and art goods, 3; stereotyping and electrotyping, 3; surgical appliances and artificial limbs, 1; toys and games, 1; upholstering materials, 1; vinegar and cider, 1; wall plaster, 1; window shades and fixtures, 2; wire, 1; wirework, including wire rope and cable, 4; wood, turned and carved, 3.

WATERBURY.

1	\$44,652,550	\$45,089,673	\$1,007,232	\$918,621	\$11,243,530	\$1,257,108	\$27,468,804	\$95,177	\$349,048	\$42,151	\$2,708,004	\$50,349,816	\$21,623,904
2	24,662,752	29,314,475	325,234	393,141	5,451,101	830,588	20,768,720	10,432	123,500	13,301	1,393,362	31,461,875	9,882,587
3	172,282	444,425	7,108	8,015	90,217	11,425	313,758	5,264	1,440	.....	7,189	504,545	170,362
4	68,398	40,016	3,000	4,500	22,028	1,331	17,061	420	551	.....	575	58,041	39,640
5	1,075,675	933,776	52,894	22,316	365,085	14,030	415,285	3,420	6,221	.....	53,025	1,046,202	615,987
6	3,585,367	3,158,917	154,162	70,427	1,282,451	178,804	1,127,416	6,979	19,094	9,871	303,713	3,557,777	2,251,557
7	747,705	522,869	22,506	14,478	134,138	2,820	306,657	1,815	4,787	.....	35,569	680,876	371,390
8	394,561	325,021	27,720	24,308	128,874	6,033	90,030	8,375	2,068	2,339	34,674	398,564	301,901
9	48,976	65,037	260	1,600	35,997	478	40,313	3,876	10,993	29	1,521	115,437	74,646
10	13,496,914	10,249,137	414,258	377,880	3,732,439	210,090	4,389,564	54,596	180,407	11,521	878,376	12,526,499	7,926,845

manufactured, 1; instruments, professional and scientific, 1; iron and steel forgings, 1; gas and electric fixtures and lamps and reflectors, 1; liquors, malt, 2; marble and stone work, 2; mattresses and spring beds, 2; mineral and soda waters, 6; models and patterns, not including paper patterns, 1; needles, pins, and hooks and eyes, 2; patent medicines and compounds and druggists' preparations, 2; silk and silk goods, including throwsters, 1; silverware and plated ware, 1; slaughtering and meat packing, 4; sulphuric, nitric, and mixed acids, 1; upholstering materials, 1; wirework, including wire rope and cable, 2.

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

1	\$9,762,562	\$18,188,537	\$104,901	\$242,079	\$2,383,506	\$287,391	\$14,323,472	\$10,229	\$57,546	\$240	\$688,273	\$20,088,269	\$5,477,406
2	7,785,687	9,140,000	258,758	233,536	2,858,374	190,808	4,081,920	40,927	33,306	16,927	313,378	10,317,875	5,439,141
3	17,674,701	14,119,605	506,725	680,934	4,234,940	213,277	6,730,045	32,298	160,812	852	1,553,716	16,316,918	9,373,596
4	8,543,764	4,626,513	138,623	108,692	1,008,485	133,418	2,809,834	33,881	20,079	3,445	375,056	4,954,799	2,011,547
5	8,042,476	9,784,025	120,670	81,734	1,906,707	165,523	7,163,424	17,954	40,793	1,482	210,798	11,032,836	3,703,889
6	31,790,415	18,475,471	593,490	883,190	6,740,931	476,828	7,851,314	33,379	253,535	3,713	1,639,085	22,021,241	13,693,099
7	5,469,970	3,986,905	113,590	69,177	926,437	70,299	2,400,566	22,147	14,035	149,571	161,083	4,483,230	1,952,374
8	12,631,386	7,944,249	215,432	170,873	2,163,525	286,111	4,615,850	29,565	58,744	6,310	497,839	9,388,960	4,589,999
9	11,925,944	7,637,720	327,234	413,605	2,349,713	212,932	3,491,495	27,040	39,462	21,838	754,401	8,739,544	5,035,117
10	15,692,429	11,166,671	241,287	179,491	2,383,942	284,803	7,178,048	113,316	45,700	146	739,878	12,549,872	5,085,961
11	9,918,752	5,352,639	127,675	95,226	1,235,172	97,363	3,096,652	8,882	50,781	6,900	633,928	6,733,185	3,539,170