

CHAPTER 14.

IRRIGATION AND IRRIGATED CROPS.

Introduction.—This chapter contains, in condensed form, the principal data regarding irrigation derived from the Thirteenth Decennial Census, taken in the year 1910.

An amendment to the Thirteenth Census act, approved February 25, 1910, contained the following clause relating to irrigation:

Inquiries shall also be made as to the location and character of irrigation enterprises, quantity of land irrigated in the arid region of the United States and in each state and county in that section under state and Federal laws; the price at which these lands, including water rights, are obtainable; the character and value of crops produced on irrigated lands, the amount of water used per acre for said irrigation and whether it was obtainable from national, state, or private works; the location of the various projects and methods of construction, with facts as to their physical condition; the amount of capital invested in such irrigation works.

As the Office of Experiment Stations of the United States Department of Agriculture employs a corps of state irrigation agents, an arrangement was made by which these state irrigation agents cooperated in the supervision in their respective states of the work of the special agents of the Bureau of the Census in collecting statistics of irrigation.

The information called for by this law which could be supplied by farm operators was obtained on supplemental schedules by the regular census enumerators as a part of the agricultural census. The remaining data, which were supplied by the owners or officials of irrigation enterprises, were obtained on special schedules by the special agents. The data relating to crops presented here were taken from the supplemental schedules filled out by the agricultural enumerators. With the exception of the statistics as to the number of farms irrigated, which were obtained as explained on the following page, all the other data presented here were taken from the special schedules.

The law relating to the special irrigation census, quoted above, provided that the inquiry should cover the "arid region of the United States." For the purposes of this report the "arid region" has been held to include all sections of the United States where irrigation is generally practiced in the growing of farm crops. As defined in this way, the "arid region" includes the western parts of the tier of states formed by

the Dakotas, Nebraska, Kansas, Oklahoma, and Texas, and all of the states between these and the Pacific Ocean. In parts of this great territory there is abundant rainfall; but in each of the states comprised in it there are considerable sections, and in some very extensive areas, where farming is largely dependent upon irrigation.

The special inquiry was also extended to the rice growing districts of Louisiana, Texas, and Arkansas, but the rice district has been treated separately in this report. (See p. 431.)

In accordance with the law, the enterprises have been classified primarily according to their legal status—that is, according to the state or Federal laws by virtue of which they were created, or according to other features of their legal and economic form. The types of enterprises distinguished are as follows:

United States Reclamation Service enterprises, established under the Federal law of June 17, 1902, providing for the construction of irrigation works with the receipts from the sale of public lands.

United States Indian Service enterprises, established under various acts of Congress providing for the construction by that service of works for the irrigation of land in Indian reservations.

Carey Act enterprises, established under the Federal law of August 18, 1894, granting to each of the states in the arid region 1,000,000 acres of land on condition that the state provide for its irrigation, and under amendments to that law granting additional areas to Idaho and Wyoming.

Irrigation districts, which are public corporations established under state laws and empowered to issue bonds and levy and collect taxes for the purchase or construction of irrigation works.

Cooperative enterprises, which are controlled by the water users combined in some organized form of cooperation under state laws. The most common form of organization is the stock company, the stock of which is owned by the water users. In Arizona and New Mexico many of the cooperative enterprises are operated under laws regulating "community" ditches.

Individual and partnership enterprises, which belong to individual farmers, or to groups of farmers associated without formal organization. It is not always possible to distinguish between partnership and cooperative enterprises; but as the difference is slight this is unimportant.

Commercial enterprises, incorporated or otherwise, which supply water for compensation to parties who own no interest in the works. Persons obtaining water from such enterprises are usually required to pay for the right to receive water and to pay, in addition, annual charges based in some instances on the acreage irrigated and in others on the quantity of water received.

THE ARID REGION AS A WHOLE.

Summary.—Table 1 summarizes the principal data for the arid region as a whole as returned at the census of 1910, and includes corresponding data for the preceding census as far as available. Unless otherwise indicated the figures relate to the year in which the census was taken. In the reports of the censuses of 1900 and 1890 data relating to irrigation on Indian reservations were excluded from the totals for the arid region, but for the later census they are included. Since the acreage which was irrigated on Indian reservations in 1909 was only 172,912, or 1.3 per cent of the total acreage reported as irrigated, it has not been deemed advisable to eliminate the figures for Indian reservations in making comparisons between the different censuses. The general agricultural statistics given in the table for purposes of comparison cover the entire areas of the states included in the arid region, as defined on the preceding page, although in some of the states the territory which requires no irrigation vastly exceeds the irrigated territory.

The number of farms irrigated is the number of farms on which irrigation is practiced, regardless of the extent of such irrigation, and is equivalent to the term "number of irrigators" used in previous census reports. The number given for 1909 is made up of the number reported on the supplemental agricultural schedules by

the regular enumerators, together with an estimate of the number of farms served by enterprises which were reported by special agents but not by the regular enumerators. The reports of the special agents stated only the acreage supplied by such enterprises, and the number of farms was estimated on the basis of the average acreage irrigated per farm, as shown by the supplemental schedules.

The acreage irrigated in 1909 is that reported by the special agents from information secured from owners or officials of irrigation enterprises or, in some instances, from public records. This acreage is probably in some measure an overstatement. There is a natural tendency for the officials of irrigation enterprises to report as irrigated the entire areas of farms of which only a part is irrigated. Furthermore, some farms receive water from more than one enterprise, and may be reported as irrigated by each, which results in duplication. It is believed, however, that the acreage given is within 10 per cent of the correct figure. In addition to information as to the acreage irrigated in 1909 data were collected as to the acreage the enterprises were capable of supplying with water in 1910 and the total acreage which enterprises completed or under way in 1910 were designed to supply ultimately (designated as "acreage included in projects").

Table 1	CENSUS OF—		INCREASE.	
	1910	1900	Amount.	Per cent.
Number of farms ¹	1, 440, 822	1, 095, 675	345, 147	31. 5
Approximate land area ¹ acres..	1, 161, 385, 600	1, 161, 385, 600	.....	.....
Land in farms ¹ acres..	388, 606, 991	348, 780, 221	39, 826, 770	11. 4
Improved land in farms ¹ acres..	173, 433, 957	119, 709, 592	53, 724, 365	44. 9
Number of farms irrigated.....	² 158, 713	³ 107, 489	51, 224	47. 7
Acreage irrigated.....	² 13, 738, 485	³ 7, 518, 527	6, 219, 958	82. 7
Acreage enterprises were capable of irrigating.....	19, 334, 697	(⁴)	.....	.....
Acreage included in projects.....	31, 111, 142	(⁴)	.....	.....
Number of enterprises.....	54, 700	(⁴)	.....	.....
Total length of ditches..... miles..	125, 591	(⁴)	.....	.....
Length of main ditches..... miles..	87, 529	(⁴)	.....	.....
Length of lateral ditches..... miles..	38, 062	(⁴)	.....	.....
Number of reservoirs.....	6, 812	(⁴)	.....	.....
Capacity of reservoirs..... acre-feet..	12, 581, 129	(⁴)	.....	.....
Number of flowing wells.....	5, 070	(⁴)	.....	.....
Number of pumped wells.....	14, 558	(⁴)	.....	.....
Number of pumping plants.....	13, 906	(⁴)	.....	.....
Capacity of power plants..... horsepower..	243, 435	(⁴)	.....	.....
Acreage irrigated with pumped water.....	² 477, 625	(⁴)	.....	.....
Acreage irrigated from flowing wells.....	² 144, 400	(⁴)	.....	.....
Cost of irrigation enterprises.....	\$307, 866, 369	⁵ \$66, 962, 275	\$240, 904, 094	359. 8
Average cost per acre.....	⁶ \$15. 92	⁷ \$8. 91	(⁸)	.....
Average cost of operation and maintenance, per acre.....	² \$1. 07	³ \$0. 38	\$0. 69	181. 6

¹ Figures relate to entire areas of states in the arid region, the figures for 1900 including Indian Territory.

² Cost of systems operated in 1899.

³ In 1909.

⁴ Not reported.

⁵ Based on cost to July 1, 1910, and acreage enterprises were capable of irrigating in 1910.

⁶ Based on acreage irrigated in 1899.

⁷ In 1899.

⁸ Figures not comparable. (See explanation in text.)

The number of farms on which irrigation was practiced, for purposes other than rice growing, in 1909 in the states of the arid region was 158,713, or 11 per cent of the total number of farms in the same states.

While the total number of farms in this region, including the entire area of states in which irrigation is practiced in the western part, increased 31.5 per cent between 1900 and 1910, the number of farms on

which irrigation was practiced increased 47.7 per cent between 1899 and 1909, the irrigated farms forming a larger percentage of all farms in 1909 than in 1899. The acreage reported as irrigated in 1909 was 13,738,485, which constitutes 1.2 per cent of the total land area of the same states, 3.5 per cent of the total land in farms, and 7.9 per cent of the improved land in farms. There was an increase of 82.7 per cent in such acreage between 1899 and 1909, a rate of increase much higher than that in the number of farms irrigated, the average irrigated acreage per farm being greater for 1909 than for 1899.

The acreage to which enterprises were ready to supply water in 1910 was 19,334,697, or 5,596,212 acres in excess of the acreage irrigated in 1909, while the acreage included in all projects in 1910, whether completed or in process of development, was 31,111,142, or 17,372,657 acres greater than the acreage reported as irrigated in 1909.

The total length of ditches used for irrigation in 1910 was 125,591 miles. There were 6,812 reservoirs hav-

ing a combined capacity of 12,581,129 acre-feet, or nearly 1 acre-foot of reservoir capacity for each acre irrigated from any source in 1909. The number of pumping plants reported was 13,906 and the acreage supplied by them 477,625.

The total cost of irrigation enterprises to July 1, 1910, was \$307,866,369, or \$15.92 per acre of the land which these enterprises were capable of supplying with water in 1910. The increases in the items relating to cost are the most conspicuous shown. The total cost of irrigation enterprises increased between 1900 and 1910 by 359.8 per cent, and the average cost per acre covered increased also, although much less in degree. (As to the comparability of the figures for this item, however, see the discussion of this subject following Table 12.) The average cost of operation and maintenance per acre of land irrigated for the year 1909 shows also a large increase—181.6 per cent—over the cost shown for 1899. It is believed, however, that the cost shown for 1899 is not properly comparable with that for 1909.

FARMS AND ACREAGE IRRIGATED.

Number of farms irrigated.—Table 2 gives, by states, the number of farms irrigated in 1909, 1899, and 1889, together with the decennial rates of increase.

STATE.	1909	1899	1889	Increase. ¹		
				1899-1909		1889-1899
				Number.	Per cent.	Per cent.
Total	158,713	107,489	54,138	51,224	47.7	98.6
Arizona	4,841	2,981	1,075	1,860	62.4	177.3
California	39,352	25,611	13,732	13,741	53.7	86.5
Colorado	25,857	17,613	9,659	8,244	46.8	82.3
Idaho	10,439	8,987	4,323	7,452	82.9	107.9
Kansas	1,006	929	519	77	8.3	79.0
Montana	8,970	8,043	3,706	927	11.5	117.0
Nebraska	1,852	1,932	214	-80	-4.1	802.8
Nevada	2,406	1,906	1,167	600	26.2	63.3
New Mexico	12,795	7,884	3,085	4,911	62.3	155.6
North Dakota	69	54	7	15	(²)	(²)
Oklahoma	137	124	.....	13	10.5	.....
Oregon	6,669	4,636	3,150	2,033	43.9	47.2
South Dakota	500	606	189	-106	-17.5	220.6
Texas ³	4,150	1,252	623	2,898	231.5	101.0
Utah	19,709	17,924	9,724	1,785	10.0	84.3
Washington	7,664	3,286	1,046	4,378	133.2	214.1
Wyoming	6,297	3,721	1,917	2,576	69.2	94.1

¹ A minus sign (-) denotes decrease.
² Per cent not calculated when base is less than 100.
³ Exclusive of farms irrigated for rice growing.

The total number of farms on which irrigation was practiced in 1909 was 158,713. California contained the largest number of such farms, having about one-fourth (24.8 per cent) of the total number, and Colorado the next largest number, nearly one-sixth (16.3 per cent) of the total, while Utah ranked third in this respect, with about one-eighth (12.4 per cent) of the total.

The percentage of increase between 1889 and 1899 in the number of farms irrigated was more than double that during the succeeding decade, but the absolute

increases during the two decades were approximately equal. Nebraska showed the largest percentage of increase during the former period and Texas during the latter period, but in neither state is the actual number of irrigated farms large. In Nebraska and South Dakota there were decreases between 1899 and 1909. The largest absolute increase in both decades was in California. In the period 1899 to 1909 the next largest increase was in Colorado, and in the period 1889 to 1899 in Utah.

Acreage irrigated.—Table 3 gives, by states, the acreage irrigated in the arid region in 1909, 1899, and 1889, respectively, with the percentage of increase in each decade.

STATE.	1909	1899	1889	Increase.		
				1899-1909		1889-1899
				Amount.	Per cent.	Per cent.
Total	13,738,485	7,518,527	3,631,381	6,219,958	82.7	107.9
Arizona	820,051	185,396	65,821	134,655	72.6	181.7
California	2,664,104	1,445,872	1,004,233	1,218,232	84.3	44.0
Colorado	2,792,082	1,611,271	890,735	1,180,761	73.3	80.9
Idaho	1,430,648	602,568	217,005	828,280	137.5	177.7
Kansas	37,479	23,020	20,818	13,859	58.7	13.5
Montana	1,679,084	951,154	350,562	727,930	76.5	171.3
Nebraska	255,950	148,838	11,744	107,412	72.3	1,164.8
Nevada	701,833	504,168	224,403	197,665	39.2	124.7
New Mexico	461,718	203,803	91,745	257,825	126.5	122.2
North Dakota	10,248	4,872	445	5,376	110.3	994.8
Oklahoma	4,388	2,769	.....	1,629	59.0	.....
Oregon	686,129	388,310	177,944	297,819	76.7	118.2
South Dakota	63,248	43,676	15,717	19,572	44.8	177.9
Texas ¹	164,283	40,952	18,241	123,331	301.2	124.5
Utah	999,410	626,293	263,473	370,117	58.8	138.8
Washington	334,378	126,307	48,799	208,071	164.7	158.8
Wyoming	1,133,302	605,878	229,076	527,424	87.1	163.8

¹ Exclusive of land irrigated for rice growing.

The total acreage reported as irrigated in 1909 was 13,738,485, an increase of 6,219,958 acres, or 82.7 per cent, as compared with 1899. The increase in the preceding decade was 3,887,146 acres, or 107 per cent.

In total acreage irrigated California ranked first in 1889, Colorado second, and Montana third. In both 1899 and 1909 Colorado reported the largest irrigated acreage, while California and Montana were second and third, respectively. Idaho followed closely in 1909. From 1899 to 1909 California showed the largest absolute increase, followed by Colorado, Idaho,

and Montana in the order named. In percentage of increase for this decade, however, Texas ranked first, Washington second, Idaho third, and New Mexico fourth.

Acreage irrigated in 1909, acreage enterprises were capable of irrigating in 1910, and acreage included in projects.—In Table 4 data as to the acreage irrigated in 1909, the acreage enterprises were capable of irrigating in 1910, and the acreage included in projects are presented, with classification according to the type of enterprise.

Table 4

STATE.	ALL CLASSES OF ENTERPRISES.			U. S. RECLAMATION SERVICE.			U. S. INDIAN SERVICE.			CAREY ACT ENTERPRISES.		
	Acreage irrigated in 1909.	Acreage enterprises were capable of irrigating in 1910.	Acreage included in projects.	Acreage irrigated in 1909.	Acreage enterprises were capable of irrigating in 1910.	Acreage included in projects.	Acreage irrigated in 1909.	Acreage enterprises were capable of irrigating in 1910.	Acreage included in projects.	Acreage irrigated in 1909.	Acreage enterprises were capable of irrigating in 1910.	Acreage included in projects.
Total	13,738,485	19,334,697	31,111,142	395,646	786,190	1,973,016	172,912	376,576	879,068	288,553	1,089,677	2,573,874
Arizona.....	320,051	387,055	944,060	188,364	164,500	370,000	19,380	20,074	36,017			
California.....	2,664,104	3,619,378	5,490,360	400	1,200	14,200	3,490	3,490	3,800			
Colorado.....	2,792,032	3,990,166	5,917,457	16,600	30,000	193,000	1,020	2,020	20,020	485	6,085	50,480
Idaho.....	1,430,848	2,388,950	3,549,573	47,500	113,000	295,000	3,426	21,540	51,540	102,418	742,018	1,088,601
Kansas.....	37,470	139,995	161,300	6,953		10,077						
Montana.....	1,079,084	2,205,155	3,515,002	14,077	85,245	113,744	67,417	114,340	440,940	9,648	49,500	306,997
Nebraska.....	255,950	429,225	680,133	30,536	66,241	107,520	300	300	600			
Nevada.....	701,833	840,902	1,232,142	30,000	90,185	216,185	2,597	3,381	18,060			
New Mexico.....	461,718	644,070	1,102,207	13,308	21,467	30,267	24,007	24,743	37,455			16,000
North Dakota.....	10,248	21,917	38,173	1,610	12,096	24,480						
Oklahoma.....	4,388	6,397	8,528									
Oregon.....	686,129	830,526	2,527,208	22,000	45,319	185,000	429	439	879	24,750	65,500	633,264
South Dakota.....	68,248	128,481	201,625	5,613	47,568	101,967	50	50	100			
Texas ¹	164,283	340,041	753,099									
Utah.....	999,410	1,250,246	1,947,025				11,520	86,000	106,000	5,000	20,000	43,000
Washington.....	334,378	470,514	817,032	55,090	74,500	143,096	35,000	50,000	100,000			
Wyoming.....	1,133,302	1,639,510	2,224,298	12,005	34,869	167,880	4,270	48,600	63,657	86,252	205,974	426,472

STATE.	IRRIGATION DISTRICTS.			COOPERATIVE ENTERPRISES.			INDIVIDUAL AND PARTNERSHIP ENTERPRISES.			COMMERCIAL ENTERPRISES.		
	Acreage irrigated in 1909.	Acreage enterprises were capable of irrigating in 1910.	Acreage included in projects.	Acreage irrigated in 1909.	Acreage enterprises were capable of irrigating in 1910.	Acreage included in projects.	Acreage irrigated in 1909.	Acreage enterprises were capable of irrigating in 1910.	Acreage included in projects.	Acreage irrigated in 1909.	Acreage enterprises were capable of irrigating in 1910.	Acreage included in projects.
Total	528,642	800,451	1,581,465	4,643,539	6,191,577	8,830,197	6,257,387	7,666,110	10,153,545	1,451,806	2,424,116	5,119,977
Arizona.....				101,025	120,550	360,689	61,196	81,422	175,334	80	200	1,000
California.....	173,793	204,108	606,351	770,020	984,570	1,388,435	901,136	1,131,061	1,512,511	740,205	1,204,059	1,965,063
Colorado.....	115,304	207,570	487,370	1,273,141	1,870,447	2,430,397	1,220,025	1,581,041	2,039,533	159,457	292,103	681,687
Idaho.....	140,930	177,000	329,796	628,102	782,603	993,740	403,000	483,946	676,608	44,872	67,352	104,322
Kansas.....				27,372	135,200	144,200	3,154	4,795	6,423			
Montana.....	412	6,040	6,640	333,926	373,022	518,209	1,191,000	1,495,513	1,982,220	62,544	80,895	140,852
Nebraska.....	76,448	77,228	91,076	78,005	168,200	240,009	45,227	64,472	80,305	24,834	52,724	154,023
Nevada.....				78,966	85,255	129,269	581,406	649,841	844,128	8,304	9,300	24,600
New Mexico.....			10,400	251,911	355,327	482,064	144,212	185,283	295,171	28,160	58,150	224,950
North Dakota.....							8,638	9,821	13,093			
Oklahoma.....				2,000	3,000	3,500	2,388	3,307	5,028			
Oregon.....	1,500	1,500	5,980	149,985	169,944	399,632	410,078	454,074	619,980	77,387	93,750	692,467
South Dakota.....				13,601	13,243	22,687	37,684	55,820	69,071	6,300	6,800	6,900
Texas ¹				41,186	75,011	146,795	49,657	65,286	104,044	73,440	200,344	502,800
Utah.....	8,455	8,455	10,803	687,260	790,855	1,259,851	222,448	257,203	370,502	64,727	87,070	151,370
Washington.....				81,122	90,805	115,410	95,655	117,145	102,310	60,611	138,064	266,216
Wyoming.....	11,800	27,050	27,050	116,317	165,476	189,894	813,823	1,024,137	1,153,378	87,935	133,305	195,997

¹ Exclusive of land irrigated for rice growing.

The enterprises were reported in 1910 as capable of irrigating 19,334,697 acres, which is 5,596,212 acres in excess of the acreage actually irrigated in 1909. This excess shows the extent to which the irrigated area can be enlarged without the construction of additional works. It does not, however, represent land available for settlement in the latter year, as much of the land that was under ditch in 1910 but not irri-

gated in 1909 was already taken up, being in farms not completely under cultivation. The excess acreage lies principally in Colorado, Idaho, California, Montana, and Wyoming, these states ranking in the order named in this respect.

The acreage included in projects which were either completed or under way July 1, 1910, as reported by the various enterprises—31,111,142—was 17,372,657

acres greater than the acreage irrigated in 1909. The figure would indicate the amount by which the irrigated acreage may be extended upon the completion of existing enterprises, were it not probable that the owners of these enterprises in some cases have over-estimated what they can accomplish. It is certain, however, that much additional land will later be provided with a water supply by works that were in process of construction in 1910. The amount of excess of the acreage included in projects over that irrigated in 1909 is also greatest in the states named in the preceding paragraph and in Oregon.

Table 5 shows by percentages the relative importance of the several classes of enterprises as judged by acreage.

CLASS OF ENTERPRISE.	PER CENT OF TOTAL FOR ARID REGION.		
	Acreage irrigated in 1909.	Acreage enterprises were capable of irrigating in 1910.	Acreage included in projects.
All classes.....	100.0	100.0	100.0
U. S. Reclamation Service.....	2.9	4.1	0.3
U. S. Indian Service.....	1.3	1.9	2.8
Carey Act enterprises.....	2.1	5.6	8.3
Irrigation districts.....	3.8	4.1	5.1
Cooperative enterprises.....	33.8	32.0	28.4
Individual and partnership enterprises.....	45.5	39.6	32.6
Commercial enterprises.....	10.6	12.5	16.5

Nearly one-half (45.5 per cent) of the acreage irrigated in 1909 was served by individual and partnership enterprises, and about one-third (33.8 per cent) by

cooperative enterprises, which are controlled by the water users. Irrigation districts, which served 3.8 per cent, are also controlled by the water users. Thus about 83 per cent of the acreage irrigated in 1909 received a water supply from works controlled by the water users. United States Reclamation Service and Carey Act enterprises, which irrigated 2.9 per cent and 2.1 per cent, respectively, of this total acreage, are to be turned over to the water users when the rights are paid for, and many of the commercial enterprises are operating under a similar arrangement.

Acreage irrigated, classified by source of water supply.—In Table 6 the acreage irrigated in the arid region in 1909 is classified according to the source of the water supply. Where a supply is received from more than one source, the land is classified under the source from which the principal supply is derived. In the aggregate considerable areas are supplied with water from more than one source. Thus, in California, large areas receive water both by gravity diversion from streams and by pumping from wells, while in Texas some of the newer canals on the Rio Grande receive water by gravity when the river is high and by pumping when the river is low. In both instances most of this land is classed with the acreage that received water by gravity from streams. The only reservoirs which are treated as independent sources of supply are those filled by collecting storm water or from watercourses which are ordinarily dry. When reservoirs are filled from streams or wells, the primary source is considered the source of supply.

STATE.	ACREAGE IRRIGATED IN 1909.									Total irrigated with pumped water.
	Total.	Supplied from—								
		Streams.		Wells.		Reser-voirs.	Lakes.		Springs.	
		By gravity.	By pumping.	Flowing.	By pumping.		By gravity.	By pumping.		
Total	13,738,485	12,763,797	157,775	144,400	307,486	98,193	58,284	12,354	196,188	477,625
Arizona.....	320,051	300,087	7,711	1,489	6,096	487	570	2,574	3,631	13,807
California.....	2,684,104	2,216,757	29,965	74,128	275,595	16,410	15,896	2,574	31,779	309,134
Colorado.....	2,792,032	2,745,035	13,248	5,171	3,111	16,091	422	634	8,320	16,993
Idaho.....	1,430,848	1,383,718	18,685	1,172	705	732	4,622	1,535	19,679	20,325
Kansas.....	37,479	35,469	20	2	1,959	2			27	1,979
Montana.....	1,679,084	1,624,656	7,963	207	55	22,614	5,617	5	17,967	8,023
Nebraska.....	255,950	254,105	18		139	1,002			686	157
Nevada.....	701,833	661,299	463	150	37	138	500	406	38,540	906
New Mexico.....	461,718	397,059	1,533	48,877	5,952	1,272	862		6,163	7,425
North Dakota.....	10,248	7,153	1,614		1	1,280			200	1,615
Oklahoma.....	4,388	4,205	50		69	20	28		16	119
Oregon.....	686,129	643,281	3,585	655	805	3,279	22,915	821	10,788	5,211
South Dakota.....	63,248	47,122	540	1,448	8	13,585	300		295	528
Texas ¹	164,283	75,496	59,196	3,710	6,152	6,203	163	295	13,068	65,643
Utah.....	999,410	954,800	2,559	4,100	300	568	1,671		35,412	2,839
Washington.....	334,378	301,341	9,085	3,227	5,437	299	4,098	6,084	4,207	20,806
Wyoming.....	1,133,302	1,112,234	1,540	64	75	14,261	120		5,008	1,615

¹ Exclusive of land irrigated for rice growing.

More than nine-tenths (92.9 per cent) of the acreage irrigated in 1909 was supplied with water by gravity diversion from streams, and, including cases where water was pumped, streams constituted the source of supply for 94.1 per cent of the total acreage irrigated. Wells supplied the next largest acreage, 3.3 per cent of the total, about one-third of this acreage being watered

by flowing wells. Springs furnished the supply for 1.4 per cent of the total acreage irrigated, and reservoirs and lakes each for less than 1 per cent. Of the total acreage irrigated from wells, California contained 77.6 per cent, and New Mexico 12.1 per cent. In the case of the other sources of supply the acreage irrigated was more generally distributed among the states.

IRRIGATION WORKS.

Number of enterprises and number and length of ditches.—Table 7 shows the number of irrigation enterprises, and the number and length of main and lateral ditches, respectively, reported in 1910. It should be borne in mind that some lateral ditches are much larger than some main ditches, and that the distinction is more or less arbitrary.

STATE.	Number of enterprises.	DITCHES.					
		Number.			Length (miles).		
		Total.	Main ditches.	Laterals.	Total.	Main ditches.	Laterals.
Total.....	54,700	81,837	45,720	36,117	125,591	87,529	38,062
Arizona.....	1,209	1,204	891	313	2,597	1,727	870
California.....	13,970	14,733	8,590	6,143	21,129	12,020	8,509
Colorado.....	9,085	14,017	8,405	5,612	22,570	17,564	5,006
Idaho.....	3,092	6,568	3,209	3,359	12,759	7,002	5,097
Kansas.....	716	128	89	39	316	274	42
Montana.....	5,534	14,060	6,673	8,307	18,934	12,990	5,944
Nebraska.....	474	1,458	420	1,038	1,459	1,269	1,269
Nevada.....	1,347	2,525	994	1,531	3,151	1,938	1,213
New Mexico.....	2,786	3,381	2,101	1,280	5,854	4,004	1,190
North Dakota.....	49	93	47	46	125	52	74
Oklahoma.....	114	153	47	106	85	54	31
Oregon.....	3,745	6,100	3,582	2,518	7,591	5,539	2,052
South Dakota.....	395	680	348	332	1,256	631	625
Texas ¹	2,161	1,252	636	616	1,663	941	722
Utah.....	2,472	3,852	2,405	1,357	7,700	5,837	1,822
Washington.....	1,934	2,780	1,600	1,180	3,892	2,594	1,298
Wyoming.....	5,577	7,933	5,593	2,340	13,231	10,933	2,298

¹ Exclusive of enterprises supplying water for the irrigation of rice.

Reservoirs.—Table 8 gives, by states, the number and capacity of reservoirs used for irrigation in 1910. The acre-foot, used to express capacity, is the quantity of water required to cover 1 acre to the depth of 1 foot, or 43,560 cubic feet. Most of these reservoirs are filled from streams during flood season and in the winter, the stored water being used in the late summer on land which receives its earlier supply by gravity diversion from streams. Some, however, store storm water flowing in drainage channels which are ordinarily dry.

STATE.	RESERVOIRS.	
	Number.	Capacity (acre-feet).
Total.....	6,812	12,581,129
Arizona.....	402	1,349,038
California.....	1,583	743,269
Colorado.....	1,084	2,646,593
Idaho.....	243	1,742,303
Kansas.....	42	81,024
Montana.....	827	580,261
Nebraska.....	44	2,098
Nevada.....	109	325,953
New Mexico.....	522	454,162
North Dakota.....	22	132,187
Oklahoma.....	11	22
Oregon.....	271	1,024,266
South Dakota.....	314	216,205
Texas ¹	288	72,051
Utah.....	480	538,317
Washington.....	156	121,543
Wyoming.....	414	2,550,937

¹ Exclusive of reservoirs supplying water for the irrigation of rice.

Wells.—Table 9 shows the number and capacity of flowing and pumped wells used for irrigation in 1910. The capacities reported are estimates made by the owners, and are often not very accurate, as few well owners have facilities for measuring the discharge of wells. In the case of pumped wells many of the statements of capacity are based on the estimated pump capacity, the capacity of the wells themselves never having been tested.

STATE.	WELLS.			
	Flowing.		Pumped.	
	Number.	Capacity (gallons per minute).	Number.	Capacity (gallons per minute).
Total.....	5,070	1,845,596	14,558	5,424,129
Arizona.....	214	9,953	470	765,921
California.....	2,361	477,343	10,724	4,119,576
Colorado.....	313	41,989	121	53,564
Idaho.....	62	7,200	24	2,826
Kansas.....	8	30	939	73,362
Montana.....	15	22,135	10	5,263
Nebraska.....	.....	.....	66	3,363
Nevada.....	10	1,302	6	1,349
New Mexico.....	673	690,208	466	190,690
North Dakota.....	.....	.....	1	15
Oklahoma.....	.....	.....	65	1,791
Oregon.....	51	3,035	92	20,383
South Dakota.....	42	14,332	4	24
Texas ¹	122	36,039	1,412	121,631
Utah.....	1,133	42,794	27	4,827
Washington.....	55	18,926	128	60,220
Wyoming.....	2	250	3	335

¹ Exclusive of wells supplying water for the irrigation of rice.

Pumping plants.—Table 10 gives the number of pumping plants used for irrigation in 1910, with the capacities of power plants and pumps. The capacities are given as reported by the owners, and in most cases represent the rated capacities claimed by the manufacturers of the apparatus, which are probably in excess of the capacities obtained in use under ordinary field conditions.

STATE.	PUMPING PLANTS.		
	Number.	Capacity of power plants (horse-power).	Capacity of pumps (gallons per minute).
Total.....	13,906	243,435	9,947,969
Arizona.....	429	37,258	851,873
California.....	9,297	128,143	5,276,298
Colorado.....	206	7,999	296,037
Idaho.....	58	7,095	278,539
Kansas.....	698	1,517	128,276
Montana.....	125	3,511	231,199
Nebraska.....	75	140	5,368
Nevada.....	18	693	24,285
New Mexico.....	413	14,226	216,355
North Dakota.....	4	2,038	182,115
Oklahoma.....	68	107	4,541
Oregon.....	229	3,095	113,514
South Dakota.....	8	63	5,289
Texas ¹	1,784	20,615	1,455,285
Utah.....	69	2,143	315,557
Washington.....	391	13,847	365,411
Wyoming.....	34	705	142,629

¹ Exclusive of plants supplying water for the irrigation of rice.

COST.

Table 11 gives, by states, the total cost of irrigation enterprises in the arid region as reported at the Eleventh, Twelfth, and Thirteenth Censuses, and also the

estimated final cost of enterprises which were either completed or under way on July 1, 1910, the date of the census of irrigation of 1910.

Table 11

STATE.	COST OF IRRIGATION ENTERPRISES.						
	1910		1899	1889	Increase.		
	Estimated final cost.	Cost to July 1.			1899-1910 ¹		1889-1899
			Amount.	Per cent.	Per cent.		
Total	\$424,281,186	\$307,866,369	\$66,962,275	\$29,611,000	\$240,904,094	359.8	126.1
Arizona.....	24,823,868	17,677,966	4,438,352	465,000	13,239,614	298.2	854.5
California.....	84,392,344	72,580,030	19,181,610	13,006,000	53,396,429	278.4	47.5
Colorado.....	76,443,239	56,636,443	11,788,703	6,369,000	44,877,740	381.7	84.6
Idaho.....	53,451,106	40,977,093	5,120,399	1,029,000	35,857,299	790.3	397.6
Kansas.....	1,365,563	1,365,563	629,756	(²)	835,806	157.8	.....
Montana.....	32,382,077	22,970,958	4,683,073	1,623,000	15,287,865	390.5	188.5
Nebraska.....	9,485,231	7,798,310	1,310,698	(²)	6,487,612	495.0	.....
Nevada.....	12,188,769	6,721,924	1,537,559	1,251,000	5,184,265	337.2	22.9
New Mexico.....	11,640,091	9,154,897	4,165,312	612,000	4,989,585	119.8	713.5
North Dakota.....	836,482	836,482	16,980	(²)	819,502	4,826.3	.....
Oklahoma.....	47,200	47,200	21,872	.....	25,328	115.8	.....
Oregon.....	39,216,619	12,760,214	1,843,771	826,000	10,916,443	582.1	123.2
South Dakota.....	3,800,556	3,043,140	284,747	(²)	2,758,393	968.7	.....
Texas ⁴	8,613,533	7,346,708	705,608	(²)	6,841,109	941.2	.....
Utah.....	17,840,775	14,028,717	5,865,302	2,780,000	8,163,415	139.2	111.0
Washington.....	22,322,856	16,219,149	1,525,369	197,000	14,693,786	963.3	674.3
Wyoming.....	20,425,890	17,700,980	3,973,165	1,281,000	13,727,815	345.5	219.2

¹ Increase computed on the basis of the cost to July 1, 1910.
² Includes \$273,000 for Kansas, Nebraska, North Dakota, South Dakota, and Texas, which are not shown separately in the report of the census of 1899, these five states being grouped under the designation of "subhumid region."
³ Separate figures not available.
⁴ Exclusive of enterprises supplying water for the irrigation of rice.

The cost of irrigation enterprises up to July 1, 1910, as reported at the Thirteenth Census, includes the cost of construction, the cost of acquiring rights, and any added costs incident to construction, such as the purchase of land for rights of way, the building of structures for use in operation and maintenance, and engineering and legal expenses. For all of the larger enterprises the cost is that given by the owners, but it is probable that in many cases this is estimated rather than taken from actual accounts. For some of the smaller enterprises the cost was estimated by the special agents of the Census Bureau, and in the case of some schedules received by mail the cost has been estimated in the bureau on the basis of the average cost per acre for other enterprises of the same class in the same vicinity. Many of the smaller ditches were built a number of years ago by their owners without the expenditure of much, if any, money, and many of these have since changed hands. In such cases the cost given by the present owners is only a rough estimate. The data as to cost reported for 1899 and 1889 are probably somewhat less accurate than those for 1910. The figure for cost given in the Twelfth Census report is designated as the "cost of construction of systems operated in 1899." The figure for cost at the Eleventh Census is an estimate consisting of the sum of the amounts obtained by multiplying the acreage irrigated by the average first cost per acre of obtaining water, or of water rights, as given by the irrigators. Although not specifically stated in the reports for the

previous censuses, it is probable that the figures there given include the same items represented in the figure for cost in 1910.

The total cost of irrigation enterprises up to July 1, 1910, was reported as \$307,866,369, which represents an increase of \$240,904,094, or 359.8 per cent over the cost reported at the census of 1900. In no state in the arid region was the increase in cost for this period less than 100 per cent, the highest percentage of increase being in North Dakota and the lowest in Oklahoma. With respect to absolute increase California ranked first, Colorado second, Idaho third, and Montana fourth. The year 1910 was in the midst of a period of great activity in the construction of irrigation works, and on July 1, 1910, a large number of works were incomplete. The "estimated final cost" reported, \$424,281,186, is the sum of the cost up to July 1 and the estimated cost of completing these unfinished works.

Average cost per acre.—Table 12 gives the average cost of irrigation enterprises per acre. The averages for 1889 and 1899 are, with one exception, for the acreage actually irrigated in the respective years. These averages are probably considerably higher than if they had been calculated on the basis of the acreage the enterprises were capable of irrigating. At the Thirteenth Census the average cost per acre has been computed by dividing the cost to July 1, 1910, by the acreage which enterprises were capable of irrigating in 1910. Averages based on the acreage irrigated in 1909 and the cost

to July 1, 1910, are, however, also presented as a rough basis for comparison with the averages for the previous censuses. In addition, averages based on the estimated final cost of enterprises and the acreage which their owners expect finally to be able to supply with water are given. These latter averages would represent most accurately the true cost of providing works to supply water for irrigation, were it not for a more or less general tendency to underestimate cost and overestimate the acreage it will be possible to serve.

Table 12

STATE.	AVERAGE COST OF IRRIGATION ENTERPRISES PER ACRE.				
	1910			1899	1889
	Based on cost to July 1, 1910, and acreage enterprises were capable of irrigating in 1910.	Based on cost to July 1, 1910, and acreage irrigated in 1909.	Based on estimated final cost and acreage included in projects.		
Total	\$15.92	\$22.41	\$13.64	\$8.01	\$8.16
Arizona.....	45.60	55.23	26.30	23.04	7.07
California.....	20.05	27.24	15.37	13.27	12.95
Colorado.....	14.19	20.29	12.92	7.30	7.15
Idaho.....	17.15	28.04	16.47	13.79	4.74
Kansas.....	9.75	30.44	8.47	22.43	(²)
Montana.....	10.42	13.08	9.21	4.92	4.63
Nebraska.....	18.17	30.47	13.95	8.82	(²)
Nevada.....	7.99	9.58	9.89	3.05	7.58
New Mexico.....	14.19	19.83	10.56	20.43	5.58
North Dakota.....	38.17	81.62	21.91	3.49	(²)
Oklahoma.....	7.35	10.70	5.53	7.93	(²)
Oregon.....	15.36	18.60	15.52	4.75	4.04
South Dakota.....	23.09	48.11	18.85	6.52	(²)
Texas ³	21.57	44.72	11.43	17.23	(²)
Utah.....	11.22	14.04	9.16	9.32	10.55
Washington.....	34.47	48.51	27.32	12.08	4.03
Wyoming.....	10.80	15.62	9.18	6.0	3.02

¹ Based on acreage under ditch in 1899.

² Figures for Kansas, Nebraska, North Dakota, South Dakota, and Texas are not shown separately in the report of the census of 1890, these five states being grouped under the designation of "subhumid region." The average for the subhumid region was \$4.07.

³ Exclusive of land irrigated for rice growing.

The average cost per acre based on the acreage irrigated in 1909 was \$22.41; that based on the acreage enterprises were capable of irrigating in 1910 was \$15.92; and that based on the estimated total cost and the acreage included in projects was \$13.64.

Between 1889 and 1899 there was no marked increase in the average cost of irrigation enterprises per acre of land irrigated, but in 1910 the average cost per acre was very much higher. The chief reason for this is the fact that, naturally, irrigation enterprises were first undertaken where water could be most easily secured and engineering difficulties were least serious. The enterprises undertaken during more recent years have been of necessity on a much larger scale than those built formerly, and, in most cases, of a better and more permanent type of construction. Indeed, much of the cost incurred between 1899 and 1910 was for the im-

provement of existing works, especially by the addition of reservoirs, which did not provide water for new lands, but rather provided a better supply for land already irrigated.

Average cost per acre, by type of enterprise.—Table 13 gives the average cost of irrigation enterprises per acre in 1910, computed in the three ways just shown, for each class of enterprises.

Table 13

CLASS OF ENTERPRISE.	AVERAGE COST OF IRRIGATION ENTERPRISES PER ACRE.		
	Based on cost to July 1, 1910, and acreage enterprises were capable of irrigating in 1910.	Based on cost to July 1, 1910, and acreage irrigated in 1909.	Based on estimated final cost and acreage included in projects.
All classes	\$15.92	\$22.41	\$13.64
U. S. Reclamation Service.....	07.52	134.17	48.14
U. S. Indian Service.....	12.78	27.83	33.33
Carey Act enterprises.....	30.53	115.30	21.75
Irrigation districts.....	27.37	41.44	20.53
Cooperative enterprises.....	12.89	17.10	10.07
Individual and partnership enterprises.....	7.09	8.69	5.22
Commercial enterprises.....	24.98	41.71	16.79

The highest average cost per acre on each basis is shown for the United States Reclamation Service enterprises, and the next highest in each case for Carey Act enterprises. Irrigation districts ranked third and commercial enterprises fourth, except in one case where the order is reversed. These four classes comprise the large enterprises which are now engaged in developing new lands, and most of their work is of recent date. The works built by individuals or cooperative enterprises, which are smaller and were for the most part built at an earlier period, naturally utilized the sources from which water could be most readily diverted and transported to the land to be irrigated. The larger works of recent date serve land farther from the streams and involve better, more expensive, and more permanent construction, and as a result the average cost per acre is higher than that for the small works.

Average cost per acre, by size groups.—The average cost of irrigation works per acre for enterprises classified by size is shown in Table 14. The classification is based on the acreage intended ultimately to be irrigated.

It will be noted that in general the cost per acre irrigated increases with the size of enterprises. This condition is due at least in a considerable measure to the fact already noted that most of the larger enterprises, which are mainly of recent date, have had to seek water more difficult to obtain than that secured by the smaller enterprises, and that they represent a better type of work.

Table 14

	Total.	ENTERPRISES CONTAINING—				
		Less than 25,000 acres.	25,000 to 50,000 acres.	50,000 to 75,000 acres.	75,000 to 100,000 acres.	100,000 acres and over.
Number of enterprises.....	54,700	54,548	74	28	16	34
Acreage:						
Irrigated in 1909.....	13,738,485	11,395,874	832,024	412,655	264,096	833,806
Enterprises were capable of irrigating in 1910.....	19,334,687	14,789,465	1,231,145	728,795	463,514	2,041,778
Included in projects.....	31,111,142	29,632,614	2,420,280	1,623,348	1,309,247	5,125,644
Cost:						
To July 1, 1910.....	\$307,896,369	\$175,308,121	\$23,411,977	\$19,524,778	\$14,420,324	\$75,200,660
Estimated final.....	\$424,281,186	\$207,068,121	\$33,154,836	\$33,537,574	\$21,368,421	\$128,152,234
Average cost per acre based on:						
Acreage irrigated in 1909 and cost to July 1, 1910.....	\$22.41	\$15.38	\$28.14	\$47.31	\$54.60	\$90.19
Acreage enterprises were capable of irrigating in 1910 and cost to July 1, 1910.....	\$15.92	\$11.85	\$18.27	\$26.79	\$29.22	\$36.83
Acreage included in projects and estimated final cost.....	\$13.64	\$10.04	\$13.70	\$20.66	\$16.32	\$25.20

Operation and maintenance.—Table 15 gives the average cost per acre for the operation and maintenance of irrigation enterprises in 1909. The inquiry as to this item was not extended to individual and partnership enterprises, for the reason that farmers owning their own ditches usually clean and repair them at odd times without keeping any record of the time or money expended. In the case of some enterprises of other classes, no reports were received. The statistics for cost of operation reported at the two previous censuses, for various reasons, are not fairly comparable with those for 1909, and consequently are not shown in the table.

For the arid region as a whole, the average cost of operation and maintenance per acre irrigated was \$1.07. The abnormal cost shown for North Dakota (\$28.40) relates almost entirely to a single large project which supplied water in 1909 to only a small part of the acreage which it is designed to serve. The lowest average is for Oklahoma (\$0.51 per acre).

Table 15

STATE.	Acreage irrigated in 1909 by enterprises for which cost of operation and maintenance was reported.	REPORTED COST OF OPERATION AND MAINTENANCE IN 1909.	
		Amount.	Average per acre for which cost was reported.
Total.....	6,378,955	\$6,826,433	\$1.07
Arizona.....	230,429	214,358	0.93
California.....	1,368,247	2,199,451	1.54
Colorado.....	1,401,670	1,046,268	0.75
Idaho.....	893,692	560,692	0.63
Kansas.....	34,255	54,995	1.59
Montana.....	394,507	349,692	0.89
Nebraska.....	209,023	227,385	1.09
Nevada.....	88,976	86,110	0.97
New Mexico.....	278,439	377,972	1.36
North Dakota.....	1,610	45,718	28.40
Oklahoma.....	1,959	1,000	0.51
Oregon.....	263,855	199,111	0.75
South Dakota.....	25,614	16,288	0.64
Texas ¹	109,697	356,960	3.25
Utah.....	689,994	451,283	0.65
Washington.....	176,197	543,312	3.08
Wyoming.....	221,875	190,648	0.86

¹ Exclusive of enterprises supplying water for the irrigation of rice.

CROPS.

The returns of crops grown on irrigated land, which were made by the regular enumerators of population and agriculture, are somewhat incomplete, for the reason that, owing to the late date at which the provisions of law regarding the irrigation census were passed, the enumerators could not be as carefully instructed regarding the special irrigation schedules as regarding the regular agricultural schedules. On many of the schedules the agricultural enumerators reported land as irrigated but failed to return separately the crops grown on such land. The total acreage of crops reported as raised on irrigated land formed 52.7 per cent of the total acreage irrigated in 1909; and while part of the remainder was doubtless in pasture, it is evident that part was in crops not reported as grown under irrigation and a part was probably in crops not harvested. Although the totals are thus incomplete, the returns are sufficiently accurate to afford reliable averages of yields and values and to show the relative importance of the various crops.

Table 16 gives, by states, the total acreage and total value of crops reported as irrigated in 1909, with the average value per acre.

Table 16

STATE.	CROPS IRRIGATED IN 1909.		
	Acreage.	Value.	
		Total.	Average per acre.
Total.....	7,241,561	\$181,617,396	\$25.08
Arizona.....	171,302	4,718,100	27.54
California.....	1,196,767	32,057,007	43.50
Colorado.....	1,650,356	39,478,994	23.92
Idaho.....	772,684	16,582,213	21.46
Kansas.....	22,118	477,025	21.57
Montana.....	909,342	14,535,960	16.09
Nebraska.....	137,211	1,973,980	14.39
Nevada.....	356,079	5,339,475	15.00
New Mexico.....	230,034	5,705,922	24.80
North Dakota.....	3,273	56,215	17.18
Oklahoma.....	2,806	61,995	14.53
Oregon.....	368,911	7,489,255	20.30
South Dakota.....	38,438	506,684	13.16
Texas ¹	56,227	2,645,385	45.43
Utah.....	579,744	14,642,782	25.26
Washington.....	180,433	7,994,531	49.82
Wyoming.....	583,786	7,362,983	12.61

¹ Exclusive of rice.

The table shows for all crops reported as irrigated an average value per acre of \$25.08.

The highest average value per acre for crops raised on irrigated land is that for Washington, \$49.82, which

is followed by that for Texas, \$45.43 (exclusive of rice), and that for California, \$43.50. Wyoming showed the lowest average value per acre, \$12.61. As is to be expected, the average value per acre is highest in the states with large areas of fruits, vegetables, and other specialized crops raised by means of irrigation, while in those where forage crops and grains predominate the average is lower. Fruit crops comprised about 12 per cent of the total acreage of irrigated crops in Washington in 1909 and about 21 per cent of the total in California, and vegetables and other special crops about 21 per cent of the total acreage of irrigated crops in Texas, exclusive of rice. In Wyoming, on the other hand, more than 32 per cent of the total acreage of irrigated crops in 1909 was in wild grass, and irrigated fruit crops were insignificant.

Table 17 shows the reported acreage and value of each important irrigated crop in the arid region as a whole, with the percentage of the total represented by each.

CROP.	CROPS IRRIGATED IN 1909.			
	Acreage.		Value.	
	Amount.	Per cent of total.	Amount.	Per cent of total.
Total reported	7,241,561	100.0	\$181,617,396	100.0
Alfalfa	2,216,628	30.6	50,850,533	28.0
Wild, salt, or prairie grasses	1,530,669	21.1	11,734,258	6.5
Oats	739,632	10.2	14,055,424	7.7
Wheat	548,173	7.6	12,826,982	7.1
Barley	240,117	3.3	4,399,445	2.4
Orchard fruits and grapes	236,385	3.3	18,245,182	10.0
Other tame or cultivated grasses	219,701	3.0	2,571,297	1.4
Grains cut green	209,363	2.9	2,992,570	1.6
Timothy alone	202,817	2.8	3,211,651	1.8
Sugar beets	183,467	2.5	10,511,467	5.8
Timothy and clover mixed	183,308	2.5	3,071,935	1.7
Potatoes	168,014	2.3	10,085,692	5.6
Corn	133,673	1.8	2,423,507	1.3
Tropical and subtropical fruits	90,431	1.4	15,344,375	8.4
All other	330,183	4.6	19,293,078	10.6

In acreage alfalfa ranked first, with 30.6 per cent of the total reported; "wild, salt, or prairie grasses" second, with 21.1 per cent; and oats third, with 10.2 per cent. Forage crops, taken together, occupied about 63 per cent of the total reported acreage, cereals about 23 per cent, sugar beets 2.5 per cent, potatoes 2.3 per cent, fruit crops about 5 per cent, and the crops such as vegetables, root forage, cotton, buckwheat, and others (grouped under the head "all other") 4.6 per cent.

In value also alfalfa was most important, representing 28 per cent of the total amount reported; but orchard fruits and grapes ranked second in this respect among the crops shown separately and tropical fruits third, notwithstanding the relatively small acreages in these crops.

Average yields per acre.—Table 18 shows for each of the leading crops grown on irrigated land the average yield per acre in comparison with the average yield of the same crop on unirrigated land in the United States as a whole. Yields for fruit crops are not given because of the large variety of units in which

these yields were expressed and because the general agricultural schedules do not show the acreage in these crops.

CROP.	AVERAGE YIELD PER ACRE.		EXCESS OF AVERAGE YIELD ON IRRIGATED LAND OVER THAT ON UNIRRIGATED LAND. ¹	
	On irrigated land, arid region.	On unirrigated land, entire United States.	Amount.	Per cent.
Cereals:				
Corn.....bushels..	23.7	25.9	-2.2	-8.5
Oats.....bushels..	36.8	28.5	8.3	29.1
Wheat.....bushels..	25.6	15.3	10.3	67.3
Barley.....bushels..	20.1	22.3	6.8	30.5
Hay and forage:				
Alfalfa.....tons..	2.94	2.14	0.80	37.4
Timothy alone.....tons..	1.73	1.22	0.51	41.8
Timothy and clover mixed.....tons..	1.82	1.26	0.56	44.4
Other tame or cultivated grasses ².....tons..	1.53	1.05	0.48	45.7
Wild, salt, or prairie grasses.....tons..	1.06	1.07	-0.01	-0.9
Grains cut green.....tons..	1.46	1.23	0.23	18.7
Sundry crops:				
Potatoes.....bushels..	153.6	103.8	49.8	48.0
Sugar beets.....tons..	11.89	9.73	2.16	22.2

¹ A minus sign (-) indicates that the yield on irrigated land is less than that on unirrigated land.

² Includes millet or Hungarian grass.

For each of the crops presented in the table except corn and "wild, salt, or prairie grasses," the average yield on irrigated land exceeds that on unirrigated land, the percentages of excess ranging from 18.7 for grains cut green to 67.3 per cent for wheat. As climatic conditions in the arid region are not favorable to corn, it is not grown to a large extent there. In the case of "wild, salt, or prairie grasses" the average yields on irrigated and unirrigated land are practically equal. A large part of the unirrigated wild grass is cut on river bottom lands where the soil is likely to be wet, even without irrigation, and consequently a difference in favor of irrigated land is not to be expected.

A combined average for all the crops listed in Table 18, each being given a weight corresponding to its acreage, shows an excess yield of 28.6 per cent for the crops grown on irrigated land over those grown on unirrigated land. It is, of course, obvious that this difference in no way represents the advantage of irrigation over nonirrigation. In some sections where rainfall is plentiful irrigation would add little to the yield, but in arid sections often little or nothing can be raised without irrigation.

Average values per acre.—The average values per acre of the leading irrigated crops reported for the arid region are shown in Table 19 in comparison with averages for the same crops grown on unirrigated land for the United States as a whole, so far as acreage figures are available for these.

Among crops grown on irrigated land in 1909, tropical fruits led in average value per acre by a wide margin, orchard fruits and grapes ranking second. Potatoes followed the fruit crops, with an average value of \$60.03, and sugar beets were next of the

crops shown separately, the average value being \$57.29 per acre. Alfalfa, the most important irrigated crop, had an average value per acre of \$22.94. In comparing the average values per acre for different crops it should be borne in mind that the crops with higher average values often require more expensive methods of cultivation than those with lower average values.

Table 19

CROP.	AVERAGE VALUE PER ACRE.		EXCESS OF AVERAGE VALUE FOR IRRIGATED LAND OVER THAT FOR UNIRRIGATED LAND.	
	On irrigated land, arid region.	On unirrigated land, entire United States.	Amount.	Per cent.
Tropical and subtropical fruits	\$154.32	(1)		
Orchard fruits and grapes	77.18	(1)		
Potatoes	60.03	\$44.66	\$15.37	34.4
Sugar beets	57.29	51.90	5.39	10.4
Wheat	23.40	14.75	8.65	58.6
Alfalfa	22.94	16.97	5.97	35.2
Oats	19.00	11.64	7.36	63.2
Barley	18.32	11.81	6.51	55.1
Corn	18.13	14.62	3.51	24.0
Timothy and clover mixed	16.76	13.13	3.63	27.6
Timothy alone	15.84	12.76	3.08	24.1
Grains cut green	14.29	14.26	0.03	0.2
Other tame or cultivated grasses ¹	11.70	10.35	1.35	13.0
Wild, salt, or prairie grasses	7.67	5.06	2.61	51.6
All other	58.43	(2)		

¹ Acreage not reported. ² Includes millet or Hungarian grass. ³ Comparable figure not available.

Each of the crops shown in the table for which comparisons are made had a higher average value per acre for irrigated land than is shown for the same crop grown on unirrigated land for the United States. The excess in favor of the products raised on irrigated land, for the crops included in the comparison, ranged from 0.2 per cent for grains cut green to 63.2 per cent for oats. The average excess for irrigated crops for the crops for which comparative figures are given in the table, based on the total acreages and total values, is about 43 per cent. It should be noted that the comparison just made does not include the crops with the highest average values per acre, such as fruits and vegetables.

Comparison with preceding census.—According to the reports of the Twelfth Census the total acreage of irrigated crops in the arid and semiarid states was 5,932,557, while the acreage of such crops reported at the present census of irrigation was 7,241,561, which represents an increase of 22.1 per cent. The fact that this increase is much smaller than the increase in the acreage reported as irrigated (82.7 per cent) is a

further indication that the crop reports of the census of irrigation for 1910 are incomplete. Because of this incompleteness, the crop figures of the two censuses are not compared directly, but in Table 20 the percentage which the acreage in each irrigated crop formed of the total acreage reported in such crops is shown for the two censuses.

Table 20

CROP.	ACREAGE OF IRRIGATED CROPS.			
	1909		1899	
	Acreage.	Per cent of total.	Acreage.	Per cent of total.
Total reported	7,241,561	100.0	5,932,557	100.0
Alfalfa	2,216,628	30.6	1,517,888	25.6
Wild, salt, or prairie grasses	1,530,669	21.1	997,438	16.8
Oats	739,632	10.2	332,365	5.6
Wheat	548,173	7.6	775,991	13.1
Barley	240,117	3.3	172,228	2.9
Other tame or cultivated grasses ¹	219,761	3.0	306,298	5.2
Grains cut green	208,363	2.9	200,639	3.4
Sugar beets	153,497	2.1	9,074	0.2
Potatoes	158,014	2.2	90,991	1.5
Corn	133,673	1.8	129,799	2.2
Tropical and subtropical fruits	99,481	1.4	57,671	1.0
Rye	6,054	0.1	7,096	0.1
All other	946,639	13.1	1,285,679	21.7

¹ Includes millet or Hungarian grass.

From Table 20 it appears that at both censuses alfalfa was the leading crop grown under irrigation, but that it occupied a considerably larger proportion of the total acreage reported for irrigated crops in 1909 than in 1899. The crop next in importance in respect to acreage in both years was "wild, salt, or prairie grasses," which likewise comprised a larger percentage of the total in 1909 than in 1899. Oats was third in acreage in 1909, followed by wheat, while in 1899 wheat ranked third and oats fourth. Oats covered a much larger percentage of the total acreage of irrigated crops in 1909 than in 1899 and wheat a much smaller percentage in the later than in the earlier year.

The most notable relative increase was for sugar beets, the growing of this crop in the irrigated region being largely a development of the last decade. Potatoes also showed a marked increase in relative importance. Tropical and subtropical fruits occupied about the same place in the two censuses. From a comparison of Table 20 with Table 19, it will be seen that, with the exception of "wild, salt, or prairie grasses," the irrigated crops which are increasing in acreage most rapidly are all among the crops with relatively high values per acre.

IRRIGATION FOR RICE GROWING.

As previously stated, the special inquiry into irrigation for rice growing was confined to the rice growing districts of Louisiana, Texas, and Arkansas. The data collected, except those relating to crops, are summarized in Table 21.

The number of farms reporting irrigation for rice growing and the acreage irrigated, as reported at the

census of 1910, cover the year 1909, while all other data for that census relate to the year 1910. The reports of the agricultural census of 1910 show that 95.5 per cent of the entire acreage of rice harvested in 1909 was in the three states included in the special irrigation inquiry, and that in all the other states a marked decrease occurred between 1899 and 1909

in the acreage in rice. The figures given in the table for the census of 1910 represent, therefore, in a fairly adequate measure, the extent of irrigation for rice growing in the United States.

The acreage reported on the special irrigation schedules as irrigated for rice growing in 1909 is greater than the total acreage of rice reported in that year on the agricultural schedules for the territory covered. This difference is due principally to the fact that the irrigation schedules show the total acreage watered, while the agricultural schedules show only the acreage harvested. A considerable acreage planted in rice in 1909 was not harvested because of poor stand, shortage of water, and damage by storms.

	Total for specified states.	Louisiana.	Texas.	Arkansas.
Number of farms reporting irrigation for rice growing.....	4,010	2,690	1,088	232
Acreage irrigated for rice growing....	694,800	380,200	286,847	27,753
Acreage enterprises were capable of irrigating in 1910.....	950,706	553,220	350,350	47,136
Acreage included in projects.....	1,134,322	581,065	409,474	52,883
Number of enterprises.....	2,158	1,237	611	310
Total length of ditches.....miles..	2,339	1,168	1,040	131
Length of main ditches.....miles..	1,398	729	538	131
Length of lateral ditches.....miles..	941	439	502	.....
Reservoirs:				
Number.....	144	104	21	19
Capacity.....acre-feet.....	21,705	19,482	2,310	3
Flowing wells:				
Number.....	1	.....	80	.....
Capacity.....gals. per min.....	80	.....	.....	.....
Pumped wells:				
Number.....	1,413	606	500	307
Capacity.....gals. per min.....	1,822,560	1,108,236	445,495	268,829
Pumping plants:				
Number.....	1,807	1,007	575	315
Capacity of power plants, horse-power.....	118,045	57,426	48,179	12,440
Capacity of pumps, gals. per min.....	9,407,055	5,064,173	3,007,380	436,402
Cost of irrigation enterprises to July 1, 1910.....	\$13,587,639	\$6,859,166	\$6,140,639	\$587,834
Average cost per acre.....	\$14.29	\$12.40	\$17.53	\$12.47
Estimated final cost of existing enterprises.....	\$13,667,639	\$6,014,166	\$6,140,639	\$612,834
Average cost per acre.....	\$12.05	\$11.88	\$12.29	\$11.50

¹ Based on acreage enterprises were capable of irrigating in 1910.
² Based on acreage included in projects.

The total acreage irrigated for rice growing in the three states in 1909 was 694,800, of which 54.7 per cent was in Louisiana, 41.3 per cent in Texas, and 4 per cent in Arkansas. The enterprises which were completed or under way in 1910 were reported as capable of irrigating 950,706 acres in that year and of serving ultimately a total of 1,134,322 acres.

The total cost of irrigation enterprises to July 1, 1910, was \$13,587,639, or an average of \$14.29 per acre for the land to which they were capable of supplying water in 1910. Upon the basis of the acreage irrigated in 1909, the average cost per acre was \$19.56. The estimated total cost of enterprises completed or under way in 1910 was \$13,667,639, or \$12.05 per acre for the land included in these enterprises. From these figures it appears that the works for supplying water for rice irrigation which were under construction in 1910 were relatively insignificant.

In the report on irrigation for the Twelfth Census no information relating to the irrigation of rice in Arkan-

sas is given, because the rice growing industry in that state was insignificant in 1900.

In Table 22 comparisons are made for Louisiana and Texas for the few items that were reported at both censuses. The figures for the Twelfth Census relate to the year 1899.

	LOUISIANA.			TEXAS.		
	Census of—		Per cent of increase. (1)	Census of—		Per cent of increase.
	1910	1900		1910	1900	
Farms reporting irrigation for rice growing..	2,690	4,531	-40.6	1,088	73	(2)
Acreage irrigated.....	380,200	201,085	88.5	286,847	8,700	3,197.1
Enterprises.....number..	1,237	596	107.6	611	(3)	.....
Length of main ditches (miles).....	720	386	88.0	538	(3)	.....
Cost of irrigation enterprises.....	\$6,859,166	\$2,520,319	171.2	\$6,140,639	\$322,000	1,807.0
Average cost per acre.....	\$12.40	\$12.54	(7)	\$17.53	\$37.01	(1)

¹ A minus sign (-) denotes decrease.
² Per cent not calculated when base is less than 100.
³ Not reported.
⁴ Estimated.
⁵ Based on cost to July 1, 1910, and acreage enterprises were capable of irrigating in 1910.
⁶ Based on cost of systems operated in 1899, and acreage irrigated in that year.
⁷ Figures not comparable. (See explanation in text.)

In Louisiana considerable increases have taken place since the census of 1900 in all the items shown in the table except number of farms. The large decrease in the number of farms reporting the irrigation of rice is probably due to the abandonment of rice growing on farms where only small acreages were planted, and an extension of the industry in sections where rice is grown on a larger scale. In Texas almost the entire development has taken place since 1899.

As the figures for average cost of irrigation enterprises per acre at the two censuses are not computed on the same basis, they are not comparable.

Although the crop returns for irrigated rice are not complete, they are sufficiently so to afford reliable averages of the yield and value per acre. These are shown in Table 23.

STATE.	RICE GROWN ON IRRIGATED LAND IN 1909.	
	Average yield per acre (bushels).	Average value per acre.
Louisiana.....	34.6	\$25.70
Texas.....	38.7	23.54
Arkansas.....	45.9	41.56

Continuous cropping in rice exhausts the soil, and the districts of Louisiana, where the land has been used for a longer time than in other sections, show the lowest average yield, while Arkansas, where the growing of rice is of comparatively recent date, shows the highest average yield.

MANUFACTURES



CHAPTER 15.—STATISTICS FOR STATES, CITIES, AND INDUSTRIES

CHAPTER 15.

STATISTICS OF MANUFACTURES FOR STATES, CITIES, AND INDUSTRIES.

Introduction.—This chapter contains a summary of the statistics of manufactures for the United States for the calendar year 1909, as shown by the Thirteenth Census.

The principal facts derived from the census inquiry are presented in four general tables at the end of the chapter, the first giving statistics for individual industries, the second for states and territories, the third for each of the 25 leading manufacturing cities, and the fourth for each city of 10,000 or more inhabitants.

Table 110 gives for each industry in 1909, 1904, and 1899 the number of establishments; number of persons engaged in the industry during the year, classified as proprietors and firm members, salaried employees, and wage earners; primary power; capital; salaries; wages; cost of materials; value of products; value added by manufacture; and the percentage of increase in average number of wage earners and in value of products, from census to census. The industries are arranged alphabetically.

Table 111 gives similar statistics for the different states and territories, arranged geographically.

Table 112 gives for each of the 25 leading manufacturing cities the same items given in Tables 110 and 111; the cities are arranged according to the value of their manufactured products.

Table 113 gives, for each city of 10,000 or more inhabitants, the number of establishments, the average number of wage earners, the value of products, and the value added by manufacture for 1909, 1904, and 1899. The cities are arranged alphabetically by states.

In addition to these general tables there are interspersed in the text discussion a series of special text tables analyzing certain of the data contained in the general tables. Some of these special text tables present figures only for all industries combined in continental United States as a whole; others give statistics for the principal industries separately; and still others give figures for states and territories.

Scope of census: Factory industries.—Census statistics of manufactures are compiled primarily for the purpose of showing the absolute and relative magnitude of the different branches of industry covered and their growth or decline. Incidentally, the effort is made to present data throwing light upon character of organization, location of establishments, size of establishments, labor force, and similar subjects. When use is made of the data for these purposes it is imperative that due attention should be given

to the limitations of the figures. Particularly is this true when the attempt is made to derive from them figures purporting to show average wages, cost of production, or profits.

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

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

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

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

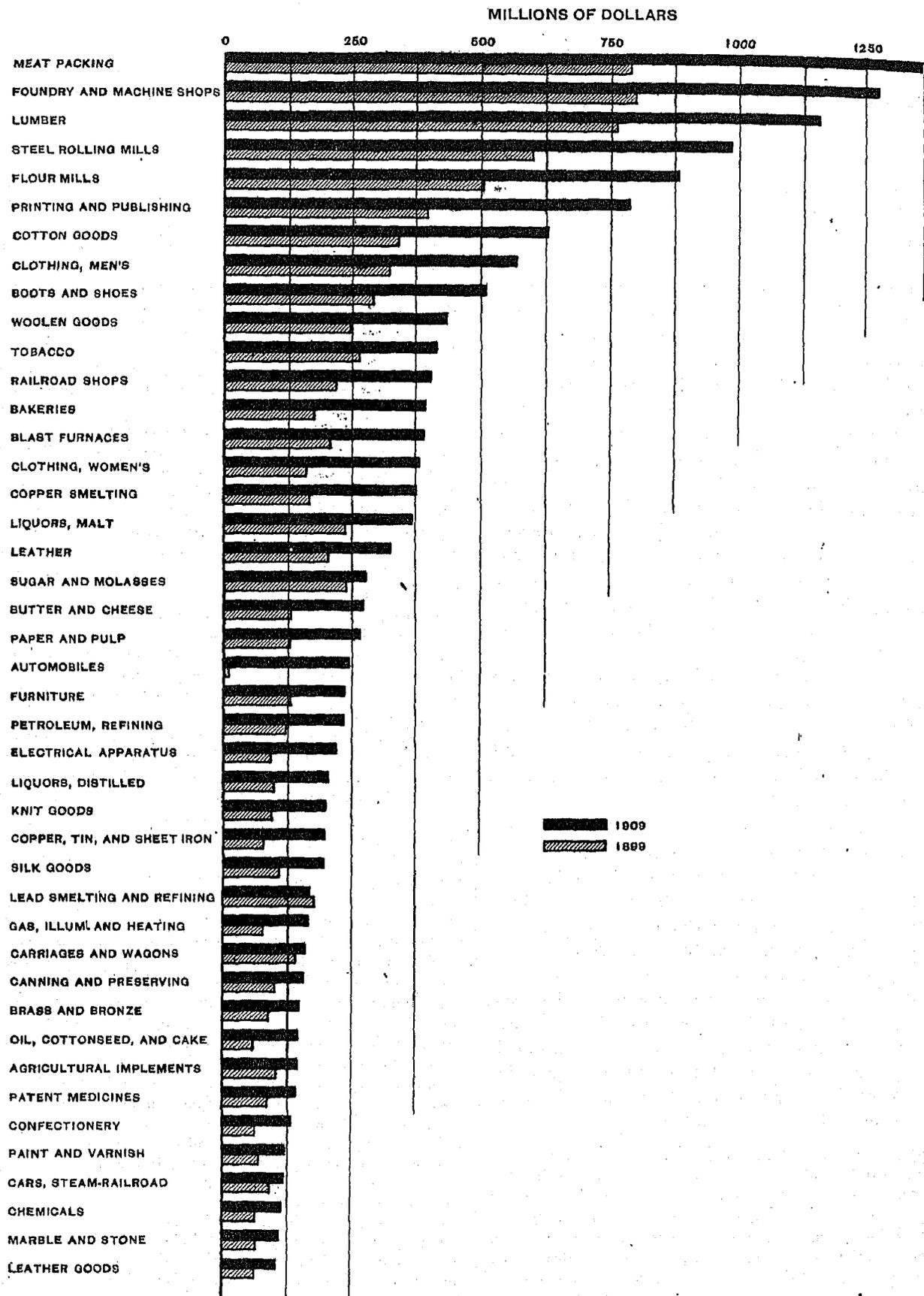
Classification by industries.—The establishments were assigned to the several classes of industries according to their products of chief value. The value of products reported for a given industry may thus, on the one hand, include minor products very different from those covered by the class designation,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

The number of industries for which a separate presentation is made is 264, a much smaller number than in the reports for the census of 1904, in which 339 industries were shown separately. This decrease is due to the fact that an attempt to make a separate presentation would in the case of many industries be misleading, inasmuch as a large part of the product of the class described by the industry designation is made, not by establishments engaged primarily in manufacturing that class of commodities, but by establishments whose principal product is such as to necessitate their classification elsewhere. In order to avoid this difficulty it is necessary in many cases to combine a number of closely related industries under a more general designation. This condition is constantly becoming more conspicuous in the manufacturing business of the country, and consequently the number of industries which can properly be shown separately is smaller at this census than at previous censuses.

Owing to changes in industrial conditions, moreover, it is not always possible to classify establishments by industries in such a way as to permit accurate comparison with preceding censuses, and for some of the industries covered by Table 110, therefore, comparative statistics for earlier censuses are necessarily omitted.

ABSTRACT OF THE CENSUS—MANUFACTURES.

VALUE OF PRODUCTS, BY INDUSTRIES: 1909 AND 1899.



GENERAL SUMMARY.

Continental United States and noncontiguous territory: 1909.—The following table gives for 1909 the more important figures for the manufactures of continental United States and for Alaska, Hawaii, and Porto Rico. The table does not cover possessions of the United States other than those mentioned. The statistics of manufactures included in the census of the Philippine Islands taken by the War Department for

1902 are not comparable with those shown in the reports for continental United States; and there has been no census of manufactures in Guam, Samoa, or the Canal Zone. The statistics for Alaska, Hawaii, and Porto Rico include some small establishments of the nature of hand or neighborhood industries, such as are omitted from the canvass for continental United States.

Table 1	NUMBER OR AMOUNT.				
	Total.	Continental United States.	Alaska.	Hawaii.	Porto Rico.
Number of establishments.....	270,082	268,491	152	500	939
Persons engaged in manufactures.....	7,707,751	7,678,578	3,479	7,572	18,122
Proprietors and firm members.....	275,952	273,265	135	1,074	1,478
Salaried employees.....	792,168	790,267	245	594	1,062
Wage earners (average number).....	6,639,931	6,615,046	3,099	5,904	15,582
Primary horsepower.....	18,755,286	18,675,376	3,975	41,930	34,005
Capital.....	\$18,490,749,000	\$18,428,270,000	\$13,060,000	\$23,875,000	\$25,544,000
Expenses.....	18,526,436,000	18,454,090,000	9,454,000	31,753,000	31,139,000
Services.....	4,375,634,000	4,365,613,000	2,328,000	2,795,000	4,898,000
Salaries.....	940,900,000	938,575,000	380,000	684,000	1,259,000
Wages.....	3,434,734,000	3,427,038,000	1,948,000	2,109,000	3,639,000
Materials.....	12,195,019,000	12,142,791,000	5,120,000	25,629,000	21,479,000
Miscellaneous.....	1,955,783,000	1,945,686,000	2,006,000	3,329,000	4,762,000
Value of products.....	20,767,546,000	20,672,052,000	11,340,000	47,404,000	36,750,000
Value added by manufacture (value of products less cost of materials).....	8,572,527,000	8,529,261,000	6,220,000	21,775,000	15,271,000

The total value of manufactures in the area covered by this table for 1909 was \$20,767,546,000, of which 99.5 per cent was contributed by continental United States, the manufactures of Alaska, Hawaii, and Porto Rico being comparatively unimportant. The most important industry in Alaska is the canning and preserving of fish; in Hawaii, the manufacture of sugar; and in Porto Rico, the manufacture of sugar and of tobacco products.

The above table is the only one in this report in which the statistics for the noncontiguous territories are included, all the other tables relating exclusively to continental United States.

Explanation of terms.—With reference to some of the items contained in the above and following tables certain explanations are necessary:

Persons engaged in manufacturing industries.—The statistics of the number of proprietors and firm members and the number of salaried employees are based on the returns for a single representative day only. In the case of wage earners a report was obtained of the number employed on the 15th of each month, and from these returns the average number employed during the year has been calculated by dividing the sum of the numbers reported for the several months by 12. (See also p. 452.)

Capital.—For reasons stated in reports of prior censuses the statistics of capital secured by the census canvass are so defective as to be of little value, except as indicating very general conditions. The instructions on the schedule for securing capital were as follows:

The answer should show the total amount of capital, both owned and borrowed, on the last day of the business year reported. All

the items of fixed and live capital may be taken at the amounts carried on the books. If land or buildings are rented, that fact should be stated and no value given. If a part of the land or buildings is owned, the remainder being rented, that fact should be so stated and only the value of the owned property given. Do not include securities and loans representing investments in other enterprises.

Materials.—The statistics as to cost of materials relate to the materials used during the year, which may be more or less than the materials purchased during the year. The term "materials" includes fuel, rent of power and heat, mill supplies, and containers, as well as materials forming a constituent part of the product. Under the head of "fuel" is included all fuel used, whether for heat, light, or power, or for the process of manufacture.

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

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

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

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

General comparison for the United States: 1909, 1904, and 1899.—The following table gives the principal items of information covered by census inquiries

relative to manufactures in continental United States for 1909, 1904, and 1899, together with the percentages of increase from census to census:

Table 2	NUMBER OR AMOUNT.			PER CENT OF INCREASE.	
	1909	1904	1899	1904-1909	1899-1904
Number of establishments.....	268, 491	216, 180	207, 514	24. 2	4. 2
Persons engaged in manufactures.....	7, 678, 578	6, 213, 612	(¹)	23. 6	.....
Proprietors and firm members.....	273, 265	225, 673	(¹)	21. 1	.....
Salaried employees.....	790, 267	519, 556	364, 120	52. 1	42. 7
Wage earners (average number).....	6, 615, 046	5, 468, 383	4, 712, 763	21. 0	16. 0
Primary horsepower.....	13, 675, 376	13, 487, 707	10, 097, 893	38. 5	33. 6
Capital.....	\$18, 428, 270, 000	\$12, 675, 581, 000	\$8, 975, 256, 000	45. 4	41. 2
Expenses.....	18, 454, 090, 000	13, 138, 260, 000	9, 870, 425, 000	40. 5	33. 1
Services.....	4, 365, 613, 000	3, 184, 884, 000	2, 389, 132, 000	37. 1	33. 3
Salaries.....	938, 575, 000	574, 439, 000	380, 771, 000	63. 4	50. 9
Wages.....	3, 427, 038, 000	2, 610, 445, 000	2, 008, 361, 000	31. 3	30. 0
Materials.....	12, 142, 791, 000	8, 500, 208, 000	6, 575, 851, 000	42. 9	29. 3
Miscellaneous.....	1, 945, 686, 000	1, 453, 168, 000	905, 442, 000	33. 9	60. 5
Value of products.....	20, 672, 052, 000	14, 793, 903, 000	11, 406, 927, 000	39. 7	29. 7
Value added by manufacture (value of products less cost of materials).....	8, 529, 261, 000	6, 293, 695, 000	4, 831, 076, 000	35. 5	30. 3

¹ Figures not available.

In 1909 the United States had 268,491 manufacturing establishments, which gave employment during the year to an average of 7,678,578 persons, of whom 6,615,046 were wage earners. These manufacturing establishments paid \$4,365,613,000 in salaries and wages, and turned out products to the value of \$20,672,052,000, to produce which materials costing \$12,142,791,000 were consumed. The value added by manufacture, namely, the difference between the cost of materials and the total value of products, was \$8,529,261,000. This figure best represents the net wealth created by manufacturing operations, because the gross value of products includes the cost of the materials used, which are either the products of non-manufacturing industries, such as agriculture, forestry, fisheries, and mining, or else are themselves the product of manufacturing establishments. The value of products derived from this latter class of materials involves a duplication, inasmuch as the value of these materials has already figured in the value of products reported for the establishments manufacturing them in the first instance; in some cases, indeed, where a given product has passed through several distinct stages of manufacture in different establishments before reaching its final form, this duplication may be repeated several times. All such duplications, as well as the original value of materials, are, however, eliminated in the figures for value added by manufacture. This value covers salaries and wages—which represent over one-half of the total—overhead charges, depreciation, interest, taxes, and other expenses attendant upon the manufacturing operations, as well as the profits of the undertaking.

Table 2 shows that the manufacturing industries of the United States as a whole experienced a more rapid growth during the five-year period 1904-1909

than during the period 1899-1904, although in both periods the progress was very marked. During the first five years of the decade the average number of wage earners increased 16 per cent; during the second five years, 21 per cent. The value of products increased 29.7 per cent during the first period and 39.7 per cent during the second period. The rate of increase in the value added by manufacture shows less difference between the two periods, being 30.3 per cent during the first five years and 35.5 per cent during the second five years. In this connection it may be noted that there was a greater rate of increase in the cost of materials during the second period than during the first.

During the 10 years from 1899 to 1909 the number of establishments increased 29.4 per cent; the capital employed, 105.3 per cent; the average number of wage earners, 40.4 per cent; the amount of primary power, 84.9 per cent; the value of materials consumed, 84.7 per cent; the value of products, 81.2 per cent; and the value added by manufacture, 76.6 per cent. The gross value of products in 1909 exceeded that in 1899 by more than \$9,000,000,000, and the value added by manufacture in 1909 was, in round numbers, \$3,700,000,000 more than in 1899.

It would be improper to infer that manufactures increased in volume during either of the five-year periods covered by the table to the full extent indicated by the increase in value of materials consumed or in the value of products, since the increase shown in these items is certainly due in part to the increase that has taken place in the price of commodities. It may be presumed that the quantity of products increased somewhat more rapidly than the number of wage earners; this might be expected from the fact that the amount of primary power increased much faster than the number of wage earners; in

other words, each wage earner, on the average, had greater assistance from mechanical power in 1909 than in 1904 or 1899.

It is a matter of interest to note that during both of the five-year periods the wages paid showed a higher percentage of increase than the average number of wage earners, thus indicating an increase in the average wages.

Comparison with earlier censuses.—In 1810 the Secretary of the Treasury made a report on the condition of manufactures in the United States and estimated that the value of products for 1809 exceeded \$120,000,000. An estimate based on the returns of the census of 1810 placed the value of the annual product at \$198,613,471. Further efforts to secure statistics of manufactures were made in 1820 and 1840, but the results were more or less unsatisfactory. In 1830 no such attempt was made. The census of 1850 was the first to present fairly complete statistics for manufactures. Each census from that time to 1890 was based in part on returns for the preceding calendar year and in part on returns for other 12-month periods, mainly ending during the census year itself. The last three censuses cover principally returns for the preceding calendar year or for 12-month periods ending within that year. In general, in this report the statistics for all censuses are referred to by the year preceding that in which the census was taken.

The statistics of manufactures secured at the decennial censuses from 1850 to 1900, inclusive, covered the neighborhood, hand, and building industries, as well as the factory industries, while the reports for 1904 and 1909 were confined to factory industries. The statistics for 1899 obtained at the decennial census of 1900, although originally taken on the broader basis, have, for the purpose of comparison with later censuses, been reduced to the factory basis by eliminating as far as possible the neighborhood, hand, and building trades, but no such elimination is possible with respect to the earlier censuses. For this reason the statistics for years prior to 1899 are not entirely comparable with those for 1904 and 1909. Nevertheless, for the purpose of showing in a rough way the movement during each decade since 1850, the following summary table is presented. Two sets of figures are given in this table for 1899, the one including the neighborhood, hand, and building trades, in order to make the data comparable with those for preceding censuses, and the other excluding them in order to make the figures comparable with those for later censuses. The values and wages for 1869 have been reduced to a gold basis, inasmuch as the figures as reported would, because of the inflation of the currency at that time, exaggerate the increase from 1859 to 1869, and understate the increase from 1869 to 1879.

Table 3	Number of establishments.	Capital.	Wage earners (average number).	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
Factories and hand and neighborhood industries:							
1849 (census of 1850).....	123,025	\$533,245,000	967,059	\$236,755,000	\$555,124,000	\$1,019,107,000	\$463,983,000
1869 (census of 1860).....	140,433	1,009,856,000	1,311,246	378,879,000	1,031,605,000	1,885,822,000	854,257,000
Per cent of increase, 1849 to 1869.....	14.1	89.4	37.0	60.0	85.8	85.0	84.1
1869 (census of 1870) (gold value).....	232,148	1,694,567,000	2,053,996	620,467,000	1,990,742,000	3,356,860,000	1,395,113,000
Per cent of increase, 1859 to 1869.....	79.6	67.8	56.6	63.8	93.0	79.5	63.3
1879 (census of 1880).....	253,852	2,790,273,000	2,732,595	947,954,000	3,396,824,000	5,369,579,000	1,972,755,000
Per cent of increase, 1869 to 1879.....	0.7	64.7	33.0	52.8	90.6	74.5	41.4
1889 (census of 1890).....	355,405	6,525,051,000	4,251,635	1,891,210,000	5,162,014,000	9,372,379,000	4,210,365,000
Per cent of increase, 1879 to 1889.....	40.0	133.8	55.6	99.5	52.0	74.5	112.4
1899 (census of 1900).....	512,191	9,813,834,000	5,306,143	2,320,938,000	7,343,628,000	13,000,149,000	5,656,821,000
Per cent of increase, 1889 to 1899.....	44.1	50.4	24.8	22.7	42.3	38.7	34.3
Factories, excluding hand and neighborhood industries:							
1899 (census of 1900).....	207,514	8,975,256,000	4,712,763	2,008,361,000	6,575,851,000	11,406,927,000	4,531,076,000
1904 (census of 1905).....	216,189	12,675,581,000	5,468,383	2,610,445,000	8,600,208,000	14,793,908,000	6,293,995,000
Per cent of increase, 1899 to 1904.....	4.2	41.2	16.0	30.0	29.3	29.7	39.3
1909 (census of 1910).....	268,491	18,428,270,000	6,615,046	3,427,038,000	12,142,791,000	20,672,052,000	8,529,261,000
Per cent of increase, 1904 to 1909.....	24.2	45.4	21.0	31.3	42.9	39.7	35.5
Per cent of increase, 1899 to 1909.....	29.4	105.3	40.4	70.6	84.7	81.2	76.6

This table shows that, although the returns for 1849 included neighborhood, hand, and building trades and those for 1909 did not, nevertheless the value of products in the latter year was over twenty times as great as the value reported 60 years before. During the same time the number of wage earners employed increased almost sixfold.

As judged by the number of wage earners, the decade showing the greatest percentage of increase was that from 1859 to 1869, during which the average number of wage earners increased 56.6 per cent. The decade 1879

to 1889 also showed an exceptionally high percentage of increase in this respect, while the next largest percentage of increase occurred during the decade from 1899 to 1909. As respects value of products, the percentage of increase during the past decade exceeds that in any other except the decade from 1849 to 1859; but in value added by manufacture, the percentage of increase during the past 10 years falls below that from 1879 to 1889, as well as that from 1849 to 1859.

The absolute increases shown for the various items covered by the table during the decade 1899 to 1909

were much greater than during any other decade; the increase in value of products, in fact, almost equaled the total value of all manufactured products in 1889.

Leading industries.—The relative importance of the leading manufacturing industries in the United States in 1909 and their growth from 1899 to 1909 are shown in Table 4, which includes the industries having a gross value of products in 1909 of \$100,000,000 or more. The industries are arranged in the order of the value of products. The table also shows the rank of the industries listed, not only with respect to value of products, but with respect to number of wage earners employed and value added by manufacture, and the percentage of the total of each of these items for all industries combined which is represented by each specified industry. While the column of rank under "Value of products" represents correctly the order of the industries named among all the industries of the country, the ranking shown with reference to number of wage earners and value added by manufacture relates only to the relative order of the industries covered by this particular table. There are various industries not named which rank higher in these respects than some of the industries listed in the table.

The number of wage earners and the value added by manufacture are, at least from certain standpoints, a better measure of the relative importance of manufacturing industries than the gross value of products. In some industries the value of the materials used constitutes by far the larger part of the total value of products, the manufacturing process involving the addition of only a small amount of labor cost and other expenses and of manufacturer's profit to the cost of the materials. Moreover, in some of the industries there is a much greater duplication in the gross value of products than in others. This duplication, of course, does not appear in the value added by manufacture.

In considering the ranking of the industries in Table 4, it should be borne in mind that some of the industries specified are in a sense groups of industries rather than single industries. As stated in the Introduction, in certain cases, in order to avoid a misleading understatement of the importance of the production of a given minor class of commodities, the returns for establishments making these commodities as their sole or principal product have had to be combined with those of establishments in larger industries which produce primarily other commodities, but which incidentally make a large part of the distinctive products in question. In a few instances where a similar condition exists, however, it was deemed best not to make such a combination of industries. As also stated in the Introduction, the report for each establishment, as a whole, has been assigned to a given class of industry according to its products of chief value, so that the figures for any given class must not be taken either as fully covering or as represent-

ing exclusively the operations of that branch of manufacturing indicated by the industry designation.

The following explanations show the scope of those classifications in the table which are not on their face entirely clear:

Slaughtering and meat packing.—This classification includes the wholesale slaughtering and meat-packing establishments and those engaged in the manufacture of sausage, but not the numerous retail butcher shops which in the aggregate slaughter a large number of animals. It includes the manufacture of many by-products, some of which are carried to a high degree of elaboration.

Foundry and machine-shop products.—This industry includes all allied industries excepting those which manufacture a distinctive product indicated by some other classification, such as cash registers, calculating machines, sewing machines, and electrical machinery. The establishments engaged in the manufacture of bells, gas machines and gas and water meters, hardware, plumbers' supplies, saddlery hardware, steam fittings, structural ironwork, and cast-iron and cast-steel pipe, some of which were reported under separate classifications at previous censuses, are all included under this general heading.

Lumber and timber products.—This industry embraces logging operations, ordinary sawmills, planing mills, and establishments engaged in the manufacture of wooden packing boxes. It does not include statistics of mills engaged exclusively in custom sawing for local consumption.

Iron and steel, steel works and rolling mills.—This industry embraces the manufacture of steel and the hot rolling of iron and steel. It also includes the making of forgings and castings and the manufacture of rolled iron and steel into more highly finished forms when conducted as a part of the rolling-mill operations, as well as the few extant forges and bloomeries. It does not, however, include the making of cold-rolled products, nor of forgings, castings, and manufactures of iron and steel by establishments not equipped with steel-making furnaces or hot trains of rolls.

Flour-mill and gristmill products.—This classification includes statistics for all mills grinding wheat, rye, or buckwheat flour, or corn meal, hominy, grits, or feed, but it does not include statistics for mills doing custom grinding exclusively, or for factories making fancy cereal food or other special food preparations as a chief product.

Printing and publishing.—This classification includes job-printing establishments, the printing and publishing of books, newspapers and periodicals, and music, bookbinding, steel engraving, and lithographing.

Cotton goods, including cotton small wares.—In addition to the statistics for cotton mills proper, there are included under this head the statistics for establishments that make a specialty of small wares, such as

braids, tapes, bindings, corset and shoe laces, and the like.

Clothing, men's, including shirts.—This classification includes the making of men's and boys' ready-made clothing; the making of overalls, butchers' aprons, bathing suits, and gymnasium clothing; and the manufacture of all kinds of shirts—cotton, linen, flannel, etc.—as well as shirt bosoms and shirt waists for men and boys.

Boots and shoes, including cut stock and findings.—Under this head are included not only factories making the finished product, but those doing the whole or part of the work on materials furnished by others, as well as shops doing stitching, crimping, fitting, and bottoming, or performing other special operations. The manufacture of footwear not coming strictly under the head of boots and shoes, such as overgaiters, moccasins, and leggings, is also covered by this designation. It does not include the manufacture of rubber boots and shoes.

Clothing, women's.—Besides the making of suits, dresses, skirts, and shirt waists, this industry includes the manufacture of women's underwear and night robes, of infants' clothing, and of such articles as aprons, linings, belts, dress shields, and hose supporters.

Sugar and molasses, not including beet sugar.—Under this classification are included the manufacture of sugar and of some by-products of the sugar industry, such as molasses and sirup, and also the operations of sugar refineries, together with the manufacture of maple sugar. It does not, however, include the small plantation or custom sugar mills.

Furniture and refrigerators.—This industry embraces the manufacture of wood and metal furniture of all kinds, store and office fixtures, and refrigerators and ice boxes, except where such products are provided for by a distinct classification, such as show cases.

Copper, tin, and sheet-iron products.—This classification comprises the manufacture of sheet-metal products of copper, tin, and iron, including the preparation of copper, tin, or sheet-iron material for building construction. It includes the factory work on cornices, skylights, roofing, etc., but does not include the erection or installation of the same.

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

Patent medicines and compounds and druggists' preparations.—Under this head are included establishments making so-called patent medicines, and also some compounds that are not used for medicinal purposes, and the manufacture of capsules, extracts, tinctures, and other pharmaceutical preparations, together with perfumery and cosmetics.

Chemicals.—This classification includes establishments engaged primarily in the manufacture of acids, sodas, potashes, alums, coal-tar products, cyanides, bleaching materials, plastics, compressed or liquefied gases, alkaloids, gold, silver, and platinum salts, chloroform, ether, and other fine chemicals, glycerin, epsom salts, copperas, blue vitriol, and other bases and salts, when they are made as a chief product by the establishment reporting. Chemical substances produced by the aid of electricity are presented in a group by themselves. Chemicals of the class above specified are frequently manufactured as by-products by establishments classified in the census reports under a different head, for example, by establishments making patent medicines and compounds and druggists' preparations, soap, fertilizers, baking powders, and flavoring extracts; by refiners of coal tar for use as roofing material; by smelters and refiners of lead and zinc; and by establishments engaged in the manufacture of sulphuric, nitric, and mixed acids and of explosives, in wood distillation, and in making tin and terne plate.

It will be seen from Table 4 that some of the industries that hold a very high rank in gross value of products rank comparatively low in the number of wage earners employed and in the value added by manufacture. Where this is the case it indicates that the cost of materials represents a large proportion of the total value of products, and that therefore the value added by manufacture, of which wages constitute usually the largest item, is not commensurate with the total value of products. Thus the slaughtering and meat-packing industry, which ranks first in gross value of products, and the flour-mill and gristmill industry, which ranks fifth in that respect, both hold a comparatively low rank with regard to number of wage earners and value added by manufacture. The blast-furnace industry, the smelting and refining of copper, the manufacture and refining of sugar and molasses, the manufacture of butter, cheese, and condensed milk, the refining of petroleum, and the smelting and refining of lead are other industries which rank much higher in gross value of products than in the number of wage earners or the value added by manufacture.

There are several industries the rank of which according to the number of wage earners and the value added by manufacture is decidedly higher than the rank according to value of products; in other words, the cost of materials is relatively a smaller part of the total value of products for these industries than for

most others. Among the industries of this class are the making of women's clothing, the manufacture of automobiles, furniture, electrical machinery, apparatus, and supplies, hosiery and knit goods, silk goods, and agricultural implements, and the confectionery and marble and stone work industries.

The foundry and machine-shop industry, the lumber industry, the steel works and rolling mills, the printing and publishing industry, the manufacture of cotton goods, of men's clothing, and of boots and shoes all rank among the first 10 industries in the table on

each of the three bases shown in the table. The figures for both value of products and value added by manufacture in the case of the brewery and distillery industries include a very large amount of tax paid to the Federal Government, and are therefore misleading as an indication of the relative importance of these industries from a purely manufacturing standpoint. That importance is best shown by their ranking in number of wage earners; in this respect the brewery industry ranks twenty-fifth among the industries listed, and the distillery industry forty-third.

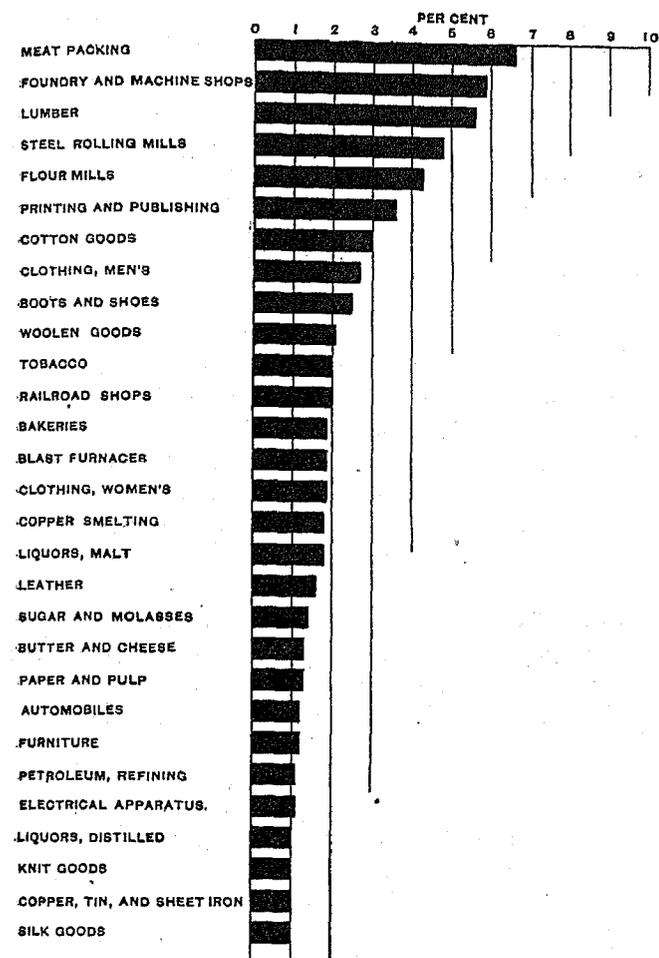
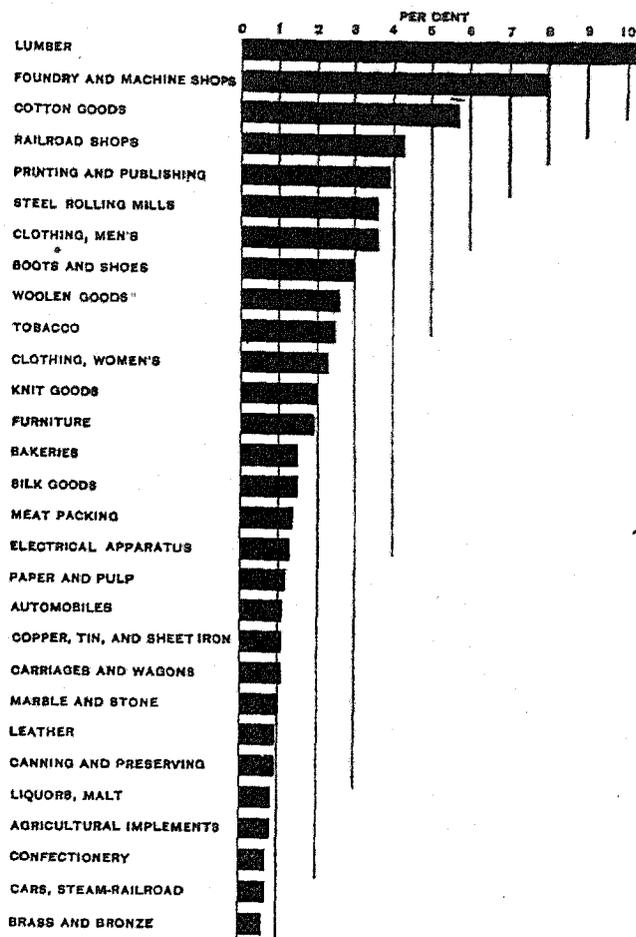
Table 4

INDUSTRY.	Number of establishments.	WAGE EARNERS.		VALUE OF PRODUCTS.		VALUE ADDED BY MANUFACTURE.		PER CENT OF INCREASE. ¹					
		Average number.	Per cent distribution.	Amount (expressed in thousands).	Per cent distribution.	Amount (expressed in thousands).	Per cent distribution.	Wage earners (average number).		Value of products.		Value added by manufacture.	
								1904-1909	1899-1904	1904-1909	1899-1904	1904-1909	1899-1904
All industries.....	268,491	6,615,046	100.0	\$20,672,052	100.0	\$8,529,261	100.0	21.0	16.0	39.7	29.7	35.5	30.3
Slaughtering and meat packing.....	1,041	89,728	16	1,370,568	6.6	167,740	13	2.0	10.0	8.9	48.6	17.0	51.6
Foundry and machine-shop products.....	13,253	531,011	2	1,228,475	5.9	688,404	1	8.1	19.8	3.8	39.5	10.3	34.2
Lumber and timber products.....	40,671	695,019	1	1,156,129	5.6	648,011	2	7.6	30.5	4.7	30.7	16.2	23.7
Iron and steel, steel works and rolling mills.....	446	240,076	6	1,565,723	4	328,222	4	3.9	15.7	13.3	46.3	12.9	41.0
Flour-mill and gristmill products.....	11,091	39,453	30	883,534	5	110,008	18	1.4	0.9	21.4	23.9	42.2	24.7
Printing and publishing.....	31,445	258,434	5	737,876	6	536,101	3	6.3	18.0	12.2	33.6	39.8	30.8
Cotton goods, including cotton small wares.....	1,324	378,880	3	378,880	7	257,383	7	3.0	10.9	4.3	39.5	32.8	56.7
Clothing, men's, including shirts.....	6,354	239,696	7	568,077	8	270,562	6	3.2	38.0	10.2	39.7	25.6	38.5
Boots and shoes, including out stock and findings.....	1,918	198,297	8	512,798	9	180,060	10	2.1	23.7	6.0	43.4	23.3	36.0
Woolen, worsted, and felt goods, and woolhats.....	985	168,722	9	435,979	10	153,101	15	1.8	15.0	12.3	36.5	28.4	33.4
Tobacco manufactures.....	15,822	166,810	10	416,695	11	239,509	8	2.8	4.6	20.3	25.8	25.6	16.8
Cars and general shop construction and repairs by steam-railroad companies.....	1,145	282,174	4	405,601	12	206,188	9	2.4	19.1	36.4	30.9	42.0	29.9
Bread and other bakery products.....	23,026	100,216	14	396,865	13	158,831	14	1.9	23.3	35.0	47.2	53.7	39.8
Iron and steel, blast furnaces.....	208	38,429	31	391,420	14	70,791	30	0.8	9.6	-10.6	68.8	12.1	33.9
Clothing, women's.....	4,558	153,743	11	384,752	15	175,964	11	2.1	32.9	38.2	55.4	55.4	50.5
Smelting and refining, copper.....	38	15,628	38	378,806	16	45,274	36	0.5	22.6	12.6	57.3	45.8	2.8
Liquors, malt.....	1,414	54,579	25	274,730	17	274,134	5	3.3	13.4	22.0	25.0	25.9	24.5
Leather, tanned, curried, and finished.....	919	62,202	23	327,874	16	70,595	27	0.9	8.7	9.8	29.8	23.8	20.5
Sugar and molasses, not including beet sugar.....	233	13,526	41	370,249	19	31,660	41	0.4	-0.2	-4.1	0.7	15.7	-2.7
Butter, cheese, and condensed milk.....	8,479	18,431	36	274,558	20	39,012	39	0.5	18.5	21.5	63.2	28.6	54.4
Paper and wood pulp.....	777	75,978	18	267,657	21	102,215	21	1.2	15.2	32.0	41.8	48.2	32.0
Automobiles, including bodies and parts.....	743	75,721	10	240,202	22	117,556	17	1.4	528.4	437.7	729.7	532.6	596.3
Furniture and refrigerators.....	3,155	123,452	13	230,827	23	131,112	10	1.5	12.5	26.0	34.9	36.1	28.9
Petroleum, refining.....	147	13,020	40	236,998	24	37,725	40	0.4	-16.9	37.4	35.4	41.2	5.9
Electrical machinery, apparatus, and supplies.....	1,009	87,256	17	221,309	25	112,743	20	1.3	44.3	43.9	57.2	52.3	52.4
Liquors, distilled.....	613	6,430	43	204,699	26	168,722	12	2.0	20.1	44.0	55.9	35.6	50.7
Hosiery and knit goods.....	1,374	129,275	12	200,144	27	89,603	23	1.1	24.2	24.4	46.0	43.0	49.1
Copper, tin, and sheet-iron products.....	4,228	73,615	20	190,824	28	87,242	25	1.0	38.8	38.4	66.6	53.1	55.8
Silk and silk goods, including throwsters.....	852	99,037	15	190,912	29	89,145	24	1.0	24.4	21.7	47.7	24.3	55.2
Smelting and refining, lead.....	28	7,424	42	167,406	30	15,443	43	0.2	-2.0	-9.0	-9.9	5.9	-8.5
Gas, illuminating and heating.....	1,296	37,215	32	166,814	31	114,386	19	1.3	21.8	36.1	33.3	65.3	30.0
Carriages and wagons and materials.....	5,492	69,028	21	150,893	32	77,942	28	0.9	-10.2	5.5	2.6	12.7	-0.5
Canning and preserving.....	3,767	59,968	24	157,101	33	55,278	31	0.7	5.3	-0.1	20.4	31.3	16.8
Brass and bronze products.....	1,021	40,618	29	140,389	34	50,761	34	0.6	22.5	22.1	46.5	15.5	38.1
Oil, cottonseed, and cake.....	817	17,071	37	147,808	35	28,935	42	0.3	9.9	41.2	53.4	64.2	71.2
Agricultural implements.....	640	50,551	26	146,329	36	80,022	26	1.0	6.7	1.7	30.6	10.7	35.0
Patent medicines and compounds and druggists' preparations.....	3,642	22,895	35	141,042	37	91,566	22	1.1	11.8	7.6	20.9	32.3	17.5
Confectionery.....	1,944	44,638	27	134,796	38	53,645	32	0.6	23.2	34.9	54.8	43.6	40.1
Paint and varnish.....	791	14,240	30	124,889	39	45,873	35	0.5	22.4	20.0	37.5	30.6	47.9
Cars, steam-railroad, not including operations of railroad companies.....	110	43,086	28	123,730	40	44,977	37	0.5	26.5	1.8	11.3	22.8	26.6
Chemicals.....	349	23,714	34	117,680	41	53,567	33	0.6	19.7	4.1	50.5	20.1	61.5
Marble and stone work.....	4,964	65,603	22	113,093	42	75,096	20	0.9	23.4	22.6	33.3	33.3	29.9
Leather goods.....	2,375	34,907	33	104,719	43	44,692	38	0.5	2.1	10.8	27.5	35.9	18.6
All other industries.....	61,887	1,648,441	24.9	4,561,002	22.0	2,034,399	24.4	18.5	23.9	41.8	41.5	36.6	47.1

¹ Per cent of increase is based on figures in Table 110. A minus sign (-) denotes decrease.

The table shows very great differences among the several industries with respect to the percentages of increase in the number of wage earners, value of products, and value added by manufacture. The great majority of the industries, however, show an

increase in each of these items for each of the five-year periods, the exceptions being the sugar industry and the smelting and refining of lead, which show a decrease in one or more items for each five-year period; the refining of petroleum, which shows a

PER CENT DISTRIBUTION OF VALUE OF PRODUCTS,
BY INDUSTRIES: 1909.PER CENT DISTRIBUTION OF AVERAGE NUMBER OF
WAGE EARNERS, BY INDUSTRIES: 1909.

decrease in one item, and the manufacture of carriages and wagons, which shows a decrease in two items, for the period 1904 to 1909; and the blast-furnace industry and the canning and preserving industry, which show a decrease in one item each during the period 1899 to 1904.

By far the highest percentages of increase are shown for the automobile industry, the gross value of products of which increased more than sevenfold during the five years 1904 to 1909, and more than fiftyfold during the decade as a whole. Other industries which show exceptionally large increases for both five-year periods in all three items are the making of men's and of women's clothing, the bakery and the butter, cheese, and condensed-milk industries, the manufacture of electrical machinery, apparatus, and supplies, and of copper, tin, and sheet-iron products, the distillery industry, the manufacture of hosiery and knit goods and of silk and silk goods, the illuminating-gas industry, the manufacture of brass and bronze products, and the confectionery, paint and varnish, and marble and stone work industries. It is interesting to note that the group of "all other industries," which in-

cludes the less important industries of the country, shows greater percentages of increase than all industries combined, thus indicating possibly an increased tendency toward diversification in manufacturing industries.

The percentage of increase in all three of the items—number of wage earners, gross value of products, and value added by manufacture—was greater during the second five-year period (1904 to 1909) than during the first (1899 to 1904) in the slaughtering and meat-packing and foundry and machine-shop industries, the manufacture of cotton goods, the men's clothing, boot and shoe, and woolen-goods industries, the smelting and refining of copper, the manufacture of automobiles, silk and silk goods, brass and bronze products, agricultural implements, and paint and varnish, the steel works and rolling mills, and the chemical industry. On the other hand, the percentage of increase in all three items was less during the later five-year period than during the earlier in the flour-mill and gristmill, railroad repair shop, bakery, women's clothing, paper, and wood pulp, petroleum refining, furniture, illuminating gas, carriage and wagon, and leather-goods industries.

In all the other industries covered by the table the increases during the second period are in some items greater than during the first period, while in other items they are less, or else the industry shows a decrease during one or both periods.

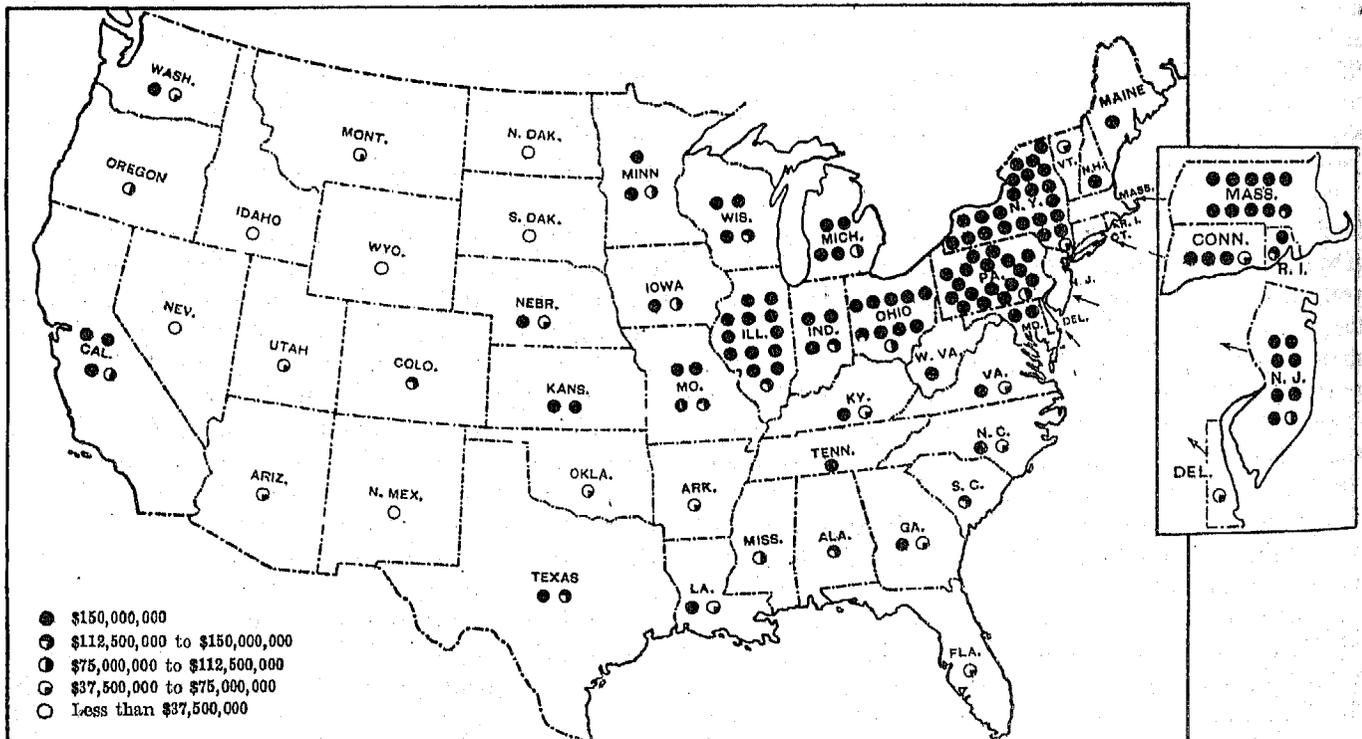
In considering the relative importance of the industries shown in Table 110 and not included in Table 4, it should be noted that there are several industries listed the figures given for which fall far short of being a complete presentation of the statistics for that branch of manufactures covered by the industry designation, for the reason that they cover only establishments engaged primarily in manufacturing the class of products indicated by this designation, while large quantities of the same products are manufactured incidentally by establishments classified under other heads. Some conspicuous examples are the manufacture of glue, candles, lard, and fertilizers, and the dyeing and finishing of textiles. A large proportion of the glue, lard, and fertilizers are manufactured by slaughtering and meat-packing establishments, and quantities of fertilizers are also made in cottonseed-oil mills. The dyeing and finishing of textiles is done largely in the establishments that manufacture the fabric. Candles are manufactured in establishments classified under the head of "soap" and in those engaged in the manufacture of petroleum products. For reasons of this character the roasting and grinding of coffee and spice, and the manufacture of fertilizers, food preparations, and rubber goods, and the soap industry, for each of which products valued at over \$100,000,000 were reported, are not shown in Table 4.

Summary by states and geographic divisions.—Table 5 on the next page shows, for each state, the population, also the number of wage earners, value of products, and value added by manufacture in 1909, together with the rank of the state with respect to each of these items and the percentage of the total reported from each state. It also shows the percentage of increase with respect to each of these three items from 1904 to 1909 and from 1899 to 1904, respectively. The states are arranged in the order of their rank with respect to value of products.

The first seven states in respect to value of products are also the first seven in respect to number of wage earners and value added by manufacture. Each of these seven states has the same rank in all three respects except that Illinois, which is third in value of products and value added by manufacture, ranks fourth in number of wage earners, Massachusetts advancing to third place. These seven states together reported over three-fifths of the total value of manufactured products for the United States.

Most of the other states show approximately the same rank in each of the three items, but there are several states in which, because of the large proportion which the cost of materials represents of the total value of products, the rank according to value of products is materially higher than that in number of wage earners or in value added by manufacture. This is particularly true of states in which the flour-mill and slaughtering industries are the most important. The most noteworthy case of this character is Kansas, which ranks four-

VALUE OF PRODUCTS OF MANUFACTURES: 1909.



teenth in value of products, but only thirty-third in number of wage earners and twenty-eighth in value added by manufacture.

With only one exception all of the states show an increase in each of the three items from 1904 to 1909; in Montana, however, the value added by manufacture shows a decrease for this period, due largely to merely technical differences in methods of accounting in the smelting industry, which is the principal one in that state. A few of the states showed a decrease in one or more items for the period 1899 to 1904.

The greatest percentages of increase are naturally in those states in which the development of manufacturing industries is comparatively recent. Thus Texas, Washington, Oregon, Utah, Oklahoma, Idaho, North Dakota, and Nevada show exceptionally high rates of increase for both five-year periods. Among the 10 states which are most important in manufacturing the most conspicuous advances are in Ohio, New Jersey, and Michigan. The absolute increase, as distinguished from the percentage of increase, was greater in New York, the leading manufacturing state, than in any other state.

Table 5

STATE.	Population.	Number of establishments.	WAGE EARNERS.		VALUE OF PRODUCTS.		VALUE ADDED BY MANUFACTURE.		PER CENT OF INCREASE. ¹							
			Average number.	Rank.	Per cent distribution.	Amount (expressed in thousands).	Rank.	Per cent distribution.	Amount (expressed in thousands).	Per cent distribution.	Wage earners (average number).		Value of products.		Value added by manufacture.	
											1904-1909	1899-1904	1904-1909	1899-1904	1904-1909	1899-1904
United States.....	91,972,266	268,491	6,815,046	100.0	\$20,672,082	100.0	\$8,529,261	100.0	21.0	18.0	39.7	29.7	25.5	20.3		
New York.....	9,113,614	44,935	1,003,981	1	3,369,490	1	1,512,586	1	17.7	17.2	17.9	35.4	32.9	32.7	33.5	
Pennsylvania.....	7,665,111	27,563	877,543	2	2,626,742	2	1,044,182	2	12.2	15.0	15.6	34.3	18.5	26.5	17.5	
Illinois.....	5,638,591	18,026	465,764	4	1,919,277	3	758,350	3	8.9	22.8	14.0	36.1	25.8	33.0	29.8	
Massachusetts.....	3,366,416	11,684	584,559	3	1,490,529	4	669,764	4	7.7	19.7	11.4	32.6	23.8	32.6	21.7	
Ohio.....	4,767,121	15,138	446,984	5	1,437,936	5	613,734	5	7.2	22.7	18.2	49.7	28.2	41.7	27.6	
New Jersey.....	2,537,167	8,817	326,223	6	1,145,529	6	425,496	6	5.0	22.5	24.5	47.9	40.0	40.0	39.2	
Michigan.....	2,810,173	9,159	231,499	7	685,109	7	316,497	7	3.7	32.1	12.5	59.7	34.2	59.0	38.5	
Wisconsin.....	2,333,860	9,721	182,583	10	590,306	8	243,949	9	2.9	20.6	10.1	43.6	25.8	32.7	30.4	
Indiana.....	2,700,876	7,969	186,984	9	579,075	9	244,700	8	2.9	21.3	10.9	47.0	16.9	41.1	22.2	
Missouri.....	3,293,385	8,375	152,993	11	574,111	10	219,700	11	2.6	14.9	23.6	30.6	29.0	17.3	41.8	
California.....	2,377,549	7,659	115,296	13	529,761	11	204,523	12	2.4	14.9	20.0	44.3	42.7	35.0	63.8	
Connecticut.....	1,114,756	4,251	210,792	8	490,272	12	233,013	10	2.7	16.1	13.7	32.8	17.1	31.1	22.2	
Minnesota.....	2,075,708	5,561	84,767	13	409,420	13	127,798	13	1.5	21.7	7.9	33.0	37.6	31.3	32.6	
Kansas.....	1,690,949	3,435	44,215	33	325,104	14	66,220	28	0.8	24.3	31.2	64.0	26.7	58.7	25.4	
Maryland.....	1,295,346	4,837	107,921	15	315,669	15	116,620	15	1.4	14.6	(?)	29.7	15.3	24.9	14.2	
Rhode Island.....	542,610	1,951	113,538	14	280,344	16	122,152	14	1.4	16.7	10.3	28.7	22.1	36.9	15.0	
Texas.....	3,896,542	4,888	70,230	25	272,896	17	94,717	19	1.1	43.1	27.1	81.3	62.0	60.7	53.0	
Iowa.....	2,224,771	5,528	61,635	29	259,238	18	88,531	22	1.0	24.6	11.4	61.4	29.8	53.4	22.6	
Louisiana.....	1,558,388	2,516	76,165	21	228,949	19	89,084	21	1.0	36.4	36.6	20.2	67.3	28.5	92.7	
Kentucky.....	2,289,908	4,776	69,400	27	223,754	20	111,975	16	1.3	9.4	15.6	40.1	26.3	53.0	23.9	
Washington.....	1,141,990	3,674	69,120	26	220,746	21	102,858	17	1.2	52.9	43.4	71.4	81.9	64.2	92.5	
Virginia.....	2,061,612	5,685	105,678	16	219,794	22	94,211	20	1.1	31.6	21.2	47.7	37.9	44.5	32.3	
North Carolina.....	2,206,287	4,931	121,473	17	216,656	23	94,794	18	1.1	42.3	18.0	52.9	67.1	49.9	56.5	
Georgia.....	2,609,121	4,792	104,598	17	202,863	24	85,893	23	1.0	12.8	11.3	34.3	59.8	27.4	49.2	
Nebraska.....	1,192,214	2,500	24,336	37	199,019	25	47,938	31	0.6	20.1	8.5	28.5	18.9	55.3	10.2	
Tennessee.....	2,184,789	4,609	73,840	22	180,217	26	76,201	25	0.9	21.9	31.8	30.6	48.7	30.0	53.5	
Maine.....	742,371	3,546	79,955	19	176,029	27	78,928	24	0.9	6.7	7.2	22.2	27.5	23.4	23.6	
New Hampshire.....	430,572	1,961	78,858	20	164,581	28	68,424	27	0.8	20.3	-3.4	33.1	34.9	31.8	6.3	
West Virginia.....	1,221,119	2,586	63,893	28	161,950	29	69,072	26	0.8	48.0	32.3	63.5	47.3	54.6	43.8	
Alabama.....	2,138,093	3,398	72,148	24	145,962	30	62,519	29	0.7	16.0	18.0	33.7	51.4	28.3	42.8	
Colorado.....	799,024	2,034	28,067	36	130,044	31	49,553	30	0.6	28.7	11.9	29.9	12.4	33.8	30.8	
South Carolina.....	1,515,400	1,854	73,046	32	113,256	32	46,885	32	0.6	22.9	26.4	42.7	48.8	59.4	28.7	
Oregon.....	672,765	2,246	28,750	35	93,005	33	42,453	35	0.5	55.2	28.1	67.5	51.7	74.3	57.7	
Mississippi.....	1,797,114	2,598	50,384	31	80,555	34	43,629	34	0.5	30.2	24.4	40.2	70.4	37.8	84.3	
Arkansas.....	1,574,449	2,925	44,982	32	74,916	35	39,981	36	0.5	35.9	5.0	39.1	35.0	24.7	48.5	
Montana.....	376,053	677	11,655	41	73,272	36	24,092	38	0.3	30.1	-9.1	10.3	25.9	-5.5	12.4	
Florida.....	2,159,619	2,159	57,473	30	72,890	37	46,762	33	0.6	36.5	18.7	44.9	47.1	38.5	58.3	
Vermont.....	355,956	1,958	33,788	34	68,310	38	33,487	37	0.4	2.1	17.5	8.3	22.5	9.2	22.0	
Utah.....	373,351	749	11,785	40	61,989	39	20,723	40	0.2	46.4	48.8	59.2	116.5	48.2	113.8	
Oklahoma.....	1,657,155	2,310	13,143	39	53,682	40	19,529	41	0.2	140.9	129.1	119.5	200.7	142.1	198.2	
Delaware.....	202,322	726	21,238	38	52,840	41	21,902	39	0.3	15.0	-10.2	28.4	-0.4	34.6	-1.9	
Arizona.....	204,354	311	6,441	44	50,257	42	16,657	42	0.2	34.4	53.3	79.0	37.4	23.5	7.4	
District of Columbia.....	331,069	518	7,707	43	25,289	43	15,042	43	0.2	22.4	2.3	37.7	11.8	41.5	18.7	
Idaho.....	325,594	725	8,220	42	22,400	44	12,480	44	0.1	168.5	97.2	155.4	192.2	165.5	206.9	
North Dakota.....	577,056	752	2,789	48	19,138	45	5,464	46	0.1	38.9	29.2	87.3	63.2	75.0	48.0	
South Dakota.....	583,888	1,020	3,602	46	17,870	46	6,394	45	0.1	44.5	12.0	36.6	37.3	45.7	44.1	
Nevada.....	81,875	177	2,267	49	11,887	47	3,521	49	(*)	181.4	56.1	283.9	145.5	139.8	145.1	
New Mexico.....	327,301	313	4,143	45	7,898	48	4,637	47	0.1	19.1	39.7	38.4	40.5	33.6	65.3	
Wyoming.....	146,965	268	2,897	47	6,249	49	3,641	48	(*)	56.3	-11.0	77.4	7.8	63.9	17.1	

¹ Per cent of increase is based on figures in Table 111. A minus sign (-) denotes decrease.

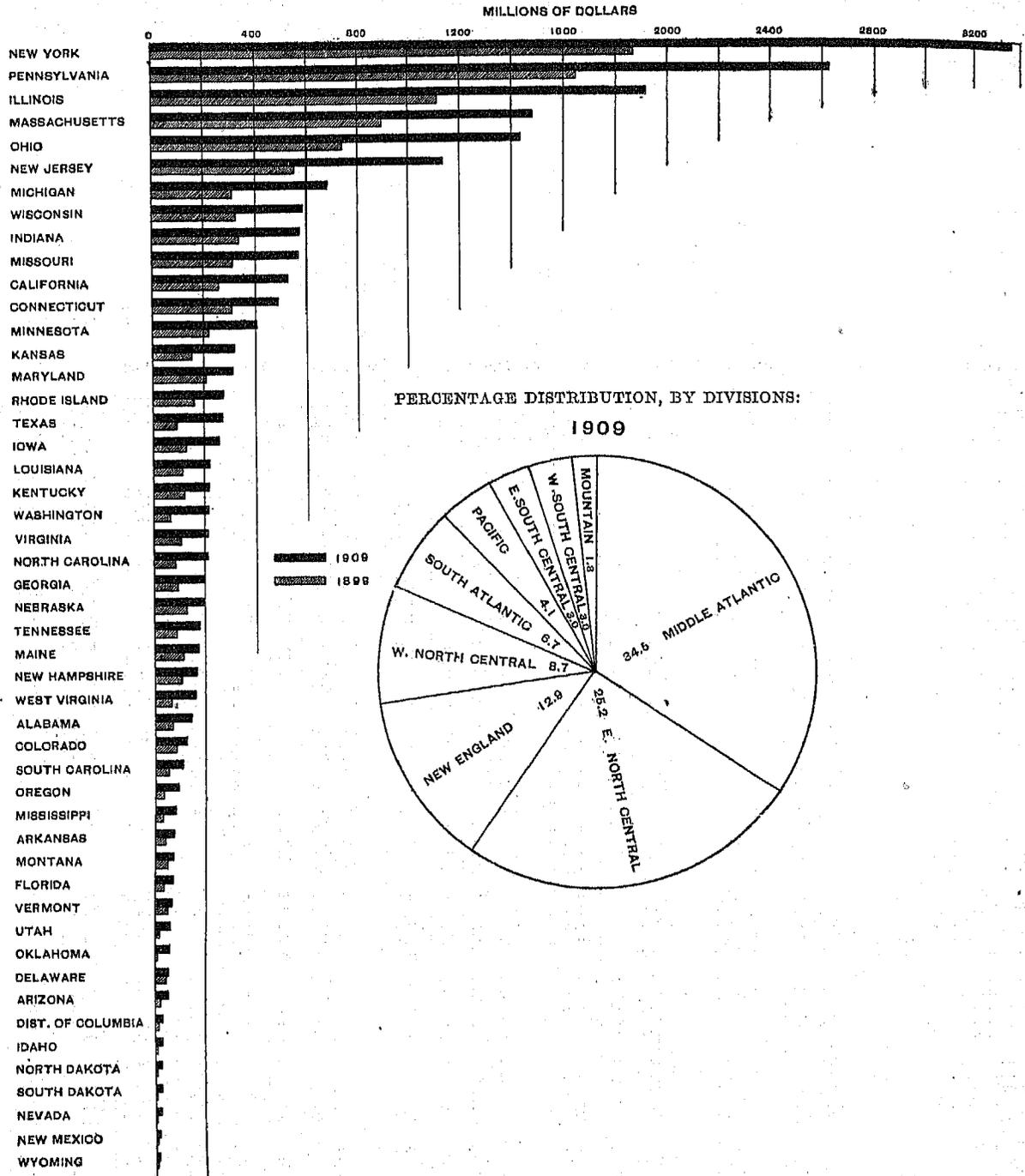
² Less than one-tenth of 1 per cent.

Table 6, on page 448, presents similar data for the nine grand geographic divisions of the United States, arranged in the order of their rank in value of products. The states included in each division are shown in Table 111.

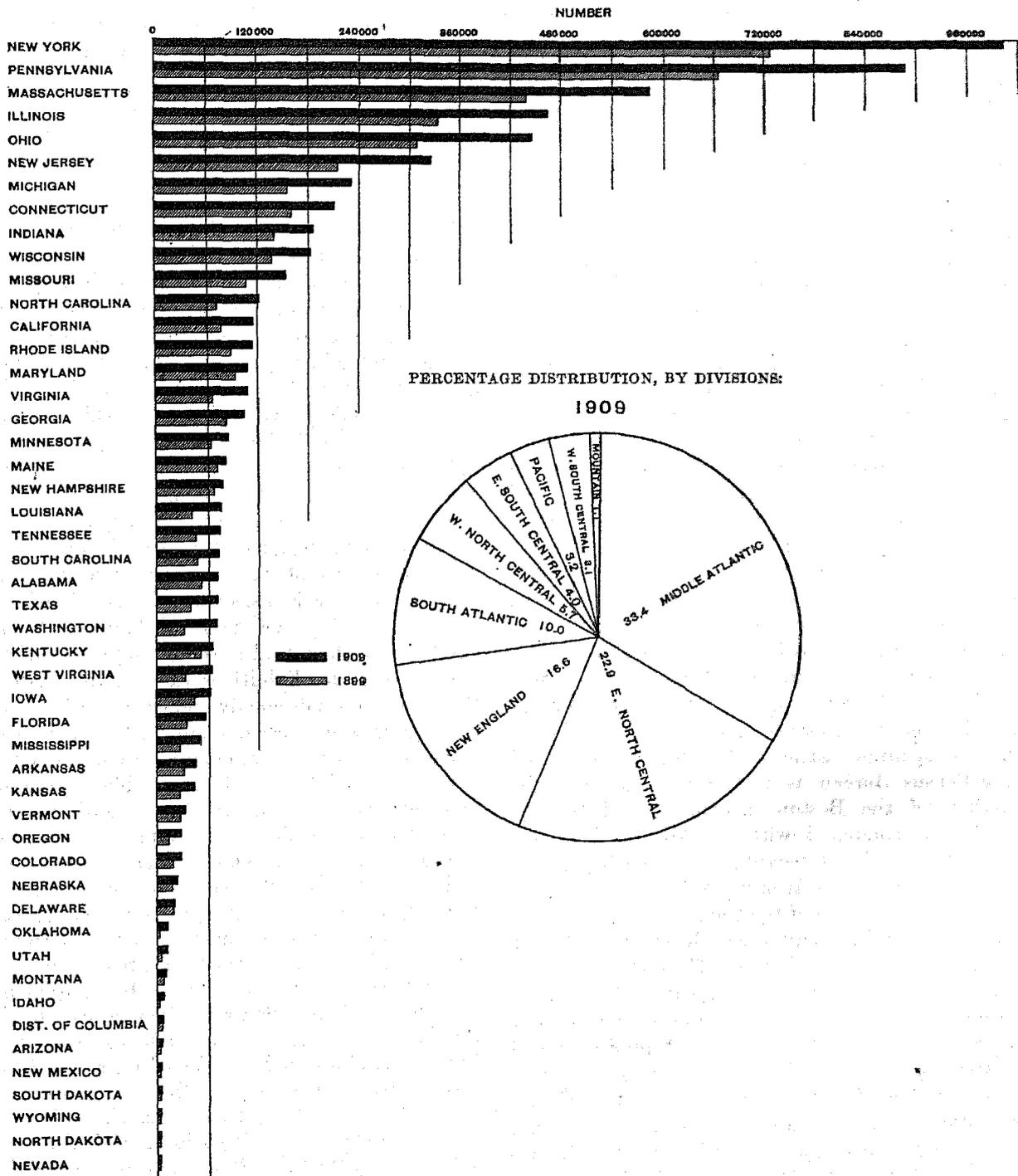
The three Middle Atlantic states—New York, New Jersey, and Pennsylvania—together reported more than one-third of the total value of manufactured products

for the country; the East North Central states, about one-fourth; and the New England states, somewhat over one-eighth. These three divisions together contributed 72.6 per cent of the total value of manufactured products in 1909; they showed, however, somewhat lower percentages of increase during the past decade than the other divisions, in which manufacturing is of more recent development.

VALUE OF PRODUCTS OF MANUFACTURES, BY STATES: 1909 AND 1899.



AVERAGE NUMBER OF WAGE EARNERS, BY STATES: 1909 AND 1899.



PERCENTAGE DISTRIBUTION, BY DIVISIONS:

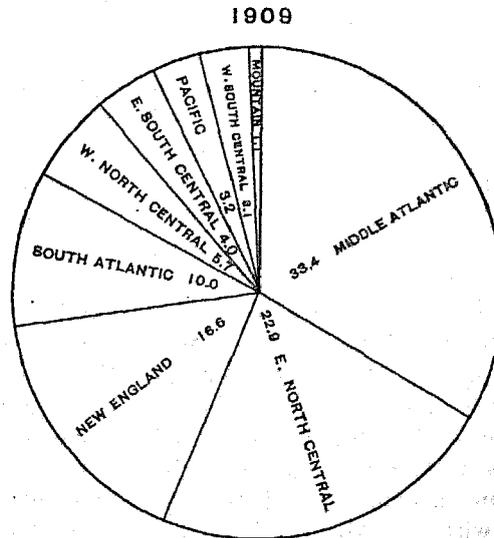


Table 6

DIVISION.	Popula- tion.	Number of estab- lish- ments.	WAGE EARNERS.		VALUE OF PRODUCTS.		VALUE ADDED BY MANUFACTURE.		PER CENT OF INCREASE.								
			Average number.	Per cent dis- tribu- tion.	Amount (ex- pressed in thou- sands).	Per cent dis- tribu- tion.	Amount (ex- pressed in thou- sands).	Per cent dis- tribu- tion.	Wage earners (average number).		Value of products.		Value added by man- ufacture.				
									1904- 1909	1899- 1904	1904- 1909	1899- 1904	1904- 1909	1899- 1904			
			Rank.	Rank.	Rank.	Rank.	Rank.	Rank.	Rank.	Rank.							
United States	91,972,266	268,491	6,615,046	....	100.0	\$20,672,052	....	100.0	\$8,529,261	....	100.0	21.0	16.0	39.7	29.7	35.5	30.8
Middle Atlantic.....	10,315,892	81,315	2,207,747	1	33.4	7,141,761	1	34.5	2,082,263	1	35.0	17.0	17.0	30.9	28.1	32.2	28.0
East North Central.....	18,260,621	60,013	1,513,764	2	22.9	5,211,702	2	25.2	2,177,230	2	25.5	23.6	14.1	44.6	26.4	39.6	29.4
New England.....	6,552,681	25,351	1,101,290	3	16.6	2,070,065	3	12.9	1,193,708	3	14.0	17.1	10.4	31.8	22.0	31.2	20.3
West North Central.....	11,637,921	27,171	374,337	5	5.7	1,803,899	4	8.7	562,044	5	6.6	19.8	17.4	40.4	32.0	35.0	29.8
South Atlantic.....	12,104,895	28,088	669,015	4	10.0	1,381,186	5	6.7	591,181	4	6.9	26.9	14.0	41.8	36.8	39.5	34.1
Pacific.....	4,192,304	13,579	213,166	7	3.2	843,512	6	4.1	349,834	6	4.1	29.9	33.2	52.0	51.2	46.3	69.7
East South Central.....	8,409,901	15,381	261,772	6	4.0	630,488	7	3.0	294,325	7	3.4	18.3	24.8	35.8	42.8	38.7	42.8
West South Central.....	8,784,534	12,339	204,520	8	3.1	625,443	8	3.0	243,812	8	2.9	42.6	26.5	50.6	64.6	44.5	70.4
Mountain.....	2,633,517	5,254	75,435	9	1.1	363,990	9	1.8	135,304	9	1.6	42.9	18.6	42.9	32.8	32.8	33.6

Summary for 50 leading cities: 1909.—Table 7 presents, for the 50 cities which stand highest in value of manufactured products, arranged in order of rank, data similar to those presented for the geographic divisions in Table 6. It should be particularly noted in considering this table that the figures relate only to the manufacturing establishments situated actually within the boundaries of the several cities.

In the case of practically every city listed there are important manufacturing establishments in the immediate vicinity, and in the case of several of the cities such outside establishments, which virtually constitute a part of the city's industrial interests, have a greater value of products than those within the city itself. The most notable instances of this character are Pittsburgh and Boston, which would rank decidedly higher in a table based on metropolitan or industrial districts than they do in the table for cities proper. While the population of Pittsburgh proper is 533,905, the population of the metropolitan district of Pittsburgh, as defined by the Census Bureau, is 1,042,855. Similarly, the population of the Boston metropolitan district is 1,520,470, as compared with 670,585 for the city proper. Further details regarding the manufactures of the 25 leading cities are given in Table 112.

The rank of the cities of the country with respect to manufactures is in many cases decidedly different from their rank in population. Thus Boston ranks fifth in population, but eighth in value of manufactured products; Baltimore, seventh in population, but thirteenth in value of manufactured products; and Los Angeles, sixteenth in population, but thirty-second in value of products. Kansas City, Kans., on the other hand, by reason of the large slaughtering establishments there, ranks fifteenth in value of manufactured products, but is not among the 50 principal cities from the standpoint of population. Of the 50 cities in the United States which have over 100,000 inhabitants, 14 are not included among the 50 cities having the largest value of manufactures.

In the case of some of the cities listed in the table, the rank with respect to the number of wage earners and the value added by manufacture is very different from that with respect to the gross value of products, these differences being dependent upon the character of the predominating industries. It is noteworthy, however, that the 13 cities which rank highest in gross value of products are also the 13 which occupy the highest rank with respect to wage earners and value added by manufacture, although considered individually these cities do not in all cases hold the same rank in each of the three respects. Conspicuous instances of cities having higher rank in gross value of products than in number of wage earners or value added by manufacture are Kansas City, Kans., South Omaha, Youngstown, Bayonne, and Perth Amboy. On the other hand, cities which lead in the manufacture of textiles, such as Lawrence, Fall River, Lowell, New Bedford, and Paterson, have a decidedly higher rank with respect to number of wage earners than with respect to either value of products or value added by manufacture.

For every city listed in the table a greater gross value of products and, with the exception of Omaha, a greater value added by manufacture were reported in 1909 than in 1899. Only two cities—San Francisco and New Orleans—showed a loss in gross value in 1909 as compared with 1904, and only San Francisco a loss in value added by manufacture. Between 1899 and 1904, however, decreases in gross value of manufactures occurred in four cities. In number of wage earners, Pittsburgh, San Francisco, South Omaha, and Peoria showed a decline in 1909 as compared with 1899; several other cities showed decreases from 1899 to 1904, but these were more than made up during the second half of the decade. It may be noted that the statistics for the Pittsburgh industrial district, which is more comprehensive than the city, would show decided gains and that the decrease in the manufacturing industries in San Francisco is the natural result of the great earthquake and fire.

Of the cities reporting products of \$200,000,000 or more, Detroit showed the greatest percentage

of increase in all of the items under consideration and Cleveland the next greatest, with the exception of the number of wage earners, in which it was exceeded by Milwaukee. Among the smaller manufacturing cities included in the table, those showing conspicuous

increases are Akron, Perth Amboy, Los Angeles, and Seattle.

In the case of most of the cities higher rates of increase in all three items are shown for the period 1904 to 1909 than for the period 1899 to 1904.

Table 7

City.	Population.	Number of establishments.	WAGE EARNERS.		VALUE OF PRODUCTS.		VALUE ADDED BY MANUFACTURE.		PER CENT OF INCREASE. ¹					
			Average number.	Rank.	Amount (expressed in thousands).	Rank.	Amount (expressed in thousands).	Rank.	Wage earners (average number).		Value of products.		Value added by manufacture.	
									1904-1909	1899-1904	1904-1909	1899-1904	1904-1909	1899-1904
New York, N. Y.	4,766,883	25,988	554,002	1	\$2,029,693	1	\$937,538	1	19.2	19.6	33.0	30.2	22.3	31.5
Chicago, Ill.	2,185,283	9,656	293,977	2	1,281,171	2	487,701	2	21.5	9.4	34.1	19.7	33.6	23.5
Philadelphia, Pa.	1,549,008	8,379	251,884	3	746,076	3	316,984	3	10.0	6.6	26.2	13.7	22.8	14.8
St. Louis, Mo.	687,029	2,667	87,371	4	328,495	4	140,306	4	5.6	27.6	22.9	38.0	8.3	41.0
Cleveland, Ohio.	560,663	2,148	84,728	5	271,961	5	117,046	6	23.4	15.7	58.2	23.4	57.4	18.2
Detroit, Mich.	465,766	2,036	81,011	6	252,992	6	122,774	5	67.1	26.3	97.3	45.1	99.1	49.1
Pittsburgh, Pa.	533,905	1,659	67,474	9	243,454	7	94,927	8	-5.8	-0.2	15.2	-3.2	9.5	-3.4
Boston, Mass.	670,585	3,155	69,637	8	237,457	8	112,880	7	17.7	11.9	28.8	13.2	28.8	11.5
Buffalo, N. Y.	423,715	1,753	51,412	13	218,804	9	82,266	12	18.0	27.1	48.5	39.5	39.4	48.7
Milwaukee, Wis.	373,857	1,764	59,502	12	208,324	10	87,703	10	37.2	8.2	51.0	24.5	31.1	39.8
Newark, N. J.	347,469	1,858	59,955	11	202,511	11	87,832	11	18.3	18.2	35.9	33.1	26.6	33.5
Cincinnati, Ohio.	363,591	2,184	60,192	10	194,516	12	92,554	9	2.7	6.6	17.1	17.2	11.8	17.8
Baltimore, Md.	558,485	2,602	71,444	7	189,978	13	79,954	13	9.9	-2.3	24.5	11.1	14.9	16.2
Minneapolis, Minn.	301,408	1,102	26,962	25	165,405	14	45,412	18	24.1	10.5	36.6	28.3	40.7	26.6
Kansas City, Kans.	82,331	165	12,294	42	164,061	15	19,691	44	18.8	11.0	79.1	20.6	56.4	12.9
San Francisco, Cal.	416,912	1,796	28,244	21	133,041	16	56,824	15	-26.5	18.0	-3.4	28.7	-8.1	49.1
Jersey City, N. J.	267,779	745	25,454	28	128,775	17	29,458	21	25.1	17.6	70.0	3.9	46.5	18.9
Indianapolis, Ind.	233,650	855	31,815	19	126,522	18	42,371	20	19.0	27.4	53.9	38.6	39.1	44.8
Providence, R. I.	224,326	1,080	46,381	14	120,241	19	55,471	16	16.5	3.7	30.7	16.9	32.0	16.3
Rochester, N. Y.	218,149	1,203	39,108	15	112,676	20	62,002	14	23.1	23.3	28.9	35.9	43.6	37.4
Louisville, Ky.	223,928	903	27,023	24	101,284	21	47,156	17	8.2	8.3	31.7	25.9	25.7	29.1
South Omaha, Nebr.	26,259	71	6,306	45	92,436	22	14,763	48	11.4	-10.6	27.1	-3.0	79.6	-3.2
Youngstown, Ohio.	79,066	115	10,498	48	81,271	23	18,979	45	29.7	-6.7	73.5	28.2	62.6	8.3
Lawrence, Mass.	85,892	162	30,542	30	79,583	24	34,555	23	39.4	4.8	66.5	15.1	86.6	19.2
New Orleans, La.	339,075	848	17,186	37	78,794	25	30,062	28	-1.6	7.9	-3.2	41.7	23.1	32.4
Worcester, Mass.	145,986	580	28,221	22	77,148	26	34,547	25	23.8	0.9	47.9	11.4	37.5	7.8
Bayonne, N. J.	55,545	97	7,519	47	73,641	27	14,709	49	6.5	51.1	21.5	57.1	7.8	184.0
Akron, Ohio.	69,067	246	15,831	39	73,158	28	30,087	27	64.5	16.6	118.0	52.4	128.8	41.4
Perth Amboy, N. J.	32,121	80	5,866	50	73,093	29	9,151	50	48.5	97.0	116.0	147.5	104.3	65.2
Lynn, Mass.	69,336	431	27,368	23	71,503	30	30,142	26	27.1	31.5	30.0	39.8	34.6	59.5
Paterson, N. J.	125,600	702	32,004	18	69,584	31	34,856	22	12.3	-0.1	27.3	12.7	28.0	16.1
Los Angeles, Cal.	319,198	1,325	17,327	36	68,586	32	29,673	29	66.2	101.5	97.0	130.0	84.0	128.9
Bridgeport, Conn.	102,054	367	25,775	27	65,609	33	27,662	32	32.2	14.4	47.2	32.9	24.2	36.9
Fall River, Mass.	119,295	288	37,139	16	64,146	34	28,622	31	38.4	-12.4	47.6	11.2	64.7	-17.4
Peoria, Ill.	66,950	283	5,981	49	63,061	35	45,288	19	2.5	-2.7	4.4	33.6	1.6	41.2
Toledo, Ohio.	168,497	760	18,878	34	61,230	36	27,146	35	20.3	23.1	27.6	39.2	42.6	51.3
Omaha, Nebr.	124,096	432	8,023	46	60,854	37	17,439	46	37.8	10.3	12.7	41.8	57.0	-38.9
Dayton, Ohio.	116,577	513	21,549	31	60,378	38	32,850	24	26.1	18.6	52.5	27.7	56.7	25.4
Lowell, Mass.	106,294	320	32,575	17	60,271	39	27,440	34	11.2	0.2	28.6	12.8	37.4	-4.6
Yonkers, N. Y.	79,803	158	12,711	41	59,334	40	16,132	47	30.0	29.4	76.9	93.9	57.9	31.7
St. Paul, Minn.	214,744	719	19,339	33	58,990	41	28,690	30	34.6	10.3	53.9	27.5	52.4	33.1
Kansas City, Mo.	248,381	902	14,043	40	54,704	42	23,742	38	32.6	12.8	53.8	56.8	47.9	45.1
New Bedford, Mass.	96,052	207	26,566	26	53,238	43	24,674	37	48.8	17.0	80.7	26.6	84.4	15.2
Denver, Colo.	213,381	766	12,058	43	51,538	44	20,611	43	24.7	13.8	49.6	-3.3	31.6	16.6
Reading, Pa.	96,071	482	24,145	29	51,135	45	21,287	42	33.7	6.9	57.7	-6.7	54.5	-12.1
New Haven, Conn.	133,605	590	23,547	30	51,071	46	26,752	36	9.8	21.8	28.8	13.7	26.5	12.7
Seattle, Wash.	237,184	751	11,331	44	50,569	47	21,884	39	77.3	43.9	99.0	65.8	98.1	71.0
Waterbury, Conn.	73,141	169	20,170	32	50,350	48	21,624	41	30.9	15.5	55.6	6.7	48.1	26.4
Syracuse, N. Y.	137,240	738	18,148	35	49,435	49	27,659	33	24.7	23.2	42.5	30.7	48.7	32.9
Camden, N. J.	94,538	365	16,527	38	49,138	50	21,754	40	30.5	63.5	46.3	86.9	65.3	74.9

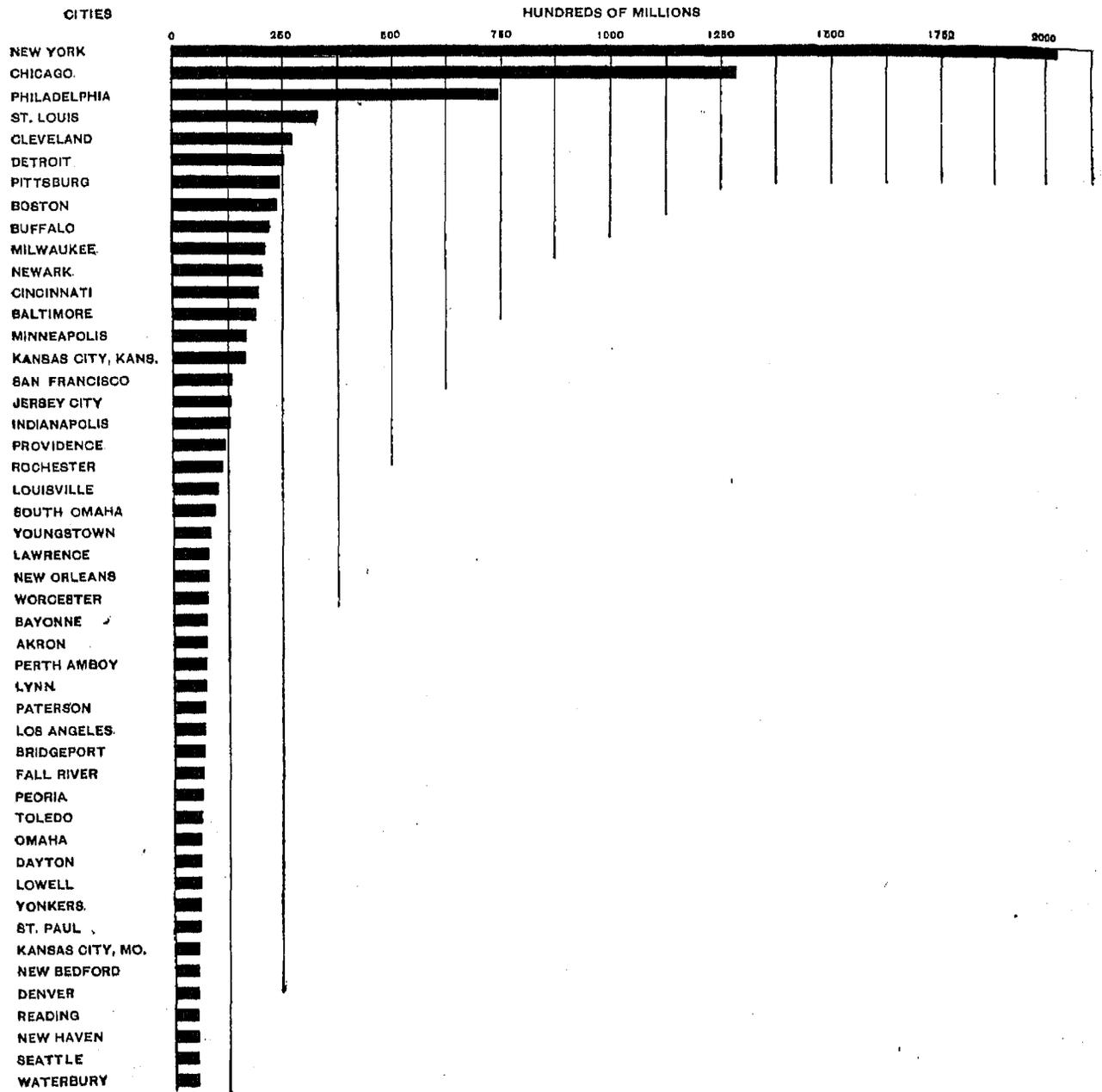
¹ Per cent of increase is based on figures in Table 113. A minus sign (-) denotes decrease.

Distribution according to size of communities.— It is a matter of interest to know the extent to which the manufacturing enterprises of the country are located in the larger cities as compared with the smaller cities and rural districts. Some indication of this is given in Table 8, on page 451, which distributes the total number of establishments, average number of wage earners, value of products, and value added by manufacture reported in 1909 and 1899 by classes of places, the classes distinguished being cities of 100,000 inhabitants or over, cities of 25,000 to 100,000 inhabitants, cities of 10,000 to 25,000 inhabitants, and the remainder of the country, the latter including the

smaller cities, towns, and other incorporated places and the rural districts. The aggregate population of each group in 1910 and 1900 is also given. Statistics for 1904 are not given because there was no Federal census of population for that year, and it is impossible to determine with accuracy what cities belonged to each group.

In considering this table it should be noted that each place is classed at each census according to its population at that census, so that the same community may be in one class in 1900 and in another class in 1910; and consequently the change in the totals for any given class of communities from 1899 to 1909 should not be

VALUE OF PRODUCTS FOR PRINCIPAL CITIES: 1909.



taken as measuring the increase in manufacturing business in the same communities. The significant figures are the percentages of the totals reported by each class of places at the two censuses. It should be noted further that the statistics of manufactures shown for any given community are those reported from establishments lying strictly within the municipal

boundaries. Since in many cases large manufacturing establishments are located just outside of city boundaries, the proportion of the manufacturing business of the country as a whole which, in a sense, can be properly credited to places of 10,000 or more inhabitants is somewhat greater than can be shown by the statistics in this table.

Table 8

	Year.	Aggregate.	CITIES AND TOWNS HAVING A POPULATION OF 10,000 AND OVER.								DISTRICTS OUTSIDE OF CITIES AND TOWNS HAVING A POPULATION OF 10,000 AND OVER.		
			Total.		10,000 to 25,000.		25,000 to 100,000.		100,000 and over.		Number or amount.	Per cent distribution.	
			Number or amount.	Per cent distribution.	Number or amount.	Per cent distribution.	Number or amount.	Per cent distribution.	Number or amount.	Per cent distribution.			
Number of cities.....	1910 1900		593 436		365 277		178 122		50 37				
Population.....	1910 1900	91,972,266 75,994,575	34,002,692 24,052,670	37.0 31.7	5,495,594 4,297,118	6.0 5.7	8,204,960 5,547,205	8.9 7.3	20,302,138 14,208,247	22.1 18.7	57,969,574 51,941,905	63.0 68.3	
Number of establishments.....	1909 1899	268,491 207,514	135,772 102,918	50.6 49.6	18,936 15,463	7.1 7.5	27,061 20,147	10.1 9.7	89,775 67,308	33.4 32.4	132,719 104,596	48.4 50.4	
Average number of wage earners.....	1909 1899	6,615,046 4,712,763	4,316,642 3,044,439	65.3 64.6	678,467 524,900	10.3 11.1	1,126,253 767,293	17.0 16.3	2,511,622 1,732,246	38.0 37.2	2,298,404 1,668,324	34.7 35.4	
Value of products.....	1909 1899	\$20,672,051,870 11,406,926,701	\$14,264,878,807 7,864,564,177	69.0 68.9	\$1,946,703,215 1,052,639,594	9.4 9.2	\$3,582,403,574 1,843,124,795	17.3 16.1	\$8,735,772,018 4,968,799,788	42.3 43.6	\$8,407,173,063 3,542,302,524	31.0 31.1	
Value added by manufacture..	1909 1899	8,529,260,992 4,831,075,210	6,003,005,285 3,377,477,927	70.4 69.9	801,766,297 458,679,363	9.4 9.5	1,431,652,146 773,117,708	16.8 16.0	3,769,586,842 2,145,680,856	44.2 44.4	2,238,255,797 1,433,597,283	29.6 30.1	

In 1909 places of more than 10,000 inhabitants, although they included only 37 per cent of the total population of the country, contained a little over one-half of the total number of manufacturing establishments in the country. These establishments employed nearly two-thirds of the wage earners employed in manufactures (65.3 per cent), and reported more than two-thirds of the total value of products and of the value added by manufacture, the actual percentages being 69 and 70.4, respectively.

It is noteworthy, however, that, whereas communities of this size contained a materially larger proportion of the population of the country in 1910 than they did in 1900—37 per cent as against 31.7 per cent—there was only a very slight increase in their proportion of the total number of manufacturing establishments and of wage earners, and of the total value added by manufacture, and practically no change in their proportion of the total value of products. In other words, while these communities, considered as a

group, have perhaps a little more than held their own in relative importance in manufacturing industry, they have not gained in this respect commensurately with their gain in population. The foregoing statement regarding this group as a whole holds true likewise for the class of cities having from 25,000 to 100,000 inhabitants and for the class having 100,000 or more inhabitants, except that for the latter group there was a slight decrease in the proportion of the value of products and value added by manufacture. On the other hand, the class of communities having from 10,000 to 25,000 inhabitants reported a slight increase in its proportion of the total population in 1910 as compared with 1900, and a slightly larger proportion of the total value of products in 1909 than in 1899, although in respect to number of establishments, average number of wage earners, and value added by manufacture, the proportion for such communities was slightly lower in the later year than in the earlier.

PERSONS ENGAGED IN MANUFACTURING INDUSTRIES.

Definitions and explanations.—Attention is called to certain differences between the census of 1909 and previous censuses in respect to the manner of collecting and presenting statistics of persons engaged in manufacturing industries.

At the censuses of 1899, 1904, and 1909 the following general classes of persons engaged in manufacturing industries were distinguished: (1) Proprietors and firm members, (2) salaried officers of corporations, (3) superintendents and managers, (4) clerks, and (5)

wage earners. In the reports for the censuses of 1904 and 1899 these five classes were shown according to the three main groups: (1) Proprietors and firm members, (2) salaried officials, clerks, etc., and (3) wage earners. The second group included the three classes of salaried officers of corporations, superintendents and managers, and clerks. In certain tables relating exclusively to the present census a somewhat different grouping is employed—that into (1) proprietors and officials, (2) clerks, and (3) wage earners. The first

group includes proprietors and firm members, salaried officers of corporations, and superintendents and managers. In comparative tables covering the censuses of 1899 and 1904 it is of course necessary to group the figures for 1909 according to the same classification that was employed in the earlier censuses.

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

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

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

The number of wage earners reported for the representative day, though given in certain tables for each separate industry, is not totaled for all industries combined, because in view of the variations of date such a total is believed not to be significant. It would involve more or less duplication of persons working in different industries at different times, would not represent the total number employed in all industries at any one time, and would give an undue weight to seasonal industries as compared with industries in continual operation.

In particular, totals by sex and age for the wage earners reported for the representative day for all industries combined would be misleading because of the undue weight given to seasonal industries, in some of which, such as canning and preserving, the distribution of the wage earners by sex and age is materially

different from that in most industries of more regular operation. In order to determine as nearly as possible the sex and age distribution of the average number of wage earners for a given state as a whole, the per cent distribution by sex and age of the wage earners in each industry for December 15 or the nearest representative day has been calculated from the actual numbers reported for that date. The percentages thus obtained have been applied to the average number of wage earners for the year in that industry, to determine the average number of men, women, and children employed. These calculated averages for the several industries have been added up to give the average distribution for each state as a whole and for the entire country.

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

Summary for United States: 1909.—The following table shows, for 1909, the distribution of the persons engaged in manufacturing, each class being distributed by sex, and the average number of wage earners by age also:

CLASS.	PERSONS ENGAGED IN MANUFACTURES.		
	Total.	Male.	Female.
All classes.....	7,678,578	6,163,263	1,516,316
Proprietors and officials.....	487,173	472,914	14,259
Proprietors and firm members.....	273,265	263,673	9,592
Salaried officers of corporations.....	80,735	78,937	1,798
Superintendents and managers.....	133,173	130,304	2,869
Clerks.....	576,359	437,050	139,303
Wage earners (average number).....	6,615,046	5,252,293	1,362,753
16 years of age and over.....	6,463,553	5,163,164	1,290,389
Under 16 years of age.....	161,493	89,129	72,364

The average number of persons engaged in manufacturing industries during 1909 was 7,678,578. Of these, 6,615,046, or 86.1 per cent, were wage earners; 487,173, or 6.3 per cent, proprietors and officials; and 576,359, or 7.5 per cent, clerks. Of the wage earners, 5,163,164 were males 16 years of age and over; 1,290,389 females 16 years of age and over; and 161,493 children under the age of 16.

Statistics of employees for the last three censuses are given for individual industries in Table 110, and for each state and geographic division in Table 111.

Occupational status by leading industries: 1909.—
The following table shows for the 43 leading industries the number of proprietors, officers of corporations, superintendents and managers, clerks, and wage earners,

respectively, and the percentage which the persons included in each of the principal groups represent of the total number employed. The figures for wage earners represent the average number for the year.

INDUSTRY.	PERSONS ENGAGED IN MANUFACTURES.									
	Total number.	Proprietors and officials.				Clerks.	Wage earners (average number).	Per cent of total.		
		Total.	Proprietors and firm members.	Salaried officials of corporations.	Superintendents and managers.			Proprietors and officials.	Clerks.	Wage earners (average number).
All industries.....	7,678,578	487,173	273,265	80,735	133,173	576,359	6,615,046	6.3	7.5	86.1
Agricultural implements.....	60,229	2,489	465	569	1,455	7,189	50,551	4.1	11.9	83.9
Automobiles, including bodies and parts.....	85,359	2,564	406	758	1,401	7,074	75,721	3.0	8.3	88.7
Boots and shoes, including cut stock and findings.....	215,923	5,752	1,838	1,027	2,887	11,874	198,297	2.7	5.5	91.8
Brass and bronze products.....	45,441	2,160	628	584	748	2,663	40,618	4.8	5.9	89.4
Bread and other bakery products.....	144,322	29,136	20,982	801	1,353	14,970	100,216	20.2	10.4	69.4
Butter, cheese, and condensed milk.....	31,506	10,490	8,019	1,032	1,429	2,595	18,431	33.3	8.2	58.5
Canning and preserving.....	71,972	6,920	4,244	968	1,705	5,054	59,958	9.6	7.1	83.3
Carriages and wagons and materials.....	82,944	8,844	6,213	1,166	1,465	4,172	69,928	10.7	5.0	84.3
Cars and general shop construction and repairs by steam-railroad companies.....	301,273	6,974	2	1,877	5,095	12,125	282,174	2.3	4.0	93.7
Cars, steam-railroad, not including operations of railroad companies.....	47,094	1,041	7	241	793	2,967	43,086	2.2	6.3	91.5
Chemicals.....	27,791	1,086	154	367	565	2,991	23,714	3.9	10.8	85.3
Clothing, men's, including shirts.....	271,437	12,041	8,502	1,059	2,450	19,790	239,696	4.4	7.2	88.3
Clothing, women's.....	179,021	9,281	6,482	842	1,957	15,997	153,743	5.2	8.9	85.9
Confectionery.....	54,854	3,262	1,832	766	764	6,854	44,698	6.1	12.5	81.4
Copper, tin, and sheet-iron products.....	86,934	7,269	4,423	1,288	1,558	6,050	73,615	8.4	7.0	84.7
Cotton goods, including cotton small wares.....	387,771	4,461	377	1,726	2,358	4,430	373,850	1.2	1.1	97.7
Electrical machinery, apparatus, and supplies.....	105,600	4,121	439	997	2,685	14,223	87,256	2.9	13.5	82.5
Flour-mill and gristmill products.....	66,054	18,763	14,570	1,486	2,707	7,535	39,433	28.4	11.9	59.7
Foundry and machine-shop products.....	615,485	31,605	9,851	9,345	12,406	32,859	531,011	5.1	8.6	86.3
Furniture and refrigerators.....	144,140	7,281	2,637	2,170	2,454	8,407	128,432	5.1	5.8	89.1
Gas, illuminating and heating.....	51,007	2,986	277	990	1,719	10,806	37,215	5.9	21.2	73.0
Hosiery and knit goods.....	136,130	3,308	1,134	799	1,375	3,547	129,275	2.4	2.6	95.0
Iron and steel, blast furnaces.....	43,061	1,119	48	262	309	3,513	38,429	2.6	8.2	89.2
Iron and steel, steel works and rolling mills.....	260,762	4,286	47	779	3,450	16,400	240,978	1.6	6.3	92.1
Leather goods.....	43,525	4,209	2,552	700	897	4,409	34,907	9.7	10.1	80.2
Leather, tanned, curried, and finished.....	67,100	2,331	784	629	918	2,567	62,202	3.5	3.8	92.7
Liquors, distilled.....	8,328	1,111	563	217	331	787	6,430	13.3	9.4	77.2
Liquors, malt.....	66,725	4,362	639	1,819	1,904	7,784	54,579	6.5	11.7	81.8
Lumber and timber products.....	724,989	68,165	48,825	6,616	12,724	21,805	695,019	8.7	2.8	88.5
Marble and stone work.....	77,275	8,453	6,026	867	1,560	3,219	65,603	10.9	4.2	84.9
Oil, cottonseed, and cake.....	21,273	2,167	110	576	1,481	2,055	17,071	10.2	9.0	80.2
Paint and varnish.....	21,896	2,016	456	793	767	5,640	14,240	9.2	25.8	65.0
Paper and wood pulp.....	81,473	2,298	250	773	1,275	3,197	75,978	2.8	3.9	93.3
Patent medicines and compounds and druggists' preparations.....	41,101	5,647	2,802	1,427	1,418	12,559	22,895	13.7	20.6	55.7
Petroleum; refining.....	16,640	671	42	211	418	2,040	13,929	4.0	12.3	83.7
Printing and publishing.....	388,466	49,332	30,424	7,265	11,643	80,700	258,434	12.7	20.8	66.5
Silk and silk goods, including throwsters.....	105,238	2,236	664	480	1,092	3,965	99,667	2.1	3.8	94.1
Slaughtering and meat packing.....	108,716	3,514	1,659	731	1,124	15,474	89,728	3.2	14.2	82.5
Smelting and refining, copper.....	16,832	275	7	53	215	929	15,628	1.6	5.5	92.8
Smelting and refining, lead.....	8,059	132	.....	44	88	603	7,424	1.6	6.2	92.1
Sugar and molasses, not including beet sugar.....	15,658	789	204	140	445	1,343	13,826	5.0	8.6	86.4
Tobacco manufactures.....	197,637	21,012	17,634	809	2,589	9,815	166,810	10.6	5.0	84.4
Woolen, worsted, and felt goods, and wool hats.....	175,176	3,192	732	782	1,678	3,262	168,722	1.8	1.9	96.3
All other industries.....	1,916,361	117,932	59,096	23,811	35,025	149,968	1,648,441	6.2	7.8	86.0

The highest proportion of proprietors and officials shown for any individual industry covered by the table, 33.3 per cent, is for the butter, cheese, and condensed-milk industry. Many of the establishments in this industry are carried on by cooperative associations, and the practice in 1909, as at prior censuses, was not to include the members of such associations as proprietors in the totals, but to omit them altogether. From the information contained in the reports, it is impossible, in some instances, to distinguish such associations from partnerships, and the large number of proprietors and officials shown for this industry indicates the probability that the members of some associations were inadvertently included as partners. The high percentage of proprietors and

officials in the flour-mill and gristmill and the bakery industries is explained by the fact that the majority of the establishments are small and the work is to a large extent done by the proprietors or their immediate representatives, while in the large flour mills automatic machinery has reduced the amount of labor to a minimum.

A factor which has much to do with the proportion of clerks among the total number of employees in an industry is the method of marketing the product. Thus there are high percentages of clerks in the manufacture of patent medicines and compounds and druggists' preparations, and in the paint and varnish, illuminating-gas, and printing and publishing industries. In these industries the average num-

ber of customers or patrons for each establishment is large and this necessitates a large force of employees for soliciting trade, correspondence, accounting, and collection.

In general, though not in all cases, the larger the average size of establishments in an industry, the smaller is the proportion of proprietors, officials, and clerks, and the larger the proportion of wage earners. Thus the four textile industries—the cotton, woolen, hosiery and knit-goods, and silk-manufacturing industries—which are mainly conducted in large factories, show the largest proportions of wage earners. An unusually large proportion of wage earners is shown also for the paper and pulp mills, the steel works and rolling mills, the construction of steam-railroad cars, the smelting and refining of copper and lead, the tanning and finishing of leather, boots and shoes, and the repair shops of steam railroads.

Comparison with previous censuses as to occupational status.—In order to compare the distribution of persons engaged in manufacturing industries according to occupational status in 1909 with that shown at the census of 1904, it is necessary to use the classification employed at the earlier census. (See p. 451.) Such a comparison is made in the following table. Comparable figures for 1899 are not available.

CLASS.	PERSONS ENGAGED IN MANUFACTURES.				
	1900		1904		Per cent of increase, 1904-1909.
	Number.	Per cent distribution.	Number.	Per cent distribution.	
Total.....	7,678,578	100.0	6,213,612	100.0	23.6
Proprietors and firm members.....	273,265	3.6	225,073	3.6	21.1
Salariated employees.....	790,267	10.3	519,556	8.4	52.1
Wage earners (average number).....	6,615,046	86.1	5,468,983	88.0	21.0

A greater percentage of increase is shown for salariated employees than for the other two classes. This is due in part to the changes from individual and firm ownership to corporate organization, a change which frequently involves the transfer of proprietors and firm members to the class of officials. At the same time there is no doubt that the number of clerks here classified with the other salariated employees has increased relatively faster than the number of wage earners. This may indicate an increase of the practice on the part of the manufacturers of direct sale of

goods without the interposition of so many middlemen as formerly handled the product.

Sex and age distribution, by leading industries: 1909.—Table 12, on the opposite page, shows, for the 43 leading industries, the number and per cent distribution, by age and sex, of wage earners as reported for December 15, or the nearest representative day. As a means of judging the true importance of the several industries as employers of labor, the average number employed for the entire year is also given in each case, this number, in the case of seasonal industries, being much smaller than the number on the representative day. The per cent distribution for all industries combined, based on the average number employed as shown in Table 9, is also presented.

In all industries combined 78 per cent of the average number of wage earners were males 16 years of age or over, 19.5 per cent females 16 years of age or over, and 2.5 per cent children under the age of 16.

The industries for which the largest proportions of males 16 years of age or over are shown are those in which the work is of a nature requiring much physical strength or a high degree of skill. Thus in the smelting and refining of both copper and lead males 16 years of age or over constitute 99.9 per cent of the total number of wage earners, and in the blast furnaces they constitute 99.8 per cent. Other industries in which males of 16 years or over represent more than 99 per cent of the wage earners are the gas industry, construction of steam-railroad cars, steel works and rolling mills, marble and stone work, the repair shops of steam railroads, and the manufacture of cotton-seed oil.

The proportion of women and children, naturally, is larger in those industries in which the processes require dexterity rather than strength. In six of the industries covered by Table 12—the making of men's and women's clothing, the confectionery industry, and the manufacture of hosiery and knit goods, of patent medicines and compounds and druggists' preparations, and of silk and silk goods—more than half of the wage earners are females 16 years of age or over.

The proportion of wage earners under 16 years is larger in three of the textile industries—the cotton goods, silk and silk goods, and hosiery and knit-goods industries—than in any other of the principal industries of the country. The proportion is also relatively high in the canning and preserving, confectionery, and woolen-goods industries.

Table 12

INDUSTRY.	WAGE EARNERS.							
	Average number.	Number Dec. 15, or nearest representative day.				Per cent of total.		
		Total.	16 years of age and over.		Under 16 years of age.	16 years of age and over.		Under 16 years of age.
			Male.	Female.		Male.	Female.	
All industries.....	6,615,046	(1)	(1)	(1)	(1)	78.0	19.5	2.5
Agricultural implements.....	50,551	55,429	54,529	674	226	98.4	1.2	0.4
Automobiles, including bodies and parts.....	75,721	97,250	96,060	982	208	98.8	1.0	0.2
Boots and shoes, including cut stock and findings.....	198,297	211,597	132,411	70,457	5,639	62.6	33.3	4.1
Brass and bronze products.....	40,618	46,230	42,908	2,774	548	92.8	6.0	1.2
Bread and other bakery products.....	100,216	104,443	84,956	17,407	2,080	81.3	16.7	2.0
Butter, cheese, and condensed milk.....	18,431	19,223	17,743	1,468	112	91.8	7.6	0.1
Canning and preserving.....	59,968	155,847	67,219	77,593	11,635	43.1	49.8	7.6
Carriages and wagons and materials.....	69,928	72,783	71,104	1,126	553	97.7	1.5	0.8
Cars and general shop construction and repairs by steam-railroad companies.....	282,174	302,060	301,431	455	194	99.8	0.2	0.1
Cars, steam-railroad, not including operations of railroad companies.....	43,086	58,274	58,046	190	38	99.6	0.3	0.1
Chemicals.....	23,714	25,341	24,102	1,061	173	95.1	4.2	0.7
Clothing, men's, including shirts.....	239,696	257,128	109,139	142,781	5,208	42.4	55.5	2.0
Clothing, women's.....	153,743	162,859	58,316	103,063	1,480	35.8	63.3	0.9
Confectionery.....	44,638	52,421	18,836	30,453	3,122	35.9	58.1	6.0
Copper, tin, and sheet-iron products.....	78,615	78,909	66,797	9,716	2,396	84.6	12.3	3.9
Cotton goods, including cotton small wares.....	378,880	387,698	197,420	150,057	40,221	50.9	38.7	19.4
Electrical machinery, apparatus, and supplies.....	59,968	102,950	78,605	23,398	947	76.4	22.7	0.9
Flour-mill and gristmill products.....	39,453	42,495	41,787	565	143	98.3	1.3	0.3
Foundry and machine-shop products.....	531,011	604,167	587,636	11,895	4,639	97.3	2.0	0.8
Furniture and refrigerators.....	128,462	138,829	132,176	3,677	2,976	95.2	2.6	2.1
Gas, illuminating and heating.....	37,215	37,396	37,308	71	17	99.8	0.2	(2)
Hosiery and knit goods.....	129,275	136,713	37,419	88,153	11,111	27.4	64.5	8.1
Iron and steel, blast furnaces.....	38,429	47,278	47,184	10	84	99.8	(2)	0.2
Iron and steel, steel works and rolling mills.....	240,076	284,264	281,801	1,114	1,349	99.1	0.4	0.5
Leather goods.....	34,907	36,502	29,868	5,738	896	81.8	15.7	2.5
Leather, tanned, curried, and finished.....	62,202	66,717	64,005	2,230	482	95.9	3.3	0.7
Liquors, distilled.....	6,430	8,130	7,008	1,111	11	98.2	13.7	0.1
Liquors, malt.....	54,579	54,135	52,865	1,040	230	97.7	1.9	0.4
Lumber and timber products.....	685,019	838,160	826,978	4,027	7,155	99.7	0.5	0.9
Marble and stone work.....	65,603	67,921	67,575	112	294	99.5	0.2	0.3
Oil, cottonseed, and cake.....	17,071	29,691	29,551	49	91	99.5	0.2	0.3
Paint and varnish.....	14,240	14,426	13,207	1,187	82	91.5	7.9	0.6
Paper and wood pulp.....	75,978	78,672	68,497	9,909	206	87.1	12.6	0.3
Patent medicines and compounds and druggists' preparations.....	22,895	24,683	11,503	12,672	503	43.6	51.3	2.1
Petroleum, refining.....	13,929	14,873	14,657	170	46	98.5	1.1	0.3
Printing and publishing.....	253,434	272,027	204,388	60,973	6,666	75.1	22.4	2.4
Silk and silk goods, including throwsters.....	99,037	102,309	35,785	58,441	8,143	35.0	57.1	8.0
Slaughtering and meat packing.....	89,728	94,854	88,352	5,990	542	93.1	6.3	0.6
Smelting and refining, copper.....	15,628	16,029	16,018	1	16	99.9	.....	0.1
Smelting and refining, lead.....	7,424	8,002	8,001	1	.....	99.9	(2)	.....
Sugar and molasses, not including beet sugar.....	13,526	25,134	24,626	376	132	95.0	1.5	0.5
Tobacco manufactures.....	106,810	181,086	90,417	84,163	6,426	46.9	46.5	3.6
Woolen, worsted, and felt goods, and wool hats.....	168,722	176,171	92,820	72,409	9,942	53.0	41.3	5.7

¹ No totals given for reasons explained on page 452.

² Less than one-tenth of 1 per cent.

In addition to the industries shown in the above table, which were selected according to their importance with respect to gross value of products, certain others are of interest because of the relatively large number of women and children employed. Table 13, on the following page, shows the sex and age distribution of wage earners in all industries not covered by the preceding table in which there were at least 5,000 women, or in which the women constituted over 40 per cent of the wage earners and numbered not less than 500.

The table shows that there are a large number of industries, some of considerable importance, in which women 16 years of age or over represent more than 40 per cent of the total number of wage earners. In the manufacture of corsets, of artificial flowers, feathers, and plumes, and of steel pens, more than 80 per cent

of the wage earners are women. Other industries in which female wage earners 16 years of age or over constitute over three-fourths of the total number employed are the manufacture of men's furnishing goods and of millinery and lace goods, and the grading, roasting, cleaning, and shelling of peanuts. Large numbers of women are also employed in several industries listed in this table in which, however, the proportion which these represent of the total number of wage earners is less than 40 per cent.

Of the industries shown in Table 13, those in which the proportion of children under 16 years of age exceeds 5 per cent are the manufacture of bags, other than paper; cigar boxes; fancy and paper boxes; horse clothing; cordage and twine; needles, pins, and hooks and eyes; lead pencils; stationery goods, not elsewhere specified; and the cork-cutting industry.

Table 13

INDUSTRY.	WAGE EARNERS.							
	Average number.	Number Dec. 15, or nearest representative day.				Per cent of total.		
		Total	16 years of age and over.		Under 16 years of age.	16 years and over.		Under 16 years of age.
			Male	Female.		Male.	Female.	
Artificial flowers and feathers and plumes.....	10,016	10,769	1,416	9,017	336	13.1	83.7	3.1
Awning, tents, and sails.....	4,242	4,043	2,264	1,715	64	50.0	42.4	1.6
Bags, other than paper.....	7,068	8,437	2,870	4,794	773	34.0	56.8	9.2
Bag, paper.....	3,212	3,299	1,680	1,561	58	50.9	47.3	1.8
Baking powders and yeast.....	2,155	2,273	1,199	1,020	54	52.7	44.9	2.4
Boots and shoes, rubber.....	17,612	18,528	10,095	7,060	473	59.3	38.1	2.6
Boxes, cigar.....	6,115	6,554	2,614	3,260	380	44.5	49.7	5.8
Boxes, fancy and paper.....	39,514	43,239	14,198	25,961	3,080	32.8	60.0	7.1
Buttons.....	16,427	17,873	10,721	6,530	622	60.0	36.5	3.5
Carpets and rugs, other than rag.....	33,307	34,374	19,601	13,859	1,414	56.2	39.7	4.1
Clocks and watches, including cases and materials.....	23,857	25,574	15,775	9,262	537	61.7	36.2	2.1
Clothing, horse.....	1,048	1,789	650	1,047	102	32.4	58.5	9.1
Cordage and twine and jute and linen goods.....	25,820	26,941	13,019	12,063	1,839	48.3	44.8	6.8
Cork, cutting.....	3,142	3,239	1,750	1,310	173	54.2	40.4	5.3
Corsets.....	17,564	18,152	2,291	15,234	627	12.6	83.9	3.5
Dyeing and finishing textiles.....	44,046	45,841	30,486	8,269	1,086	79.6	18.0	2.4
Fireworks.....	1,403	1,380	750	504	60	54.8	40.9	4.3
Flags, banners, regalia, society badges, and emblems.....	3,572	3,552	1,207	2,192	93	35.7	61.7	2.6
Flavoring extracts.....	1,220	1,270	722	522	26	56.8	41.1	2.0
Food preparations.....	14,908	17,786	12,070	5,440	267	67.9	39.6	1.5
Fur goods.....	11,927	14,450	8,539	5,853	58	59.1	40.5	0.4
Furnishing goods, men's.....	38,482	41,970	9,153	31,926	891	21.8	70.1	2.1
Gloves and mittens, leather.....	11,354	12,188	5,202	6,697	289	42.7	54.9	2.4
Gold and silver, leaf and foil.....	1,333	1,417	612	756	40	43.2	53.4	3.5
Hair work.....	3,534	3,885	1,338	2,404	83	34.4	63.4	2.1
Hats, fur-felt.....	25,064	30,292	21,182	8,468	642	69.9	28.0	2.1
Hats, straw.....	8,814	10,328	3,512	6,641	175	34.0	64.3	1.7
House-furnishing goods, not elsewhere specified.....	4,907	5,371	2,713	2,570	88	50.5	47.8	1.6
Jewelry.....	30,347	33,914	23,336	9,645	933	68.8	28.4	2.8
Jewelry and instrument cases.....	2,070	2,343	1,045	1,239	50	44.6	52.9	2.5
Millinery and lace goods.....	39,201	40,522	8,061	31,290	1,171	19.9	77.2	2.9
Needles, pins, and hooks and eyes.....	4,638	4,955	2,262	2,313	380	45.6	46.7	7.7
Paper goods, not elsewhere specified.....	19,211	20,500	10,141	9,707	652	40.5	47.4	3.2
Peanuts, grading, roasting, cleaning, and shelling.....	1,949	2,346	473	1,833	40	20.2	78.1	1.7
Pencils, lead.....	4,134	4,412	1,843	2,244	325	41.8	50.9	7.4
Pens, steel.....	699	729	113	591	25	15.5	81.1	3.4
Pottery, terra-cotta, and fire-clay products.....	56,168	60,842	53,159	6,799	884	87.4	11.2	1.5
Stationery goods, not elsewhere specified.....	6,206	6,417	3,405	2,635	377	53.1	41.1	5.9
Surgical appliances and artificial limbs.....	4,241	4,440	2,193	2,113	134	49.4	47.0	3.0
Umbrellas and canes.....	5,472	5,837	2,586	3,017	234	44.3	51.7	4.0

Sex and age distribution, by states: 1909.—Table 14 shows, for each geographic division and each state, the distribution of wage earners by sex and age and the per cent that each class represents of the total average number of wage earners. The numbers of each sex and each age period are obtained by applying to the average number employed in each industry in each state the percentages of each age and sex in the number of wage earners reported for December 15, or the nearest representative day, and then totaling the result, as more fully explained on page 452.

The relative number of males 16 years of age or over, females 16 years of age or over, and children under 16 employed in each state depends primarily upon the character of the industries in that state, but the number of persons under 16 employed is also affected by the legislation of the several states with regard to child labor. The largest proportions of female wage earners 16 years of age or over are found in the New England and Middle Atlantic divisions,

owing chiefly to the importance of the textile and clothing industries in these divisions. Next to these two divisions in this respect ranks the South Atlantic division, and in this division appears the largest proportion of wage earners under 16 years of age, 6.3 per cent. This large proportion is due chiefly to the predominance of the textile industries in the South Atlantic states. The proportions of females 16 years of age or over and of children under 16 are lowest in the West South Central, Mountain, and Pacific divisions, where the textile and clothing industries are relatively unimportant.

Among the individual states the largest proportion of female wage earners 16 years of age or over, 32.3 per cent, is found in Rhode Island, and the next largest proportion in New Hampshire, followed closely by Massachusetts and New York. The proportion of children employed is largest in South Carolina, 12.9 per cent, and next largest in North Carolina. Among the Northern states Rhode Island shows the largest percentage of children.

DIVISION AND STATE.	AVERAGE NUMBER OF WAGE EARNERS.				PER CENT OF TOTAL.		
	Total.	16 years of age and over.		Under 16 years of age.	16 years of age and over.		Under 16 years of age.
		Male.	Female.		Male.	Female.	
United States.....	6,615,046	5,163,164	1,290,389	161,493	78.1	19.5	2.4
GEOGRAPHIC DIVISIONS:							
New England.....	1,101,290	760,639	307,076	33,575	69.1	27.9	3.0
Middle Atlantic.....	2,207,747	1,618,967	544,316	44,464	73.3	24.7	2.0
East North Central.....	1,513,764	1,271,013	220,194	22,557	84.0	14.5	1.5
West North Central.....	374,337	311,140	57,471	5,726	83.1	16.4	1.5
South Atlantic.....	663,015	517,456	103,703	41,856	78.0	15.6	6.3
East South Central.....	261,772	228,788	24,995	7,989	87.4	9.5	3.1
West South Central.....	204,520	191,353	9,724	3,443	93.6	4.7	1.7
Mountain.....	75,435	71,142	3,834	459	94.3	5.1	0.6
Pacific.....	213,166	192,666	19,076	1,424	90.4	8.9	0.7
NEW ENGLAND:							
Maine.....	79,955	60,612	17,956	1,337	75.8	22.5	1.7
New Hampshire.....	78,058	53,674	23,888	1,196	68.1	30.4	1.5
Vermont.....	33,788	28,946	4,631	211	85.7	13.7	0.6
Massachusetts.....	584,559	390,544	173,280	20,735	66.8	29.6	3.5
Rhode Island.....	113,638	72,239	36,674	4,625	63.6	32.3	4.1
Connecticut.....	210,792	154,724	50,647	5,421	73.4	24.0	2.6
MIDDLE ATLANTIC:							
New York.....	1,003,981	702,637	293,525	7,819	70.0	29.2	0.8
New Jersey.....	326,223	230,499	82,186	7,538	72.5	25.2	2.3
Pennsylvania.....	877,543	679,831	168,605	29,107	77.5	19.2	3.3
EAST NORTH CENTRAL:							
Ohio.....	446,934	372,694	68,996	5,244	83.4	15.4	1.2
Indiana.....	161,117	122,255	3,612	3,612	86.2	11.9	1.9
Illinois.....	465,764	382,601	76,156	6,917	82.2	16.3	1.5
Michigan.....	231,499	197,777	31,205	2,517	85.4	13.5	1.1
Wisconsin.....	182,583	156,734	21,682	4,267	85.8	11.8	2.3
WEST NORTH CENTRAL:							
Minnesota.....	84,767	73,038	11,423	306	86.2	13.5	0.4
Iowa.....	61,635	51,128	9,460	1,047	83.0	15.3	1.7
Missouri.....	152,993	119,980	29,195	3,818	78.4	19.1	2.5
North Dakota.....	2,789	2,489	243	57	89.2	8.7	2.0
South Dakota.....	3,602	3,099	457	46	86.0	12.7	1.3
Nebraska.....	24,336	20,763	3,356	217	85.3	13.8	0.9
Kansas.....	44,215	40,643	3,337	235	91.9	7.5	0.6
SOUTH ATLANTIC:							
Delaware.....	21,238	17,205	3,504	529	81.0	16.5	2.5
Maryland.....	107,921	72,416	28,957	6,548	67.1	26.8	6.1
District of Columbia.....	7,707	6,861	827	19	89.0	10.7	0.2
Virginia.....	105,676	88,191	13,863	3,622	83.5	13.1	3.4
West Virginia.....	63,893	56,335	4,505	1,653	91.3	7.1	1.6
North Carolina.....	121,473	98,082	21,693	13,693	70.9	17.9	11.3
South Carolina.....	78,046	60,848	12,793	9,405	69.6	17.5	12.9
Georgia.....	104,588	83,998	14,549	6,041	80.3	13.9	5.8
Florida.....	57,473	53,620	3,012	941	93.1	5.2	1.6
EAST SOUTH CENTRAL:							
Kentucky.....	65,400	55,072	9,495	833	84.2	14.5	1.3
Tennessee.....	73,840	63,016	8,379	2,445	85.3	11.3	3.3
Alabama.....	72,148	63,413	5,082	3,553	87.9	7.0	5.1
Mississippi.....	50,394	47,287	2,039	1,058	93.9	4.0	2.1
WEST SOUTH CENTRAL:							
Arkansas.....	44,982	43,763	694	525	97.3	1.5	1.2
Louisiana.....	76,165	70,163	4,473	1,539	92.1	5.9	2.0
Oklahoma.....	13,143	12,345	675	123	93.9	5.1	0.9
Texas.....	70,230	65,092	3,882	1,256	92.7	5.5	1.8
MOUNTAIN:							
Montana.....	11,655	11,430	189	30	98.1	1.6	0.3
Idaho.....	8,220	8,035	155	30	97.7	1.9	0.4
Wyoming.....	2,867	2,810	45	12	98.0	1.6	0.4
Colorado.....	28,067	25,808	2,094	165	92.0	7.5	0.6
New Mexico.....	4,143	3,995	82	66	96.4	2.0	1.6
Arizona.....	6,441	6,366	38	37	98.8	0.6	0.6
Utah.....	11,785	10,470	1,295	110	88.8	10.2	0.9
Nevada.....	2,257	2,222	26	9	98.4	1.2	0.4
PACIFIC:							
Washington.....	69,120	66,042	2,812	266	95.5	4.1	0.4
Oregon.....	28,750	26,406	2,246	98	91.8	7.8	0.3
California.....	115,296	100,218	14,018	1,060	86.9	12.2	0.9

Comparison with previous censuses as to sex and age.—The following table shows, for all industries combined, the distribution of the average number of wage earners according to age periods, and in the case of those 16 years of age or over according to sex, for 1909, 1904, and 1899. As already explained (p. 452), the distribution for 1909 is estimated on the basis of the actual proportions reported for a single represent-

ative day, while the figures for the other two censuses represent averages computed from the number of each class reported for each month of the year.

CLASS.	AVERAGE NUMBER OF WAGE EARNERS.					
	1909		1904		1899	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total.....	6,615,046	100.0	5,468,283	100.0	4,712,768	100.0
16 years of age and over.....	6,453,553	97.6	5,308,496	97.1	4,551,487	96.6
Male.....	5,163,164	78.1	4,242,643	77.6	3,632,977	77.1
Female.....	1,290,389	19.5	1,065,855	19.5	918,510	19.5
Under 16 years of age.....	161,493	2.4	159,885	2.9	161,276	3.4

From an examination of this table it will be seen that, while the numbers of men and women workers increased at each census, the number of children under 16 years of age has been comparatively stationary. For all industries combined there was a slight net increase during the 10 years in the number of children employed, although from 1899 to 1904 the number decreased. The percentage which children represent of the total number of wage earners, however, decreased from census to census. The proportion of adult female wage earners has been the same at each census, while the proportion of adult males has increased slightly.

Comparison of sex and age distribution in selected industries: 1909, 1904, and 1899.—Table 16 shows, in percentages, the distribution of wage earners according to sex and age periods, in 1909, 1904, and 1899, for all industries of any importance in which the proportion of women and children is relatively high or in which the absolute number of women and children is large. The percentages for the three years are comparable though not precisely parallel, for the reason that those for 1909 relate to the number employed on December 15, or the nearest representative day, which in the case of many establishments in some industries was in another month than December, while those for 1904 and 1899 (in which years reports were made for each month of the average number of wage earners by sex and age) are based upon the average number in each group for the month of December. Nevertheless, the figures should be very closely comparable for nearly all industries.

In about three-fifths of the 61 industries shown in this table the number of females 16 years of age or over and of children under the age of 16, taken together, formed a smaller proportion of the wage earners reported for December in 1909 than in 1899, or, in other words, the proportion of males 16 years of age or over increased during the decade. In the cotton-goods industry, in which the number of women and children is greater than in any other industry, each of these classes represented a smaller

percentage of the total number of wage earners in 1909 than in 1899. Similar changes have occurred in the men's clothing and the hosiery and knit-goods industries, both of which are important as employers of women and children. In the silk and woolen industries the proportion of women has increased slightly, but the proportion of children under 16 has decreased. For the tobacco-products industry, in which the proportion of

children has likewise decreased, a marked increase is shown in the proportion of women employed.

Among the 61 industries listed in the table there were 22 in which the percentage of children was higher in 1909 than in 1899, but most of these are relatively unimportant industries. The most conspicuous increase in the proportion of children employed is in the manufacture of bags, other than paper.

Table 16

INDUSTRY.	PER CENT OF ALL WAGE EARNERS EMPLOYED. ¹								
	16 years of age and over.						Under 16 years of age.		
	Male.			Female.					
	1909	1904	1899	1909	1904	1899	1909	1904	1899
Artificial flowers and feathers and plumes.....	13.1	14.1	12.9	83.7	80.7	70.1	3.1	5.2	8.0
Awnings, tents, and sails.....	86.0	89.5	85.1	42.4	39.4	34.0	1.0	1.2	0.9
Bags, other than paper.....	34.0	34.0	31.3	66.8	60.2	65.3	9.2	5.9	3.4
Bags, paper.....	50.9	52.0	53.0	47.3	45.2	45.4	1.8	2.7	1.0
Baking powders and yeast.....	52.7	47.0	49.9	44.9	51.3	48.4	2.4	1.7	1.7
Boots and shoes, including cut stock and findings.....	02.0	03.4	03.6	33.3	33.2	33.4	4.1	3.4	3.1
Boots and shoes, rubber.....	50.3	57.1	60.3	38.1	39.8	38.2	2.6	3.1	1.5
Boxes, cigar.....	44.5	44.5	46.4	49.7	50.0	49.4	5.8	5.5	4.2
Boxes, fancy and paper.....	32.8	29.3	27.9	60.0	64.5	65.9	7.1	6.2	6.2
Bread and other bakery products.....	81.3	79.6	79.2	16.7	18.1	17.7	2.0	2.3	3.1
Buttons.....	60.0	60.8	47.4	36.5	45.9	47.2	3.5	3.3	5.4
Canning and preserving.....	43.1	48.2	55.0	49.8	45.7	40.0	7.1	6.1	4.4
Carpets and rugs, other than rag.....	56.2	51.0	48.4	39.7	43.3	44.1	4.1	5.7	7.5
Clocks and watches, including cases and materials.....	61.7	61.8	63.8	36.2	36.9	34.4	2.1	1.4	1.8
Clothing, horse.....	32.4	36.8	25.2	68.5	56.6	65.5	9.1	6.6	9.2
Clothing, men's, including shirts.....	42.4	37.6	33.9	55.5	60.0	63.4	2.0	2.4	2.6
Clothing, women's.....	85.8	84.9	29.6	63.3	64.4	60.4	0.9	0.8	0.9
Coffee and spice, roasting and grinding.....	59.4	60.3	51.9	39.1	38.3	40.1	1.4	1.4	2.0
Confectionery.....	35.9	35.9	44.7	58.1	59.3	49.8	6.0	4.8	5.4
Copper, tin, and sheet-iron products.....	84.6	85.0	86.7	12.3	12.4	9.2	3.0	2.6	4.1
Cordage and twine and jute and linen goods.....	48.3	57.6	55.2	44.8	35.6	36.8	6.8	6.7	8.1
Cork, cutting.....	54.2	45.1	43.8	40.4	46.7	48.2	5.3	8.3	8.0
Corsets.....	12.6	10.9	9.9	33.9	36.3	37.4	3.5	2.8	2.7
Cotton goods, including cotton small wares.....	50.9	46.6	44.8	38.7	40.5	41.9	10.4	12.9	13.3
Dyeing and finishing textiles.....	79.6	80.2	81.9	18.0	15.9	14.4	2.4	3.9	3.7
Electrical machinery, apparatus, and supplies.....	76.4	80.6	82.8	22.7	18.3	15.8	0.9	1.0	1.5
Fireworks.....	54.8	55.7	54.7	40.9	39.0	36.7	4.3	5.3	8.6
Flags, banners, regalia, society badges, and emblems.....	35.7	32.8	28.2	61.7	65.6	68.9	2.6	1.6	2.9
Flavoring extracts.....	56.8	51.7	51.2	41.1	46.5	46.5	2.0	1.8	2.3
Food preparations.....	67.9	59.0	65.6	30.0	39.2	31.7	1.5	1.8	2.7
Foundry and machine-shop products.....	97.3	97.3	97.7	2.0	1.9	1.4	0.8	0.8	0.9
Fur goods.....	69.1	57.3	45.3	40.5	42.3	53.9	0.4	0.4	0.7
Furnishing goods, men's.....	21.8	14.1	14.7	76.1	84.3	83.3	2.1	1.6	2.0
Gloves and mittens, leather.....	42.7	30.0	30.9	54.9	58.3	67.1	2.4	2.1	2.0
Gold and silver, leaf and foil.....	43.2	45.5	51.0	63.4	51.8	40.8	3.5	2.8	2.2
Hair work.....	34.4	17.8	13.9	63.4	80.5	85.8	2.1	1.7	0.4
Hats, fur-felt.....	60.9	70.3	70.2	28.0	27.6	28.4	2.1	2.1	1.4
Hats, straw.....	34.0	33.4	.....	64.3	65.0	.....	1.7	0.9	.....
Hosiery and knit goods.....	27.4	24.2	25.0	64.5	63.2	64.5	8.1	9.6	10.5
House-furnishing goods, not elsewhere specified.....	50.5	56.0	57.3	47.8	41.5	40.5	1.6	2.5	2.2
Jewelry.....	68.8	71.9	67.2	28.4	26.1	31.0	2.8	2.0	1.8
Jewelry and instrument cases.....	44.6	47.7	48.5	52.9	51.0	47.5	2.5	1.3	4.0
Leather goods.....	81.8	79.7	84.4	15.7	17.3	12.3	2.5	3.0	3.3
Mattresses and spring beds.....	79.9	79.7	77.0	18.4	18.8	20.4	1.7	1.5	2.6
Millinery and lace goods.....	19.9	13.4	16.9	77.2	85.1	81.9	2.9	1.5	1.2
Needles, pins, and hooks and eyes.....	45.6	47.5	50.9	46.7	46.5	44.0	7.7	6.0	5.1
Paper and wood pulp.....	87.1	85.9	83.2	12.6	13.7	16.5	0.3	0.4	0.4
Paper goods, not elsewhere specified.....	49.5	41.5	46.0	47.4	55.3	51.6	3.2	3.2	2.4
Patent medicines and compounds and druggists' preparations.....	46.6	42.2	44.5	51.3	55.4	53.9	2.1	2.4	1.6
Peanuts, grading, roasting, cleaning, and shelling.....	20.2	19.7	.....	78.1	75.4	.....	1.7	4.9	.....
Pencils, lead.....	41.8	42.1	35.8	50.9	54.0	51.9	7.4	3.8	12.3
Pens, steel.....	15.5	9.3	13.6	81.1	83.7	78.8	3.4	7.0	7.6
Pottery, terra-cotta, and fire-clay products.....	87.4	85.8	87.2	11.2	11.8	10.5	1.5	2.4	2.3
Printing and publishing.....	75.1	74.5	74.8	22.4	22.9	20.6	2.4	2.6	4.7
Silk and silk goods, including throwsters.....	35.0	34.1	36.6	57.1	56.7	53.4	8.0	9.2	10.0
Slaughtering and meat packing.....	93.1	92.0	93.1	6.3	6.7	4.5	0.6	1.2	2.4
Stationery goods, not elsewhere specified.....	53.1	49.6	42.9	41.1	45.5	50.7	5.9	3.9	6.4
Surgical appliances and artificial limbs.....	49.4	48.4	54.3	47.6	49.8	40.3	3.0	1.8	5.4
Tobacco manufactures.....	49.9	54.1	57.8	46.5	41.3	37.0	3.6	4.6	4.7
Umbrellas and canes.....	44.3	39.3	39.9	51.7	56.0	56.0	4.0	4.7	4.1
Woolen, worsted, and felt goods, and wool hats.....	53.0	52.8	53.0	41.3	39.6	39.7	5.7	7.6	7.2

¹ For 1904 and 1899 the percentages are based on the average numbers reported for the month of December; for 1909, on the number employed on Dec. 15, or the nearest representative day.

Comparison of sex and age distribution, by states: 1909, 1904, and 1899.—Table 17 shows, for each geographic division and state, for 1909, 1904, and 1899, respectively, the percentage of the average number of wage earners employed during the year represented by males 16 years of age or over, females 16

years of age or over, and children under 16 years of age. For 1909 the percentages have been computed from the returns for a representative day in the manner described on page 452; for the other two years the bases of calculation are average numbers computed for the year from the returns made for each month.

Table 17

DIVISION AND STATE.	PER CENT OF AVERAGE NUMBER OF WAGE EARNERS.								
	16 years of age and over.						Under 16 years of age.		
	Male.			Female.					
	1909	1904	1899	1909	1904	1899	1909	1904	1899
United States.....	78.1	77.6	77.1	19.5	19.5	19.5	2.4	2.9	3.4
GEOGRAPHIC DIVISIONS:									
New England.....	69.1	69.1	68.4	27.9	28.0	28.7	3.0	2.9	2.9
Middle Atlantic.....	73.3	73.9	73.3	24.7	23.5	23.4	2.0	2.7	3.3
East North Central.....	84.0	83.8	84.4	14.5	14.5	13.2	1.5	1.7	2.4
West North Central.....	83.1	83.6	83.4	15.4	14.2	13.6	1.5	2.3	3.0
South Atlantic.....	78.0	75.4	74.7	15.6	17.0	17.4	6.3	7.6	7.9
East South Central.....	87.4	85.9	86.2	9.5	9.7	9.0	3.1	4.3	4.5
West South Central.....	93.6	92.6	91.3	4.7	5.5	6.4	1.7	1.9	2.4
Mountain.....	94.3	93.6	94.4	5.1	5.2	4.2	0.6	1.3	1.3
Pacific.....	90.4	88.6	85.5	8.9	10.3	12.6	0.7	1.2	1.9
NEW ENGLAND:									
Maine.....	75.8	75.6	72.1	22.5	22.4	24.8	1.7	2.0	3.1
New Hampshire.....	68.1	68.1	67.1	30.4	30.5	30.4	1.5	1.5	2.4
Vermont.....	85.7	85.5	85.0	13.7	13.8	14.1	0.6	0.7	0.9
Massachusetts.....	66.8	66.9	66.6	29.6	30.1	30.6	3.6	3.0	2.8
Rhode Island.....	63.6	63.0	62.7	32.3	31.6	31.6	4.1	5.4	5.7
Connecticut.....	73.4	73.1	72.3	24.0	24.5	25.6	2.6	2.4	2.1
MIDDLE ATLANTIC:									
New York.....	70.0	70.4	69.3	29.2	28.6	29.0	0.8	0.9	1.7
New Jersey.....	72.5	73.4	73.3	25.2	23.6	23.1	2.3	3.0	3.7
Pennsylvania.....	77.5	77.9	77.7	19.2	17.6	17.4	3.3	4.5	4.9
EAST NORTH CENTRAL:									
Ohio.....	83.4	83.4	84.0	15.4	15.2	14.7	1.2	1.4	1.3
Indiana.....	86.2	85.3	86.0	11.9	12.5	11.4	1.9	2.2	2.5
Illinois.....	82.2	82.8	82.6	16.3	15.9	14.4	1.5	1.3	3.0
Michigan.....	85.4	84.3	86.2	13.5	13.8	12.2	1.1	1.9	1.6
Wisconsin.....	85.8	85.4	86.0	11.8	11.9	9.9	2.3	2.7	4.0
WEST NORTH CENTRAL:									
Minnesota.....	86.2	87.4	88.5	13.5	12.1	10.4	0.4	0.5	1.1
Iowa.....	83.0	83.0	83.1	15.3	14.8	12.9	1.7	2.2	4.0
Missouri.....	78.4	79.5	78.1	19.1	17.1	18.5	2.5	3.4	3.5
North Dakota.....	89.2	86.7	90.7	8.7	11.3	6.8	2.0	2.0	2.5
South Dakota.....	86.0	87.4	91.4	12.7	11.2	3.6	1.3	1.3	4.9
Nebraska.....	85.3	85.5	86.9	13.8	12.5	9.2	0.9	2.0	3.9
Kansas.....	91.9	90.4	89.9	7.5	7.6	7.2	0.5	2.0	2.9
SOUTH ATLANTIC:									
Delaware.....	81.0	80.5	79.8	16.5	16.0	16.1	2.5	3.5	4.1
Maryland.....	67.1	67.4	65.5	26.8	26.7	28.6	6.1	5.9	6.0
District of Columbia.....	89.0	89.1	87.1	10.7	9.7	11.7	0.2	1.2	1.2
Virginia.....	83.5	81.0	79.5	13.1	14.9	14.9	3.4	4.0	5.5
West Virginia.....	91.3	90.0	89.0	7.1	7.4	8.5	1.6	2.6	2.4
North Carolina.....	70.9	64.9	65.0	17.8	21.4	20.9	11.3	13.6	14.1
South Carolina.....	69.6	68.3	61.9	17.5	20.2	20.1	12.9	16.4	18.0
Georgia.....	80.3	73.5	80.4	13.9	13.6	12.1	5.8	7.9	7.5
Florida.....	93.1	94.2	94.8	5.2	5.0	4.3	1.6	0.8	0.9
EAST SOUTH CENTRAL:									
Kentucky.....	84.2	82.8	84.1	14.6	13.9	11.8	1.3	3.3	4.2
Tennessee.....	85.3	85.4	85.1	11.3	10.9	10.6	3.3	3.6	4.3
Alabama.....	87.9	86.0	87.0	7.0	7.3	6.6	5.1	6.6	6.5
Mississippi.....	93.9	91.4	90.8	4.0	5.3	5.4	2.1	3.3	3.8
WEST SOUTH CENTRAL:									
Arkansas.....	97.3	96.9	96.7	1.5	1.5	1.3	1.2	1.6	2.0
Louisiana.....	92.1	89.4	85.0	5.9	8.2	12.3	2.0	2.4	2.7
Oklahoma.....	93.9	92.0	94.7	5.1	6.0	3.2	0.9	2.0	2.1
Texas.....	92.7	93.3	93.2	5.5	5.1	4.4	1.8	1.7	2.4
MOUNTAIN:									
Montana.....	98.1	97.7	98.1	1.6	1.6	0.9	0.3	0.7	1.1
Idaho.....	97.7	95.8	96.5	1.9	2.9	2.1	0.4	1.3	1.4
Wyoming.....	98.0	97.8	98.5	1.6	1.8	0.7	0.4	0.4	1.0
Colorado.....	92.0	92.4	93.4	7.5	6.2	5.5	0.6	1.4	0.7
New Mexico.....	96.4	97.4	96.5	2.0	1.5	2.4	1.6	1.1	1.0
Arizona.....	98.8	98.9	98.0	0.6	0.7	0.9	0.6	0.4	1.1
Utah.....	88.8	84.9	86.1	10.2	12.6	10.7	0.9	2.4	3.2
Nevada.....	98.4	98.5	95.4	1.2	1.0	1.2	0.4	0.5	3.4
PACIFIC:									
Washington.....	95.5	96.9	97.2	4.1	2.9	2.0	0.4	0.2	0.8
Oregon.....	91.8	90.9	90.4	7.8	8.0	7.7	0.3	1.1	1.9
California.....	86.9	84.4	79.7	12.2	14.0	17.9	0.9	1.6	2.4

In every geographic division except New England, children under 16 years of age constituted a smaller proportion of the average number of wage earners in 1909 than in 1899, while the proportion in New Eng-

land rose slightly, wholly on account of increased proportions in Massachusetts and Connecticut. The proportion of children decreased during the decade in all but five of the states, the exceptions being Massachusetts, Connecticut, Maryland (where there was very little change), Florida, and New Mexico. In the Middle Atlantic, East North Central, West North Central, East South Central, and Mountain divisions women 16 years of age or over represented a larger proportion of the total in 1909 than in 1899, but in the other divisions they constituted a somewhat smaller proportion. Most of the individual states show comparatively little change in the proportion of women, the most conspicuous increases being in certain states where the manufacturing industries are still comparatively undeveloped, such as South Dakota and Nebraska. Marked decreases in the proportion of women took place in Louisiana and California.

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 purposes of comparison figures for 1904 are also given, but these are on a slightly different basis, since at that census each establishment was asked to report the average number employed for each month rather than the number employed on a specified day of each month.

Table 18

MONTH.	WAGE EARNERS IN ALL MANUFACTURING INDUSTRIES. ¹			
	Number.		Per cent of maximum.	
	1909	1904	1909	1904
January.....	6,210,063	5,362,472	88.6	92.7
February.....	6,297,627	5,330,471	89.9	93.9
March.....	6,423,517	5,450,726	91.7	96.0
April.....	6,437,633	5,493,243	91.9	96.8
May.....	6,457,279	5,512,373	92.2	97.1
June.....	6,517,469	5,463,804	93.0	96.2
July.....	6,486,676	5,223,966	92.6	93.8
August.....	6,656,923	5,420,618	95.0	95.5
September.....	6,898,766	5,608,412	95.5	98.3
October.....	6,997,090	5,676,320	99.9	100.0
November.....	7,006,853	5,557,028	100.0	98.4
December.....	6,990,652	5,490,453	99.8	96.7

¹ The numbers for 1909 represent the number employed on the 15th of each month, or the nearest representative day; those for 1904, the average number employed during each month.

In 1909 the largest number of wage earners, 7,006,853, was employed in November, and the smallest number, 6,210,063, in January, this number being equal to 88.6 per cent of the maximum. In 1904 the largest number was employed in October and the smallest number in January, the minimum representing 92.7 per cent of the maximum. In 1909 a fairly constant increase in employment was shown from January to November, except that the number employed in July was a little lower than in June.

The figures for employment by months for all industries combined fail to show fully the variations in employment, since a variation in one direction in one industry may be offset by a variation in the opposite direction in another industry. Except for distinctly

seasonal industries, however, the employment in most of the important industries of the country appears to have been comparatively steady throughout the year 1909. The following table shows the amount of variation in certain industries. It gives (1) the 14 industries which reported the largest average number of wage earners, including all reporting 100,000 or more, and (2) the 12 industries which show the greatest variations in employment, including all (except one or two employing less than 1,000 wage earners each) in which the number for the month of least activity is less than one-half that for the month of greatest activity.

Table 19

INDUSTRY.	WAGE EARNERS.					
	Average number.	Maximum number.		Minimum number.		Per cent of maximum.
		Month.	Number.	Month.	Number.	
<i>Principal industries.</i>						
Lumber and timber products..	695,010	Nov...	730,160	Jan...	640,230	87.8
Foundry and machine-shop products.....	531,011	Dec...	597,234	Jan....	482,080	80.7
Cotton goods, including cotton small wares.....	378,880	Dec...	383,529	Jan...	374,433	97.6
Cars and general shop construction and repairs by steam-railroad companies.....	282,174	Dec...	301,538	May...	208,700	89.1
Printing and publishing.....	253,434	Dec...	269,884	July...	251,787	93.3
Iron and steel, steel works and rolling mills.....	240,076	Dec...	283,629	Mar...	215,076	75.8
Clothing, men's, including shirts.....	239,696	Dec...	251,349	Jan....	230,650	91.8
Boots and shoes, including cut stock and findings.....	198,207	Dec...	207,452	May...	190,382	91.8
Woolen, worsted, and felt goods, and wool hats.....	168,722	Nov...	173,943	Jan....	158,318	91.0
Tobacco manufactures.....	166,810	Dec...	176,369	Jan....	161,563	91.6
Clothing, women's.....	153,743	Oct...	167,525	July...	135,034	80.6
Hosiery and knit goods.....	129,275	Nov...	134,540	Jan....	123,308	91.7
Furniture and refrigerators.....	128,452	Nov...	136,615	Jan....	120,524	88.2
Bread and other bakery products.....	100,216	Oct...	102,770	Jan....	96,639	94.0
<i>Industries showing large variation.</i>						
Brick and tile.....	76,528	July...	104,930	Jan....	38,312	36.5
Canning and preserving.....	59,968	Sept...	154,800	Jan....	19,998	12.9
Fertilizers.....	18,310	Mar...	29,310	July...	14,264	48.7
Oil, cottonseed, and cake.....	17,071	Nov...	29,334	July...	5,174	17.6
Ice, manufactured.....	16,114	July...	22,872	Jan....	9,847	43.1
Artificial stone.....	9,957	Aug...	12,884	Jan....	4,856	37.7
Hats, straw.....	8,814	Mar...	11,488	July...	4,700	40.9
Beet sugar.....	7,204	Nov...	16,807	Feb...	2,206	13.1
Sugar and molasses.....	4,127	Nov...	15,761	Feb...	559	3.5
Vinegar and cider.....	1,542	Oct...	3,464	Mar...	886	25.6
Grindstones.....	1,394	May...	1,665	Jan....	795	47.7
Rice, cleaning and polishing...	1,239	Oct...	2,017	July...	436	21.6

Considering first the principal industries, it will be seen that the greatest regularity of employment was in the manufacture of cotton goods, in which the number employed during the month of least activity, January, was equal to 97.6 per cent of the number employed in the month of greatest activity, Decem-

ber. Other industries in which the number for the month of least activity was more than 90 per cent of the number for the month of greatest activity are the manufacture of boots and shoes, bakeries, the men's clothing industry, the tobacco-products industry, the manufacture of woolen goods and of hosiery and knit goods, and printing and publishing. Among the principal industries the greatest variation appears in the steel works and rolling mills, in which the number employed during March, the month of least activity, was only 75.8 per cent of the number employed during December, the month of greatest activity. The women's clothing and foundry and machine shop industries also show a comparatively large degree of variation in the number employed.

The lumber industry, as already stated, includes logging camps as well as sawmills, and also includes planing mills and wooden packing-box factories. The variation in employment in all of these branches taken together for the country as a whole is not very great, the number employed during the month of least activity being 87.8 per cent of the number employed during the month of greatest activity. For the logging camps alone, however, there is greater variation, the number employed during July, 170,587, being only 76.6 per cent of the number employed in December, which was 222,564. Furthermore, since in different sections of the country the active season in the woods covers different months, if the operations of the logging camps in each geographic division are considered separately, a much wider variation appears in the number employed, this being particularly true in the Northern states.

There are a number of industries which are conspicuously seasonal in character. In the case of some of these the weather will not permit work except at certain seasons, and in others the raw material used is available only at certain seasons and must be handled immediately, while in the case of the remainder the demand for the products is conspicuously seasonal. The most variable large industry is canning and preserving, which naturally is confined mainly to the period at which fruits and vegetables are harvested. The industry includes the canning and preserving of fish and oysters, which is carried on in the winter months; if this were excluded there would necessarily be a much greater variation in the numbers employed. In this industry the number employed during January, the month of least activity, formed only 12.9 per cent of the number employed during September.

CHARACTER OF OWNERSHIP.

Summary for United States.—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. Comparative figures are given, covering all industries combined, for the censuses of 1909 and 1904. Similar data for 1899 are not available.

CHARACTER OF OWNERSHIP.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
All classes:				
1909.....	268,491	6,615,046	\$20,672,051,870	\$8,529,280,992
1904.....	216,180	5,468,383	14,793,902,583	6,293,694,753
Average per establishment—				
1909.....		25	76,993	31,767
1904.....		25	68,433	29,113
Individual:				
1909.....	140,605	804,883	2,042,061,500	968,824,072
1904.....	113,946	755,923	1,702,830,624	824,292,887
Average per establishment—				
1909.....		6	14,523	6,890
1904.....		7	14,944	7,234
Firm:				
1909.....	54,265	794,836	2,184,107,632	951,383,741
1904.....	47,934	841,242	2,132,536,604	930,143,823
Average per establishment—				
1909.....		15	40,249	17,532
1904.....		18	44,489	19,405
Corporation:				
1909.....	69,501	5,002,393	16,341,116,634	6,582,207,117
1904.....	51,097	3,862,698	10,904,069,307	4,526,055,153
Average per establishment—				
1909.....		72	235,121	94,721
1904.....		76	213,399	88,578
Other:				
1909.....	4,120	12,934	104,766,104	26,846,062
1904.....	3,203	8,520	54,466,028	13,202,890
Average per establishment—				
1909.....		3	25,429	6,516
1904.....		3	17,005	4,122
Per cent of total—				
1909.....	100.0	100.0	100.0	100.0
1904.....	100.0	100.0	100.0	100.0
Individual:				
1909.....	52.4	12.2	9.9	11.4
1904.....	52.7	13.8	11.5	13.1
Firm:				
1909.....	20.2	12.0	10.6	11.2
1904.....	22.2	15.4	14.4	14.8
Corporation:				
1909.....	25.9	75.6	79.0	77.2
1904.....	23.6	70.6	73.7	71.9
Other:				
1909.....	1.5	0.2	0.5	0.3
1904.....	1.5	0.2	0.4	0.2

The most important distinction shown is that between corporate and all other forms of ownership. Of the total number of establishments reported as engaged in manufacturing industries in 1909, 25.9 per cent were under corporate ownership. The corresponding figure for 1904 was 23.6 per cent. While corporations thus controlled only about one-fourth of the total number of establishments, they gave employment to a large proportion of all wage earners reported, namely, 75.6 per cent in 1909 and 70.6 per cent in 1904. The value of the products of the factories operated by corporations represented 79 per cent of the total value of products for all establishments in 1909 and 73.7 per cent in 1904. These figures show that even during this short period of five years the corporate form of ownership increased so greatly that it represented an appreciably larger proportion of the manufacturing interests of the country in 1909 than in 1904.

Partnerships (including limited partnerships) controlled about one-fifth of the total number of manufacturing establishments in 1909, and individuals rather more than one-half of the total number. These two classes of establishments were about equal in volume of business, each reporting in the neighborhood of one-eighth of the total number of wage earners and one-tenth of the total value of products in 1909. During the five years from 1904 to 1909 partnerships lost ground, relatively, to a greater degree than individual ownership, presumably because of the incorporation of many concerns previously operated by firms.

In 1909 there were 4,120 establishments operated by cooperative companies and other miscellaneous forms of ownership that could not be classified as individual, firm, or corporate ownership. These establishments gave employment to only two-tenths of 1 per cent of the wage earners, and the value of their products was only five-tenths of 1 per cent of the total value reported for all establishments.

From 1904 to 1909 the average number of wage earners per establishment decreased for all three principal classes of ownership, while the average value of products per establishment decreased for the establishments under individual and firm ownership but increased for corporate ownership.

Proportion of business done by corporations in the principal industries: 1909 and 1904.—Table 21 on the following page, shows, for the principal industries, the number of manufacturing establishments operated by corporations in 1909 and 1904, and the percentage which they represent of the entire number of establishments; also the value of the manufactured products made in establishments under corporate ownership and the percentage which this represents of the total value. The figures as to total value, on which the percentages are based, will be found in Table 110. Two important industries, the repair shops of steam railroads and the smelting and refining of copper, are not shown separately in this table, as to do so would disclose the operations of individual establishments.

This table shows that in industries where a large investment in plant and machinery is necessary to the proper conduct of the business, the establishments are as a rule operated by corporations, it being easier under this form of ownership to obtain the necessary capital. All of the establishments engaged in the smelting and refining of lead in 1909 were operated by corporations, and more than 90 per cent of the blast furnaces, steel works and rolling mills, cottonseed-oil mills, and establishments manufacturing steam-railroad cars were under this form of ownership. The general tendency has been toward an increase in the proportion of the establishments operated by corporations, and 35 of the 41 selected

industries show an increase in this respect. In 24 of the 41 selected industries, less than 50 per cent of the establishments were operated by corporations.

As a rule corporations control a much larger proportion of the output of manufactures than they do of the number of establishments. In 16 of the 41 industries the value of the products reported by corporations formed in 1909 more than 90 per cent of the value

reported for all establishments, and in all but 5 of the industries the corporations reported more than 50 per cent of the total value of products. In only 1 of the selected industries, the manufacture of women's clothing, did the proportion of the total value of products reported by corporations fall as low as one-fourth. In this industry it formed only 23.6 per cent of the total value reported for 1909.

INDUSTRY.	NUMBER OF ESTABLISHMENTS.						VALUE OF PRODUCTS OF ESTABLISHMENTS OPERATED BY CORPORATIONS.			
	Total.		Operated by corporations.				Amount.		Per cent of total.	
			Number.		Per cent of total.					
	1900	1904	1909	1904	1909	1904	1909	1904	1909	1904
All industries	268,491	216,180	69,501	51,097	25.9	23.6	\$16,341,116,634	\$10,904,069,307	79.0	73.7
Agricultural implements.....	640	648	340	327	54.5	50.5	140,063,575	105,325,880	96.1	94.0
Automobiles, including bodies and parts.....	743	178	478	113	64.3	63.5	235,802,964	20,454,851	94.6	83.1
Boots and shoes, including cut stock and findings.....	1,918	1,895	784	583	38.3	29.0	365,716,078	210,493,093	71.3	58.3
Brass and bronze products.....	1,021	813	417	271	40.8	33.3	134,981,702	89,044,043	90.0	80.9
Bread and other bakery products.....	23,926	18,226	838	483	3.5	2.6	140,238,713	86,695,177	35.3	32.1
Butter, cheese, and condensed milk.....	8,479	8,926	1,313	1,385	15.5	15.5	113,493,555	61,809,538	41.3	36.5
Canning and preserving.....	3,767	3,168	1,187	940	31.0	29.7	116,496,003	78,808,836	74.2	50.0
Carriages and wagons and materials.....	5,492	5,583	884	806	16.1	14.4	109,348,007	90,894,926	68.4	62.2
Cars, steam-railroad, not including operations of railroad companies.....	110	73	104	67	94.5	81.8	109,079,572	109,079,572	97.4	98.1
Chemicals.....	349	275	206	207	76.2	75.3	115,200,377	65,786,129	68.0	67.5
Clothing, men's, including shirts.....	6,354	6,145	824	538	13.0	10.5	187,167,188	.....	32.9	.....
Clothing, women's.....	4,558	3,351	583	319	12.8	9.5	90,666,632	46,168,046	23.6	18.6
Confectionery.....	1,944	1,348	595	384	30.6	28.5	60,821,095	52,802,483	71.8	60.6
Copper, tin, and sheet-iron products.....	4,228	2,540	1,034	501	24.5	23.3	149,640,465	80,395,170	74.9	67.0
Cotton goods, including cotton small wares.....	1,324	1,154	1,113	922	84.1	79.9	508,770,236	417,923,307	95.3	92.3
Electrical machinery, apparatus, and supplies.....	1,009	784	720	524	71.4	66.5	213,668,653	133,777,339	66.3	60.3
Flour-mill and gristmill products.....	11,691	10,051	2,271	1,732	19.4	17.2	588,189,883	420,736,098	69.6	60.3
Foundry and machine-shop products.....	13,233	10,765	6,408	4,542	48.4	42.2	1,682,715,968	724,924,320	83.1	82.3
Furniture and refrigerators.....	3,155	2,502	1,499	1,125	47.5	43.5	192,067,264	128,051,459	80.1	72.0
Gas, illuminating and heating.....	1,296	1,019	1,001	931	84.2	81.4	165,108,539	123,789,392	99.0	98.9
Hosiery and knit goods.....	1,374	1,144	651	476	47.4	41.6	142,021,832	.....	71.0	.....
Iron and steel, blast furnaces.....	298	190	105	182	35.8	25.8	386,361,850	226,518,168	58.7	47.7
Iron and steel, steel works and rolling mills.....	446	415	424	385	95.1	92.8	660,646,017	660,646,017	99.5	98.9
Leather goods.....	2,375	1,918	569	403	24.0	21.0	61,627,700	39,809,140	58.8	48.5
Leather, tanned, curried, and finished.....	919	1,049	454	391	49.4	37.3	250,296,374	165,780,461	70.3	66.8
Liquors, distilled.....	613	805	220	178	37.4	22.1	180,427,167	116,399,008	88.1	88.7
Liquors, malt.....	1,414	1,530	906	930	70.4	60.8	538,480,960	265,219,137	90.3	88.2
Lumber and timber products.....	40,071	25,153	6,969	4,909	17.1	19.5	793,810,129	530,795,071	68.7	60.7
Marble and stone work.....	4,964	2,698	811	407	16.3	17.9	54,859,637	.....	45.3	.....
Oil, cottonseed, and cake.....	817	716	766	677	94.7	94.7	141,730,952	93,817,578	95.8	97.3
Paint and varnish.....	791	689	526	360	66.5	56.3	106,340,811	75,478,279	85.2	83.1
Paper and wood pulp.....	777	701	635	537	81.5	77.1	248,435,331	160,665,696	92.3	89.9
Patent medicines and compounds and druggists' preparations.....	3,042	2,777	1,610	1,161	44.2	41.8	111,493,887	81,831,451	78.5	69.7
Petroleum, refining.....	147	98	131	83	89.1	84.7	232,580,909	169,548,502	98.1	96.9
Printing and publishing.....	31,445	27,793	7,184	5,354	22.8	19.3	516,400,736	308,720,392	70.0	66.7
Silk and silk goods, including throwsters.....	852	624	468	315	54.9	50.5	134,496,807	92,403,120	68.3	69.3
Slaughtering and meat packing.....	1,641	1,221	488	298	29.7	24.4	1,215,423,015	793,071,340	88.7	86.1
Smelting and refining, lead.....	28	32	28	28	100.0	87.5	167,405,650	185,366,977	100.0	99.8
Sugar and molasses, not including beet sugar.....	233	344	114	112	48.9	32.6	255,895,127	223,854,504	91.6	80.7
Tobacco manufactures.....	15,822	10,827	722	503	4.6	3.3	277,102,771	188,186,060	66.5	68.5
Woolen, worsted, and felt goods, and wool hats.....	985	1,074	578	513	58.7	48.2	363,283,846	239,816,637	83.3	78.1
All other industries.....	63,070	49,923	22,277	15,968	35.3	32.0	4,428,400,968	3,136,410,027	82.5	83.3

Proportion of business done by corporations, by states: 1909 and 1904.—Table 22 shows, for the geographic divisions and for each state, the number of manufacturing establishments operated by corporations in 1909 and 1904, and the percentage which they represent of the entire number of establishments;

also the value of the manufactured products made in establishments under corporate ownership, and the percentage which this represents of the total value. The figures as to total value for each of the states, on which the percentages are based, will be found in Table 111.

Table 22

DIVISION AND STATE.	NUMBER OF ESTABLISHMENTS.						VALUE OF PRODUCTS OF ESTABLISHMENTS OPERATED BY CORPORATIONS.			
	Total.		Operated by corporations.				Amount.		Per cent of total.	
			Number.		Per cent of total.					
	1909	1904	1909	1904	1909	1904	1909	1904	1909	1904
United States	268,491	216,180	69,501	51,097	25.9	23.6	\$16,341,116,634	\$10,904,069,307	79.0	73.7
GEOGRAPHIC DIVISIONS:										
New England	25,351	22,279	7,300	5,572	28.8	25.0	2,173,070,560	1,599,457,541	81.4	74.5
Middle Atlantic	81,315	67,699	17,785	12,460	21.9	18.4	5,133,389,739	3,417,242,344	71.9	65.5
East North Central	60,013	51,754	17,755	14,093	29.6	27.2	4,434,329,994	2,913,000,832	85.1	80.8
West North Central	27,171	21,492	6,649	4,816	24.5	22.4	1,513,533,331	1,044,065,587	83.9	81.3
South Atlantic	28,088	19,564	6,765	4,820	24.1	24.7	1,059,302,614	701,334,357	76.7	72.0
East South Central	15,381	10,311	3,558	2,672	23.1	25.9	494,623,131	349,227,144	78.5	75.2
West South Central	12,339	8,279	3,403	2,298	27.6	27.8	509,339,325	315,236,430	81.4	75.9
Mountain	5,254	3,610	1,743	1,114	33.3	30.9	328,652,051	230,401,412	90.3	90.5
Pacific	13,579	11,192	4,543	3,252	33.5	29.1	695,018,111	423,992,759	82.4	76.9
NEW ENGLAND:										
Maine	3,546	3,145	861	671	24.3	21.3	136,156,275	101,575,154	77.3	70.5
New Hampshire	1,961	1,618	424	338	21.6	20.9	126,642,602	88,159,093	76.9	71.3
Vermont	1,958	1,699	372	309	19.0	18.2	42,641,046	36,373,592	82.4	57.7
Massachusetts	11,684	10,723	3,483	2,555	29.8	23.8	1,182,935,652	819,543,602	79.4	72.1
Rhode Island	1,951	1,617	659	512	33.8	31.7	243,426,998	158,322,601	86.8	78.3
Connecticut	4,251	3,477	1,501	1,187	35.3	34.1	441,267,987	314,484,099	90.9	85.2
MIDDLE ATLANTIC:										
New York	44,935	37,194	9,245	6,086	20.8	16.4	2,108,026,670	1,596,324,211	62.6	56.1
New Jersey	8,817	7,010	2,560	1,834	29.0	26.2	971,904,531	617,236,276	84.8	79.7
Pennsylvania	27,563	23,495	5,880	4,540	21.3	19.3	2,063,458,838	1,493,081,857	78.2	71.7
EAST NORTH CENTRAL:										
Ohio	15,138	13,785	5,123	4,008	33.8	29.1	1,249,778,444	777,392,416	86.9	80.9
Indiana	7,969	7,044	2,363	1,915	29.7	27.2	495,570,090	317,481,228	85.6	80.6
Illinois	18,026	14,921	5,209	4,145	28.9	27.8	1,646,518,916	1,179,028,340	85.8	83.6
Michigan	9,159	7,446	2,638	2,044	28.8	27.4	571,102,107	328,155,756	83.4	78.5
Wisconsin	9,721	8,558	2,422	1,981	24.9	23.1	471,360,437	319,912,592	79.8	75.6
WEST NORTH CENTRAL:										
Minnesota	5,561	4,756	1,326	922	23.8	19.4	330,924,567	234,013,794	80.8	76.0
Iowa	5,528	4,785	1,317	1,041	23.8	21.8	189,182,389	116,246,585	73.0	72.4
Missouri	8,375	6,464	2,447	1,847	29.2	28.6	508,761,173	379,465,293	88.6	86.3
North Dakota	752	507	133	81	17.7	16.0	13,588,608	5,146,817	71.0	50.4
South Dakota	1,020	686	216	112	21.2	16.3	9,870,131	6,003,547	55.2	45.9
Nebraska	2,600	1,819	487	359	19.5	19.7	175,021,402	138,623,975	88.2	89.5
Kansas	3,435	2,475	723	454	21.0	18.3	285,037,061	164,568,576	87.9	83.0
SOUTH ATLANTIC:										
Delaware	726	631	202	160	27.8	25.0	36,071,958	1,238,921,912	68.3	70.3
Maryland	4,837	3,852	873	650	18.0	16.9	207,102,289	147,744,248	65.6	66.7
District of Columbia	518	482	122	91	23.6	18.9	18,544,835	10,150,928	65.4	58.3
Virginia	5,685	3,187	1,099	702	19.3	22.0	163,780,071	199,546,399	74.5	73.6
West Virginia	2,586	2,109	813	638	31.4	30.3	140,385,264	78,951,063	86.7	73.7
North Carolina	4,931	3,272	1,339	879	27.2	26.9	182,140,684	112,510,110	84.1	79.6
South Carolina	1,854	1,399	564	464	30.4	33.2	102,403,671	76,493,378	90.4	88.8
Georgia	4,792	3,219	1,262	931	26.1	28.9	165,067,980	114,976,572	81.4	76.1
Florida	2,159	1,413	501	1,308	23.2	21.7	45,815,822	1,27,239,766	62.9	54.2
EAST SOUTH CENTRAL:										
Kentucky	4,776	3,734	1,147	862	24.0	23.1	178,680,245	117,046,726	79.8	73.3
Tennessee	4,609	3,175	1,068	785	23.2	24.7	133,750,538	97,285,799	74.2	70.5
Alabama	3,398	1,882	788	678	23.2	30.7	123,502,394	92,725,327	84.6	84.9
Mississippi	2,598	1,520	555	447	21.4	29.4	58,719,954	42,169,292	72.9	73.4
WEST SOUTH CENTRAL:										
Arkansas	2,925	1,907	640	518	21.9	27.2	55,555,922	36,724,917	74.2	71.9
Louisiana	2,516	2,091	910	700	36.2	33.5	183,303,633	138,977,223	81.8	74.6
Oklahoma	2,310	1,123	501	1,242	21.7	21.5	39,390,339	17,401,144	73.4	71.1
Texas	4,588	3,158	1,352	839	29.5	26.6	231,059,361	120,133,146	84.7	79.8
MOUNTAIN:										
Montana	677	382	203	118	30.0	30.9	68,458,197	63,369,703	93.4	95.4
Idaho	725	364	200	105	27.6	28.8	16,982,034	6,136,137	75.8	70.9
Wyoming	268	169	168	155	25.0	32.0	14,664,800	12,751,358	74.6	78.1
Colorado	2,034	1,606	698	478	34.3	29.8	116,991,543	89,377,091	90.0	89.2
New Mexico	313	199	196	153	30.4	25.6	16,253,689	14,645,600	79.2	81.4
Arizona	311	169	122	71	38.6	42.0	48,305,675	27,135,784	96.1	96.6
Utah	749	606	294	203	39.3	33.5	56,234,329	34,765,530	90.7	89.3
Nevada	177	115	170	34	37.3	29.6	110,761,784	2,229,299	90.5	71.7
PACIFIC:										
Washington	3,674	2,751	1,444	926	39.3	33.7	185,171,875	163,215,882	83.9	80.1
Oregon	2,246	1,602	640	409	28.5	25.5	70,781,269	49,634,288	76.1	72.1
California	7,659	6,839	2,459	1,917	32.1	28.0	439,064,967	280,742,589	82.9	76.5

¹ Includes establishments operated under other forms of ownership, to avoid disclosing individual operations. There were eight of these establishments in 1909 and seven in 1904 which were included in the total for geographic divisions but are not included in the total for the United States.

Table 22 shows that in most of the states in 1909 the number of manufacturing establishments owned by corporations represented between one-fifth and one-third of the total number of manufacturing establishments. Vermont, North Dakota, Nebraska, Maryland, and Virginia were the only states in which less than one-fifth of the establishments were owned by corporations, and Rhode Island, Connecticut, Ohio, Louisiana, and five states in the western part of the country were the only ones in which over one-third were under this form of ownership. In a large majority of the states the proportion of establishments operated by corporations was larger in 1909 than in 1904, the exceptions being Nebraska, Virginia, South Carolina, Georgia, Tennessee, Alabama, Mississippi, Arkansas, Montana, Idaho, Wyoming, and Arizona.

In most of the states between three-fifths and nine-tenths of the total value of manufactured products in 1909 was reported by establishments under corporate

ownership. The only state in which the proportion was less than three-fifths was South Dakota, while in Connecticut, South Carolina, Montana, Colorado, Arizona, Utah, and Nevada the proportion was nine-tenths or more. Among the great manufacturing states, New York is conspicuous for the comparatively small proportion, 62.6 per cent, of the value of its products contributed by this class of establishments. In almost every state a larger percentage of the total value of products was reported by such establishments in 1909 than in 1904, thus indicating that the tendency toward the incorporation of manufacturing concerns, particularly the larger concerns, is general and to a considerable degree independent of variations in state legislation regarding corporations. The only states in which the proportion of the total value produced by corporations was less in 1909 than in 1904 are Nebraska, Delaware, Alabama, Mississippi, Montana, Wyoming, New Mexico, and Arizona, and the difference in each case was slight.

SIZE OF ESTABLISHMENTS.

Summary for United States.—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, Table 23 groups the establishments in all industries combined according to the value of their products, and shows for each group, for 1909 and 1904, the number of wage earners, value of products, and value added by manufacture, together with the percentage of the respective totals represented by each group. It also gives the average size of establishments as measured by these three items; the changes in this average are, however, much less significant than the changes in the percentages for the several groups.

Of the 268,491 establishments reported as engaged in manufacturing industries in 1909, there were 3,060, or 1.1 per cent, whose products were valued at more than \$1,000,000 each. The corresponding figures for 1904 were 1,900 establishments out of 216,180, or nine-tenths of 1 per cent. While these establishments represented a comparatively small proportion of the total number of establishments, they gave employment to a much larger proportion of all the wage earners reported, namely, 30.5 per cent in 1909 and 25.6 per cent in 1904. The value of products of such establishments represented 43.8 per cent of the total value of products in 1909 and 38 per cent in 1904.

The figures indicate that establishments of this class produced a considerably larger proportion of the manufactures of the country in 1909 than in 1904. It should be noted that the increased proportion is due partly to the fact that certain establishments included in the other groups in 1904 were included in this group in 1909 as the result of an increase in the value of their output.

Table 23 VALUE OF PRODUCTS.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
All classes:				
1909	268,491	6,615,046	\$20,678,051,870	\$8,529,960,992
1904	216,180	5,468,883	14,793,902,563	6,293,694,783
Less than \$5,000:				
1909	93,340	142,430	222,463,847	144,246,008
1904	71,147	100,353	170,128,212	114,781,124
\$5,000 and less than \$20,000:				
1909	86,988	470,000	904,645,604	509,907,934
1904	72,791	410,466	751,047,750	424,129,648
\$20,000 and less than \$100,000:				
1909	57,270	1,090,440	2,544,420,711	1,258,317,991
1904	48,096	1,027,047	2,129,257,883	1,090,271,837
\$100,000 and less than \$1,000,000:				
1909	27,824	2,896,532	7,946,935,255	3,572,740,038
1904	22,246	2,515,004	6,109,012,538	2,782,641,833
\$1,000,000 and over:				
1909	3,060	2,015,029	9,053,580,393	3,044,948,021
1904	1,900	1,400,453	5,628,456,171	1,881,870,216
Per cent of total:				
1909	100.0	100.0	100.0	100.0
1904	100.0	100.0	100.0	100.0
Less than \$5,000:				
1909	34.8	2.2	1.1	1.7
1904	32.9	1.9	1.2	1.8
\$5,000 and less than \$20,000:				
1909	32.4	7.1	4.4	6.0
1904	33.7	7.7	5.1	6.7
\$20,000 and less than \$100,000:				
1909	21.3	16.5	12.3	14.8
1904	22.2	18.8	14.4	17.3
\$100,000 and less than \$1,000,000:				
1909	10.4	43.8	38.4	41.9
1904	10.3	46.0	41.3	44.2
\$1,000,000 and over:				
1909	1.1	30.5	43.8	35.7
1904	0.9	25.6	38.0	29.9
Average per establishment:				
1909		25	\$76,993	\$31,767
1904		25	68,433	29,113

In 1909 establishments with a product valued between \$100,000 and \$1,000,000, gave employment to 43.8 per cent of the wage earners, and the value of their products formed 38.4 per cent of the total. Establishments with a product valued between \$20,000 and \$100,000 gave employment to about one-sixth of the wage earners, and the value of their products formed about one-eighth of the total. The establishments which

had a product valued between \$5,000 and \$20,000, constituted about one-third of the whole number, but gave employment to only 7.1 per cent of the wage earners, and the value of their products formed only 4.4 per cent of the total. Establishments that had a product in 1909 valued at less than \$5,000 also formed about one-third of the total number, but they gave employment to only 2.2 per cent of the wage earners and turned out products whose value amounted to only 1.1 per cent of the total. In this class of establishments a large proportion of the work was done by the proprietors and firm members.

Of the five classes designated, the class of establishments with products valued at \$1,000,000 or over is the only one that reported a larger proportion of the total value of products in 1909 than in 1904, every other class having lost relatively. The same statement is true as to the number of wage earners, except that the establishments of smallest size, as well as those of largest size, have gained somewhat in their proportion of the total number employed.

During the five years 1904-1909 the average value of products per establishment increased from \$68,433 to \$76,993, and the average value added by manufacture from \$29,113 to \$31,767. These changes can scarcely be taken as in themselves indicating a tendency toward concentration, as the increased values shown are due in part to the increase that has taken place in the prices of commodities. The average number of wage earners per establishment was the same at the two censuses, namely, 25.

Relative importance of large establishments in the principal industries: 1909 and 1904.—The following table shows for the principal industries of the United States, for 1909 and 1904, the number of establishments manufacturing products to the value of \$1,000,000 or more, and the percentage which such establishments represent of the total number of establishments; also the value of products made by establishments of this class and the proportion which that value represents of the total for all establishments in the industry.

INDUSTRY.	NUMBER OF ESTABLISHMENTS.						VALUE OF PRODUCTS OF ESTABLISHMENTS REPORTING PRODUCTS VALUED AT \$1,000,000 OR OVER.			
	Total.		Reporting products valued at \$1,000,000 or over.				Amount.		Per cent of total.	
			Number.		Per cent of total.					
	1909	1904	1909	1904	1909	1904	1909	1904	1909	1904
All industries.....	268,491	216,180	3,080	1,900	1.1	0.9	\$9,053,580,393	\$5,623,456,171	43.8	23.0
Agricultural implements.....	640	648	34	27	5.3	4.2	94,128,206	55,479,820	64.3	52.2
Automobiles, including bodies and parts.....	743	178	56	10	7.5	5.6	170,386,862	12,995,669	68.4	48.6
Boots and shoes, including cut stock and findings.....	1,918	1,895	135	162	7.0	8.3	244,547,642	119,079,832	47.7	39.3
Brass and bronze products.....	1,021	813	24	17	2.4	2.1	85,947,143	51,736,503	57.3	50.5
Bread and other bakery products.....	23,926	18,226	21	14	0.1	0.1	36,385,586	23,083,457	9.2	8.6
Butter, cheese, and condensed milk.....	8,479	8,926	9	(1)	0.1	.....	11,933,853	(1)	4.3	.....
Canning and preserving.....	3,767	3,168	13	4	0.3	0.1	23,468,494	5,627,911	14.9	4.3
Carriages and wagons and materials.....	5,492	5,583	13	8	0.2	0.1	23,926,135	13,957,216	15.0	9.9
Cars and general shop construction and repairs by steam-railroad companies.....	1,145	1,140	94	68	8.2	6.0	189,111,816	125,071,900	46.6	40.6
Cars, steam-railroad, not including operations of railroad companies.....	110	73	25	25	22.7	34.2	99,841,717	98,706,346	80.7	82.3
Chemicals.....	349	275	31	18	8.9	6.5	70,806,560	36,296,917	60.2	48.3
Clothing, men's, including shirts.....	6,354	5,145	84	58	1.3	1.1	167,977,252	101,389,821	29.6	24.9
Clothing, women's.....	4,558	3,351	22	11	0.5	0.3	30,612,144	14,037,712	8.0	5.7
Confectionery.....	1,944	1,348	12	5	0.6	0.4	18,898,220	7,733,842	14.1	8.9
Copper, tin, and sheet-iron products.....	4,228	2,540	27	15	0.6	0.6	44,988,549	25,257,976	22.5	21.1
Cotton goods, including cotton small wares.....	1,324	1,154	163	99	12.3	8.6	332,345,643	197,884,132	52.9	43.9
Electrical machinery, apparatus, and supplies.....	1,009	784	31	22	3.1	2.8	126,378,340	85,154,294	57.1	60.5
Flour-mill and gristmill products.....	11,691	10,051	138	87	1.2	0.9	319,047,659	202,952,454	36.1	28.5
Foundry and machine-shop products.....	13,253	10,765	180	111	1.4	1.0	356,015,899	193,749,471	29.0	22.0
Furniture and refrigerators.....	3,155	2,593	11	8	0.3	0.3	20,070,913	12,523,557	8.4	7.0
Gas, illuminating and heating.....	1,296	1,019	28	24	2.2	2.4	96,395,457	73,898,211	57.8	59.0
Hosiery and knit goods.....	1,374	1,144	25	11	1.8	1.0	37,126,550	15,018,710	18.5	11.0
Iron and steel, blast furnaces.....	208	190	86	49	41.3	25.8	235,992,823	173,321,242	85.8	74.8
Iron and steel, steel works and rolling mills.....	446	415	186	131	41.7	31.6	896,764,339	570,175,787	91.0	84.6
Leather, tanned, curried, and finished.....	919	1,049	78	48	8.5	4.6	157,911,458	91,557,225	48.2	26.2
Liquors, distilled.....	613	805	39	22	6.4	2.7	148,433,755	101,537,912	72.5	77.4
Liquors, malt.....	1,414	1,530	67	46	4.7	3.0	138,046,347	84,069,197	36.3	28.2
Lumber and timber products.....	40,671	25,153	72	*28	0.2	0.1	103,756,410	*35,550,164	9.0	4.9
Oil, cottonseed, and cake.....	817	715	17	9	2.1	1.3	35,974,829	21,351,063	24.3	22.1
Paint and varnish.....	791	639	26	16	3.3	2.5	44,109,139	29,873,069	25.3	22.9
Paper and wood pulp.....	777	761	50	30	6.4	3.9	93,580,398	47,301,705	25.0	25.1
Patent medicines and compounds and druggists' preparations.....	3,642	2,777	19	*14	0.5	0.5	33,632,561	*26,851,722	23.7	22.9
Petroleum, refining.....	147	98	35	19	23.8	19.4	208,671,648	154,549,485	88.0	88.3
Printing and publishing.....	31,445	27,793	74	*43	0.2	0.2	137,082,261	*82,419,052	15.6	14.9
Silk and silk goods, including throwsters.....	852	624	37	23	4.3	3.7	68,579,806	39,778,944	34.8	29.8
Slaughtering and meat packing.....	1,641	1,221	166	*110	10.1	9.0	1,176,461,413	*773,222,035	85.8	83.9
Smelting and refining, copper.....	38	40	32	31	84.2	77.5	375,126,093	238,328,190	99.0	99.0
Smelting and refining, lead.....	28	32	21	18	75.0	56.2	166,045,144	181,011,667	99.2	97.4
Tobacco manufactures.....	15,822	16,827	64	43	0.4	0.3	203,894,122	123,000,821	48.9	37.1
Woolen, worsted, and felt goods, and wool hats.....	985	1,074	85	63	8.7	5.9	248,343,955	135,993,881	57.0	42.6
All other industries.....	69,459	53,613	729	455	1.0	0.8	1,880,724,222	1,242,335,558	37.2	33.9

* The statistics for three establishments omitted, to avoid the disclosure of individual operations.
 * The statistics for two establishments omitted, to avoid the disclosure of individual operations.
 * The statistics for one establishment omitted, to avoid the disclosure of individual operations.

The total value of products for each industry as a whole, from which the percentages in the last two columns are calculated, appears in Table 110. Three important industries, the manufacture of leather goods, marble and stone work, and sugar and molasses, are not shown in the table in order to avoid the disclosure of individual operations.

While the gross value of products is in some respects not the best criterion of the relative importance of different industries or of different states or sections in respect to manufacturing business, it is a fairly satisfactory standard for comparing different classes of establishments within the same industry. Table 24 shows, as might be expected, exceedingly wide variation among the different industries in respect to the proportion of large establishments, and in respect to the proportion of the total value of products which is reported by such establishments. The industry in which establishments reporting products to the value of \$1,000,000 or more constitute the largest proportion of the total number of establishments is the smelting and refining of copper, followed, in order, by the smelting and refining of lead, steel works and rolling mills, blast furnaces, the refining of petroleum, and the construction of steam-railroad cars. In each of these industries in 1909 establishments of this class constituted more than one-fifth of the total number, and in the smelting and refining of copper they constituted about five-sixths of the total. In these industries, moreover, establishments of this size reported exceptionally high proportions of the total value of products. The smelting and refining of lead and of copper ranked highest in this respect, with 99.2 and 99 per cent, respectively, of the total value of products reported by establishments with a value of products above \$1,000,000. The slaughtering and meat-packing industry, also, though its proportion of large establishments is not conspicuously high, shows a very high proportion of the total value of products, 85.8 per cent, reported from such establishments.

On the other hand, there are a number of industries in which the smaller establishments predominate and in which only a very small proportion of the total value of products is contributed by establishments manufacturing products to the value of \$1,000,000 or more. In the bakery, butter, cheese, and condensed-milk, women's clothing, furniture, and lumber industries the proportion of the total value of products reported by such establishments is less than 10 per cent, and there are several other industries of importance in which the proportion is less than 20 per cent.

In practically every industry named in the table the number of establishments manufacturing products to the value of \$1,000,000 or more increased materially

from 1904 to 1909, and constituted a larger proportion of the total number of establishments in the later year than in the earlier. In the same way the value of the products of such establishments in nearly every industry constituted a larger proportion of the total value in 1909 than in 1904, the only exceptions being in the manufacture of electrical machinery, apparatus, and supplies, the construction of railroad cars, the illuminating-gas industry, the distillery industry, and the refining of petroleum.

Relative importance of large establishments, by states: 1909 and 1904.—Table 25 presents, by states grouped according to geographic divisions, statistics showing the relative importance of the establishments having a product valued at \$1,000,000 or over for the census years 1909 and 1904. Certain states are not shown separately, as to do so would disclose individual operations.

The differences among the several states with respect to the extent to which manufacturing is carried on in large establishments are dependent in part upon the character of the industries predominant in each state. It also depends in part upon the degree to which those industries have been developed; in those states in which manufactures are extensive the large establishments are likely, other conditions being equal, to do a greater proportion of the manufacturing than in states where manufactures are relatively unimportant.

The state in which establishments manufacturing products to the value of \$1,000,000 or more represented the largest proportion of the total number of establishments in 1909 was Rhode Island, with 3.5 per cent, followed by Arizona and Massachusetts, in the order named. The proportion in New York, the leading manufacturing state, was comparatively low, 1 per cent. There are several states in which such establishments represented only a small fraction of 1 per cent of the total number.

In most of the states the large establishments contributed a very considerable proportion of the entire value of manufactured products. The state in which this proportion was the highest in 1909 is Arizona, with 84.1 per cent, followed by Nebraska, Montana, Kansas, New Jersey, Illinois, Utah, and Pennsylvania, in each of which states the products of establishments of this class represented more than one-half of the total value. The predominance of the smelting and refining of copper and lead in the Mountain states named, of the slaughtering and meat-packing industry in Kansas and Nebraska, of the slaughtering and the iron and steel industries in Illinois, of the iron and steel industry in Pennsylvania, and of the smelting and refining of copper and the refining of petroleum in New Jersey serve in a large measure to explain these high

percentages. In New York, the most important manufacturing state, 37 per cent of the total value of products was reported by establishments of the class under consideration, this comparatively low percentage being the result in part of the great magnitude in that state

of the clothing industries, which are mostly conducted in small establishments. Of the states given in the table those in which the proportion of the total value of products reported by large establishments is less than 10 per cent are Oklahoma, Arkansas, and Florida.

STATE.	NUMBER OF ESTABLISHMENTS.						VALUE OF PRODUCTS OF ESTABLISHMENTS REPORTING PRODUCTS VALUED AT \$1,000,000 OR OVER.			
	Total.		Reporting products valued at \$1,000,000 or over.				Amount.		Per cent of total.	
			Number.		Per cent of total.					
	1909	1904	1909	1904	1909	1904	1909	1904	1909	1904
United States.....	268,491	216,180	3,060	1,900	1.1	0.9	\$9,053,580,393	\$5,023,456,171	43.8	38.0
NEW ENGLAND:										
Maine.....	3,546	3,145	25	17	0.7	0.5	57,250,905	32,815,822	32.5	22.8
New Hampshire.....	1,961	1,618	34	20	1.7	1.2	80,784,016	45,969,594	49.1	35.7
Vermont.....	1,958	1,609	4	6	0.2	0.4	7,195,281	8,475,059	10.5	13.4
Massachusetts.....	11,684	10,723	293	191	2.5	1.8	719,811,362	458,142,511	48.3	40.8
Rhode Island.....	1,951	1,617	69	41	3.5	2.5	135,285,205	80,055,916	48.3	39.6
Connecticut.....	4,251	3,477	93	65	2.2	1.9	241,562,058	157,601,418	49.3	42.7
MIDDLE ATLANTIC:										
New York.....	44,935	37,194	470	294	1.0	0.8	1,245,965,072	816,099,837	37.0	32.8
New Jersey.....	8,817	7,010	194	121	2.2	1.7	649,848,742	384,653,547	54.7	49.7
Pennsylvania.....	27,563	23,495	400	284	1.5	1.2	1,331,111,312	901,539,525	50.7	46.1
EAST NORTH CENTRAL:										
Ohio.....	15,138	13,785	245	136	1.6	1.0	666,243,771	331,726,477	48.3	34.5
Indiana.....	7,969	7,044	92	45	1.2	0.6	272,679,094	134,974,371	47.1	34.3
Illinois.....	18,026	14,921	273	168	1.5	1.1	1,078,746,101	755,157,569	56.2	53.5
Michigan.....	9,159	7,446	88	41	1.0	0.6	258,341,060	100,138,469	37.7	29.3
Wisconsin.....	9,721	8,558	86	58	0.9	0.7	228,084,707	124,948,292	38.6	30.4
WEST NORTH CENTRAL:										
Minnesota.....	5,561	4,756	65	39	1.2	0.8	198,507,729	122,541,419	48.5	43.1
Iowa.....	5,528	4,785	29	11	0.5	0.2	95,585,315	41,089,284	36.9	25.6
Missouri.....	8,375	6,464	94	68	1.1	1.1	271,595,980	189,336,754	47.3	43.1
Nebraska.....	2,500	1,819	17	9	0.7	0.5	137,133,162	110,613,438	68.9	71.0
Kansas.....	3,485	2,475	34	21	1.0	0.8	204,388,280	114,177,287	62.9	57.6
SOUTH ATLANTIC:										
Delaware.....	726	631	7	9	1.0	1.4	16,892,803	13,711,604	32.0	33.3
Maryland.....	4,837	3,852	41	34	0.8	0.9	124,586,041	96,606,842	29.5	29.3
District of Columbia.....	518	482	3	(¹)	0.6	.....	5,012,734	(¹)	19.8	.....
Virginia.....	5,685	3,187	26	15	0.5	0.5	59,124,982	34,071,439	26.9	22.9
West Virginia.....	2,586	2,109	33	14	1.3	0.7	62,481,895	25,154,869	28.6	25.4
North Carolina.....	4,931	3,272	22	9	0.4	0.3	58,668,316	30,431,630	27.1	21.3
South Carolina.....	1,854	1,399	17	13	0.9	0.9	24,887,694	17,817,006	22.0	22.4
Georgia.....	4,792	3,219	18	10	0.4	0.3	34,054,085	20,664,194	16.8	13.7
Florida.....	2,159	1,413	4	.....	0.2	.....	4,450,669	.....	6.1	.....
EAST SOUTH CENTRAL:										
Kentucky.....	4,776	3,734	29	17	0.6	0.5	62,164,920	38,580,336	27.5	24.2
Tennessee.....	4,609	3,175	17	11	0.4	0.3	30,567,045	18,786,261	17.0	13.6
Alabama.....	3,398	1,882	22	14	0.6	0.7	42,048,999	25,070,580	28.8	23.0
WEST SOUTH CENTRAL:										
Arkansas.....	2,925	1,907	4	(¹)	0.1	.....	5,443,573	(¹)	7.3	.....
Louisiana.....	2,516	2,091	23	13	0.9	0.6	75,417,505	54,118,186	33.7	29.0
Oklahoma.....	2,310	1,123	4	.....	0.2	.....	4,884,270	.....	9.1	.....
Texas.....	4,588	3,158	36	17	0.8	0.5	102,054,306	39,030,054	37.4	25.9
MOUNTAIN:										
Montana.....	677	382	6	6	0.9	1.6	49,871,216	52,545,498	68.1	79.1
Colorado.....	2,034	1,606	20	16	1.0	1.0	58,645,700	50,620,463	45.1	50.6
Arizona.....	311	169	9	7	2.9	4.1	42,276,901	22,761,981	84.1	81.0
Utah.....	749	606	7	5	0.9	0.8	33,100,176	20,978,066	53.4	53.9
PACIFIC:										
Washington.....	3,674	2,751	20	13	0.5	0.5	42,379,727	28,001,570	19.2	21.7
Oregon.....	2,246	1,602	8	5	0.4	0.3	14,898,617	7,873,317	15.5	14.2
California.....	7,659	6,839	71	31	0.9	0.5	202,108,929	105,272,449	38.2	28.7
All other states ²	5,853	3,560	8	6	0.1	0.2	17,938,958	8,162,677	10.8	8.0

¹ Excluded to avoid disclosures of individual establishments, but included in the total for the United States.

² All other states embrace Idaho, Mississippi, Nevada, North Dakota, and Wyoming in 1909 and Arkansas, District of Columbia, Mississippi, and New Mexico in 1904.

In a large majority of the states, establishments manufacturing products to the value of \$1,000,000 or more represented a larger proportion of the total number of establishments in 1909 than in 1904, and reported a larger proportion of the total value of

products in the later year than in the earlier. The only states where this was not true with respect to the value of products are Vermont, Delaware, South Carolina, Nebraska, Montana, Colorado, Utah, and Washington.

Establishments grouped according to number of wage earners: 1909.—In some respects, and especially from the standpoint of conditions under which persons engaged in manufactures work, the best classification of establishments to bring out the feature of size is a classification according to the number of wage earners employed, which is shown by Table 26.

Of the 268,491 establishments reported for all industries, 10.3 per cent employed no wage earners; 50.8 per cent, from 1 to 5; 21.3 per cent, 6 to 20; and 8.8 per cent, 21 to 50. The most numerous single group consists of the 136,289 establishments employing from 1 to 5 wage earners, and the next of the 57,198 establishments employing from 6 to 20 wage earners. There were 4,668 establishments that reported the employment of over 250 wage earners; 540 of these employed over 1,000.

The single group having the largest number of wage earners was the group comprising the establishments employing from 101 to 250. This group employed 1,258,639 wage earners, or 19 per cent of the total number.

Table 27 shows, for 1909, for all industries combined and for 43 industries individually the number of establishments and average number of wage earners, by groups, and the percentage of wage earners in each group for these industries.

Table 26

ESTABLISHMENTS EMPLOYING—	ESTABLISHMENTS, WAGE EARNERS, AND PER CENT OF TOTAL.			
	Number of establishments.	Average number of wage earners.	Per cent of total.	
			Estab-lish-ments.	Wage earners.
Total.....	268,491	6,615,046	100.0	100.0
No wage earners.....	27,712	.....	10.3	.....
1 to 5 wage earners.....	136,289	311,704	50.8	4.7
6 to 20 wage earners.....	57,198	640,793	21.3	9.7
21 to 50 wage earners.....	23,544	784,408	8.8	11.6
51 to 100 wage earners.....	10,904	782,298	4.1	11.8
101 to 250 wage earners.....	8,116	1,258,639	3.0	19.0
251 to 500 wage earners.....	2,905	1,006,457	1.1	15.2
501 to 1,000 wage earners.....	1,223	837,473	0.5	12.7
Over 1,000 wage earners.....	540	1,013,274	0.2	15.3

Table 27

INDUSTRY.	ESTABLISHMENTS EMPLOYING—												Per cent wage earners in establishments employing specified number form of total.			
	Total.		No wage earners.	1 to 20 wage earners.		21 to 100 wage earners.		101 to 500 wage earners.		Over 500 wage earners.		1 to 20 wage earners.	21 to 100 wage earners.	101 to 500 wage earners.	Over 500 wage earners.	
	Estab-lish-ments.	Wage earners (average number).		Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.					
All industries.....	268,491	6,615,046	27,712	193,487	952,497	34,508	1,546,706	11,021	2,205,096	1,763	1,850,747	14.4	23.4	34.2	28.0	
Agricultural implements.....	640	50,551	40	372	2,007	133	0,406	77	17,002	18	24,176	4.1	12.7	35.4	47.8	
Automobiles, including bodies and parts	743	75,721	12	303	2,716	195	9,483	108	23,768	35	30,764	3.0	12.5	31.3	52.5	
Boots and shoes, including cut stock and findings.....	1,918	198,297	40	890	6,176	538	27,263	414	07,001	78	07,162	3.1	13.8	49.2	33.9	
Brass and bronze products.....	1,021	40,618	56	717	4,491	174	7,416	61	12,422	13	16,350	10.9	18.2	30.6	40.2	
Bread and other bakery products.....	23,920	100,216	3,043	19,761	60,112	426	17,977	101	17,880	5	4,247	59.0	17.9	17.9	4.2	
Butter, cheese, and condensed milk.....	8,479	18,431	1,025	7,332	12,034	115	4,852	7	945	.....	.....	63.5	23.3	5.1	.....
Canning and preserving.....	3,767	59,068	92	3,015	17,575	571	24,519	86	15,459	3	2,415	29.3	40.9	25.8	4.0	
Carriages and wagons and materials.....	5,492	69,928	440	4,402	23,141	484	21,765	98	17,729	8	7,293	33.1	31.1	25.3	10.4	
Cars and general shop construction and repairs by steam-railroad companies..	1,145	282,174	.....	251	2,400	310	16,841	418	101,088	166	161,850	0.9	6.0	35.8	57.4
Cars, steam-railroad, not including operations of railroad companies.....	110	43,086	1	12	130	36	1,880	30	9,660	22	31,401	0.3	4.4	22.5	72.8	
Chemicals.....	340	23,714	11	203	1,432	88	4,004	36	8,626	11	0,652	0.1	16.9	36.4	40.7	
Clothing, men's, including shirts.....	6,354	239,696	191	3,713	33,185	2,045	85,702	353	70,840	52	49,063	13.8	35.7	29.5	20.8	
Clothing, women's.....	4,558	153,743	68	2,438	23,813	1,754	74,965	292	51,014	4	3,951	15.5	48.7	33.1	2.6	
Confectionery.....	1,944	44,638	136	1,376	7,194	313	14,547	115	20,145	4	2,752	10.2	32.6	45.1	6.2	
Copper, tin, and sheet-iron products.....	4,228	73,615	183	3,498	17,635	407	16,962	124	20,931	16	12,087	23.9	23.1	36.6	16.4	
Cotton goods, including cotton small wares.....	1,324	378,880	3	139	1,418	405	22,851	573	135,735	204	218,876	0.3	6.0	35.9	57.7	
Electrical machinery, apparatus, and supplies.....	1,000	87,256	22	607	3,088	243	11,357	117	23,855	20	48,020	4.5	13.0	27.4	55.0	
Flour-mill and gristmill products.....	11,601	30,453	1,840	9,587	20,023	239	9,326	13	2,124	3	1,980	05.9	23.6	5.4	5.0	
Foundry and machine-shop products.....	13,283	531,011	639	8,561	54,063	2,002	133,613	1,009	203,427	142	139,008	10.3	25.2	38.3	26.1	
Furniture and refrigerators.....	3,155	128,452	95	1,655	11,609	1,106	53,607	287	53,458	12	9,818	9.0	41.8	41.0	7.6	
Gas, illuminating and heating.....	1,206	37,215	108	980	4,811	180	8,377	58	11,529	11	12,498	12.9	22.5	31.0	33.6	
Hosiery and knit goods.....	1,374	129,275	31	466	4,386	521	26,620	323	68,059	33	30,210	3.4	20.6	52.6	23.4	
Iron and steel, blast furnaces.....	208	38,429	.....	11	125	78	5,082	105	22,454	14	10,763	0.3	13.3	58.4	28.0
Iron and steel, steel works and rolling mills.....	446	240,076	.....	26	287	94	5,083	187	49,965	139	184,141	0.1	2.4	20.8	76.7
Leather goods.....	2,375	34,007	107	1,875	9,818	333	14,390	58	10,061	1	638	25.2	41.3	28.8	1.8	
Leather, tanned, curried, and finished..	919	62,202	30	379	2,064	350	17,765	142	26,890	18	14,883	4.3	28.5	43.2	24.0	
Liquors, distilled.....	613	6,430	41	487	1,798	76	3,132	0	1,500	.....	.....	28.0	48.8	23.3	.....
Liquors, malt.....	1,414	54,579	23	752	7,078	561	24,636	80	15,034	3	7,831	12.9	45.2	27.6	14.4	
Lumber and timber products.....	40,671	695,019	909	33,902	130,140	4,559	196,704	1,214	241,234	87	70,941	26.8	28.3	34.7	10.2	
Marble and stone work.....	4,964	65,603	264	4,010	19,650	595	24,955	92	17,170	3	3,822	30.0	38.0	26.2	5.8	
Oil, cottonseed, and cake.....	817	17,071	.....	511	5,703	301	10,772	5	596	.....	.....	33.4	63.1	3.5	.....
Paint and varnish.....	791	14,240	38	602	3,073	117	5,130	33	5,397	1	631	21.5	35.1	37.9	4.4	
Paper and wood pulp.....	777	75,978	.....	193	2,231	352	17,849	215	43,930	17	11,068	2.9	23.4	57.9	15.8
Patent medicines and compounds and druggists' preparations.....	3,642	22,895	1,051	2,396	8,193	165	6,767	27	4,971	3	2,974	35.8	29.5	21.7	13.0	
Petroleum, refining.....	147	13,929	.....	75	718	43	1,810	23	6,205	0	5,100	5.1	13.0	45.2	36.6
Printing and publishing.....	31,445	258,434	6,940	22,254	93,063	1,877	70,316	344	63,240	30	22,105	36.3	30.7	24.4	8.6	
Silk and silk goods, including throwsters	852	99,037	3	243	2,512	335	17,604	243	52,830	28	26,001	2.0	17.8	53.3	26.4	
Slaughtering and meat packing.....	1,641	89,728	80	1,206	6,096	247	11,404	62	13,911	40	58,317	6.8	12.8	15.5	65.0	
Smelting and refining, copper.....	38	15,628	.....	.....	.....	7	453	19	4,343	12	10,832	.....	2.9	27.8	69.3
Smelting and refining, lead.....	28	7,424	.....	5	56	3	167	16	4,040	4	2,261	0.7	2.2	66.5	30.5
Sugar and molasses.....	214	4,127	.....	150	1,463	62	2,298	2	366	.....	.....	35.4	55.7	8.9	.....
Tobacco manufactures.....	15,822	166,810	4,995	9,823	34,483	695	30,070	258	55,483	51	46,774	20.6	18.0	33.3	28.1	
Woolen, worsted, and felt goods, and wool hats.....	985	168,732	30	219	1,578	346	19,024	334	67,460	56	79,700	1.0	11.8	40.0	47.2	
All other industries.....	61,906	1,657,840	4,501	44,041	243,350	10,137	450,452	2,844	500,708	383	307,330	.....	.....	.....	.....

In 17 of the 43 industries listed separately in the table, establishments employing from 1 to 100 wage earners reported more than one-half of the total number employed in each industry. In 5 of these industries, establishments employing from 101 to 500 wage earners reported more than one-half of the total number, while 8 establishments employing over 500 wage earners reported more than one-half of the total.

The highest proportion (76.7 per cent) of wage earners employed by establishments reporting an average of more than 500 was in the steel works and rolling mill branch of the iron and steel industry.

Table 28 shows, for 1909, for geographic divisions and states, the number of establishments and average number of wage earners, by groups, and the percentage of wage earners in each group, for these divisions and states.

Table 28

DIVISION AND STATE.	ESTABLISHMENTS EMPLOYING—												Per cent wage earners in establishments employing specified number form of total.			
	TOTAL.		No wage earners.	1 to 20 wage earners.		21 to 100 wage earners.		101 to 500 wage earners.		Over 500 wage earners.		1 to 20 wage earners.	21 to 100 wage earners.	101 to 500 wage earners.	Over 500 wage earners.	
	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.	Estab-lish-ments.	Wage earners.					
United States.....	268,491	6,615,046	27,712	193,487	952,497	34,508	1,548,706	11,021	2,285,096	1,763	1,850,747	14.4	23.4	34.2	28.0	
GEOGRAPHIC DIVISIONS:																
New England.....	25,351	1,101,290	2,132	17,116	91,068	4,012	183,104	1,699	363,839	392	462,279	8.3	16.6	32.0	42.1	
Middle Atlantic.....	81,315	2,207,747	8,918	55,764	291,378	12,427	556,007	3,632	742,393	574	617,969	13.2	25.1	32.6	28.0	
East North Central.....	60,013	1,513,764	7,274	42,252	192,201	7,411	340,201	2,647	540,595	429	440,767	12.7	22.5	35.7	29.1	
West North Central.....	27,171	374,337	3,667	20,787	78,209	2,051	90,275	574	117,981	92	87,872	20.9	24.1	31.5	23.6	
South Atlantic.....	28,088	663,015	1,669	21,271	118,935	3,854	169,759	1,135	231,455	159	142,866	18.0	25.6	34.9	21.5	
East South Central.....	15,381	261,772	911	12,270	62,682	1,710	74,579	447	89,188	43	35,323	23.9	28.5	34.0	13.5	
West South Central.....	12,339	204,520	1,028	9,645	49,180	1,262	53,546	373	74,471	31	27,323	24.1	26.2	36.5	13.3	
Mountain.....	5,254	75,435	677	4,079	16,775	360	16,232	119	25,988	19	16,440	22.3	21.5	34.4	21.8	
Pacific.....	13,579	213,166	1,436	10,303	52,069	1,421	63,093	395	79,186	24	18,908	24.4	29.5	37.1	8.9	
NEW ENGLAND:																
Maine.....	3,540	79,955	298	2,716	12,363	387	18,190	123	25,207	22	24,195	15.5	22.8	31.6	26.2	
New Hampshire.....	1,961	78,658	158	1,409	7,201	256	11,326	114	24,621	24	35,510	8.1	14.4	31.3	45.1	
Vermont.....	1,958	33,783	131	1,514	7,023	255	10,343	55	11,832	3	4,570	20.7	30.6	35.1	13.6	
Massachusetts.....	11,684	584,559	943	7,548	43,134	2,109	95,969	867	185,876	217	259,560	7.3	16.4	31.8	44.4	
Rhode Island.....	1,951	113,538	158	1,196	7,046	359	17,352	195	45,366	43	43,774	6.2	15.3	39.9	38.5	
Connecticut.....	4,251	210,792	444	2,733	14,301	646	29,904	345	70,917	83	95,670	6.8	14.2	33.6	45.4	
MIDDLE ATLANTIC:																
New York.....	44,935	1,003,981	4,667	31,323	169,732	7,107	307,812	1,637	321,531	201	204,906	16.9	30.7	32.1	26.4	
New Jersey.....	8,817	326,223	712	6,088	32,544	1,354	64,402	557	119,964	106	169,313	19.0	19.7	26.7	33.5	
Pennsylvania.....	27,563	877,543	3,539	18,353	89,102	3,966	183,793	1,438	300,898	207	308,750	10.1	21.0	34.2	34.6	
EAST NORTH CENTRAL:																
Ohio.....	15,138	446,934	1,521	10,483	52,358	2,162	99,146	834	168,458	138	126,972	11.7	22.2	37.7	28.4	
Indiana.....	7,969	186,984	692	5,966	26,681	956	44,434	299	60,492	56	55,377	14.3	23.8	32.3	29.6	
Illinois.....	18,026	465,764	2,518	12,361	60,101	2,287	102,346	735	149,670	125	133,647	12.9	22.9	32.1	33.0	
Michigan.....	9,159	231,499	1,200	6,297	28,054	1,154	54,516	447	91,443	61	57,486	12.1	23.6	39.5	24.9	
Wisconsin.....	9,721	182,583	1,343	7,145	25,007	852	39,759	332	70,532	49	47,285	13.7	21.7	38.6	25.9	
WEST NORTH CENTRAL:																
Minnesota.....	5,561	84,767	603	4,352	16,648	448	20,096	131	26,590	27	21,433	19.6	23.8	31.4	25.3	
Iowa.....	5,528	61,635	643	4,340	16,072	443	19,412	92	18,845	10	7,306	26.0	31.5	30.6	11.8	
Missouri.....	8,375	152,993	1,123	6,183	26,287	764	33,819	268	55,632	37	27,255	17.2	22.1	36.4	24.4	
North Dakota.....	752	2,789	201	1,610	24	932	2	247	2	2	57.7	33.4	8.9	.....	
South Dakota.....	1,020	3,602	146	850	2,291	21	827	3	484	3	63.6	33.0	13.4	.....	
Nebraska.....	2,500	24,336	451	1,869	6,285	121	5,358	23	4,989	6	7,094	25.9	22.0	29.5	31.6	
Kansas.....	3,435	44,215	546	2,592	9,006	230	9,831	55	11,194	12	14,184	23.4	22.3	25.3	32.1	
SOUTH ATLANTIC:																
Delaware.....	726	21,238	46	534	3,222	101	4,216	38	6,807	7	6,993	15.1	19.9	32.1	32.9	
Maryland.....	4,837	107,921	504	3,538	18,629	596	26,269	169	34,176	30	28,847	17.2	24.3	31.7	26.7	
District of Columbia.....	518	7,707	75	351	1,937	83	3,665	8	558	1	558	25.1	47.5	20.1	7.2	
Virginia.....	5,685	105,676	270	4,689	25,491	562	25,570	138	27,112	26	27,503	24.2	24.1	25.7	20.1	
West Virginia.....	2,586	63,893	200	1,920	8,726	323	15,133	125	26,191	18	13,793	13.6	23.7	41.0	21.6	
North Carolina.....	4,931	121,473	171	3,852	21,027	654	30,288	232	47,013	22	23,145	17.3	25.9	38.7	19.0	
South Carolina.....	1,854	73,046	60	1,411	7,990	209	9,394	145	33,116	29	22,546	11.0	12.9	45.3	30.9	
Georgia.....	4,792	104,588	231	3,589	22,164	779	33,448	175	34,448	18	14,546	21.2	32.9	32.9	13.9	
Florida.....	2,159	57,473	112	1,387	9,749	547	21,744	105	21,045	8	4,935	16.9	37.8	36.6	8.6	
EAST SOUTH CENTRAL:																
Kentucky.....	4,776	65,400	403	3,801	16,724	462	20,780	102	19,830	8	8,066	25.6	31.7	30.3	12.3	
Tennessee.....	4,609	73,840	306	3,679	18,617	471	21,271	143	26,348	10	7,694	25.2	28.8	35.7	18.3	
Alabama.....	3,398	72,148	131	2,714	14,877	411	17,698	127	26,505	15	13,068	23.6	24.6	26.9	18.1	
Mississippi.....	2,598	60,384	71	2,076	12,464	366	14,830	75	16,505	10	6,585	24.7	29.4	22.8	13.1	
WEST SOUTH CENTRAL:																
Arkansas.....	2,925	44,982	169	2,308	12,493	308	12,843	73	14,087	7	5,559	27.8	28.6	31.3	12.3	
Louisiana.....	2,516	76,165	118	1,799	11,797	430	18,873	167	32,497	12	11,936	15.5	24.8	44.0	15.8	
Oklahoma.....	2,310	13,143	262	1,949	7,039	88	3,462	10	1,888	1	754	53.5	26.4	14.3	8.7	
Texas.....	4,588	70,230	479	3,529	17,851	436	18,368	133	24,999	11	9,012	25.4	26.1	35.6	12.9	
MOUNTAIN:																
Montana.....	677	11,655	92	513	2,000	52	2,286	17	3,554	3	3,515	17.1	19.6	33.1	20.2	
Idaho.....	725	8,220	56	617	2,402	41	1,780	8	1,614	3	2,416	29.3	21.7	19.6	29.4	
Wyoming.....	268	2,897	40	216	603	3	164	8	1,347	1	783	31.0	5.7	47.0	26.3	
Colorado.....	2,034	28,067	325	1,511	6,859	147	6,942	48	10,587	3	3,379	34.4	24.8	28.8	12.1	
New Mexico.....	313	4,143	31	256	1,003	17	756	6	1,701	1	683	34.2	18.3	41.1	16.5	
Arizona.....	311	6,441	36	245	940	16	786	12	3,172	2	1,543	14.6	12.2	49.3	24.0	
Utah.....	749	11,785	74	582	2,478	71	2,825	17	2,970	5	3,512	21.0	24.0	25.2	29.8	
Nevada.....	177	2,257	23	139	490	13	687	1	443	1	637	21.7	30.5	19.6	28.2	
PACIFIC:																
Washington.....	3,674	69,120	322	2,713	15,858	433	21,821	153	28,931	3	2,510	22.9	31.6	41.9	3.7	
Oregon.....	2,246	28,750	232	1,759	7,695	200	8,934	52	10,279	3	1,822	26.7	31.1	35.8	6.3	
California.....	7,659	115,296	832	5,831	28,516	733	32,228	190	39,576	18	14,572	24.7	27.9	34.6	12.7	

DISTRIBUTION OF EXPENSES.

Expenses in leading industries.—As stated in the Introduction, the census does not purport to furnish figures that can be used for determining the total cost of manufacture and consequently the profits. Facts of interest can, however, be brought out concerning the relative importance of those classes of expenses which are reported. The following table shows in percentages the distribution of these expenses among the classes indicated, for all industries combined and for the 43 principal industries separately.

INDUSTRY.	PER CENT OF TOTAL EXPENSES REPORTED.			
	Salaries.	Wages.	Materials.	Miscellaneous expenses.
All industries	5.1	18.6	65.8	10.5
Agricultural implements.....	8.6	24.3	51.1	16.0
Automobiles, including bodies and parts.....	4.5	23.1	62.5	9.9
Boots and shoes, including outstock and findings.....	3.9	20.6	69.6	5.9
Brass and bronze products.....	4.1	17.3	72.6	6.0
Bread and other bakery products.....	4.0	17.4	69.9	8.6
Butter, cheese, and condensed milk.....	1.4	4.3	91.0	3.3
Canning and preserving.....	5.6	13.5	72.0	9.0
Carriages and wagons and materials.....	5.7	27.0	58.9	8.4
Cars and general shop construction and repairs by steam-railroad companies.....	4.3	44.7	49.2	1.8
Cars, steam-railroad, not including operations of railroad companies.....	4.3	23.0	66.7	6.0
Chemicals.....	6.5	15.0	68.2	10.3
Clothing, men's, including shirts.....	5.2	20.7	57.9	16.2
Clothing, women's.....	6.0	23.0	61.1	9.9
Confectionery.....	7.6	13.1	67.9	11.4
Copper, tin, and sheet-iron products.....	5.8	22.4	63.7	8.1
Cotton goods, including cotton small wares.....	2.6	24.0	66.9	6.5
Electrical machinery, apparatus, and supplies.....	10.0	24.5	53.8	11.7
Flour-mill and gristmill products.....	1.5	2.6	92.8	3.1
Foundry and machine-shop products.....	8.7	29.8	50.1	11.4
Furniture and refrigerators.....	7.3	30.8	51.0	10.9
Gas, illuminating and heating.....	10.9	18.4	46.2	24.5
Hosiery and knit goods.....	4.4	25.5	62.7	7.4
Iron and steel, blast furnaces.....	1.8	6.8	88.4	3.0
Iron and steel, steel works and rolling mills.....	2.9	18.3	73.9	4.8
Leather goods.....	7.2	19.3	64.6	8.9
Leather, tanned, curried, and finished.....	2.2	10.5	81.2	6.1
Liquors, distilled.....	1.0	1.6	18.4	79.0
Liquors, malt.....	7.6	13.7	32.2	46.5
Lumber and timber products.....	4.8	32.0	51.0	12.2
Marble and stone work.....	6.7	44.8	39.4	9.1
Oil, cottonseed, and cake.....	3.1	4.3	87.7	4.9
Paint and varnish.....	9.3	7.4	71.1	12.2
Paper and wood pulp.....	4.0	17.2	69.7	9.1
Patent medicines and compounds and druggists' preparations.....	14.9	8.7	44.1	32.4
Petroleum, refining.....	1.8	4.4	89.6	4.2
Printing and publishing.....	16.7	26.6	32.6	24.1
Silk and silk goods, including throwsters.....	4.2	21.8	60.8	13.2
Slaughtering and meat packing.....	1.5	3.0	91.8	8.3
Smelting and refining, copper.....	0.7	3.8	94.4	1.1
Smelting and refining, lead.....	0.9	3.4	94.8	0.9
Sugar and molasses, not including beet sugar.....	0.9	2.8	92.6	3.7
Tobacco manufactures.....	4.6	19.0	48.4	28.0
Woolen, worsted, and felt goods, and wool hats.....	2.0	18.7	72.9	5.8
All other industries.....	6.4	21.1	62.1	10.5

This table shows that, for all industries combined, 65.8 per cent of the total expenses reported were incurred for materials, 23.7 per cent for services (that is, salaries and wages), and 10.5 per cent for other purposes. As would be expected, these proportions vary greatly in the different industries. The item of salaries takes on large proportions in such industries as the gas industry, the manufacture of patent medicines, and printing and publishing, which require a

large force of employees for accounting and collecting. The industries for which the highest percentages for wages are shown—in each case over 30 per cent—are marble and stone work, steam-railroad repair shops, the lumber and timber industry, and the furniture industry. The cost of materials constituted over 90 per cent of the expenses reported in the smelting and refining of copper and lead, flour and grist milling and the manufacture of sugar and molasses, slaughtering and meat packing, and the butter, cheese, and condensed-milk industry. Miscellaneous expenses, which are made up principally of rent, taxes, insurance, and advertising, are relatively largest in the distillery and brewery industries, the manufacture of patent medicines and compounds, and the tobacco-products industry, all of which are subject to internal-revenue taxes; they are also large in the gas and the printing and publishing industries.

Expenses, by states.—Table 30 shows, for each geographic division and each state, the per cent distribution in 1909 of the total expenses reported among the principal items.

The variation among the several divisions and states in the percentage of the total expenses which is represented by each class follows closely the variation in the character of the predominating industries. Thus the percentage of expenses incurred for materials is highest and that incurred for wages lowest in the West North Central division, this condition being due to the predominating importance in those states of the flour-milling and the slaughtering industries, in which materials contribute the greater part of the value of products. The proportion of expenses incurred for materials is also high in the Mountain division, on account of the influence of the smelting and refining industries. Wages represent the highest percentage of the total expenses, 23.7, in the New England division, where the textile and other highly elaborative industries predominate.

Among the individual states the highest percentage for materials is shown for Kansas and the next highest for Nebraska, while this percentage is lowest in Florida; the highest percentages for wages are shown for Wyoming, New Mexico, and Florida, in the order named. Among the great manufacturing states of the East and North there is no very great variation in the distribution of expenses among the various items. Of the 10 most important manufacturing states, Massachusetts has the highest proportion for wages and is among the lowest for miscellaneous expenses.

The exceptionally high percentage for miscellaneous expenses in Kentucky, 25.8, is due to the importance there of the distillery industry, in the miscellaneous expenses of which are included very large sums paid as internal-revenue tax.

Table 30

DIVISION AND STATE.	PER CENT OF TOTAL EXPENSES REPORTED.				DIVISION AND STATE.	PER CENT OF TOTAL EXPENSES REPORTED.			
	Salaries.	Wages.	Materials.	Miscellaneous expenses.		Salaries.	Wages.	Materials.	Miscellaneous expenses.
United States.....	5.1	18.6	65.8	10.5	SOUTH ATLANTIC:				
GEOGRAPHIC DIVISIONS:					Delaware.....	4.9	21.9	65.9	7.2
New England.....	4.8	23.7	62.6	8.9	Maryland.....	4.8	15.9	69.6	9.7
Middle Atlantic.....	5.4	18.6	65.3	10.8	District of Columbia.....	9.0	24.4	50.0	16.6
East North Central.....	5.4	17.8	65.1	11.7	Virginia.....	4.6	19.4	64.0	11.9
West North Central.....	4.2	12.4	75.1	8.3	West Virginia.....	3.9	22.8	64.2	9.0
South Atlantic.....	4.7	20.1	64.9	10.3	North Carolina.....	3.7	18.4	65.4	12.5
East South Central.....	5.2	18.3	60.2	16.2	South Carolina.....	3.9	20.9	68.1	7.1
West South Central.....	4.5	17.4	68.1	9.9	Georgia.....	5.1	19.8	66.4	8.7
Mountain.....	3.9	17.8	71.6	6.7	Florida.....	7.8	38.4	41.3	14.5
Pacific.....	4.9	20.4	65.4	9.3	EAST SOUTH CENTRAL:				
NEW ENGLAND:					Kentucky.....	4.8	13.9	55.6	25.8
Maine.....	3.7	24.3	62.7	9.2	Tennessee.....	5.8	17.8	65.4	11.0
New Hampshire.....	2.8	24.3	65.8	7.1	Alabama.....	5.1	21.1	64.6	9.2
Vermont.....	4.7	28.9	53.2	8.3	Mississippi.....	3.3	27.3	53.7	13.6
Massachusetts.....	4.8	22.8	62.9	9.5	WEST SOUTH CENTRAL:				
Rhode Island.....	4.4	22.8	65.3	7.5	Arkansas.....	5.3	29.5	53.9	11.3
Connecticut.....	6.0	25.6	59.8	8.6	Louisiana.....	4.4	16.4	66.1	13.1
MIDDLE ATLANTIC:					Oklahoma.....	4.3	15.3	72.3	8.0
New York.....	6.2	18.7	62.2	12.9	Texas.....	4.4	15.5	72.8	7.3
New Jersey.....	4.7	16.4	69.7	9.2	MOUNTAIN:				
Pennsylvania.....	4.7	19.3	67.2	8.8	Montana.....	3.1	16.3	73.6	7.0
EAST NORTH CENTRAL:					Idaho.....	5.2	29.1	52.5	13.2
Ohio.....	5.6	19.1	64.2	11.0	Wyoming.....	5.6	37.2	46.6	10.6
Indiana.....	5.0	18.2	63.7	13.1	Colorado.....	4.9	17.4	79.2	7.5
Illinois.....	5.3	15.8	67.0	12.0	New Mexico.....	5.4	36.8	45.3	11.5
Michigan.....	5.9	20.1	62.3	11.6	Arizona.....	1.9	13.4	81.7	3.0
Wisconsin.....	4.9	17.9	65.9	11.4	Utah.....	3.6	15.5	76.1	4.8
WEST NORTH CENTRAL:					Nevada.....	3.4	17.9	75.5	3.2
Minnesota.....	4.1	12.6	74.9	8.4	PACIFIC:				
Iowa.....	4.7	13.9	73.2	8.2	Washington.....	5.0	25.4	60.1	9.6
Missouri.....	5.6	15.5	67.9	11.1	Oregon.....	4.9	24.2	61.6	8.3
North Dakota.....	3.6	10.3	79.1	6.9	California.....	4.8	17.7	68.3	9.2
South Dakota.....	3.9	14.6	72.7	8.9					
Nebraska.....	3.0	7.6	82.3	7.1					
Kansas.....	2.4	8.5	84.7	4.4					

ENGINES AND POWER.

Summary for United States: 1909, 1904, and 1899.— The following table shows for all industries combined the number of engines or motors employed by manufacturing concerns and their horsepower at the censuses of 1909, 1904, and 1899. The figures for the total primary power used exclude duplications and represent the primary power of engines, water wheels, etc., owned by the manufacturing establishments

themselves plus the electric or other power rented from outside concerns. A separate presentation is made of the number and horsepower of electric motors operated by current generated within the establishments, which, of course, as it represents secondary power, is not included in the totals. This item plus the electric power rented makes up the total for electric power, which is shown separately.

Table 31

POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.			PER CENT DISTRIBUTION OF HORSEPOWER.		
	1909	1904	1899	1909	1904	1899	1909	1904	1899
Primary power, total.....	408,472	231,363	163,143	18,675,376	13,487,707	10,097,893	100.0	100.0	100.0
Owued.....	209,183	169,774	163,143	16,802,706	12,854,806	9,778,418	90.0	95.3	96.8
Steam.....	153,525	127,267	130,710	14,199,339	10,835,348	8,139,579	78.0	80.3	80.6
Gas.....	34,356	21,515	14,334	751,195	299,423	134,742	4.0	2.1	1.3
Water wheels.....	20,079	19,595	23,069	1,807,439	1,641,949	1,454,112	9.7	12.2	14.4
Water motors.....	1,203	1,397	(¹)	15,449	5,931	(¹)	0.1	(¹)	(¹)
Other.....				29,293	92,154	49,985	0.2	0.7	0.5
Rented.....	199,309	61,589	(¹)	1,872,670	632,902	319,475	10.0	4.7	3.2
Electric.....	199,309	61,589	(¹)	1,749,031	441,589	182,562	9.4	3.3	1.8
Other.....				123,639	191,313	136,913	0.7	1.4	1.4
Electric motors.....	388,854	134,708	16,891	4,817,140	1,592,475	492,936	100.0	100.0	100.0
Run by current generated by establishment.....	189,545	73,119	16,891	3,068,109	1,150,885	310,374	63.7	72.3	83.0
Run by rented power.....	199,309	61,589	(¹)	1,749,031	441,589	182,562	36.3	27.7	17.0

¹ Not reported.

² Less than one-tenth of 1 per cent.

The total horsepower of manufacturing establishments was 18,675,376 in 1909, as compared with 13,487,707 in 1904 and 10,097,893 in 1899. In 1909, 90 per cent of the horsepower was that of engines or

motors owned by the manufacturing establishments themselves; and 10 per cent was rented power, mostly electric. Especially striking is the increase in the use of gas engines and of electric power, both that rented

from outside concerns and that generated by the manufacturing concerns themselves. The total horsepower of electric motors in 1899, including both those operated by purchased current and those operated by current generated in the establishment, was 492,936; in 1909 it was 4,817,140, or nearly ten times as great. The practice of renting electric power is rapidly becoming more common among small establishments and even among large establishments, while the large concerns more and more tend to use electric motors

for the purpose of applying the power which they themselves generate.

The amount of water power owned by manufacturing establishments shows only a comparatively moderate rate of increase during the decade, but not a little of the electric power rented by manufacturers is generated in the first instance by utilizing water power.

Horsepower, by leading industries.—The following table shows, for the 43 leading industries, the amount of each of the several kinds of power used in 1909:

INDUSTRY.	Total horsepower (excluding duplication).	OWNED BY ESTABLISHMENTS REPORTING—					RENTED.		ELECTRIC MOTORS.	
		Steam engines.	Gas engines.	Water wheels.	Water motors.	Other.	Electric motors.	Other.	Total. ¹	Run by current generated by establishment.
All industries.....	18,075,376	14,199,339	751,186	1,807,439	15,449	29,298	1,749,031	123,639	4,817,140	3,088,109
Agricultural implements.....	100,601	71,394	4,433	8,387	3	500	15,684	200	38,905	23,221
Automobiles, including bodies and parts.....	75,550	39,325	7,030	287	.....	.....	27,041	1,297	41,829	14,188
Boots and shoes, including cut stock and findings.....	96,302	60,772	3,532	2,798	17	.....	17,381	11,802	32,381	15,000
Brass and bronze products.....	109,120	78,101	4,890	3,370	4	.....	18,399	1,356	33,462	15,063
Bread and other bakery products.....	65,298	25,606	8,166	251	83	3	31,160	129	39,795	8,635
Butter, cheese, and condensed milk.....	101,349	90,802	3,373	1,403	62	131	5,366	212	8,276	2,910
Canning and preserving.....	81,170	70,362	4,519	364	34	30	5,469	401	8,228	3,259
Carriages and wagons and materials.....	126,032	82,911	13,120	4,604	63	17	24,909	348	39,424	14,455
Cars and general shop construction and repairs by steam-railroad companies.....	293,361	254,942	3,140	138	312	898	33,736	145	161,288	127,502
Cars, steam-railroad, not including operations of railroad companies.....	97,797	89,123	1,148	370	.....	700	6,456	.....	61,060	54,604
Chemicals.....	208,604	103,273	1,147	10,913	153	215	92,057	846	156,690	64,642
Clothing, men's, including shirts.....	42,725	16,003	5,259	1,335	45	0	18,816	1,261	22,894	4,078
Clothing, women's.....	22,294	4,112	1,958	100	16	.....	15,175	843	16,085	910
Confectionery.....	35,870	25,090	1,408	.....	8	12	8,607	745	16,983	8,376
Copper, tin, and sheet-iron products.....	62,300	34,650	8,572	416	4	5	17,898	821	30,771	12,873
Cotton goods, including cotton small wares.....	1,290,517	869,838	2,312	302,288	730	7,363	108,512	4,968	235,902	127,390
Electrical machinery, apparatus, and supplies.....	168,768	99,883	6,753	1,078	36	14	50,045	959	164,540	114,495
Flour-mill and gristmill products.....	853,584	473,363	62,681	259,138	4,993	208	49,901	3,300	67,066	17,165
Foundry and machine-shop products.....	899,305	546,206	96,966	18,341	361	2,754	182,977	11,700	623,914	430,837
Furniture and refrigerators.....	221,451	184,425	5,830	6,743	105	612	20,420	3,316	43,252	22,832
Gas, illuminating and heating.....	128,350	115,332	7,128	2,755	59	182	2,723	171	17,396	14,613
Hosiery and knit goods.....	103,709	74,560	1,235	12,015	23	200	13,286	2,390	25,485	12,199
Iron and steel, blast furnaces.....	1,173,423	1,033,033	125,230	204	15	.....	14,850	.....	135,143	120,293
Iron and steel, steel works and rolling mills.....	2,105,346	1,955,346	79,391	5,829	.....	1,500	58,797	115	716,600	657,812
Leather goods.....	28,148	10,028	1,381	1,337	36	.....	14,946	420	16,668	1,717
Leather, tanned, curried, and finished.....	148,140	131,311	7,231	1,546	10	140	6,487	1,415	35,919	29,432
Liquors, distilled.....	46,120	44,623	321	252	.....	150	708	66	3,786	3,078
Liquors, malt.....	347,726	330,705	1,261	110	224	1,095	14,190	165	66,619	52,329
Lumber and timber products.....	2,840,082	2,587,487	38,628	139,302	1,111	836	62,200	10,428	130,707	68,507
Marble and stone work.....	187,636	132,236	10,874	6,451	107	241	32,062	2,055	53,748	21,686
Oil, cottonseed, and cake.....	192,342	183,440	1,674	125	50	180	6,304	470	10,855	4,461
Paint and varnish.....	56,162	42,166	3,200	2,004	2	25	7,814	861	17,037	9,223
Paper and wood pulp.....	1,304,265	469,089	6,076	785,001	2,195	276	38,610	1,470	130,120	91,510
Patent medicines and compounds and druggists' preparations.....	25,659	15,938	1,712	250	14	121	6,882	742	11,175	4,283
Petroleum, refining.....	90,268	83,707	5,870	.....	.....	378	28	285	8,808	3,780
Printing and publishing.....	297,763	59,240	32,152	600	1,720	94	197,692	6,265	229,312	31,620
Silk and silk goods, including throwsters.....	97,947	72,059	1,277	8,883	.....	.....	10,354	5,874	23,758	13,494
Slaughtering and meat packing.....	208,707	190,636	2,208	30	16	80	15,047	740	78,877	63,630
Smelting and refining, copper.....	168,126	114,802	1,107	12,725	.....	19	29,413	.....	55,229	25,516
Smelting and refining, lead.....	26,954	23,090	35	.....	.....	.....	3,829	.....	12,166	8,837
Sugar and molasses, not including beet sugar.....	180,603	158,682	395	.....	.....	210	1,316	.....	18,730	17,414
Tobacco manufactures.....	28,514	21,929	705	243	2	7	5,367	171	11,203	5,836
Woolen, worsted, and felt goods, and wool hats.....	362,209	261,364	2,077	78,009	341	.....	13,783	5,735	79,223	65,440
All other industries.....	3,646,423	2,898,395	172,532	122,808	2,430	10,163	431,534	38,552	1,085,678	654,144

¹ Includes the horsepower of motors run by rented current and also of those run by current generated by the establishment.

This table shows very wide differences among the industries with respect to the relative importance of the several kinds of power. These differences are due partly to differences in the geographic location of the industries, which affect the character of power available, and partly to differences in the character of machinery used, which affect the adaptability of the different kinds of power.

The power developed by the use of gas engines represents a larger proportion of the total power employed in establishments engaged in the manu-

facture of carriages and wagons, flour mills and gristmills, foundries and machine shops, blast furnaces, steel works and rolling mills, lumber mills, and printing and publishing establishments than in any of the other industries listed. The largest absolute amount of power derived from gas engines is reported for the blast furnaces, and the next largest for the foundries and machine shops.

A very large proportion of the total power derived from water wheels is used in four industries, namely, the manufacture of cotton goods, flour mills and grist-

mills, the lumber and timber products industry, and the manufacture of paper and wood pulp. In the last-mentioned industry the horsepower developed by water wheels amounts to 785,961, about 60 per cent of the total power used in that industry.

The extent to which electric motors are utilized in applying the power employed varies considerably in the different industries. In a considerable number of industries the electric power, including that generated by the manufacturing establishments themselves and that rented from other concerns, is equal to more than one-half of the total primary power. These industries are the manufacture of automobiles, bread and other bakery products, the construction of steam-railroad cars, the repair shops of steam-railroad companies, the chemical industry, the making of men's and of women's clothing, the manufacture of electrical machinery, apparatus, and supplies, the foundry and machine-shop industry, the manufacture of leather goods, and the printing and publishing industry. In the electrical-machinery industry the horsepower of electric motors installed is greater than the total primary power; this may be accounted for by reason of the provision of motors for the operation of machinery which is not in constant use. The largest absolute amount of electric power is reported by the steel works and rolling mills, and the next largest, by the foundries and machine shops. In the former the electric power is equal to a little over one-third of the total amount of primary power and in the latter to nearly three-fourths.

Horsepower, by states: 1909.—Table 33 shows, by states grouped according to geographic divisions, the amount of each of the several kinds of power used in manufacturing industries in 1909.

The rank of the states with respect to the amount of power used in manufacturing industries is somewhat different from that with respect to value of products and other leading items in the statistics of manufactures. Although New York ranks first among the states in most of the leading items, Pennsylvania outranks it in respect to the amount of power used in manufacturing industries. New York stands second, Ohio third, Massachusetts fourth, and Illinois fifth. The relative total amount of power used is largely dependent upon the character of the industries predominant in each division or state. The relative extent to which the different kinds of power are used in the several divisions and states is also dependent in part upon the character of the industries and in part upon the situation of each state with reference to supplies of coal, petroleum, and gas, and with reference to the availability of water power.

In every division—in fact in every state, except Maine and Vermont—steam engines are the most important source of power. The proportion which power generated by gas engines represents of the total power

is larger in the East North Central division than in any other division, partly on account of the proximity of gas wells. The Middle Atlantic states rank next in the proportion of the total power which is developed by gas engines. With respect to power obtained from water wheels owned by the manufacturing establishments, New England ranks far ahead of the other divisions both in the absolute amount of power and in the proportion which water power represents of the total. More than two-fifths of the total power derived from water wheels owned by manufacturing establishments is found in New England, and more than one-fourth of the total power utilized by the factories of New England is derived from water wheels. The Middle Atlantic division ranks next in this respect. The largest absolute amounts of power utilized by means of electric motors (including both those operated by purchased current and those operated by current generated in the establishment) are reported from the Middle Atlantic division, the East North Central division, and New England, in the order named, and in these three divisions also the proportion which electric power represents of the total is unusually large, no very great difference appearing among the three divisions in this respect. The proportion of electric power is also high in the Mountain, Pacific, and West North Central divisions.

The individual states which lead in the use of gas engines to develop power are Pennsylvania, Indiana, Ohio, New York, Illinois, Kansas, and New Jersey, in the order named. The absolute amount of power of this character is greatest in Pennsylvania, and the proportion which such power represents of the total power used is greatest in Indiana. The power derived from water wheels owned by manufacturing establishments is greater in New York than in any other state, but the proportion which such power represents of the total power is greatest in Maine. Other leading states in respect to the absolute amount of such water power are Massachusetts, Wisconsin, New Hampshire, Vermont, Connecticut, Minnesota, Pennsylvania, Oregon, Virginia, North Carolina, and Michigan; the leading states in respect to the proportion which it represents of the total power are Vermont, New Hampshire, Oregon, Wisconsin, New York, Minnesota, Connecticut, Massachusetts, Virginia, and Montana.

In the absolute amount of electric power utilized for manufacturing, Pennsylvania leads and is followed by New York, Ohio, Massachusetts, Illinois, Indiana, and New Jersey, in the order named. With respect to the proportion which electric power represents of the total Nevada ranks first, and is followed by California, Utah, Illinois, New York, Montana, Arizona, Indiana, and Massachusetts in the order named. In Nevada the power of electric motors forms 54.1 per cent and in California 40.3 per cent of the total power reported for these states.

Table 33 DIVISION AND STATE.	Total horse- power (excluding dupli- cation).	OWNED BY ESTABLISHMENTS REPORTING—					RENTED.		ELECTRIC MOTORS.	
		Steam engines.	Gas engines.	Water wheels.	Water motors.	Other.	Electric motors.	Other.	Total. ¹	Run by current generated by estab- lishment.
United States.....	18,675,376	14,199,339	751,186	1,807,439	15,449	29,298	1,749,031	123,639	4,817,140	3,068,109
GEOGRAPHIC DIVISIONS:										
New England.....	2,715,121	1,056,911	41,801	753,920	3,412	2,055	218,042	38,380	668,143	444,501
Middle Atlantic.....	5,531,502	4,151,662	274,274	460,541	3,947	11,736	568,723	54,619	1,737,236	1,168,513
East North Central.....	4,382,070	3,491,418	283,450	206,393	2,048	4,766	375,876	18,119	1,297,447	921,571
West North Central.....	1,101,990	838,988	57,434	82,791	3,539	939	115,002	3,207	260,534	151,532
South Atlantic.....	1,832,001	1,431,423	36,441	182,076	1,082	5,321	171,146	4,512	343,393	172,247
East South Central.....	1,036,560	953,511	12,270	29,040	275	1,690	38,580	1,194	108,409	69,829
West South Central.....	873,350	805,640	20,291	3,060	48	2,513	31,807	991	78,893	47,086
Mountain.....	400,766	306,786	4,188	21,345	198	224	66,056	1,009	113,684	47,028
Pacific.....	802,016	563,000	12,037	62,273	900	49	162,299	1,458	208,101	45,892
NEW ENGLAND:										
Maine.....	459,599	168,595	3,933	256,480	1,912	170	27,203	1,297	54,266	27,063
New Hampshire.....	293,991	139,128	1,238	127,490	521	30	21,209	4,375	45,351	24,142
Vermont.....	150,445	64,252	2,160	78,881	181	415	12,917	630	21,233	8,315
Massachusetts.....	1,175,071	834,701	18,326	185,996	520	895	109,996	24,637	402,492	292,496
Rhode Island.....	226,740	175,293	3,300	31,376	41	39	13,697	2,094	42,130	28,433
Connecticut.....	400,275	274,042	12,844	73,697	237	407	33,620	4,438	97,071	64,061
MIDDLE ATLANTIC:										
New York.....	1,997,062	1,080,877	99,899	394,221	1,397	3,583	389,945	27,740	689,976	390,031
New Jersey.....	612,293	529,668	20,867	18,558	1,118	180	33,157	8,745	182,475	149,318
Pennsylvania.....	2,921,547	2,541,117	153,508	53,762	1,432	7,973	145,021	18,134	864,785	719,164
EAST NORTH CENTRAL:										
Ohio.....	1,583,155	1,362,134	103,801	15,777	330	1,586	93,592	5,935	417,344	324,252
Indiana.....	633,377	448,528	109,105	7,446	447	599	65,548	1,704	233,193	167,645
Illinois.....	1,013,071	838,199	37,025	12,178	513	1,433	117,007	6,716	398,621	281,614
Michigan.....	598,288	465,520	13,988	41,442	577	10	74,270	2,475	133,064	58,794
Wisconsin.....	554,179	377,037	10,531	120,550	181	1,132	25,459	1,289	114,725	89,266
WEST NORTH CENTRAL:										
Minnesota.....	297,070	199,777	7,174	56,631	2,939	25	30,297	827	52,212	21,915
Iowa.....	155,384	121,882	8,026	6,326	85	147	18,463	456	40,736	22,273
Missouri.....	340,467	280,489	11,159	3,532	206	5	44,056	1,020	100,941	62,885
North Dakota.....	13,190	10,170	1,304	530	.....	.....	1,164	28	1,688	534
South Dakota.....	17,600	12,257	2,784	927	12	.....	1,683	3	2,084	401
Nebraska.....	64,466	44,806	4,408	7,361	75	70	7,530	210	15,942	8,412
Kansas.....	213,141	160,007	22,580	7,484	222	680	11,809	753	40,921	35,112
SOUTH ATLANTIC:										
Delaware.....	52,779	42,266	766	5,183	12	.....	4,502	50	17,010	13,406
Maryland.....	218,244	181,326	5,736	11,953	121	1,069	17,108	931	44,921	27,813
District of Columbia.....	16,563	12,160	1,073	775	.....	43	2,433	70	4,527	2,094
Virginia.....	283,028	221,303	3,604	45,122	33	38	13,350	412	42,046	28,687
West Virginia.....	217,400	184,591	10,705	10,540	71	.....	5,330	253	28,543	23,213
North Carolina.....	378,556	271,944	2,356	41,019	307	1,035	60,044	1,251	86,002	25,668
South Carolina.....	276,378	193,052	1,264	38,422	75	2,400	41,130	35	67,020	26,490
Georgia.....	298,241	240,264	3,380	28,288	400	536	23,890	1,423	44,264	20,374
Florida.....	89,816	84,508	1,497	108	3	200	3,353	87	7,568	4,210
EAST SOUTH CENTRAL:										
Kentucky.....	230,224	207,591	4,724	5,320	57	915	11,314	303	31,268	19,954
Tennessee.....	242,277	215,338	1,853	9,670	107	4	14,666	639	29,536	14,920
Alabama.....	357,837	328,275	4,016	13,812	111	732	10,104	187	39,928	29,824
Mississippi.....	206,222	202,307	1,077	238	.....	39	2,400	65	7,627	5,131
WEST SOUTH CENTRAL:										
Arkansas.....	173,088	168,152	1,374	639	35	52	2,581	255	7,417	4,536
Louisiana.....	346,652	331,370	3,496	65	10	2,401	9,077	233	27,139	18,662
Oklahoma.....	71,139	56,043	8,076	470	2	.....	5,281	67	7,837	2,666
Texas.....	282,471	249,475	15,745	1,886	1	60	14,863	436	30,450	21,582
MOUNTAIN:										
Montana.....	90,402	49,654	223	13,583	63	.....	20,504	375	27,391	797
Idaho.....	42,804	35,529	242	2,403	4	.....	4,606	20	8,409	3,303
Wyoming.....	7,628	6,467	182	456	9	.....	514	.....	801	287
Colorado.....	154,615	135,045	1,464	1,377	49	105	15,874	101	35,944	20,070
New Mexico.....	15,465	11,781	365	74	.....	.....	3,245	.....	4,586	1,341
Arizona.....	39,140	34,193	1,285	129	.....	19	3,314	200	15,100	11,786
Utah.....	42,947	28,984	226	2,926	71	100	10,592	48	15,402	4,810
Nevada.....	7,765	4,533	201	397	2	.....	2,307	325	6,441	4,134
PACIFIC:										
Washington.....	297,897	257,230	1,494	7,842	223	19	30,951	138	43,615	12,664
Oregon.....	175,019	112,244	428	47,041	307	.....	14,811	98	20,302	5,991
California.....	329,100	193,526	10,115	7,390	280	30	116,527	1,222	143,684	27,147

¹ Includes the horsepower of motors run by rented current and also of those run by current generated by the establishment.

SUPPLEMENTARY DATA REGARDING IMPORTANT INDUSTRIES.

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

For certain industries the Census Bureau collects, by means of special schedules, details regarding the quantity and value of materials and products and other information for securing which no provision is made on the general schedule. Data of this character are here presented for a number of important industries. As far as possible the statistics are grouped according to the character of the finished products. The statistics in each table relate to the United States as a whole, not including Alaska, Hawaii, Porto Rico, or other outlying possessions.

FOOD AND KINDRED PRODUCTS.

Butter, cheese, and condensed milk.—The following table presents statistics for the butter, cheese, and condensed-milk industry. The figures cover only the manufacture of the factory products. The statistics for this class of products made on farms are not avail-

able for 1909; in 1899, however, 1,071,626,056 pounds of butter and 16,372,318 pounds of cheese were made on farms, of which 518,042,767 pounds of butter and 14,692,542 pounds of cheese were sold.

The value of the factory products of this industry more than doubled during the period 1899-1909. Condensed milk, for which the ratio of increase was highest, nearly trebled in value, while butter more than doubled. Since 1899 the increase in prices has been quite pronounced in this industry, as shown by the fact that the butter product increased 113.5 per cent in value and only 48.7 per cent in quantity, and the output of cheese 63 per cent in value and only 10.3 per cent in quantity. As shown by the note to the table, considerable quantities of butter, cheese, and condensed milk were produced by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

Table 34	1909	1904	1899		1909	1904	1899
MATERIALS.				PRODUCTS—continued.			
Total cost.....	\$235,546,064	\$142,920,277	\$108,841,200	Cheese—Continued.			
Milk:				Skimmed—			
Pounds.....	9,888,727,303	12,147,304,550	11,678,082,821	Pounds.....	7,770,812	3,459,582	(1)
Cost.....	\$118,675,613	\$99,729,745	\$91,256,436	Value.....	\$429,519	\$148,508	(1)
Cream:				Other kinds—			
Pounds.....	1,406,143,908	588,186,471	203,673,958	Pounds.....	5,441,730	74,032,656	56,196,219
Cost.....	\$95,025,507	\$28,371,040	\$8,164,068	Value.....	\$805,232	\$6,438,399	\$5,159,352
Skimmed milk:				Condensed milk:			
Pounds.....	56,974,760	36,071,335	(1)	Pounds.....	494,796,544	308,465,182	186,921,787
Cost.....	\$110,469	\$59,398	(1)	Value.....	\$33,563,129	\$20,149,282	\$11,588,792
Sugar:				Sweetened—			
Pounds.....	78,457,978	67,810,031	50,873,859	Pounds.....	214,518,310	198,356,189	(1)
Cost.....	\$3,674,174	\$3,315,892	\$2,589,687	Value.....	\$17,345,278	\$13,478,376	(1)
All other materials.....	\$18,060,301	\$11,444,202	\$6,841,009	Unsweetened—			
				Pounds.....	290,278,234	110,109,993	(1)
				Value.....	\$16,217,851	\$6,670,906	(1)
PRODUCTS.				Cream sold:			
Total value.....	\$274,557,718	\$168,182,789	\$130,783,349	Pounds.....	81,211,374	28,131,914	61,764,552
Butter:				Value.....	\$9,823,972	\$2,364,497	\$4,435,444
Pounds.....	624,764,653	531,478,141	420,126,546	Skimmed milk sold:			
Value.....	\$179,510,619	\$113,189,453	\$84,079,754	Pounds.....	352,564,574	1,161,414,457	2,258,494,156
Packed solid—				Value.....	\$629,135	\$1,368,738	\$2,531,469
Pounds.....	410,692,616	364,432,996	328,956,590	Casein dried from skimmed milk:			
Value.....	\$115,098,056	\$74,483,306	\$63,961,893	Pounds.....	13,018,298	11,581,874	12,298,495
Prints and rolls—				Value.....	\$798,544	\$554,099	\$383,581
Pounds.....	214,072,037	167,045,145	91,160,956	All other products.....	\$6,990,395	\$1,945,050	\$944,489
Value.....	\$64,412,563	\$38,706,147	\$20,117,861				
Cheese:				EQUIPMENT.			
Pounds.....	311,126,317	317,144,872	281,972,324	Cream separators, number.....	5,624	8,842	9,701
Value.....	\$43,239,924	\$28,611,760	\$26,519,829				
Full cream—							
Pounds.....	287,110,383						
Value.....	\$40,817,073	239,652,634	225,776,105				
Part cream—							
Pounds.....	10,803,392	\$22,024,853	\$21,363,477				
Value.....	\$1,188,000						

¹ Not reported separately.

² In addition, 2,381,212 pounds of butter, to the value of \$664,171; 49,413 pounds of part cream cheese, to the value of \$5,745; 401,300 pounds of condensed milk, to the value of \$24,078; and other dairy products to the value of \$25,388 were produced by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

³ In addition, 1,971,120 pounds of butter, to the value of \$448,729, and other dairy products to the value of \$71,588 were produced by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

Canning and preserving.—Table 35 includes statistics for establishments engaged in the various branches of the canning industry and also for those manufacturing pickles, preserves, and sauces. The table does not include meats and other products canned in slaughtering and meat-packing establishments (see Table 38).

The total value of all classes of products of canning and preserving establishments in 1909 was \$157,101,201 and in 1899, \$99,335,464, the increase for the decade being 58.2 per cent.

Of the two groups of products listed separately in the table, fruits and vegetables show the largest ratio of increase in value from 1899 to 1909, 88.3

per cent. Fish and oysters show an increase of 47 per cent.

The statistics for dried fruits cover the product of fruit drying and packing establishments which buy the fruit or do drying and packing for others, and of cooperative associations, but do not include fruits dried by the grower on the farm. The bulk of the product is from California, the value of the factory dried-fruit product of that state in 1909 being \$16,137,716, or 81.3 per cent of the total value of this class of products.

Table 35	PRODUCT.	1909	1904	1899
	Total value	\$157,101,201	\$130,465,976	\$90,335,464
	<i>Fruits and vegetables.</i>			
	Value.....	\$84,347,783	\$72,908,756	\$44,803,665
	Canned vegetables:			
	Cases.....	32,752,469	29,579,616	19,323,730
	Value.....	\$51,568,914	\$45,010,993	\$28,734,598
	Tomatoes—			
	Cases.....	12,909,986	9,411,084	8,700,538
	Value.....	\$18,747,941	\$14,020,846	\$13,666,560
	Corn—			
	Cases.....	7,451,265	11,200,597	0,830,984
	Value.....	\$10,332,136	\$15,952,386	\$8,191,383
	Peas—			
	Cases.....	5,901,703	4,604,492	2,543,722
	Value.....	\$10,247,363	\$7,928,791	\$4,465,073
	Beans—			
	Cases.....	3,392,804	2,588,015	1,493,517
	Value.....	\$6,013,098	\$4,133,810	\$2,025,123
	Asparagus—			
	Cases.....	228,550	(³)	(³)
	Value.....	\$1,975,775	(³)	(³)
	Pumpkins—			
	Cases.....	440,303	246,557	138,078
	Value.....	\$576,043	\$346,497	\$202,404
	Sweet potatoes—			
	Cases.....	347,296	102,997	83,520
	Value.....	\$531,651	\$284,385	\$124,245
	All other—			
	Cases.....	2,080,503	1,230,874	27,365
	Value.....	\$3,144,907	\$2,944,278	\$59,210
	Canned fruits:			
	Cases.....	5,501,404	4,628,241	4,467,817
	Value.....	\$12,938,474	\$11,722,979	\$11,311,062
	Peaches—			
	Cases.....	1,407,213	1,304,867	1,440,350
	Value.....	\$3,753,698	\$3,902,441	\$4,283,165
	Apples—			
	Cases.....	1,205,724	490,341	645,762
	Value.....	\$1,898,720	\$738,013	\$1,125,110
	Apricots—			
	Cases.....	630,185	539,815	531,048
	Value.....	\$1,826,311	\$1,641,919	\$1,583,252
	Pears—			
	Cases.....	637,782	780,120	672,485
	Value.....	\$1,833,214	\$2,102,910	\$2,188,201
	Berries—			
	Cases.....	815,851	480,637	600,410
	Value.....	\$1,754,927	\$1,058,659	\$1,092,075
	Cherries—			
	Cases.....	390,351	319,350	114,367
	Value.....	\$1,019,013	\$825,522	\$307,788
	All other—			
	Cases.....	354,280	605,111	453,780
	Value.....	\$853,591	\$1,363,515	\$730,502
	Dried fruits:			
	Pounds.....	400,328,767	343,579,623	85,439,406
	Value.....	\$19,840,305	\$15,664,784	\$4,767,005
	Raisins—			
	Pounds.....	111,774,767	121,409,881	14,984,221
	Value.....	\$4,837,933	\$6,349,381	\$1,062,268
	Prunes—			
	Pounds.....	138,498,490	117,808,181	25,413,763
	Value.....	\$5,130,412	\$3,299,628	\$970,927
	Apples—			
	Pounds.....	44,568,244	40,737,089	33,212,309
	Value.....	\$3,098,065	\$1,758,610	\$1,900,642
	Peaches—			
	Pounds.....	46,843,391	25,801,074	5,662,390
	Value.....	\$2,423,083	\$1,702,205	\$312,495
	Apricots—			
	Pounds.....	29,205,560	19,559,573	5,465,217
	Value.....	\$2,277,177	\$1,410,838	\$455,394
	All other—			
	Pounds.....	29,483,306	18,203,825	701,509
	Value.....	\$2,073,695	\$1,144,122	\$49,276

Table 35— Cont'd.	PRODUCT.	1909	1904	1899
	<i>Fish and oysters.</i>			
	Value.....	\$27,648,289	\$22,104,635	\$18,807,542
	Canned fish and oysters:			
	Pounds.....	235,418,713	207,077,976	.....
	Value.....	\$17,573,311	\$13,531,780	\$12,888,572
	Salmon—			
	Pounds.....	99,831,528	48,128,926	62,652,792
	Value.....	\$8,723,565	\$4,251,387	\$5,679,324
	Sardines:			
	Pounds.....	90,694,284	87,224,524	44,951,244
	Value.....	\$4,031,831	\$4,890,498	\$4,212,351
	Oysters—			
	Pounds.....	28,192,392	59,249,048	(¹)
	Value.....	\$2,443,101	\$3,799,412	\$2,054,800
	All other—			
	Pounds.....	16,700,500	12,475,483	9,625,825
	Value.....	\$1,474,814	\$1,100,489	\$922,097
	Smoked fish:			
	Pounds.....	30,814,080	36,617,904	21,108,066
	Value.....	\$2,900,417	\$2,528,240	\$957,741
	Herring—			
	Pounds.....	21,369,856	19,737,537	12,576,429
	Value.....	\$931,611	\$831,352	\$330,590
	Salmon—			
	Pounds.....	6,836,099	6,833,560	1,975,647
	Value.....	\$660,540	\$613,184	\$136,331
	Finnan haddock—			
	Pounds.....	4,513,222	3,014,160	1,360,500
	Value.....	\$304,620	\$174,234	\$75,360
	All other—			
	Pounds.....	7,095,812	7,032,647	5,195,490
	Value.....	\$713,646	\$801,470	\$415,460
	Salted fish:			
	Pounds.....	128,539,299	111,728,665	117,780,031
	Value.....	\$7,174,561	\$6,134,609	\$4,981,229
	Cod—			
	Pounds.....	49,494,338	48,757,819	64,731,210
	Value.....	\$3,077,612	\$3,013,320	\$3,081,045
	Maackerel—			
	Pounds.....	9,045,469	8,326,566	10,458,313
	Value.....	\$740,513	\$678,326	\$662,008
	Herring—			
	Pounds.....	21,718,467	15,824,192	13,933,426
	Value.....	\$461,287	\$409,223	\$332,220
	Haddock—			
	Pounds.....	7,873,156	4,737,975	6,927,919
	Value.....	\$319,248	\$213,394	\$197,380
	All other—			
	Pounds.....	40,407,860	34,082,113	21,729,163
	Value.....	\$2,575,901	\$1,820,346	\$708,696
	<i>All other products, including pickles, preserves, and sauces.</i>			
	Value.....	\$45,105,120	\$35,272,585	\$35,725,257

¹ In addition, products to the value of \$5,423,199 were produced by establishments engaged primarily in the manufacture of products other than those covered by the industry designation, as follows:

	Number.	Value.
Total.....		\$5,423,199
Canned vegetables..... cases..	760,017	1,714,909
Canned fruits..... cases..	27,474	76,964
Dried fruits..... pounds..	1,007,033	53,159
Canned fish..... pounds..	531,054	19,649
Smoked fish..... pounds..	924,785	38,841
Salted fish..... pounds..	4,630,322	143,540
Pickles, preserves, and sauces.....		3,376,137

² In addition, 140,203 cases of fruits and vegetables, to the value of \$288,138; 1,847,625 pounds of fish, to the value of \$274,403; and oysters, to the value of \$12,900, were canned and preserved by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

³ Not reported separately.

⁴ Not reported.

Flour-mill and gristmill products.—Table 36 presents statistics for flour-mills and gristmills, but does not include data for establishments engaged exclusively in custom grinding (see table on p. 513). The total quantity of all kinds of grain milled in 1909 was 806,247,961 bushels, as compared with 729,061,820 bushels in 1899, an increase of 10.6 per cent. The largest increases were in wheat and corn,

the former showing a gain of about 25,000,000 bushels and the latter a gain of about 29,000,000 bushels.

The increase in the value of all products of flour mills and gristmills for the period 1899-1909 was 76.2 per cent. This gain was due mainly to advances in price, for the increases in quantity were relatively much smaller. The value of the wheat flour produced increased 64.7 per cent, but its quantity only 6 per cent, while the production of rye flour increased 54 per cent in value and only 6.2 per cent in quantity. The figures in the table indicate that higher unit values prevailed for all classes of products during 1909 than during the two prior census years. For the decade as a whole the percentage of increase in cost of materials, which constitutes by far the greater part of the value of products, was, however, even higher than that in value of products.

	1909	1904	1899
MATERIALS.			
Total cost.....	\$767,576,479	\$619,971,161	\$428,116,757
Grain ground or milled, bushels.....	806,247,961	754,945,729	729,061,820
Wheat.....	496,480,314	494,095,083	471,306,986
Corn.....	209,281,237	178,217,321	180,573,076
Rye.....	11,503,969	11,480,370	10,088,381
Buckwheat.....	7,156,062	6,531,305	5,490,156
Barley.....	24,509,770	18,628,552	10,067,348
Oats.....	50,241,598	45,381,009	47,175,766
Other.....	7,075,011	612,089	4,360,167
PRODUCTS.			
Total value.....	\$883,584,405	\$713,033,395	\$501,396,304
Wheat flour:			
Barrels.....	105,756,645	104,013,278	99,763,777
Value.....	\$550,116,254	\$480,268,514	\$333,997,686
White—			
Barrels.....	105,321,969	103,608,350	(*)
Value.....	\$548,017,654	\$478,484,601	(*)
Graham—			
Barrels.....	434,676	404,928	(*)
Value.....	\$2,068,600	\$1,773,913	(*)
Rye flour:			
Barrels.....	1,532,139	1,503,100	1,443,339
Value.....	\$6,383,538	\$5,892,108	\$4,145,565
Buckwheat flour:			
Pounds.....	176,081,891	175,354,062	143,190,724
Value.....	\$4,663,561	\$4,379,359	\$3,190,182
Barley meal:			
Pounds.....	28,550,952	68,508,655	91,275,646
Value.....	\$486,000	\$922,884	\$963,710
Corn meal and corn flour:			
Barrels.....	21,552,737	23,624,693	27,838,811
Value.....	\$66,941,095	\$56,368,556	\$52,167,739
Hominy and grits:			
Pounds.....	827,987,702	756,861,398	291,726,145
Value.....	\$12,509,493	\$8,453,420	\$2,567,084
Feed:			
Tons (2,000 pounds).....	5,132,369	3,458,786	3,993,080
Value.....	\$140,541,915	\$78,096,127	\$63,011,421
Offal:			
Tons (2,000 pounds).....	4,104,042	4,468,626	3,164,408
Value.....	\$89,814,427	\$76,105,532	\$36,679,196
All other cereal products—"breakfast foods," oatmeal, rolled oats, etc.....	\$4,720,106	(*)	(*)
All other products.....	\$7,408,016	\$4,554,895	\$4,673,751

¹ In addition, merchant-ground products, valued at \$1,637,228, were made by establishments engaged primarily in the manufacture of products other than those covered by the industry designation. The items covered by this amount were wheat flour, 105,477 barrels, valued at \$614,932; corn meal, 32,804 barrels, valued at \$37,507; rye flour, 2,620 barrels, valued at \$12,330; feed, 33,765 tons, valued at \$907,165; and offal, 627 tons, valued at \$15,274; and in addition, "breakfast foods," to the value of \$36,978,613, were made by establishments engaged primarily in the manufacture of food preparations. See note to table on page 513, for custom ground by-products.

² In addition, "breakfast foods," to the value of \$23,904,952, were made by establishments engaged primarily in the manufacture of food preparations.

³ Not reported separately.

Rice, cleaning and polishing.—The following table presenting statistics for the cleaning and polishing of

rice includes the quantity of rice milled, whether on a custom or exchange basis or in merchant mills. In 1909 there were 974,747,475 pounds of rice treated, as compared with 398,602,018 pounds in 1899, an increase of 144.5 per cent. The amount for 1909, however, was a little less than that for 1904. In 1909 there were only 3,873,735 pounds of foreign rough rice treated, as against 39,414,459 pounds in 1899. Attention is called to the fact that in 1909 whole rice formed 76.3 per cent of the total quantity of cleaned rice and broken rice 23.7 per cent, whereas in 1904 whole rice formed 65.9 per cent and broken rice 34.1 per cent of the cleaned-rice product.

	1909	1904	1899
MATERIALS.			
Rough rice milled, pounds.....	974,747,475	999,727,659	398,602,018
Domestic.....	970,873,749	996,473,625	369,187,559
Foreign.....	3,873,735	3,254,025	39,414,459
PRODUCTS.			
Total value.....	\$22,371,457	\$18,294,916	\$8,723,784
Clean rice:			
Pounds.....	626,099,469	623,969,245	242,621,209
Value.....	\$29,636,982	\$15,527,133	(*)
Whole—			
Pounds.....	477,589,004	411,208,942	(*)
Value.....	\$17,366,736	\$12,677,124	(*)
Broken—			
Pounds.....	148,500,465	212,691,302	(*)
Value.....	\$3,267,246	\$3,289,009	(*)
Polish:			
Pounds.....	29,821,813	33,290,331	15,134,648
Value.....	\$362,662	\$267,647	(*)
Bran:			
Pounds.....	91,208,529	120,694,139	69,265,012
Value.....	\$736,215	\$561,193	(*)
Hulls and waste.....	\$166,147	\$116,260	(*)
All other products.....	\$421,061	\$54,582	(*)

¹ In addition, 48,150 pounds of clean rice, valued at \$1,449, were produced by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

² Not reported separately.

Slaughtering and meat packing.—Table 38 presents statistics for the wholesale slaughtering and meat-packing industry. It includes the manufacture of sausage when done in connection with slaughtering or meat packing or when carried on in independent establishments, but it does not include the rendering of lard in independent establishments or the operations of retail butchers. The cost of all materials reported for the industry was \$1,202,827,784 in 1909 and \$685,310,099 in 1899, an increase of 75.5 per cent. The total value of products increased from \$788,367,647 in 1899 to \$1,370,568,101 in 1909, or 73.8 per cent.

A portion of the dressed meat reported as material was obtained from slaughtering establishments included in the tabulation, and therefore is duplicated in the total value of products.

On account of the higher prices in 1909, the percentages of increase in value from 1899 to 1909 for the different kinds of products are somewhat greater than the percentages of increase in quantity. This is

especially marked in the case of pork, which shows an increase of only 16,421,398 pounds, or less than 1 per cent, from 1899 to 1909, while the value of the product

increased \$166,376,042, or 51.9 per cent. The quantity of lard increased 223,785,765 pounds, or 21.9 per cent, while its value increased \$73,256,353, or 119.8 per cent.

Table 38	1909	1904	1899		1909	1904	1899
MATERIALS.				PRODUCTS—continued.			
Total cost.....	\$1,202,827,784	\$811,425,563	\$685,310,099	Pork ² —Continued.			
Animals slaughtered.....	\$900,725,581	\$675,893,676	\$570,183,432	Salted—			
Beeves—				Pounds.....	952,130,557	1,558,886,255	1,371,384,591
Number.....	8,114,860	7,147,835	5,525,824	Value.....	\$95,959,048	\$110,620,710	\$88,363,629
Cost.....	\$392,127,010	\$280,040,930	\$247,146,262	Hams—			
Weight, pounds—				Pounds.....	780,861,744		
On the hoof.....	8,265,991,836	7,485,407,944	5,908,165,706	Value.....	\$101,089,390		
Dressed.....	4,409,718,022	4,060,264,877	3,222,733,017	Shoulders—			
Calves—				Pounds.....	346,294,769	1,364,015,706	1,787,313,787
Number.....	2,504,728	1,568,130	883,867	Value.....	\$33,225,458	\$132,210,611	\$148,171,166
Cost.....	\$25,030,014	\$12,665,557	\$7,252,545	Bacon and sides—			
Weight, pounds—				Pounds.....	741,345,933		
On the hoof.....	410,604,080	201,683,572	124,354,340	Value.....	\$97,856,403		
Dressed.....	262,315,076	161,040,581	79,498,483	Sausage, fresh or cured.....	\$59,504,582	\$33,170,285	\$25,982,709
Sheep—				All other fresh meat:			
Number.....	12,255,501	10,875,330	9,110,172	Pounds.....	257,809,083	124,307,681	80,387,411
Cost.....	\$59,924,931	\$44,359,804	\$30,859,832	Value.....	\$16,392,768	\$9,570,718	\$7,810,553
Weight, pounds—				Canned goods:			
On the hoof.....	987,506,521	930,168,367	764,269,802	Pounds.....	121,376,837	(¹)	112,443,621
Dressed.....	496,640,869	464,872,621	389,132,646	Value.....	\$15,345,543	\$16,114,065	\$9,166,931
Hogs—				Lard:			
Number.....	33,870,616	30,977,639	30,595,522	Pounds.....	1,243,537,004	1,169,086,400	1,079,781,839
Cost.....	\$483,383,848	\$329,705,480	\$278,370,494	Value.....	\$134,396,587	\$82,540,064	\$61,140,234
Weight, pounds—				Tallow or oleo stock:			
On the hoof.....	6,856,832,417	6,586,349,782	6,076,709,331	Pounds.....	202,844,139	(¹)	(¹)
Dressed.....	5,201,902,778	5,048,832,850	5,203,280,487	Value.....	\$13,490,659	(¹)	(¹)
Goats and kids—				Oleo oil:			
Number.....	33,224	(¹)	(¹)	Gallons.....	19,092,172	19,454,790	19,111,120
Cost.....	\$121,230	(¹)	(¹)	Value.....	\$16,475,726	\$10,201,911	\$11,482,542
All other.....	\$138,548	\$61,905	\$554,299	Other oils:			
Dressed meat, purchased.....	\$93,409,286	\$53,114,957	\$54,247,986	Gallons.....	11,343,186	4,893,133	8,240,569
All other materials.....	\$148,692,917	\$82,416,929	\$60,878,681	Value.....	\$6,360,745	\$2,595,951	\$3,438,358
PRODUCTS.				Oleomargarine:			
Total value.....	\$1,370,568,101	\$922,037,528	\$788,867,647	Pounds.....	42,912,400	(¹)	(¹)
Beef: ²				Value.....	\$5,993,981	(¹)	(¹)
Pounds.....	4,335,674,330	3,884,952,074	3,055,241,979	Stearin:			
Value.....	\$339,742,608	\$255,204,676	\$220,495,401	Pounds.....	54,957,997	(¹)	(¹)
Fresh—				Value.....	\$6,871,935	(¹)	(¹)
Pounds.....	4,209,196,668	3,748,055,377	2,917,053,476	Glue and gelatine:			
Value.....	\$327,583,456	\$247,096,724	\$210,833,647	Pounds.....	27,936,035	17,526,456	(¹)
Salted or cured—				Value.....	\$1,044,338	\$1,087,719	(¹)
Pounds.....	126,477,662	136,896,697	137,588,503	Fertilizers and fertilizer materials:			
Value.....	\$12,159,152	\$5,107,952	\$9,661,754	Tons (2,000 pounds).....	362,136	369,074	168,505
Veal, fresh:				Value.....	\$8,726,818	\$7,204,061	\$3,300,042
Pounds.....	252,997,078	154,212,652	84,548,128	Hides:			
Value.....	\$25,688,866	\$12,850,309	\$7,709,772	Number.....	0,560,138	8,030,204	6,240,414
Mutton, fresh:				Pounds.....	504,593,930	450,443,857	335,968,207
Pounds.....	405,457,894	409,754,244	400,812,014	Value.....	\$68,401,515	\$44,200,107	\$39,883,026
Value.....	\$50,735,116	\$36,880,455	\$32,681,467	Sheep pelts:			
Pork: ²				Number.....	11,691,308	11,344,544	(¹)
Pounds.....	4,377,127,187	4,147,834,872	4,360,705,789	Value.....	\$11,404,550	\$5,964,643	(¹)
Value.....	\$480,845,161	\$340,586,644	\$320,469,119	Goat and kid skins:			
Fresh—				Number.....	33,359	(¹)	(¹)
Pounds.....	1,547,494,184	1,224,932,910	1,222,007,411	Value.....	\$20,679	(¹)	(¹)
Value.....	\$158,714,862	\$91,749,323	\$83,934,324	Wool:			
				Pounds.....	21,858,926	16,377,333	13,176,686
				Value.....	\$8,327,095	\$5,229,521	\$3,394,499
				Amount received for custom or contract work.....	\$1,329,739	\$198,825	\$141,154
				All other products.....	\$93,170,004	\$55,400,064	\$47,381,910

¹ Figures not available.

² Includes only the products specified.

Sugar.—Tables 39, 40, and 41 show the quantity and value of the products made from sugar beets and sugar cane of domestic growth, and the quantity of beets grown and the acreage devoted to this crop. They do not include statistics for maple sugar and sirup, or for sirup produced on farms from sugar and sorghum cane, or the data for establishments engaged primarily in the refining of cane sugar or molasses. The value of products of the domestic beet-sugar and cane-sugar mills amounted to \$77,991,683. In 1909 the value of products of the refineries above mentioned aggregated \$248,628,659. Of this value the cost of materials, which consist chiefly of raw sugar imported from Cuba, Porto Rico, Hawaii, and the Philippines, represented 90.9 per cent. The

combined value of products of all establishments producing raw or refined sugar was \$326,620,342 in 1909. This amount includes some duplication in the case of raw sugar produced by cane mills and used as material for the refineries.

As shown by Tables 39, 40, and 41, the total production of sugar in 1909 from beets and cane of domestic growth was 828,540 tons, of which beet sugar constituted 60.6 per cent and cane sugar 39.4 per cent. The output of beet sugar increased more than five-fold in quantity since 1899, while the production of cane sugar, for which statistics for previous censuses can not be presented in comparable form, has increased but slightly. The *ton of 2,000 pounds* is used in showing quantities.

PRODUCT.	1909	
	Tons.	Value.
Total.....		\$77,991,683
Beet-sugar industry.....		48,122,383
Cane-sugar industry.....		29,869,300
Sugar.....		
Beet.....	828,540	72,033,302
Beet.....	501,082	45,937,629
Cane.....	326,858	26,095,673
Molasses, sirup, and all other products.....		5,958,381
Beet.....		2,184,754
Cane.....		3,773,627

The following table presents the statistics for the beet-sugar industry for the censuses of 1909, 1904, and 1899:

	1909	1904	1899
Acreage of sugar beets, total planted.	415,064	240,787	135,805
Directly by factory.....	29,459	20,484	10,239
By tenants of factory.....	18,166	20,223	13,074
On contract by others than tenants of factory.....	368,339	200,050	111,992
Beets used, tons	3,965,358	2,175,417	794,658
Grown directly by factory.....	266,768	169,839	23,241
Grown by tenants of factory.....	163,843	210,247	95,071
Grown on contract by others than tenants of factory.....	3,534,745	1,795,331	676,346
PRODUCTS.			
Total value.....	\$48,122,383	\$24,393,794	\$7,323,857
Sugar:			
Granulated—			
Tons.....	496,807	248,309	57,843
Value.....	\$45,645,810	\$23,493,373	\$5,580,527
Raw—			
Tons.....	4,875	5,612	23,886
Value.....	\$201,819	\$431,229	\$1,642,054
Molasses or sirup:			
Gallons.....	20,812,747	9,609,542	3,551,856
Value.....	\$1,129,905	\$221,097	\$25,102
Beet pulp.....	\$795,900	\$202,070	\$21,522
All other products.....	\$258,949	\$46,025	\$54,352

¹ Includes quantities for which no value could be given; also wastage.

The statistics for cane mills for 1909 are shown in detail in Table 41.

PRODUCT.	1909
Total value.....	\$30,629,738
Sugar: ¹	
Tons.....	326,858
Value.....	\$26,095,673
Vacuum pan—	
Tons.....	323,180
Value.....	\$25,794,287
Brown (open-kettle process)—	
Tons.....	3,678
Value.....	\$301,366
Molasses (liquid product from which more or less sugar has been extracted):	
Gallons.....	24,587,561
Value.....	\$2,845,559
Sirup (liquid product from which no sugar has been extracted):	
Gallons.....	1,449,860
Value.....	\$365,682
All other products ²	\$1,319,874

¹ Does not include the operations of four establishments which manufacture sugar, two of which were operated in connection with penal institutions and two of which were engaged primarily in the manufacture of products other than those covered by the industry designation. The output of these establishments was 7,281 tons of sugar and 693,302 gallons of molasses.

² Cane sugar manufactured direct from cane, not including the refining of raw sugar purchased.

³ The value of sirup produced by establishments which manufacture no sugar is included under "All other products."

TEXTILES.

Statistics are presented for several branches of the textile and allied manufacturing industries, designated as follows: Carpets and rugs, other than rag; cordage and twine and jute and linen goods; cotton goods, including cotton small wares; hats, fur-felt; hosiery and knit goods; oilcloth and linoleum; shoddy; silk and silk goods, including throwsters; and woolen, worsted, and felt goods, and wool hats.

Table 42 shows the development of the textile industry since 1850. It covers all the industries mentioned above except the manufacture of fur-felt hats and of oilcloth and linoleum, for which statistics are shown in separate tables, and also includes the dyeing and finishing of textiles.

CENSUS.	Number of establishments.	NUMBER ENGAGED IN INDUSTRY. ¹		Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
		Salaried employees.	Wage earners (average number).						
1909 (census of 1910).....	5,352	31,208	881,128	\$1,841,242,131	\$49,123,634	\$335,398,736	\$992,635,299	\$1,684,636,499	\$695,001,200
1904 (census of 1905).....	4,737	24,372	742,529	1,351,451,715	32,862,121	250,514,233	753,174,981	1,225,656,444	472,511,463
1899 (census of 1900).....	4,521	17,024	664,429	1,049,636,201	23,532,773	210,069,411	527,209,771	949,052,658	412,842,917
1889 (census of 1890).....	4,420	² 10,851	520,196	772,673,605	³ 12,745,405	169,422,053	454,272,459	768,357,254	314,084,765
1879 (census of 1880).....	4,143	(⁴)	⁴ 387,557	414,179,946	(⁵)	105,642,524	306,495,799	535,401,222	231,065,423
1869 (census of 1870).....	4,855	(⁴)	275,655	298,611,518	(⁵)	86,784,211	354,452,813	522,312,413	167,859,090
1859 (census of 1860).....	3,058	(⁴)	194,394	150,205,852	(⁵)	40,410,946	113,082,036	215,166,444	102,084,408
1849 (census of 1850).....	3,025	(⁴)	146,877	112,513,947	(⁵)	(⁵)	76,715,959	128,769,971	52,054,012

¹ Not including proprietors and firm members.

² Includes proprietors and firm members with their salaries.

³ Not reported separately.

⁴ Includes 2,115 officers and clerks whose salaries were not reported.

⁵ Not reported fully.

The combined products of the industry in 1909 were valued at \$1,684,636,499, an increase of \$744,583,811, or 79.2 per cent, over the total for 1899. The total includes considerable duplication of values, but probably no more, relatively, than at previous censuses.

The percentage of increase since 1899 is the highest for any decade since that from 1859-1869. In 1909

cotton goods contributed 37.3 per cent of the value of all products represented in the total; the products of the woolen industries, including carpets and rugs, 30.1 per cent; hosiery and knit goods, 11.9 per cent; silk goods, 11.7 per cent; cordage and twine and jute and linen goods, 3.6 per cent; shoddy, four-tenths of 1 per cent; and the dyeing and finishing of textiles by independent establishments, 5 per cent.

The following table gives the number of producing spindles in active textile mills at the time of each census from 1869 to 1909, inclusive. It does not include spindles in establishments engaged primarily in the manufacture of products other than textiles, nor spindles employed on flax, hemp, jute, and allied fibers, of which latter class 142,169 were returned in 1909.

CENSUS.	NUMBER OF SPINDLES.				
	Total.	Cotton.	Silk.	Woolen.	Worsted.
1909 (census of 1910)...	33,806,479	28,178,862	1,777,962	2,156,849	1,752,806
1904 (census of 1905)...	28,721,742	23,672,064	1,394,020	2,456,389	1,199,269
1899 (census of 1900)...	23,901,557	19,463,984	1,213,493	2,229,181	994,899
1890 (census of 1890)...	18,092,133	14,384,180	718,360	2,332,260	657,324
1870 (census of 1880)...	13,170,743	10,653,435	262,312	1,915,070	339,026
1869 (census of 1870)...	9,338,953	7,280,800	12,040	1,845,496	200,617

¹ Includes some accessory spindles, except for silk.

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

The loom equipment of active establishments at the time of the several censuses, beginning with that of 1869, is presented in the following table. It does not include looms in establishments engaged primarily in the manufacture of products other than textiles, nor looms employed on flax, hemp, jute, and similar fibers. Cotton looms operated by power formed 80.6 per cent of the total number of power looms in 1909; silk looms, 9.1 per cent; and those employed in the woolen industry, which includes the manufacture of woolen and worsted goods and carpets and rugs, 10.2 per cent. In 1899 the corresponding percentages were 79.5 for cotton looms, 7.7 for silk, and 12.8 for those in the woolen industries.

CLASS OF LOOMS AND CENSUS.	NUMBER OF LOOMS.					
	Total.	Used in the manufacture of—				
		Cotton goods.	Silk goods.	Woolen goods.	Worsted goods.	Carpets and rugs.
Power:						
1909 (census of 1910)...	825,478	665,052	75,406	33,148	39,476	11,796
1904 (census of 1905)...	696,785	559,781	59,775	38,104	28,123	11,002
1899 (census of 1900)...	573,214	455,752	44,257	39,734	20,030	9,841
1890 (census of 1890)...	412,441	324,896	20,822	38,523	19,929	8,361
1870 (census of 1880)...	285,494	227,383	5,321	32,955	11,703	8,132
1869 (census of 1870)...	200,791	157,748	1,281	34,183	6,128	1,451
Hand:						
1909 (census of 1910)...	248	(¹)	(²)	41		207
1904 (census of 1905)...	1,039	(¹)	283	66		690
1899 (census of 1900)...	1,311	(¹)	173	83		1,055
1890 (census of 1890)...	4,823	(¹)	1,747	448		2,628
1870 (census of 1880)...	7,929	(¹)	3,153	781		3,995
1869 (census of 1870)...	4,163	(¹)	188	(¹)		3,975

¹ Not reported.

² Included with power looms.

Carpets and rugs.—The following table presents statistics for the manufacture of carpets and rugs, exclusive of rag and grass carpets and rugs.

	1909	1904	1899
MATERIALS.			
Total cost	\$39,563,004	\$37,947,954	\$27,228,719
Wool, in condition purchased:			
Pounds.....	64,135,020	51,320,521	51,871,334
Cost.....	\$11,752,396	\$10,431,146	\$8,104,107
Equivalent of above in scoured condition, pounds.....	51,474,353	31,551,895	37,560,231
Animal hair:			
Pounds.....	5,400,944	6,805,802	6,189,757
Cost.....	\$474,057	\$593,588	\$549,610
Cotton:			
Pounds.....	5,147,130	1,997,369	1,943,942
Cost.....	\$533,302	\$251,112	\$129,449
Partly manufactured materials not made in mill reporting:			
Waste and noils—			
Pounds.....	2,732,034	2,172,481	2,325,054
Cost.....	\$513,392	\$341,309	\$305,733
Yarns—			
Woolen—			
Pounds.....	25,718,747	32,431,400	32,995,316
Cost.....	\$5,036,118	\$6,648,001	\$5,000,654
Worsted—			
Pounds.....	11,292,749	11,355,993	9,218,287
Cost.....	\$5,588,915	\$5,405,072	\$3,544,680
Cotton—			
Pounds.....	26,106,241	27,421,831	19,823,561
Cost.....	\$4,772,594	\$4,757,850	\$2,744,928
Linen—			
Pounds.....	8,702,876	8,228,200	8,388,211
Cost.....	\$1,606,009	\$1,355,892	\$1,164,826
Jute, ramie, and other vegetable fiber—			
Pounds.....	55,592,343	49,110,558	38,846,413
Cost.....	\$3,026,694	\$3,404,616	\$2,476,029
Chemicals and dyestuffs.....	\$1,729,492	\$1,467,476	\$1,151,728
All other materials.....	\$3,630,035	\$3,291,992	\$2,026,797
PRODUCTS.			
Total value	\$71,188,152	\$61,586,433	\$48,192,351
Carpets:			
Square yards.....	57,176,729	66,428,033	64,238,761
Value.....	\$48,475,830	\$43,991,125	\$35,405,926
Axminster and Moquette—			
Square yards.....	12,507,261	6,413,688	5,028,778
Value.....	\$13,030,806	\$6,368,757	\$4,762,269
Wilton—			
Square yards.....	4,576,368	1,297,872	3,587,126
Value.....	\$8,737,708	\$2,720,667	\$4,030,842
Brussels—			
Square yards.....	3,900,026	3,024,162	2,686,493
Value.....	\$5,216,607	\$3,893,075	\$2,979,867
Tapestry velvet—			
Square yards.....	3,927,198	2,833,288	4,280,066
Value.....	\$5,514,130	\$7,754,681	\$3,743,353
Tapestry Brussels—			
Square yards.....	11,405,514	14,099,074	8,737,449
Value.....	\$8,576,006	\$9,555,043	\$6,520,665
Ingrain—			
Square yards.....	17,700,762	33,557,951	39,920,849
Value.....	\$6,749,672	\$13,287,302	\$14,368,930
Rugs, woven whole:			
Square yards.....	24,042,152	16,244,810	12,171,289
Value.....	\$18,490,440	\$12,870,050	\$8,145,232
Axminster and Moquette—			
Square yards.....	3,184,097	1,767,920	327,598
Value.....	\$3,601,900	\$2,107,383	\$342,262
Wilton—			
Square yards.....	707,248	1,097,186	339,784
Value.....	\$1,381,562	\$1,083,777	\$646,967
Brussels—			
Square yards.....	475,831	(³)	(³)
Value.....	\$333,582	(³)	(³)
Tapestry velvet—			
Square yards.....	3,732,972	(³)	(³)
Value.....	\$3,513,063	(³)	(³)
Tapestry Brussels—			
Square yards.....	5,072,962	2,009,834	18,750
Value.....	\$4,422,427	\$1,509,673	\$9,000
Ingrain art squares—			
Square yards.....	6,131,862	7,135,540	2,722,323
Value.....	\$2,408,960	\$2,785,457	\$1,175,951
Smyrna—			
Square yards.....	1,400,233	3,828,282	3,651,661
Value.....	\$1,660,322	\$4,134,500	\$3,680,618
Other			
Square yards.....	2,076,947	406,042	5,111,173
Value.....	\$1,078,633	\$349,860	\$2,391,434
All other products.....	\$4,221,814	\$4,724,658	\$4,641,193
MACHINERY.			
Sets of cards.....	745	686	468
Woolen.....	456	389	.....
Worsted.....	180	238	.....
Cotton.....	109	59	.....
Spindles.....	252,096	255,347	209,206
Producing.....	211,472	211,331	167,123
Doubling and twisting.....	40,624	44,016	42,083
Looms, all classes.....	12,271	13,853	12,511

¹ In addition, in 1909 carpets and rugs, to the value of \$470,161, and in 1904, to the value of \$70,000, were made by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

² Includes Wilton velvet.

³ Not reported separately.

⁴ Not reported fully.

The aggregate production of carpets and rugs increased from 76,410,050 square yards in 1899 to 81,218,881 square yards in 1909, or only 6.3 per cent, but the value of the output increased from \$43,551,158 in 1899 to \$66,966,338 in 1909, or 53.8 per cent. The increase has been in all classes of rugs except Smyrna and "other rugs" and in all classes of carpets except ingrain. The cost of materials used increased at a rate almost equal to that of the value of products. The total carpet product decreased 11 per cent in quantity during the decade, but increased 36.9 per cent in value. The output of pile carpets increased 61.9 per cent in quantity and 98.3 per cent in value, while that of woven ply or ingrain carpets decreased 55.4 per cent in quantity and 53 per cent in value. The production of rugs woven whole increased 97.5 per cent in quantity and 127 per cent in value. More than two-thirds of the fiber material used in the manufacture of carpets is yarn purchased, and to the extent that this yarn is manufactured by carpet mills there is a duplication in the products.

Cordage and twine and jute and linen goods.—Table 46 presents statistics for the manufacture of cordage and twine and jute and linen goods, including nets and seines, but does not include the figures for these classes of goods produced in penal institutions or in establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

The principal products manufactured in this country from flax, hemp, and jute fibers are twine, rope, and thread, and yarns for sale to establishments using chiefly cotton, wool, and silk fibers.

The production of linen toweling and other linen woven goods increased decidedly between 1899 and 1909, but this item is not shown separately in the table, because a very large proportion of the total product is manufactured by one establishment.

The output of gunny bagging decreased from 74,090,760 square yards in 1899 to 69,311,288 square yards in 1909, while its value increased from \$3,462,479 to \$3,507,482. The aggregate rope and twine product in 1909 was 504,020,697 pounds, valued at \$42,864,658, as compared with 343,656,384 pounds, valued at \$31,250,468, in 1899. In 1899 cotton rope and twine formed 3 per cent of the total output of the cordage and twine industry, and in 1909, 7.4 per cent. This class of products increased 260.6 per cent in quantity and 372.9 per cent in value during the decade, while rope and twine of all other fiber increased 40 per cent in quantity and 21.6 per cent in value. In addition to the cotton rope and twine product included in the figures given above, 21,319,678 pounds, valued at \$3,581,917, were made in 1909 in mills engaged primarily in the manufacture of cotton goods.

Table 46	1909	1899
MATERIALS.		
Total cost.....	\$40,914,810	\$33,063,793
Hard fibers:		
Sisal and manila hemp—		
Pounds.....	335,460,574	269,594,673
Cost.....	\$19,314,306	\$17,743,624
Other kinds—		
Pounds.....	17,222,998	6,344,371
Cost.....	\$707,802	\$352,528
Soft fibers:		
Jute—		
Pounds.....	121,992,427	87,443,291
Cost.....	\$4,134,265	\$2,431,429
Jute butts—		
Pounds.....	138,364,122	118,806,625
Cost.....	\$2,033,176	\$1,795,653
Flax and flax tow—		
Pounds.....	26,954,785	16,980,646
Cost.....	\$3,174,609	\$2,080,862
Hemp and hemp tow—		
Pounds.....	19,724,070	25,568,715
Cost.....	\$1,496,125	\$1,404,653
Cotton:		
Pounds.....	27,624,400	13,022,755
Cost.....	\$2,922,993	\$849,426
Yarns, purchased:		
Cotton—		
Pounds.....	7,077,959	4,973,080
Cost.....	\$1,291,569	\$769,899
Flax, hemp, jute, and ramie—		
Pounds.....	2,676,367	1,788,170
Cost.....	\$445,378	\$282,156
All other materials.....	\$5,394,617	\$5,433,573
PRODUCTS.		
Total value.....	\$61,019,986	\$49,077,629
Rope and binder twine.....		
Sisal—		
Pounds.....	225,755,526	172,238,391
Value.....	\$15,000,260	\$14,035,566
Manila—		
Pounds.....	150,169,682	123,584,291
Value.....	\$12,692,347	\$12,192,798
Cotton rope—		
Pounds.....	16,760,763	1,615,824
Value.....	\$3,011,613	\$247,250
Jute rope—		
Pounds.....	27,749,512	19,012,165
Value.....	\$1,566,160	\$463,413
All other.....		
Pounds.....	7,767,561	(¹)
Value.....	\$499,906	(²)
Twine, not including binder.....		
Cotton—		
Pounds.....	20,412,631	9,091,797
Value.....	\$1,518,096	\$1,133,849
Jute—		
Pounds.....	35,516,217	1,679,127
Value.....	\$2,557,744	\$117,539
Hemp—		
Pounds.....	8,013,349	9,065,024
Value.....	\$1,091,291	\$1,029,590
Flax—		
Pounds.....	2,967,653	3,845,978
Value.....	\$630,909	\$959,489
Flax or hemp mixed with jute—		
Pounds.....	8,907,493	12,924,067
Value.....	\$936,312	\$1,101,203
Yarns for sale.....		
Jute—		
Pounds.....	62,512,247	54,271,869
Value.....	\$4,361,550	\$3,239,635
Flax and hemp—		
Pounds.....	5,486,891	9,259,653
Value.....	\$982,742	\$1,126,971
Other—		
Pounds.....	732,120	945,567
Value.....	\$89,745	\$92,928
Linen thread:		
Pounds.....	6,530,503	4,021,044
Value.....	\$3,407,008	\$2,321,287
Gunny bagging:		
Square yards.....	69,311,288	74,090,760
Value.....	\$3,507,482	\$3,462,479
Jute carpets and rugs:		
Square yards.....	2,206,114	2,953,658
Value.....	\$549,221	\$357,568
All other products.....	\$5,257,580	\$7,219,093

¹ In addition, cordage and twine and jute and linen goods to the value of \$390,629 were made by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

² Not reported.

Cotton goods, including cotton small wares.—Table 47 presents the statistics for cotton manufactures, not including cotton hosiery and knit goods.

The aggregate value of cotton woven goods manufactured, exclusive of narrow weaves, such as tape and webbing, was \$456,089,401 in 1909, compared with \$243,253,155 in 1899, an increase of 87.5 per cent for the decade. The rate of increase, however, in quantity was very much less, 6,348,568,593 square yards of woven goods being reported in 1909, compared with

4,523,430,616 in 1899, an increase of 40.3 per cent. The output of almost every class of woven goods increased during the decade.

The total production of yarn in cotton mills in 1909 was 2,040,290,743 pounds, of which 470,370,995 pounds, valued at \$109,314,953, were made for sale. Part of this yarn was sold to other cotton mills, thus involving duplication in the total value of products for the industry. Some of it was sold to woolen and silk mills and a large quantity to knitting mills.

Table 47	1909	1904	1899		1909	1904	1899
MATERIALS.				PRODUCTS—continued.			
Total cost.....	\$371,009,470	\$286,255,303	\$176,551,527	Woven goods—Continued.			
Cotton:				Napped fabrics—			
Pounds.....	2,335,344,906	1,876,437,160	1,817,643,300	Square yards.....			
Cost.....	\$274,724,210	\$222,212,740	\$125,109,016	305,655,864	330,808,140	268,852,716	
Domestic—				Value.....			
Pounds.....	2,250,312,074	1,832,736,744	1,761,798,458	\$25,005,307	\$20,108,315	\$18,231,044	
Cost.....	\$261,547,820	\$214,615,844	\$119,098,443	Corduroy, cotton, velvet, and plush—			
Foreign—				Square yards.....			
Pounds.....	76,031,932	43,700,406	55,844,032	10,706,438	16,014,556	7,961,523	
Cost.....	\$13,176,300	\$7,596,905	\$6,071,173	Value.....			
Cotton yarn:				\$6,965,634	\$4,790,573	\$2,682,017	
Pounds.....	126,707,003	105,411,516	94,692,804	Mosquito and other netting—			
Cost.....	\$34,384,791	\$24,611,200	\$17,622,568	Square yards.....			
Cotton waste:				50,100,819	36,232,918	41,885,023	
Pounds.....	80,044,061	76,678,645	41,234,900	Value.....			
Cost.....	\$4,225,790	\$3,814,200	\$1,515,591	\$2,103,560	\$704,953	\$875,868	
Starch:				Upholstering goods—			
Pounds.....	71,774,574	54,489,534	53,800,734	Square yards.....			
Cost.....	\$2,114,756	\$1,506,804	\$1,227,010	94,840,051	65,692,212	51,314,609	
Chemicals and dyestuffs	\$4,836,514	\$4,573,375	\$5,718,107	Value.....			
All other materials.....	\$50,673,409	\$29,530,885	\$25,298,035	\$14,882,842	\$12,111,698	\$8,705,384	
PRODUCTS.				Tapestries (piece goods and curtains)—			
Total value.....	\$628,891,813	\$450,467,704	\$339,200,320	Square yards.....			
Woven goods:				10,657,385	9,605,000	10,166,538	
Square yards.....	6,348,568,593	5,110,308,812	4,523,430,616	Value.....			
Value.....	\$456,089,401	\$324,747,837	\$243,253,155	\$4,723,907	\$4,242,506	\$4,158,600	
Plain cloths for printing or converting—				Lace and lace curtains—			
Square yards.....	2,224,677,848	1,818,210,172	1,581,613,827	Square yards.....			
Value.....	\$111,007,889	\$80,311,612	\$67,780,940	81,007,314	53,511,222	37,825,198	
Brown or bleached sheetings and shirtings—				Value.....			
Square yards.....	1,484,353,529	1,172,309,182	1,212,403,048	\$8,022,082	\$7,208,211	\$3,585,138	
Value.....	\$88,802,985	\$61,253,376	\$55,513,032	Other—			
Twills and sateens—				Square yards.....			
Square yards.....	388,314,961	360,142,513	235,800,518	3,175,352	2,475,084	3,322,873	
Value.....	\$34,274,107	\$23,701,305	\$14,301,302	Value.....			
Fancy woven fabrics—				\$1,236,853	\$600,981	\$661,646	
Square yards.....	426,710,359	306,254,085	237,841,603	Bags and bagging—			
Value.....	\$47,498,713	\$28,486,342	\$21,060,310	Square yards.....			
Ginghams—				63,107,568	57,007,003	32,730,616	
Square yards.....	537,430,463	302,316,132	278,392,708	Value.....			
Value.....	\$37,030,040	\$22,471,867	\$16,179,200	\$4,862,451	\$3,953,732	\$2,554,192	
Duck—				Cotton towels and toweling—			
Square yards.....	162,476,322	122,601,212	120,234,076	Square yards.....			
Value.....	\$27,485,892	\$17,005,982	\$14,263,008	52,778,170	40,280,292	(?)	
Drills—				Value.....			
Square yards.....	238,869,407	194,735,303	237,206,540	\$6,037,075	\$4,365,470	(?)	
Value.....	\$17,750,151	\$12,596,003	\$11,862,794	Tape and webbing.....			
Ticks, denims, and stripes—				\$5,531,074	\$4,060,488	\$3,521,402	
Square yards.....	264,870,508	256,375,486	181,800,853	Yarns for sale:			
Value.....	\$27,350,162	\$23,797,578	\$16,446,633	Pounds.....			
Cottonades—				470,370,995	604,634,753	332,302,621	
Square yards.....	25,670,286	25,302,346	26,323,947	Value.....			
Value.....	\$3,343,533	\$2,998,971	\$2,701,431	\$109,314,953	\$79,030,687	\$55,216,066	
				Thread:			
				Pounds.....			
				23,700,067	17,103,741	15,907,058	
				Value.....			
				\$20,516,209	\$15,043,043	\$11,008,671	
				Twine:			
				Pounds.....			
				13,715,771	7,301,589	11,642,718	
				Value.....			
				\$2,417,301	\$1,428,994	\$1,546,611	
				Cordage and rope:			
				Pounds.....			
				7,603,907	(?)	(?)	
				Value.....			
				\$1,164,526	(?)	(?)	
				Cotton waste for sale:			
				Pounds.....			
				310,513,348	247,040,640	270,862,613	
				Value.....			
				\$10,874,380	\$10,032,057	\$5,583,576	
				All other products.....			
				\$22,483,213	\$15,185,598	\$19,190,845	
				MACHINERY.			
				Producing spindles, number.....			
				27,425,608	23,195,143	19,050,952	
				Looms, all classes, number.....			
				665,049	550,296	455,752	

¹ In addition, cotton goods to the value of \$2,224,000 were made by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

² Not reported separately.

Felt goods.—Table 48 covers the statistics for all establishments engaged primarily in the manufacture of felt goods except those making hats. The aggregate value of products of the three felting industries—the manufacture of felt goods, fur-felt hats, and wool-felt hats—was \$64,099,667 in 1909, \$48,035,213 in 1904, and \$37,864,818 in 1899, the increase in value from 1899 to 1909 being 69.3 per cent.

The value of products for the felt-goods industry, exclusive of the making of felt hats, was \$11,852,626 in 1909 and \$6,461,691 in 1899, an increase for the decade of 83.4 per cent.

The increase in the production of endless belts during the decade was particularly large, amounting to 191 per cent in quantity and 215.1 per cent in value.

Table 48	1909	1904	1899
MATERIALS.			
Total cost.....	\$6,987,206	\$5,754,026	\$3,801,028
Wool, in condition purchased:			
Pounds.....	12,409,826	11,808,238	9,606,263
Cost.....	\$3,927,393	\$3,388,588	\$2,196,440
Equivalent of above in scoured condition, pounds.....	9,308,172	8,131,082	6,468,097
Animal hair, etc.:			
Pounds.....	8,144,011	6,974,634	2,819,521
Cost.....	\$239,244	\$373,797	\$125,803
Cotton:			
Pounds.....	1,375,670	1,982,624	1,225,850
Cost.....	\$155,815	\$217,200	\$77,683
Shoddy, mungo, and wool extract:			
Pounds.....	2,536,243	1,532,127	712,373
Cost.....	\$261,878	\$157,031	\$89,737
Waste and nolls:			
Pounds.....	4,874,712	1,948,969	2,653,590
Cost.....	\$1,220,110	\$452,509	\$552,992
Chemicals and dyestuffs.....	\$219,891	\$189,760	\$128,296
All other materials.....	\$942,875	\$975,151	\$639,077
PRODUCTS.			
Total value.....	\$11,852,626	\$8,948,594	\$6,461,691
Felt cloths:			
Square yards.....	3,764,468	3,689,610	2,056,002
Value.....	\$1,381,854	\$1,830,627	\$548,543
Trimming and lining felts, felt skirts, etc.:			
Square yards.....	5,953,410		
Value.....	\$1,329,686		
Saddle felts:		5,145,340	2,469,830
Pounds.....	1,050,991	\$1,188,908	\$796,718
Value.....	\$575,849		
Endless belts:			
Pounds.....	3,243,034	1,770,124	1,114,357
Value.....	\$3,417,822	\$1,707,216	\$1,084,835
Boot and shoe linings:			
Square yards.....	1,061,090	2,823,137	1,042,538
Value.....	\$514,456	\$781,450	\$540,110
Hair felting:			
Square yards.....	1,159,999	605,214	125,000
Value.....	\$531,045	\$191,998	\$56,950
All other felts.....	\$3,549,876	\$2,592,894	\$2,261,918
All other products.....	\$552,038	\$655,501	\$1,172,617
MACHINERY.			
Sets of cards.....	473	463	1302
Woolen.....	472	451	
Cotton.....	1	12	
Spindles.....	30,353	17,817	24,286
Producing.....	29,463	17,457	23,235
Doubling and twisting.....	890	360	1,051
Looms, all classes.....	408	265	284

¹ Not fully reported.

Hats, fur-felt and wool-felt.—The total output in 1909 of establishments engaged primarily in the manufacture of fur-felt or wool-felt hats was 42,962,508 hats of all varieties, valued at \$47,089,253; in 1904 it was 36,695,952 hats, valued at \$36,604,304; and in 1899, 32,325,564 hats, valued at \$28,546,867. Fur-felt hats, generally known as felt hats, formed 83.5 per cent of the total number in 1909 and 69.9 per cent in 1899, while wool-felt hats, generally known as wool hats, formed 16.5 per cent of the total in 1909 and 30.1 per cent in 1899.

There is some duplication in value of products, due to the use of felt hat bodies and hats in the rough made at one establishment as material at another.

The following table gives the quantity and value of the materials and products of the fur-felt hat industry in 1909, 1904, and 1899. The products increased in value 72.1 per cent during the decade, and the number of finished hats increased 58.8 per cent.

Table 49	1909	1904	1899
MATERIALS.			
Total cost.....	\$22,109,231	\$15,975,206	\$13,513,668
Hatters' fur:			
Pounds.....	8,645,576	6,718,369	6,166,269
Cost.....	\$9,278,922	\$6,743,936	\$6,376,991
Fur-felt hat bodies and hats in the rough:			
Dozens.....	406,447	211,760	148,212
Cost.....	\$2,575,245	\$1,351,372	\$982,986
Chemicals and dyestuffs.....	\$843,587	\$1,140,261	\$656,794
All other materials.....	\$9,411,474	\$6,739,617	\$5,596,897
PRODUCTS.			
Total value.....	\$47,864,630	\$36,629,353	\$27,811,187
Fur-felt hats:			
Dozens.....	2,969,252	2,611,875	1,882,372
Value.....	\$43,442,466	\$34,814,234	\$25,385,506
Fur-felt hat bodies and hats in the rough:			
Dozens.....	366,370	88,966	165,610
Value.....	\$2,793,738	\$660,959	\$922,730
All other products.....	\$1,164,872	\$1,093,361	\$941,622
Work on materials for others.....	\$553,554	\$569,799	\$491,919

¹ In addition, in 1909, fur-felt hats, to the value of \$806,601, and in 1904, to the value of \$333,441, were made by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

The statistics for the manufacture of wool-felt hats are given in the following table. The increase in the total value of all products for the decade was 22.1 per cent. The output of finished wool hats in 1909, though greater than in 1904, showed a decrease of 27.2 per cent as compared with 1899.

Table 50	1909	1904	1899
MATERIALS.			
Total cost.....	\$2,472,263	\$1,369,810	\$2,042,262
Wool, in condition purchased:			
Pounds.....	1,208,498	1,633,535	2,713,374
Cost.....	\$404,127	\$495,594	\$788,973
Equivalent of above in scoured condition, pounds.....	989,110	1,231,576	1,826,555
Wool waste and nolls:			
Pounds.....	1,281,764	287,363	892,982
Cost.....	\$661,172	\$119,467	\$370,792
Wool-felt hat bodies and hats in the rough:			
Dozens.....	21,864	12,689	4,830
Cost.....	\$83,020	\$25,997	\$13,920
Chemicals and dyestuffs.....	\$104,503	\$63,905	\$108,502
All other materials.....	\$1,219,441	\$664,907	\$760,615
PRODUCTS.			
Total value.....	\$4,332,411	\$2,457,266	\$3,581,940
Wool-felt hats:			
Dozens.....	590,987	445,121	811,425
Value.....	\$3,646,787	\$2,290,079	\$3,161,361
Wool-felt hat bodies and hats in the rough:			
Dozens.....	53,896	18,587	56,006
Value.....	\$309,492	\$100,491	\$120,262
All other products.....	\$426,132	\$66,705	\$310,317

¹ In addition, wool-felt hats, to the value of \$904,643, were made by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

Hosiery and knit goods.—Table 51, presenting the statistics for hosiery and knit goods, includes hand-knit as well as machine-knit goods.

The total cost of materials in the hosiery and knit-goods industry was \$110,241,053 in 1909, \$76,789,348 in 1904, and \$51,195,330 in 1899. The cost of cotton and cotton yarn represented 51.7 per cent of the total cost of material used in 1909, 52.4 per cent in 1904, and 50.3 per cent in 1899. A portion of the yarn reported as material was purchased from other establish-

ments included in this classification and is therefore duplicated in the value of products. The increase in the total cost of materials in 1909 over the cost for 1899 was 115.3 per cent, and the increase in the total value of products was 108.8 per cent. Of the total value of the products, shirts and drawers contributed 34.8 per cent in 1909 and 47.7 per cent in 1899, while hosiery contributed 34.3 per cent in 1909 and 28.6 per cent in 1899. The hosiery product increased in value from

\$27,420,029 in 1899 to \$68,721,825 in 1909, or 150.6 per cent, and shirts and drawers from \$45,675,594 to \$69,592,817, or 52.4 per cent. Sweaters, cardigan jackets, etc., show the largest relative increase in value for the decade, and combination suits the next largest, the value of the former increasing from \$3,498,837 to \$22,430,817, or more than fivefold, and that of the latter from \$3,691,847 to \$14,853,536, or about threefold.

Table 51				Table 52			
	1909	1904	1899		1909	1904	1899
MATERIALS.				PRODUCTS—continued.			
Total cost.....	\$110,241,053	\$76,789,348	\$51,195,330	Hosiery—Continued.			
Cotton:				Silk—			
Pounds.....	75,416,023	50,586,700	40,451,301	Dozen pairs.....	434,414	42,065	12,572
Cost.....	\$8,803,509	\$5,869,317	\$3,561,592	Value.....	\$3,000,410	\$522,303	\$186,413
Wool, in condition purchased:				Shirts and drawers:			
Pounds.....	7,068,788	17,300,016	17,053,907	Dozens.....	25,337,779	10,723,141	15,873,700
Cost.....	\$2,919,055	\$6,153,858	\$5,202,135	Value.....	\$59,592,817	\$56,043,860	\$45,675,594
Equivalent of above in scoured condition, pounds.....	5,582,839	13,000,144	13,031,308	All cotton—			
Shoddy, purchased:				Dozens.....	22,567,121	17,107,958	12,058,431
Pounds.....	7,482,553	7,489,358	3,770,626	Value.....	\$50,007,598	\$30,658,762	\$26,882,002
Cost.....	\$919,070	\$923,719	\$483,792	Merino or mixed—			
Wool waste and noils, purchased:				Dozens.....	2,536,473	2,113,810	2,676,416
Pounds.....	8,586,261	6,020,459	5,276,464	Value.....	\$17,055,624	\$13,031,764	\$13,293,829
Cost.....	\$2,813,129	\$1,711,009	\$1,487,907	All wool—			
Yarns, purchased:				Dozens.....	178,163	485,328	1,085,046
Cotton—				Value.....	\$1,820,521	\$3,047,934	\$4,980,818
Pounds.....	216,987,611	161,500,466	131,820,008	Silk and silk mixed—			
Cost.....	\$48,105,749	\$34,372,910	\$22,204,918	Dozens.....	50,022	16,045	54,807
Worsted—				Value.....	\$709,074	\$305,410	\$518,045
Pounds.....	10,370,004	8,789,570	5,823,215	Combination suits:			
Cost.....	\$10,116,325	\$7,457,690	\$4,865,304	Dozens.....	2,473,103	1,440,420	966,855
Woolen—				Value.....	\$14,853,536	\$6,793,947	\$3,691,847
Pounds.....	6,140,265	4,839,343	2,621,893	All cotton—			
Cost.....	\$3,834,094	\$2,798,454	\$1,257,587	Dozens.....	2,047,637	1,260,301	324,632
Merino—				Value.....	\$9,713,597	\$4,478,664	\$2,240,566
Pounds.....	4,014,609	2,568,800	1,981,484	Merino or mixed—			
Cost.....	\$2,667,051	\$1,118,999	\$642,535	Dozens.....	304,387	105,242	139,994
Silk and spun silk—				Value.....	\$4,217,432	\$1,199,949	\$1,133,328
Pounds.....	982,753	320,671	260,247	All wool—			
Cost.....	\$3,006,599	\$1,200,269	\$940,801	Dozens.....	50,102	68,067	9,501
Chemicals and dyestuffs.....	\$2,541,939	\$1,677,252	\$1,023,161	Value.....	\$683,289	\$965,132	\$201,667
All other materials.....	\$23,853,693	\$13,505,221	\$9,454,598	Silk or silk mixed—			
Yarns made in mill for use therein.				Dozens.....	10,977	6,810	12,728
Cotton, pounds.....	69,171,277	39,954,890	40,845,889	Value.....	\$239,218	\$160,202	\$116,286
Woolen, pounds.....	8,316,349	(1)	(1)	Sweaters, cardigan jackets, etc.:			
Worsted, pounds.....	223,404	(1)	(1)	Dozens.....	2,221,410	811,620	594,690
Merino, pounds.....	20,856,989	(1)	(1)	Value.....	\$22,430,817	\$8,345,369	\$3,498,837
PRODUCTS.				Gloves and mittens:			
Total value.....	\$200,143,527	\$137,076,454	\$95,933,693	Dozen pairs.....	2,527,889	2,260,508	1,898,587
Hosiery:				Value.....	\$7,299,887	\$5,556,200	\$4,244,046
Dozen pairs.....	62,825,009	44,186,063	29,003,890	Hoods, scarfs, muffs, etc.:			
Value.....	\$68,721,825	\$44,113,260	\$27,420,029	Dozens.....	888,223	580,315	343,429
Cotton, merino, and woolen—				Value.....	\$3,217,085	\$1,774,862	\$1,002,392
Hose—				Shawls:			
Dozen pairs.....	34,409,562	25,999,813	16,641,769	Dozens.....	218,023	435,806	157,622
Value.....	\$37,903,011	\$26,152,043	\$16,203,372	Value.....	\$916,204	\$1,203,348	\$328,720
Cotton—				Boot and shoe linings:			
Dozen pairs.....	32,409,104	24,169,804	15,028,173	Square yards.....	9,726,770	11,708,961	10,406,440
Value.....	\$34,078,622	\$22,764,799	\$13,276,782	Value.....	\$1,209,404	\$1,240,401	\$2,205,003
Merino or mixed—				Yarns for sale.....			
Dozen pairs.....	834,029	746,226	436,891	Cotton—			
Value.....	\$1,466,283	\$1,182,164	\$659,959	Pounds.....	7,457,412	3,804,615	2,419,282
Woolen or worsted—				Value.....	\$1,508,417	\$654,234	\$422,100
Dozen pairs.....	1,166,429	1,083,783	1,176,705	Woolen, worsted, and merino—			
Value.....	\$2,358,106	\$2,205,080	\$2,207,681	Pounds.....	488,322	491,559	134,529
Half hose.....				Value.....	\$217,114	\$345,840	\$76,690
Dozen pairs.....	27,891,093	18,144,185	13,249,558	All other products.....			
Value.....	\$27,218,398	\$17,438,914	\$11,030,244		\$10,118,371	\$10,309,064	\$7,268,434
Cotton—				MACHINERY.			
Dozen pairs.....	24,805,917	15,223,243	11,852,081	Sets of cards.....	2,681	2,001	1,161
Value.....	\$21,931,865	\$11,821,830	\$7,906,945	Cotton.....	1,827	1,000	(1)
Merino or mixed—				Woolen.....	844	977	1,161
Dozen pairs.....	2,023,641	1,611,066	957,520	Worsted.....	10	24	(1)
Value.....	\$3,299,912	\$2,214,678	\$1,384,764	Spindles.....	736,774	603,180	521,871
Woolen or worsted—				Producing.....	729,935	596,362	510,172
Dozen pairs.....	1,061,535	1,309,876	939,957	Doubling and twisting.....	6,839	6,818	11,699
Value.....	\$2,087,121	\$3,402,406	\$1,738,535	Knitting machines, all classes.....	115,019	88,374	89,047
				Sewing machines, all classes.....	43,885	30,410	24,535

¹ Not reported.

² In addition, in 1909, hosiery and knit goods, to the value of \$2,975,749, and in 1904, to the value of \$1,579,633, were made by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

Oilcloth and linoleum.—Table 52 presents the statistics of the production of oilcloth, linoleum, and artificial leather. Artificial leather, which at former censuses was included under upholstering materials, was reported separately for the first time at the census of 1909. At the census of 1899 oilcloth and linoleum were not reported in detail, but the total value of these products was \$11,402,620. This had

increased to \$13,977,137 in 1904 and to \$22,525,940 in 1909. The production of oilcloth in 1909 was in the aggregate 96,862,068 square yards and in 1904 71,057,684 square yards, an increase for the five years of 36.3 per cent. The linoleum product increased relatively much more; it amounted to 30,676,254 square yards in 1909 and 16,891,462 square yards in 1904, an increase of 81.6 per cent.

Table 52

PRODUCT.	1909	1904
Total value.....	\$26,253,796	\$14,792,246
Oilecloth.....	\$11,681,012	\$8,048,337
Floor—		
Square yards.....	18,354,851	21,456,615
Value.....	\$3,776,660	\$3,565,689
Enameled—		
Square yards.....	17,338,440	11,574,986
Value.....	\$2,265,146	\$1,542,467
Table—		
Square yards.....	61,163,777	38,026,063
Value.....	\$5,639,206	\$3,540,181
Linoleum.....	\$10,844,928	\$5,328,800
Linoleum, including cork carpet—		
Square yards.....	26,215,979	14,765,284
Value.....	\$7,850,437	\$4,223,992
Inlaid linoleum—		
Square yards.....	4,460,275	2,126,178
Value.....	\$2,994,491	\$1,104,808
Artificial leather:		
Square yards.....	11,869,875	(¹)
Value.....	\$3,448,617	(¹)
All other products.....	\$279,239	\$815,109

¹ In addition, products to the value of \$33,328 were reported by establishments engaged primarily in the manufacture of products other than those covered by the industry designation. The production of artificial leather is included under "upholstering materials" in Table 110.

² Figures not available.

Shoddy.—The statistics given in the following table relate only to establishments primarily engaged in the manufacture of shoddy, mungo, and wool extract, and do not include those for spinning and weaving mills and hosiery and knit-goods factories which manufacture shoddy for their own use or for sale. Mills engaged in the cutting of flocks and the cleaning and garnetting of waste are included, as in previous censuses. The total cost of materials used was \$5,000,706 in 1909, and the total value of the products was \$7,446,364, both of these amounts being somewhat larger than in 1899 but smaller than in 1904. The total output of the products specifically classified was 57,888,999 pounds in 1909, 63,787,770 pounds in 1904, and 47,684,714 pounds in 1899.

Table 53

	1909	1904	1899
MATERIALS.			
Total cost.....	\$5,000,706	\$6,055,731	\$4,875,192
Tailors' clippings, rags, etc.:			
Pounds.....	64,561,713	68,921,097	79,623,312
Cost.....	\$3,051,045	\$4,295,641	\$3,558,706
Waste and noils of wool, mohair, camel's hair, etc.:			
Pounds.....	7,567,579	8,177,846	4,236,028
Cost.....	\$917,976	\$909,754	\$693,972
Wool, in condition purchased:			
Pounds.....	237,097	597,492	422,349
Cost.....	\$98,032	\$127,927	\$127,099
Equivalent of above in scoured condition, pounds.....	196,097	421,492	242,997
Chemicals and dyestuffs.....	\$138,241	\$142,455	\$111,095
All other materials.....	\$795,412	\$579,954	\$354,320
PRODUCTS.			
Total value.....	\$7,446,364	\$8,406,425	\$6,780,974
Shoddy and mungo:			
Pounds.....	48,375,724	54,401,295	39,014,661
Value.....	\$5,699,200	\$6,831,689	\$5,358,378
Wool extract:			
Pounds.....	6,637,514	6,375,768	4,960,825
Value.....	\$865,528	\$727,912	\$620,504
Waste:			
Pounds.....	2,237,748	42,504	1,608,470
Value.....	\$275,545	\$1,544	\$148,043
Flocks:			
Pounds.....	1,638,013	2,968,203	2,080,758
Value.....	\$107,697	\$143,536	\$131,894
All other products.....	\$268,708	\$365,805	\$151,494
Work on materials for others.....	\$229,626	\$335,939	\$290,661
MACHINERY.			
Pickers, number.....	346	317	(²)
Garnett machines, number.....	158	116	(²)

¹ In addition, shoddy to the value of \$367,278 was made for sale by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

² Not reported.

Silk and silk goods.—The following table, which presents statistics for the manufacture of silk and silk goods, includes data for establishments that make a specialty of throwing and winding silk:

Table 54

	1909	1904	1899
MATERIALS.			
Total cost.....	\$107,766,916	\$75,861,188	\$62,406,665
Silk:			
Raw—			
Pounds.....	17,472,204	11,572,783	9,760,770
Cost.....	\$67,787,037	\$46,315,416	\$40,721,877
Spun—			
Pounds.....	2,212,972	1,951,201	1,550,291
Cost.....	\$4,848,789	\$4,310,061	\$3,496,039
Artificial—			
Pounds.....	914,494	466,151	6,056
Cost.....	\$1,926,894	\$1,023,473	\$10,380
Organzine and tram, purchased—			
Pounds.....	3,377,973	3,236,744	2,328,464
Cost.....	\$14,679,719	\$14,552,425	\$10,539,632
Fringe and floss, including waste, noils, etc., purchased—			
Pounds.....	2,402,950	1,49,811	1,735,179
Cost.....	\$1,637,137	\$187,159	\$1,006,947
Yarns, other than silk:			
Cotton, including mercerized—			
Pounds.....	14,111,878	9,615,295	6,664,609
Cost.....	\$5,811,532	\$3,667,969	\$1,996,233
Woolen or worsted—			
Pounds.....	619,588	443,155	229,461
Cost.....	\$765,989	\$409,867	\$187,770
Mohair—			
Pounds.....	716,106	128,399	104,810
Cost.....	\$649,529	\$137,697	\$197,365
All other—			
Pounds.....	353,790	129,390	106,398
Cost.....	\$456,597	\$108,841	\$124,396
Chemicals and dyestuffs.....	\$1,062,313	\$666,992	(¹)
All other materials.....	\$8,150,280	\$5,428,568	\$4,213,416
PRODUCTS.			
Total value.....	\$196,911,667	\$133,368,072	\$107,256,258
Broad silks:			
Yards.....	165,767,316	124,371,215	87,699,893
Value.....	\$107,861,146	\$66,917,762	\$52,152,816
Plain and fancy—			
All silk—			
Yards.....	81,934,158	68,393,042	59,573,488
Value.....	\$53,282,704	\$40,741,480	\$33,852,111
Silk mixed—			
Yards.....	24,742,556	9,061,025	8,963,315
Value.....	\$14,207,861	\$5,343,472	\$5,450,710
Jacquard—			
All silk—			
Yards.....	13,249,090	8,143,091	7,532,229
Value.....	\$9,835,345	\$5,327,063	\$5,379,601
Silk mixed—			
Yards.....	6,043,686	2,336,120	1,677,466
Value.....	\$3,473,799	\$1,229,648	\$1,009,321
Piece-dyed—			
All silk—			
Yards.....	19,693,393	21,284,584	7,331,561
Value.....	\$11,253,242	\$9,276,445	\$3,342,167
Silk mixed—			
Yards.....	40,644,433	15,603,353	8,556,864
Value.....	\$18,728,186	\$4,399,654	\$2,868,506
Velvets:			
Yards.....	16,693,583	7,262,315	5,122,249
Value.....	\$4,767,990	\$5,161,206	\$2,479,933
Plushes:			
Yards.....	2,759,411	2,547,367	3,848,684
Value.....	\$2,104,793	\$1,340,815	\$2,480,068
Tapestries and upholstery:			
Yards.....	226,717	1,766,210	1,333,119
Value.....	\$382,620	\$1,059,982	\$1,009,835
Ribbons.....	\$32,744,873	\$21,890,604	\$18,467,179
Laces, nets, veils, veiling, etc.....	\$1,550,550	\$745,489	\$603,194
Embroideries.....	\$483,322	\$112,362	\$57,625
Fringes and gimps.....	\$324,527	\$1,086,984	\$444,787
Braids and bindings.....	\$4,483,248	\$2,493,877	\$1,822,845
Trimnings.....	\$5,850,448	\$3,307,697	\$2,684,076
Machinist:			
Pounds.....	1,088,780	932,998	867,917
Value.....	\$6,341,719	\$5,521,055	\$5,897,974
Sewing, embroidery, wash, fringe, and floss silks:			
Pounds.....	747,246	811,711	739,301
Value.....	\$4,179,355	\$4,625,019	\$4,248,216
Organzine and tram, for sale:			
Pounds.....	2,740,319	2,625,645	2,468,387
Value.....	\$12,550,519	\$9,190,650	\$11,167,191
Spun silk, for sale:			
Pounds.....	779,462	576,529	437,459
Value.....	\$2,104,066	\$1,690,647	\$1,626,227
All other products.....	\$4,495,675	\$5,227,800	\$1,027,472
Work done on materials for others.....	\$8,364,350	\$3,716,666	\$2,337,220

¹ Does not include waste, noils, etc.

² Not reported separately.

³ In addition, silk and silk goods to the value of \$1,218,101 were made by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

The increase in the cost of materials and in the value of products for the period 1899-1909 was 72.7 and 83.6 per cent, respectively. Considerable duplication occurs in the total cost of materials and in the total value of products shown in the preceding table. To eliminate this duplication the following method may be used: (1) organzine and tram, reported as material and product, is deducted from both materials and products, respectively; (2) spun silk, reported as a product, is deducted from both materials and products; (3) fringe and floss, reported as material, is deducted from both materials and products; and (4) amount received for contract work, reported as product, is deducted from products.

The total production of broad weaves in 1909 was 198,787,027 running yards, single width, valued at \$115,136,724, compared with 97,940,935 yards, valued at \$58,122,622, in 1899, the increase in quantity being 103 per cent and that in value 98.1 per cent. Broad silks formed over nine-tenths of all broad weaves in 1909, the increase in the output between 1899 and 1909 being 111.9 per cent. The increase in the output of all other broad weaves combined—velvets, plushes, tapestries, and upholsteries—was only 26.9 per cent.

In 1899 all-silk goods constituted 78.1 per cent of the broad-silk product, and silk-mixed goods 21.9 per cent, whereas in 1909 the proportion for the latter had risen to 38.1 per cent and that for the former had fallen to 61.9 per cent. The change was due to an increase during the decade of 268.9 per cent in the output of silk-mixed broad silks, while that for all-silk was only 67.9 per cent.

Between 1899 and 1909 the rate of increase in the

output of broad woven silk goods was much greater than that for either broad woven cotton or broad woven woolen goods, the increases for the three classes being 103, 40.3, and 33.8 per cent, respectively.

Woolen and worsted goods.—The following table presents statistics for establishments engaged primarily in the manufacture of woolen and worsted goods. The total value of products for the industry involves considerable duplication, due to the use of partly finished products of some establishments as material for others. In 1909 the establishments in this industry produced 570,743,797 square yards of woven goods, exclusive of upholstery goods and sundries, compared with 505,821,956 square yards in 1904 and 426,572,856 in 1899, the increase for the decade being 33.8 per cent. The value of these goods was \$296,447,594 in 1909, \$234,737,036 in 1904, and \$183,306,664 in 1899, an increase for the decade of 61.7 per cent. The highest rate of increase was reported for the all-wool woven group, the output of which increased 49.3 per cent in quantity. The output of unions decreased decidedly, while that of cotton-warp woven goods increased 37.6 per cent in quantity. The all-wool yardage constituted 56.6 per cent of the total in 1909 and 50.7 per cent in 1899, while the union yardage constituted 6.6 per cent of the total in 1909, as compared with 13.4 per cent in 1899. Cotton-warp fabrics formed about the same proportion of the total in both years—somewhat over one-third. There has thus been a considerable shift during the decade from the manufacture of cotton-mixed to that of all-wool goods.

Table 55	1909	1904	1899		1909	1904	1899
MATERIALS.				MATERIALS—continued.			
Total cost.....	\$278,438,570	\$197,489,306	\$148,087,178	Yarns purchased:			
Wool:				Woolen—			
In condition purchased—				Pounds.....	931,222	5,750,088	5,906,802
Pounds.....	474,755,360	418,703,811	330,178,552	Cost.....	\$558,270	\$2,022,882	\$2,075,143
Cost.....	\$136,666,917	\$105,433,451	\$78,803,830	Worsted—			
Domestic—				Pounds.....	50,148,771	31,047,516	25,110,939
Pounds.....	310,002,279	319,800,490	250,393,205	Cost.....	\$50,033,701	\$24,904,511	\$19,495,251
Cost.....	\$85,018,238	\$78,873,136	\$59,040,158	Merino—			
Foreign—				Pounds.....	1,071,709	2,458,085	3,634,679
Pounds.....	164,153,087	98,903,321	79,785,347	Cost.....	\$318,450	\$581,107	\$664,527
Cost.....	\$51,648,679	\$20,760,315	\$19,757,072	Cotton—			
Equivalent in scoured condition,				Pounds.....	39,169,388	32,568,072	35,342,725
pounds.....	290,706,970	241,280,065	192,705,519	Cost.....	\$10,492,185	\$8,032,773	\$6,814,279
Mohair, camel, alpaca, and vicuna				Silk and spun silk—			
hair:				Pounds.....	282,536	412,307	131,915
Pounds.....	7,805,422	6,507,631	5,093,966	Cost.....	\$1,142,063	\$1,079,883	\$529,789
Cost.....	\$2,399,123	\$1,957,581	\$1,857,707	All other—			
Cow and other animal hair:				Pounds.....	1,040,735	411,779	1,127,926
Pounds.....	17,356,100	22,987,332	20,535,079	Cost.....	\$40,739	\$21,118	\$65,434
Cost.....	\$982,911	\$1,369,776	\$1,170,756	Chemicals and dyestuffs.....	\$8,820,928	\$7,450,550	\$6,595,160
Cotton:				All other materials.....	\$25,464,278	\$18,080,162	\$15,307,551
Pounds.....	20,024,061	32,613,408	40,244,710				
Cost.....	\$2,515,409	\$4,072,907	\$3,280,000	PRODUCTS.			
Tailor's clippings, rags, etc.:			(1)	Total value.....	\$419,743,521	\$307,941,710	\$238,744,508
Pounds.....	40,402,460	79,367,200	(1)	All-wool woven goods:			
Cost.....	\$2,850,966	\$5,098,034	(1)	Square yards.....	322,044,365	260,567,488	216,359,702
Shoddy, mingo, and wool extract				Value.....	\$219,853,767	\$158,390,330	\$117,757,169
purchased:				Wool cloths, doeskins, cassi-			
Pounds.....	21,454,187	31,919,456	33,036,767	mores, chevlots, etc.—			
Cost.....	\$3,058,214	\$4,472,666	\$4,070,836	Square yards.....	40,843,979	42,487,566	34,298,426
Waste and noils of wool, mohair,				Value.....	\$20,201,059	\$20,550,252	\$22,645,599
camel's hair, etc., purchased:				Worsted coatings, serges, and			
Pounds.....	26,473,811	26,032,838	15,714,171	suits—			
Cost.....	\$7,523,283	\$6,056,227	\$3,891,369	Square yards.....	119,655,069	59,592,811	54,033,679
Tops purchased:				Value.....	\$101,903,153	\$50,731,195	\$43,005,550
Pounds.....	20,828,245	9,160,929	5,566,108				
Cost.....	\$14,614,527	\$5,073,078	\$2,865,546				

¹ Not reported separately.

² In addition, in 1909, woolen and worsted goods, to the value of \$1,281,202, and in 1904, to the value of \$362,966, were made by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

Table 55—Continued.	1909	1904	1899	PRODUCTS—continued.	1909	1904	1899
PRODUCTS—continued.				PRODUCTS—continued.			
All-wool woven goods—Continued.				Cotton-warp woven goods—Contd.			
Woolen overcoatings, cloakings, kerseys, etc.—				Worsted filling dress goods, cashmeres, serges, mohairs, etc.—			
Square yards.....	14,697,770	22,411,530	18,729,194	Square yards.....	65,112,981	49,300,369	45,784,011
Value.....	\$11,230,856	\$16,934,112	\$16,131,709	Value.....	\$14,798,965	\$12,711,554	\$10,423,206
Worsted overcoatings and cloakings—				Wool filling dress goods, and repellents—			
Square yards.....	654,404	1,057,668	877,133	Square yards.....	12,916,060	12,139,080	7,496,898
Value.....	\$821,688	\$546,170	\$567,390	Value.....	\$2,741,816	\$3,230,561	\$1,890,488
Wool dress goods, sackings, tricots, etc., and opera and similar flannels—				Domest flannels and shirtings—			
Square yards.....	29,099,956	48,874,396	33,594,212	Square yards.....	4,571,765	4,285,838	4,555,013
Value.....	\$16,385,498	\$19,826,017	\$12,976,489	Value.....	\$911,967	\$769,476	\$976,465
Worsted dress goods, cashmeres, serges, bunting, etc.—				Linings, Italian cloths, and lastings—			
Square yards.....	105,801,349	66,428,825	57,712,086	Square yards.....	28,928,148	17,619,325	10,157,039
Value.....	\$54,030,376	\$27,802,181	\$16,316,392	Value.....	\$9,008,799	\$4,505,327	\$2,228,434
Carriage cloths—				Blankets—			
Square yards.....	1,782,855	1,741,765	1,220,408	Square yards.....	9,746,841	9,267,144	11,107,104
Value.....	\$947,862	\$964,557	\$696,999	Value.....	\$2,684,919	\$2,218,243	\$2,241,342
Flannels for underwear—				Horse blankets—			
Square yards.....	3,856,353	8,710,131	9,324,720	Square yards.....	4,210,098	6,307,836	5,702,315
Value.....	\$1,267,271	\$2,045,858	\$2,344,559	Value.....	\$1,676,942	\$1,053,154	\$1,252,824
Blankets—				Carriage robes—			
Square yards.....	5,137,903	7,316,179	5,454,173	Square yards.....	2,889,444	1,399,166	1,250,233
Value.....	\$3,228,797	\$2,751,029	\$2,316,968	Value.....	\$1,396,595	\$1,139,217	\$815,233
Horse blankets—				All other—			
Square yards.....	247,395	740,237	514,952	Square yards.....	327,664	.....	32,576
Value.....	\$185,430	\$418,219	\$256,211	Value.....	\$245,369	.....	\$14,159
Woven shawls—				Upholstering goods and sundries—			
Square yards.....	704,153	895,777	600,104	Woolen and worsted—			
Value.....	\$404,583	\$557,370	\$500,523	Square yards.....	1,176,542	1,060,732	447,568
All other—				Value.....	\$1,628,648	\$998,937	\$742,121
Square yards.....	463,179	310,603	615	All other.....	\$457,682	\$716,296	\$2,617,606
Value.....	\$167,194	\$257,375	\$510	Partially manufactured products for sale	\$115,032,456	\$66,466,672	\$47,569,422
Union, or cotton mixed, woven goods:				Yarns:			
Square yards.....	37,463,351	63,197,407	57,334,570	Woolen—			
Value.....	\$14,327,973	\$26,288,407	\$23,111,696	Pounds.....	28,520,493	42,878,320	32,669,851
Unions, tweeds, chevots, cassimeres, etc.—				Value.....	\$7,505,412	\$9,920,894	\$6,864,626
Square yards.....	18,917,478	35,103,110	30,767,915	Worsted—			
Value.....	\$7,780,854	\$15,050,726	\$13,695,830	Pounds.....	88,823,953	55,475,235	143,903,843
Overcoatings and cloakings—				Value.....	\$80,395,643	\$40,142,077	\$39,081,425
Square yards.....	4,281,739	5,373,053	6,087,366	Woolen, union or merino—			
Value.....	\$2,363,381	\$3,353,758	\$3,518,613	Pounds.....	10,249,625	8,824,064	.....
Sackings, tricots, dress goods, and opera and similar flannels—				Value.....	\$2,143,416	\$2,538,018	15,974,567
Square yards.....	4,319,539	11,690,740	11,176,752	Worsted, union or merino—			
Value.....	\$1,776,721	\$4,926,596	\$3,669,584	Pounds.....	3,761,737	3,314,549	\$4,668,125
Flannels for underwear—				Value.....	\$3,522,812	\$2,460,558	.....
Square yards.....	7,063,572	7,273,761	6,217,094	All other—			
Value.....	\$1,308,369	\$1,528,928	\$1,284,578	Pounds.....	3,195,553	2,799,060	4,536,165
Blankets—				Value.....	\$974,570	\$1,162,795	\$1,451,390
Square yards.....	1,717,758	3,114,110	1,530,696	Worsted tops and slubbing—			
Value.....	\$650,714	\$1,198,706	\$561,649	Pounds.....	11,821,279	4,772,582	(1)
All other—				Value.....	\$8,627,231	\$2,555,171	(1)
Square yards.....	1,153,265	642,633	1,554,747	Nolls—			
Value.....	\$447,934	\$229,693	\$381,442	Pounds.....	27,479,293	15,379,600	12,176,843
Cotton-warp woven goods:				Value.....	\$9,038,589	\$4,865,976	\$3,354,157
Square yards.....	210,346,081	182,057,061	152,878,584	Waste—			
Value.....	\$62,265,854	\$50,058,293	\$42,497,799	Pounds.....	24,057,580	17,946,076	8,163,294
Wool filling cassimeres, doeskins, jeans, tweeds, coatings, etc.—				Value.....	\$3,524,912	\$2,448,183	\$1,229,669
Square yards.....	45,244,866	34,602,165	37,160,449	All other products.....	\$3,250,857	\$3,924,232	\$3,039,906
Value.....	\$12,107,320	\$10,877,081	\$11,024,538	Work on materials for others.....	\$3,026,255	\$1,183,537	\$1,568,733
Worsted filling cassimeres, doeskins, jeans, tweeds, coatings, etc.—				MACHINERY.			
Square yards.....	29,220,252	16,688,620	12,663,719	Sets of cards.....	6,315	6,990	15,695
Value.....	\$15,009,081	\$6,969,402	\$7,267,508	Woolen.....	4,500	5,178	.....
Wool filling overcoatings and cloakings—				Worsted.....	1,581	.....	.....
Square yards.....	2,075,502	8,198,406	3,917,498	Cotton.....	234	425	.....
Value.....	\$771,879	\$2,478,878	\$1,430,430	Spindles.....	4,287,640	3,747,934	3,277,607
Batiments and linseys—				Producing.....	3,553,194	3,228,423	2,573,528
Square yards.....	5,102,460	22,339,112	13,051,729	Doubling and twisting.....	734,446	519,511	404,079
Value.....	\$912,182	\$4,074,800	\$2,873,181	Looms, all classes.....	72,532	63,867	61,395
				Wool-combing machines.....	1,978	1,440	1,317

¹ Worsted tops and slubbing included with worsted yarn.

* Cards not fully reported.

IRON AND STEEL.

Tables 56 to 61, inclusive, present statistics for blast furnaces, steel works and rolling mills, tin and terne plate plants, and wire mills. In many establishments other industries are carried on in connection with the operations of steel works and rolling mills. In these cases a separation of the data for the industries as defined by the Census Bureau was secured by taking separate reports for the different departments of the respective establishments. In this way the statistics for blast furnaces operated in connection with steel

works were segregated and combined with those for furnaces independently operated, and the statistics for the tin and terne plate dipping departments of establishments which also roll the black plate were separated and combined with those for establishments which dip only purchased plate. Statistics for the finished wire products of mills which roll wire rods as well as draw wire and manufacture wire nails, fencing, etc., were secured and are given in combination with those for wire mills which manufacture only from purchased wire rods. The finished wire products manu-

rolled and forged products alone include no duplication of quantity or value of products within any given establishment itself, but there is considerable duplication due to the use of the product of one establishment as raw material for another establishment, whether the latter be owned by a separate concern or by the same company.

Section III of the table, headed "Steel," gives the entire quantity of crude steel produced by the steel works, including that subjected to further processes of manufacture whether by the establishment in which produced or by other establishments. The value of this steel appears, therefore, distributed among various items under Section II. Section IV of the table gives in detail the quantity and value of the more highly elaborated products made by the rolling mills themselves from the rolling-mill products specified in Section II. The entire value of these products appears in Section II, either as part of the various items of rolled products or in the miscellaneous item of value added to rolling-mill products by further manufacture. The fifth section of the table deals with products sold for export by rolling-mill concerns; it includes only the products so sold directly by the establishments producing them and not such as may be sent abroad by others who purchase from the manufacturer. The sixth section deals with equipment.

In 1909 the rolled, forged, and cast-steel products specifically classified aggregated 26,723,274 tons, valued at \$863,342,711, and in 1899, 15,055,626 tons, valued at \$510,906,040, the increase in tonnage being 77.5 per cent and in value 69 per cent. The *ton of 2,240 pounds* is used in showing quantities except when otherwise stated.

	1909	1904	1899
I. MATERIALS.			
Total cost.....	\$657,500,856	\$441,204,432	\$390,895,277
Iron and steel:			
For furnaces and hot rolls—			
Tons.....	30,388,755	22,235,682	18,414,717
Cost.....	\$515,769,688	\$349,971,512	\$315,726,895
Pig iron and ferroalloys—			
Tons.....	19,078,889	12,191,228	10,411,281
Cost.....	\$297,471,122	\$172,101,436	\$151,064,348
Pig iron—		(²)	(²)
Tons.....	18,712,304	(²)	(²)
Cost.....	\$282,663,740	(²)	(²)
Ferroalloys—spiegeleisen, ferromanganese, etc.—		(²)	(²)
Tons.....	364,585	(²)	(²)
Cost.....	\$14,807,382	(²)	(²)
Scrap, including old rails not intended for re-rolling—			
Tons.....	4,803,617	5,124,277	4,126,980
Cost.....	\$72,722,831	\$67,601,248	\$66,852,621
Ingot, blooms, billets, slabs, muck and scrap bar, re-rolling rails, and sheet and tin-plate bars—			
Tons.....	6,508,249	4,920,177	3,576,456
Cost.....	\$145,575,635	\$110,268,828	\$97,808,926
Rolled forms for further manufacture—			
Skelp—			
Tons.....	176,717	259,643	(²)
Cost.....	\$5,704,856	\$7,331,935	(²)
Wire rods—			
Tons.....	146,425	161,914	136,725
Cost.....	\$4,252,695	\$4,774,383	\$5,419,617
Iron ore:			
Tons.....	835,338	549,995	346,310
Cost.....	\$4,292,963	\$2,396,792	\$1,348,809
All other materials.....	\$127,480,754	\$76,729,810	\$68,399,956

	1909	1904	1899
II. PRODUCTS.			
Total value.....	\$985,722,534	\$673,945,026	\$597,211,716
Rolled, forged, and other classified products, steel and iron:			
Tons.....	26,723,274	18,218,233	15,055,626
Value.....	\$863,342,711	\$565,288,243	\$510,906,040
Rails—			
Tons.....	2,858,599	4,194,605	4,251,337
Value.....	\$81,128,295	\$58,256,730	\$46,533,159
Bessemer steel—			
Tons.....	1,643,527	2,065,024	
Value.....	\$44,727,515	\$54,627,488	
Open-hearth steel, basic—			
Tons.....	1,215,072	128,681	2,250,457
Value.....	\$36,400,780	\$3,608,562	\$46,501,979
Rerolled or renewed rails—			
Tons.....	106,352	99,530	(²)
Value.....	\$2,683,017	\$2,480,328	(²)
Rail fastenings (splice bars, tie-plates, fishplates, etc.)—			
Tons.....	396,911	174,055	(²)
Value.....	\$14,488,412	\$5,063,052	(²)
Structural shapes, not including plates used for making girders—			
Tons.....	2,123,630	954,537	856,963
Value.....	\$65,564,595	\$32,739,901	\$29,361,522
Steel—			
Tons.....	2,102,300	950,062	839,682
Value.....	\$64,858,496	\$32,565,791	\$28,309,946
Open-hearth—			
Tons.....	1,934,230	618,391	556,032
Value.....	\$59,769,945	\$21,496,531	\$19,828,249
Bessemer—			
Tons.....	168,070	331,671	283,650
Value.....	\$5,063,518	\$11,069,170	\$8,381,717
Iron—			
Tons.....	21,330	4,475	27,601
Value.....	\$711,127	\$145,260	\$1,051,556
Bars and rods, including merchant, shovel, finger, and horse-shoe bars, spike, chain bolt, and nut rods, etc. (but not including wire rods, sheet and tin-plate bars, splice bars, and bars for reinforced concrete):			
Tons.....	3,784,248		
Value.....	\$121,488,423	2,442,810	2,426,159
Bars for reinforced concrete:			
Tons.....	191,358	\$34,066,122	\$106,597,221
Value.....	\$5,568,963		
Wire rods:			
Tons.....	2,295,279	1,792,704	916,587
Value.....	\$61,947,958	\$32,995,031	\$35,529,529
Plates and sheets, not including black plates or sheets for tinning, nail and tack plates, tie-plates, fishplates or armor plates:			
Tons.....	3,332,733	1,856,469	1,488,066
Value.....	\$133,272,393	\$77,802,601	\$68,109,228
Black plates, or sheets, for tinning:			
Tons.....	631,435	564,625	394,614
Value.....	\$30,955,967	\$25,297,079	\$20,987,806
Skelp, flue and pipe:			
Tons.....	2,064,286	1,557,699	
Value.....	\$64,514,728	\$46,780,202	
Hoops, bands, and cotton ties:			
Tons.....	341,043	327,223	1,195,189
Value.....	\$10,429,681	\$12,760,010	\$49,159,747
Nail and tack plates:			
Tons.....	68,557	86,601	97,564
Value.....	\$2,540,022	\$2,462,076	\$3,116,555
Axles, car, locomotive, automobile, wagon, carriage, etc., rolled or forged:			
Tons.....	102,345	83,585	102,606
Value.....	\$3,631,344	\$2,875,829	\$4,482,987
Armor plates, gun forgings, and ordnance:			
Tons.....	26,845	24,433	15,302
Value.....	\$10,649,079	\$10,549,620	\$7,528,479
Blooms, billets, and slabs, produced for sale or for transfer to other works of same company:			
Tons.....	4,887,796		
Value.....	\$108,514,747		
Rolled forging blooms and billets produced for sale or for transfer to other works of same company:			
Tons.....	84,383	4,823,585	4,172,286
Value.....	\$2,247,133	\$109,611,104	\$96,321,887
Sheet and tin-plate bars produced for sale or for transfer to other works of same company:			
Tons.....	1,652,761		
Value.....	\$37,745,269		
Muck and scrap bar produced for sale or for transfer to other works of same company:			
Tons.....	174,496	150,926	203,661
Value.....	\$4,986,211	\$3,940,698	\$5,940,587
All other rolled steel or iron:			
Tons.....	566,627	377,665	506,880
Value.....	\$39,570,061	\$16,743,727	\$19,202,606

For footnotes, see page 490.

The following table gives, for 1909, statistics of materials consumed, classified as purchased or as produced by the establishment consuming, and statistics of products, classified as sold or as consumed by the establishment producing. This information was not secured at former censuses. Eighty per cent of the pig iron used was made in blast furnaces operated by the consumer. The difference between the 15,252,736 tons of pig-iron material reported as produced by the consumer and the 15,858,203 tons reported in the table for blast furnaces as made for consumption in works of the producer—a little over 600,000 tons—represents the consumption in foundries and other shops owned by the producing companies but not covered by the preceding table.

industry has taken place almost entirely within the last 20 years, the production in 1891 being only about 2,236,000 pounds, or less than one five-hundredth of the 1909 output.

Table 58

MATERIAL.	QUANTITY (TONS).			
	Total.	Produced by the company reporting—		Purchased.
		In the works where consumed.	Transferred from other works of the company.	
<i>Produced and purchased.</i>				
Pig iron and ferroalloys.....	19,076,889	15,252,736	3,824,153	
Pig iron.....	18,712,304	15,108,244	3,604,060	
Ferroalloys—spiegeleisen, ferromanganese, etc.....	304,585	144,492	220,093	
Scrap.....	9,929,710	5,120,093	4,029,774	
Ingot, blooms, billets, slabs, muck and scrap bar, reolling rails, and sheet and tin-plate bars, not produced in the works.....	6,508,249	3,080,672	3,427,577	
Skelp.....	1,578,290	1,401,678	141,496	
Wire rods.....	1,465,221	1,318,796	18,134	
PRODUCT.	QUANTITY (TONS).			
	Total.	For consumption—		For sale.
		In the works producing.	Transferred to other works of the company	
<i>Consumed and sold.</i>				
Steel ingots.....	22,968,862	22,826,117	112,301	30,444
Open-hearth.....	13,725,783	13,626,241	72,433	27,109
Basic.....	12,952,840	12,864,514	69,815	18,611
Acid.....	772,943	761,727	2,613	8,598
Bessemer.....	9,145,542	9,103,816	39,726	2,000
Crucible and miscellaneous.....	87,537	96,060	142	1,335
Blooms, billets, and slabs.....	16,263,418	11,375,622	3,045,977	1,841,818
Rolled forging blooms and billets.....	160,997	76,614	84,383	154,431
Muck and scrap bar.....	1,366,324	1,191,828	23,065	1,625,408
Sheet and tin-plate bars.....	2,094,398	441,637	27,353	3,151,569
Bars and rods.....	3,784,248	632,679	465,161	2,807,114
Wire rods.....	2,295,279	1,318,796	61,954	56,275
Plates and sheets.....	3,332,733	463,665	575,160	560,686
Black plates and sheets.....	631,435	—	—	25,867
Skelp.....	2,084,286	1,401,573	102,027	393,377
Nail and tack plates.....	68,557	42,690	2,113	301,438
Miscellaneous rolled iron or steel.....	462,071	66,581	—	840,118
Miscellaneous forged iron or steel.....	365,986	64,548	—	—
Scrap.....	6,364,647	5,126,093	398,436	—

Tin and terne plate.—The statistics for the tin and terne plate industry are given in the following table. Nearly 98 per cent of the black plates dipped were rolled by the establishment reporting. The value of all products was \$47,969,645 in 1909 as compared with \$31,892,011 in 1899, an increase of 50.4 per cent. The development of the tin and terne plate

Table 59	1909	1904	1899
MATERIALS.			
Total cost.....	\$41,869,434	\$31,375,714	\$36,723,150
Black plates or sheets:			
Pounds.....	1,321,071,691	1,619,608,657	827,915,599
Cost.....	\$28,961,151	\$22,992,006	\$20,668,648
Produced by the establishment reporting:			
Pounds.....	1,291,048,109	943,798,583	(*)
Cost.....	\$26,245,234	\$21,154,388	(*)
Purchased:			
Pounds.....	30,023,582	75,810,074	(*)
Cost.....	\$735,917	\$1,837,618	(*)
Coating metals:			
Pounds.....	49,927,759	32,445,164	27,154,268
Cost.....	\$3,670,037	\$7,073,722	\$4,927,090
Tin, including tin contents of terne mixture purchased—			
Pounds.....	31,677,651	24,243,851	20,282,778
Cost.....	\$9,235,718	\$6,799,164	\$4,528,473
Lead, including lead contents of terne mixture purchased—			
Pounds.....	9,850,108	8,261,253	6,871,480
Cost.....	\$434,319	\$566,558	\$398,617
<i>In condition purchased—</i>			
Pig tin—			
Pounds.....	28,586,367	(*)	(*)
Cost.....	\$3,490,704		
Pig lead—			
Pounds.....	2,708,496	(*)	(*)
Cost.....	\$117,656		
Terne mixture—			
Pounds.....	9,632,996	(*)	(*)
Cost.....	\$1,061,587		
All other materials.....	\$3,238,245	\$1,307,966	\$1,132,212
PRODUCTS.			
Total value.....	\$47,969,645	\$35,233,360	\$31,892,011
Tin and terne plates:			
Pounds.....	1,315,313,132	1,626,334,951	849,094,022
Value.....	\$46,815,146	\$34,549,543	\$31,284,145
Tin plates—			
Pounds.....	1,123,938,575	887,526,965	707,718,239
Value.....	\$38,259,885	\$28,429,971	\$25,353,021
Terne plates—			
Pounds.....	191,344,257	158,837,566	141,285,783
Value.....	\$7,555,261	\$6,119,572	\$5,731,124
Other sheet iron or sheet steel tinned or terne-plated, taggers tin, etc.:			
Pounds.....	19,400,934	6,555,855	1,000,473
Value.....	\$520,466	\$217,476	\$86,492
All other products.....	\$1,634,034	\$516,341	\$521,374
EQUIPMENT.			
<i>Tin or terne sets at end of year:</i>			
Completed—			
Number.....	563	596	585
Usually employed on tin plates.....	450	478	(*)
Usually employed on terne plates.....	113	120	(*)
Daily capacity, single turn, pounds.....	2,796,972	3,261,298	2,732,901
Tin plates.....	2,055,915	2,694,115	2,033,538
Terne plates.....	790,057	567,183	729,363
Daily capacity as operated, whether on single, double, or triple turn, pounds.....	7,016,293	7,121,350	(*)
Building, number.....	49	(*)	53
<i>Black-plate department of establishments making their black plates:</i>			
Hot black-plate mills at end of year—			
Completed—			
Number.....	335	315	332
Annual capacity on triple turn, long tons.....	1,042,088	707,405	641,460
Building—			
Number.....	20	(*)	23
Annual capacity on triple turn, long tons.....	36,600	(*)	51,275
Cold mills, completed, number.....	268	272	306

* Domestic; no foreign plates reported; includes 8,726,538 pounds of iron plates; balance steel, not distributable by kind of steel.
 † Includes \$3,900 pounds of foreign plates, coating \$3,768; the domestic plates reported were distributed by kind as follows: Bessemer steel, 911,633,989 pounds; open-hearth steel, 106,911,401 pounds; iron, 949,367 pounds.
 ‡ Includes 2,358,607 pounds of foreign plates, coating \$78,282.
 § Not reported.
 ¶ Consumption of establishments not equipped for the manufacture of black plates.
 †† Terne mixture purchased not reported separately; contents reported as tin and lead.
 ††† In addition \$389,200 pounds of tin and terne plate and taggers tin, valued at \$398,143, were made by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.
 †††† Includes idle establishments.

Wire.—The following table presents the statistics for wire manufactures in 1909. Comparable statistics in detail for 1904 and 1899 are not available for the total wire production, as special reports were not secured prior to the present census from wire mills drawing wire from purchased rods. The total value of the steel and iron wire product more than doubled from 1899 to 1909. The total value of all wire and manufactures of wire reported in 1909 was \$173,349,614, of

which 69.6 per cent represents the value of products made from steel and iron, 27.2 per cent that of products made from copper, and 3.2 per cent that of products made from other metal, chiefly brass. Establishments rolling wire from rods manufactured by them reported 54.3 per cent of the wire products in value, and mills drawing wire from purchased rods produced 45.7 per cent. The *ton of 2,000 pounds* is used in showing quantities.

Table 60				Table 61			
	Total.	Wire mills (wire rods purchased).	Wire departments of rolling mills ¹ (wire rods rolled).		Total.	Wire mills (wire rods purchased).	Wire departments of rolling mills ¹ (wire rods rolled).
PRINCIPAL MATERIALS.				PRODUCTS—continued.			
Metal used, cost.....	\$116,655,427	\$51,240,378	\$64,415,054	Wire and manufactures of wire—Contd.			
Wire rods.....	\$112,799,616	\$50,810,983	\$61,988,533	Steel and iron—Continued.			
Steel—				Barb wire—			
Tons.....	2,514,504	850,729	1,663,775	Tons.....	323,565	76,268	247,297
Cost.....	\$67,439,887	\$23,021,867	\$44,418,020	Value.....	\$13,881,517	\$3,343,856	\$10,537,661
Open-hearth—				Woven wire, fencing, and poultry netting—			
Tons.....	1,359,256	285,961	1,073,295	Tons.....	422,127	115,889	306,238
Cost.....	\$38,532,177	\$8,536,361	\$20,995,816	Value.....	\$21,419,170	\$6,724,677	\$14,694,493
Basic—				Wire rope and strand—			
Tons.....	1,255,747	233,105	1,022,642	Tons.....	45,303	34,140	11,163
Cost.....	\$35,046,106	\$6,695,310	\$28,350,796	Value.....	\$6,683,771	\$5,450,064	\$1,233,707
Acid—				Other manufactures—springs, ball ties, cold-rolled flat wire, etc.—			
Tons.....	103,509	52,856	50,653	Tons.....	120,945	71,900	58,039
Cost.....	\$3,486,071	\$1,841,051	\$1,645,020	Value.....	\$10,850,154	\$6,130,901	\$4,725,253
Bessemer—				Copper—			
Tons.....	1,148,353	558,048	590,305	Tons.....	154,231	102,604	51,627
Cost.....	\$28,340,445	\$13,936,178	\$14,404,267	Value.....	\$47,184,164	\$30,831,040	\$16,353,124
Crucible and other steel—				Wire drawn for sale—			
Tons.....	6,895	6,720	175	Tons.....	130,482	102,418	37,064
Cost.....	\$597,265	\$549,328	\$17,937	Value.....	\$42,336,274	\$30,736,728	\$11,599,546
Iron—				Manufactures of wire—			
Tons.....	4,849	1,055	3,794	Tons.....	14,749	180	14,563
Cost.....	\$207,846	\$62,203	\$145,643	Value.....	\$4,847,800	\$94,918	\$4,752,882
Copper—				Other metal ² —			
Tons.....	151,951	102,394	49,557	Tons.....	17,407	1,048	16,359
Cost.....	\$40,916,084	\$27,462,312	\$13,453,772	Value.....	\$5,570,813	\$484,019	\$5,086,794
Other metal ³ —				Wire drawn for sale—			
Tons.....	17,944	935	17,009	Tons.....	15,583	1,008	14,575
Cost.....	\$4,235,699	\$264,601	\$3,971,098	Value.....	\$4,903,376	\$459,583	\$4,443,793
Purchased wire, plain or coated:				Manufactures of wire—			
Tons.....	57,922	8,943	48,979	Tons.....	1,824	40	1,784
Cost.....	\$2,855,911	\$429,390	\$2,426,521	Value.....	\$580,437	\$24,436	\$556,001
PRODUCTS.				All other products.....	\$6,733,908	\$5,236,640	\$1,497,269
Total value.....	\$180,083,522	\$84,486,518	\$95,597,004	Wire drawn, whether for consumption or for sale, tons:			
Wire and manufactures of wire.....	\$173,349,614	\$79,249,869	\$94,099,745	Steel and iron.....	2,389,130	787,322	1,601,814
Steel and iron—				Copper.....	147,156	101,890	45,266
Value.....	\$120,585,637	\$47,934,204	\$72,651,433	Other metal ²	17,411	1,051	16,360
Wire drawn for sale—				EQUIPMENT.			
Plain—				Wire-drawing blocks:			
Tons.....	826,451	343,905	482,546	Number ³	43,607	28,110	15,578
Value.....	\$38,845,081	\$18,823,035	\$20,022,046	Annual capacity, tons.....	3,213,574	1,005,250	2,148,324
Coated—				Wire-nail machines:			
Tons.....	472,046	188,840	283,200	Number.....	4,428	1,207	3,221
Value.....	\$22,032,230	\$11,349,868	\$11,282,302	Annual capacity (kegs of 100 pounds).....	18,756,995	4,603,513	14,063,482
Wire nails and spikes—				Woven-wire fence machines:			
Kegs (100 pounds).....	13,926,861	3,440,763	10,477,108	Number.....	446	198	249
Value.....	\$27,575,774	\$7,142,047	\$20,433,727	Annual capacity, tons.....	461,373	134,803	346,570
Wire brads, tacks, and staples—							
Tons.....	28,125	7,334	20,791				
Value.....	\$1,324,170	\$320,224	\$1,003,946				

¹ Includes the wire departments of iron and steel, copper, and brass rolling mills.
² Brass, bronze, German silver, zinc, etc., chiefly brass.
³ Includes rod, redrawing, and fine wire blocks.

The comparative statistics for steel and iron wire products, 1909, 1904, and 1899, are as follows:

Table 61	PRODUCT.	1909	1904	1899
	Total value.....	\$120,585,637	\$83,353,956	\$52,871,387
	Wire mills.....	\$47,934,204	\$15,802,513	\$5,142,603
	Wire departments of rolling mills:			
	Tons.....	1,649,929	1,416,494	879,296
	Value.....	\$72,651,433	\$67,551,443	\$47,723,784

LEATHER AND ITS PRODUCTS.

The primary or underlying industry of this group is the converting of hides and skins into leather by the various processes of tanning, tawing, currying, and finishing. The designation employed for this industry is "leather, tanned, curried, and finished." The group also includes the manufacture of boots and shoes and the manufacture of leather gloves and mittens.

Leather.—The following table gives the statistics of the leather industry in detail for 1909, 1904, and 1899.

The number of hides and skins treated, including those treated as custom work for others not tanners, curriers, or finishers, as well as those used in further manufacture by the establishments treating them, was 146,328,586 in 1909 and 131,011,956 in 1904. Comparative figures for this aggregate for 1899 are not available. Exclusive of custom work, 116,040,986 hides and skins, costing \$195,058,557, were treated by tanneries in 1909, and 99,709,343, costing \$123,545,969, in 1899, the increase in number being 16.4 per cent and that in cost 57.9 per cent. The increase for the decade in the number of hides used was 15.9 per cent;

that in calf and kip skins, 120.6 per cent; that in sheepskins, 6.4 per cent; and that in goatskins, less than 1 per cent.

The cost of purchased rough leather used increased 43.4 per cent and that of all other materials, which include tanning and finishing materials, 76.1 per cent.

The value of leather manufactured in 1909 was \$306,476,720, as compared with \$194,202,063 in 1899, an increase of 57.8 per cent, which is practically the same as the percentage of increase in the cost of hides and skins treated. There is considerable duplication in the value of products, due to the sale of leather in the rough as product of one establishment and its use as material in another.

Table 62	1909	1904	1899		1909	1904	1899
MATERIALS.				PRODUCTS—continued.			
Total cost.....	\$248,278,933	\$191,179,073	\$155,000,004	Leather—Continued.			
Hides ¹ (all kinds):				Upper—Continued.			
Number.....	2 18,360,415	17,581,613	15,838,862	Finished splits—			
Cost.....	\$119,410,767	\$89,126,593	\$77,784,760	Number.....	8,134,229	6,205,650	8,790,382
Skins: ¹				Value.....	\$7,410,740	\$5,993,231	\$6,740,502
Number.....	97,680,571	90,625,064	83,870,481	Patent and enameled shoe—			
Cost.....	\$75,647,790	\$56,341,332	\$45,761,209	Sides.....	2,705,291	1,356,777	236,943
Calf and kip—				Value.....	\$3,341,727	\$3,335,352	\$1,092,534
Number.....	19,732,638	12,481,221	8,944,454	Horsehides and coltskins—			
Cost.....	\$31,790,572	\$13,725,616	\$10,792,465	Number.....	1,342,935	1,529,395	223,378
Goat—				Value.....	\$4,933,143	\$4,599,065	\$843,118
Number.....	48,077,664	47,665,603	48,046,897	Calf and kip skins, tanned and finished—			
Cost.....	\$27,833,214	\$26,756,012	\$24,950,223	Number.....	19,012,064	12,014,223	8,264,272
Sheep—				Value.....	\$42,412,256	\$22,508,335	\$14,619,150
Number.....	26,082,060	27,492,359	24,507,642	Grain finished—			
Cost.....	\$12,231,618	\$10,547,833	\$8,457,995	Number.....	17,516,910	19,211,985	7,112,899
All other—				Value.....	\$39,982,447	\$18,998,551	\$12,127,439
Number.....	3 3,788,209	2,985,881	2,371,488	Flesh finished—			
Cost.....	\$3,792,388	\$3,311,821	\$1,560,506	Number.....	1,495,154	1,802,338	1,151,413
Rough leather purchased	\$9,556,257	\$10,852,655	\$6,663,395	Value.....	\$2,429,509	\$3,611,784	\$2,491,711
Whole hides—				Goatskins, tanned and finished—			
Number.....	1,468,213	2,414,102	1,086,592	Number.....	47,907,211	45,691,492	47,043,932
Cost.....	\$4,967,781	\$8,136,661	\$3,534,097	Value.....	\$40,882,640	\$37,887,349	\$35,672,381
Grains—				Black—			
Sides.....	525,786	342,332	165,938	Number.....	40,351,192	49,019,614	38,176,516
Cost.....	\$1,201,842	\$980,260	\$467,125	Value.....	\$33,949,575	\$32,822,282	\$29,050,586
Splits.....	\$1,442,505	\$1,108,243	\$1,320,589	Colored—			
All other.....	\$1,944,129	\$627,491	\$1,341,584	Number.....	7,556,019	5,671,873	8,867,119
All other materials.....	\$43,664,119	\$34,858,493	\$24,790,640	Value.....	\$6,933,065	\$5,065,067	\$6,622,095
PRODUCTS.				Sheepskins, tanned and finished—			
Total value.....	\$327,874,187	\$252,620,986	\$204,088,127	Number.....	19,665,155	20,597,598	20,290,985
Leather.....	\$306,476,720	\$236,765,803	\$194,202,063	Value.....	\$12,236,687	\$11,168,829	\$8,353,755
Sole.....	\$88,331,713	\$89,295,600	\$55,481,625	Belting—			
Hemlock—				Sides.....	1,042,070	859,564	1,472,016
Sides.....	7,963,728	9,929,964	9,810,996	Value.....	\$6,995,133	\$4,784,456	\$7,092,778
Value.....	\$32,237,151	\$32,676,015	\$29,305,561	Harness—			
Oak—				Sides.....	3,946,235	4,369,561	3,444,618
Sides.....	3,805,861	3,607,963	2,562,814	Value.....	\$24,802,734	\$20,274,188	\$16,712,056
Value.....	\$26,083,793	\$19,157,805	\$13,359,836	Carrriage, automobile, and furniture—			
Union—				Hides.....	1,398,842	827,104	619,741
Sides.....	5,756,227	4,400,011	3,096,162	Value.....	\$14,266,742	\$7,780,804	\$5,748,387
Value.....	\$28,375,815	\$17,371,780	\$12,807,202	Trunk, bag, and pocketbook....	\$6,193,544	\$4,920,750	\$2,611,326
Chrome—				Bookbinder's.....	\$2,450,155	\$2,283,761	\$1,688,413
Sides.....	279,436	(^b)	2,100	Glove.....	\$4,913,543	\$3,344,614	\$3,084,837
Value.....	\$1,634,954	(^b)	\$8,966	Sold in rough.....	\$6,235,569	\$10,180,949	\$6,864,345
Upper, other than calf or kip skins	\$39,951,460	\$24,815,835	\$25,311,838	All other.....	\$11,746,369	\$13,044,268	\$10,117,454
Grain, satin, pebble, etc. (side leather)—				All other products.....	\$5,632,689	\$7,665,223	\$5,514,395
Sides.....	7,946,769	6,850,469	8,141,093	Work on materials for others.....	\$12,764,778	\$8,189,960	\$4,321,669
Values.....	\$24,198,993	\$15,487,252	\$17,478,802				

¹ In addition, in 1909, 1,903,278 hides and 27,936,887 skins and in 1904, 961,431 hides and 21,792,110 skins, were treated for others, not tanners, curriers, or finishers; and in 1909, 252,639 hides and 194,796 skins and in 1904, 12,453 hides and 39,285 skins were treated by establishments using the leather for further manufacture.

² Cattle hides only.

³ Includes horsehides.

⁴ In addition, in 1909, leather to the value of \$6,231,374, and in 1904 to the value of \$154,932, was tanned, curried, or finished and consumed by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

⁵ Not reported separately.

Boots and shoes.—The full designation for this industry is "boots and shoes, including cut stock and findings." The total value of products was \$512,797,642 in 1909, as compared with \$357,688,160

in 1904 and \$290,047,087 in 1899, an increase for the decade of \$222,750,555, or 76.8 per cent. In addition, in 1909 there were boot and shoe products to the value of \$1,439,280, and in 1904 to the value of \$89,000,

made by establishments engaged primarily in the manufacture of products other than those covered by the industry designation. The schedule employed did not call for segregation of value of products. The following table shows the number of pairs of the different kinds of shoes and slippers reported at each of the last three censuses.

KIND.	NUMBER OF PAIRS.		
	1909	1904	1899
Boots and shoes.....	247,643,197	216,039,401	195,589,173
Men's.....	93,888,802	83,434,322	67,742,830
Boys' and youths'.....	23,838,026	21,717,236	21,030,479
Women's.....	86,595,314	69,470,876	64,972,653
Misses' and children's.....	43,320,365	41,416,967	41,843,202
Slippers.....	17,507,834	17,518,201	17,092,841
Men's, boys', and youths'.....	4,802,841	4,403,007	4,446,065
Women's, misses', and children's.....	12,704,993	13,115,194	12,646,876
Infants' shoes and slippers.....	15,000,721	(¹)	(¹)
All other.....	4,865,420	8,552,343	5,283,405

¹ Not reported separately.

There were 247,643,197 pairs of boots and shoes manufactured in 1909, 216,039,401 pairs in 1904, and

195,589,173 pairs in 1899, the increase being 26.6 per cent for the decade and 14.6 per cent for the 1904-1909 period. In 1909 men's boots and shoes formed 37.9 per cent of the total number of boots and shoes; women's, 35 per cent; misses' and children's, 17.5 per cent; and boys' and youths', 9.6 per cent.

The total output of slippers reported for 1909 was 17,507,834 pairs, practically the same as at each of the two preceding censuses. The figures indicate a considerable decrease since 1904 in women's, misses', and children's slippers, but it is probable that infants' shoes and slippers, reported separately in 1909, were to some extent included with children's slippers in 1904.

The number of pairs of the different kinds of boots, shoes, and slippers manufactured by the various methods was reported for the first time in 1909, and is shown in the next table. Of the total number manufactured, 43.2 per cent were of the McKay type, 35.3 per cent machine or hand welt, 10.6 per cent turned, 8.8 per cent wire-screw or metal-fastened, and 2.1 per cent wooden-pegged.

KIND.	NUMBER OF PAIRS.					
	Total.	Machine or hand welt.	Turned.	McKay.	Wooden-pegged.	Wire-screw or metal-fastened.
Boots and shoes.....	247,643,197	87,391,763	20,317,090	107,063,644	5,226,161	21,643,639
Men's.....	93,888,802	53,212,450	989,240	20,438,685	3,021,052	15,326,965
Boys' and youths'.....	23,838,026	4,423,034	50,377	15,016,611	567,939	3,779,765
Women's.....	86,595,314	26,871,899	14,281,764	44,518,066	533,579	1,389,106
Misses' and children's.....	43,320,365	3,883,480	10,000,609	27,089,482	202,991	1,147,803
Slippers.....	17,507,834	1,318,095	7,611,748	8,896,874	28,918	151,299
Men's, boys', and youths'.....	4,802,841	648,007	1,733,742	2,286,052	16,851	117,589
Women's, misses', and children's.....	12,704,993	670,088	5,878,006	6,110,222	12,067	33,710
Infants' shoes and slippers.....	15,000,721	1,979,593	11,447,508	1,520,072	41,731	11,817
All other.....	4,865,420	1,420,240	1,180,742	1,286,261	321,032	639,075

Gloves and mittens, leather.—The quantity and value of the different kinds of products reported for this branch of the leather industry for 1909, 1904, and 1899 are shown in the following table:

PRODUCT.	1909	1904	1899
Total value.....	\$23,630,598	\$17,740,985	\$16,928,156
Gloves, mittens, and gauntlets:			
Dozen pairs.....	3,368,655	3,370,140	2,805,661
Value.....	\$22,626,861	\$17,122,772	\$16,039,168
Men's—			
Dozen pairs.....	2,585,977	2,915,415	2,267,327
Value.....	\$17,060,797	\$14,516,770	\$12,418,253
Lined—			
Dozen pairs.....	921,259	1,317,083	952,820
Value.....	\$5,222,174	\$6,333,081	\$4,959,902
Unlined—			
Dozen pairs.....	1,664,718	1,598,332	1,314,507
Value.....	\$11,838,623	\$8,182,689	\$7,458,356
Women's and children's:			
Dozen pairs.....	782,678	454,731	604,330
Value.....	\$5,465,064	\$2,607,002	\$3,470,258
Lined—			
Dozen pairs.....	365,477	241,361	267,149
Value.....	\$1,718,193	\$1,030,843	\$1,247,916
Unlined—			
Dozen pairs.....	417,201	213,370	337,181
Value.....	\$3,746,866	\$1,576,159	\$2,222,342
All other products.....	\$1,104,737	\$617,613	\$886,988

¹ In addition, in 1909, 30,944 dozen pairs of gloves, mittens, and gauntlets, to the value of \$264,961; in 1904, gloves, mittens, and gauntlets, to the value of \$106,164; and in 1899, gloves, mittens, and gauntlets, to the value of \$217,157, were made by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

² Includes 24,004 dozen pairs of gauntlets, valued at \$150,652, not distributed by kinds.

The greater increase in value was due to the higher prices paid for hides and skins, and an increased production of the better grades of gloves.

The number of men's gloves manufactured largely outnumbered that of women's and children's at each census, but importations of kid gloves for women probably greatly reduce the demand for American makes. The number of men's gloves increased during the decade 14.1 per cent, and the number of women's and children's 29.5 per cent.

CHEMICALS AND ALLIED PRODUCTS.

The industries in this group comprise those which produce chemicals as products or which employ to a large extent chemical processes in manufacture. The grouping is necessarily somewhat arbitrary. Separate tables present the statistics for each of the following industries:

Chemicals.	Oil, essential.
Coke.	Paint and varnish.
Dyestuffs and extracts.	Petroleum, refining.
Explosives.	Salt.
Fertilizers.	Soap.
Gas, illuminating and heating.	Sulphuric, nitric, and mixed acids.
Glucose and starch.	Turpentine and rosin.
Oil, cottonseed, and cake.	

Chemicals.—Table 66 presents the statistics for the general chemical industry as classified by the Bureau of the Census, but reference should be made to the groups and items specified in the table for information as to the products included under this head. It does not include products listed independently in the preceding paragraph, nor does it include the products of wood distillation or chemicals made by establishments engaged in the manufacture of pharmaceutical preparations.

The value of all products of the "chemical" industry, including the same commodities made by establishments engaged primarily in the manufacture of other products, was \$126,794,345 in 1909 and \$78,285,646 in 1904. The products of establishments classified as chemical factories proper were valued at \$117,688,887 in 1909 and \$48,039,595 in 1899, an increase for the decade of \$69,649,292, or 145 per cent. Some of the groups show very large gains, notably products made with the aid of electricity, many of which can not be shown separately without disclosing individual operations. The value of these products increased from \$1,305,368 in 1899 to \$17,968,277 in 1909 and the value of the output of sodas, the leading group of products in this respect, increased from \$11,596,915 to \$21,417,982.

The value of the sulphuric, nitric, and mixed acid product, shown in Table 80, should be added to the value of the acids given in the following table in order to ascertain the total production of the principal acids. Including these acids, the value of the acid product (not including acids consumed by establishments making the same or those produced as by-products of other industries) was \$19,493,663 in 1909, \$14,538,137 in 1904, and \$9,371,615 in 1899, the increase for the decade being 108 per cent. The *ton of 2,000 pounds* is used in showing quantities.

Table 66	PRODUCT.	1909	1904	1899
	Total value	\$117,688,887	\$75,222,249	\$48,039,595
	Acids	\$11,920,389	\$7,583,059	\$3,161,743
	Acetic—			
	Pounds.....	51,963,788	27,001,322	24,945,558
	Value.....	\$1,136,134	\$537,542	\$396,323
	Boric—			
	Pounds.....	5,554,414	6,956,896	2,684,935
	Value.....	\$295,739	\$527,190	\$198,212
	Citric—			
	Pounds.....	2,102,206	2,265,631	(¹)
	Value.....	\$777,200	\$598,718	(¹)
	Hydrofluoric—			
	Pounds.....	4,790,963	2,932,358	698,000
	Value.....	\$214,657	\$151,218	\$34,890
	Muriotic—			
	Pounds.....	128,394,736	127,502,682	116,675,109
	Value.....	\$1,171,082	\$1,180,910	\$1,015,915
	Oleic—			
	Pounds.....	13,337,717	(¹)	(¹)
	Value.....	\$680,015	(¹)	(¹)
	Phosphoric—			
	Pounds.....	25,702,606	991,050	(¹)
	Value.....	\$503,791	\$68,541	(¹)
	Other.....	\$7,145,771	\$4,518,940	\$1,516,403
	Sodas	\$21,417,982	\$16,858,929	\$11,596,915
	Soda ash—			
	Tons.....	646,007	518,789	386,361
	Value.....	\$10,381,756	\$8,202,292	\$4,768,383
	Sal soda—			
	Tons.....	76,285	56,870	63,231
	Value.....	\$977,712	\$792,248	\$779,156
	Bicarbonate of soda—			
	Tons.....	82,800	68,867	68,185
	Value.....	\$1,515,031	\$1,135,610	\$1,324,843
	Caustic soda ² —			
	Tons.....	112,162	80,159	78,779
	Value.....	\$4,230,954	\$3,924,182	\$2,917,955

Table 66— Contd.	PRODUCT.	1909	1904	1899
	Sodas—Continued.			
	Borax—			
	Tons.....	20,154	20,882	5,637
	Value.....	\$1,766,919	\$2,122,808	\$302,480
	Other.....	\$2,565,619	\$1,681,789	\$1,304,088
	Potashes—			
	Pounds.....	1,866,570	5,113,706	3,764,806
	Value.....	\$88,940	\$563,489	\$174,476
	Alums.....	\$2,578,842	\$2,126,612	\$2,018,607
	Alum cake—			
	Pounds.....	26,864,890	(¹)	(¹)
	Value.....	\$273,711	(¹)	(¹)
	Potash alum—			
	Pounds.....	7,939,702	(¹)	(¹)
	Value.....	\$128,625	(¹)	(¹)
	All other.....	\$2,176,508	(¹)	(¹)
	Coal-tar products.....	\$2,675,327	\$844,817	\$1,322,094
	Coal-tar distillery products.....	\$2,482,330	\$340,641	\$609,830
	Chemicals made from coal-tar distillery products.....	\$212,997	\$504,176	\$512,264
	Cyanides.....	\$1,941,893	\$1,179,104	\$1,584,923
	Yellow prussiate of potash—			
	Pounds.....	3,516,206	5,027,264	6,140,406
	Value.....	\$463,993	\$963,277	\$963,514
	All other.....	\$1,477,910	\$495,827	\$591,409
	Bleaching materials.....	\$1,635,046	\$777,750	\$482,966
	Hydrogen peroxide—			
	Pounds.....	9,403,717	(¹)	(¹)
	Value.....	\$850,417	(¹)	(¹)
	Bisulphites—			
	Tons.....	14,528	(¹)	(¹)
	Value.....	\$202,504	(¹)	(¹)
	All other.....	\$582,125	\$777,750	\$482,066
	Chemical substances produced by the aid of electricity.....	\$17,968,277	\$5,896,632	\$1,365,368
	Calcium carbide—			
	Pounds.....	121,946,967	(¹)	(¹)
	Value.....	\$2,984,001	(¹)	(¹)
	Caustic soda—			
	Tons.....	19,428	(¹)	(¹)
	Value.....	\$1,032,647	(¹)	(¹)
	Chlorates—			
	Pounds.....	11,568,915	(¹)	(¹)
	Value.....	\$904,525	(¹)	(¹)
	Hypochlorites—			
	Tons.....	68,016	(¹)	(¹)
	Value.....	\$1,506,831	(¹)	(¹)
	All other.....	\$11,540,273	\$3,896,632	(¹)
	Plastics.....	\$7,180,172	\$4,755,761	\$2,099,400
	Pyroxylin plastics.....	\$5,389,819	\$2,557,993	\$1,979,387
	All other—			
	Pounds.....	10,234,928	(¹)	(¹)
	Value.....	\$1,790,363	\$1,898,668	\$129,013
	Compressed or liquefied gases.....	\$4,969,805	\$2,787,689	\$1,215,011
	Anhydrous ammonia—			
	Pounds.....	11,802,076	(¹)	(¹)
	Value.....	\$2,503,315	\$1,173,184	\$448,157
	Carbon dioxide—			
	Pounds.....	47,238,267	35,991,627	(¹)
	Value.....	\$2,317,808	\$1,543,966	\$696,164
	Laughing gas—			
	Pounds.....	72,675	(¹)	(¹)
	Value.....	\$53,689	(¹)	(¹)
	Oxygen—			
	Gallons.....	4,777,977	(¹)	(¹)
	Value.....	\$98,150	(¹)	(¹)
	All other—			
	Pounds.....	264,014	(¹)	(¹)
	Value.....	\$16,843	\$270,539	\$70,690
	Fine chemicals.....	\$10,956,666	\$9,145,853	\$4,229,339
	Alkaloids—			
	Ounces.....	3,482,492	4,949,525	3,387,522
	Value.....	\$3,188,691	\$2,925,789	\$1,743,264
	Gold salts—			
	Ounces.....	42,544	59,969	8,894
	Value.....	\$430,944	\$449,864	\$90,145
	Silver salts—			
	Ounces.....	2,027,719	1,743,882	1,252,604
	Value.....	\$726,222	\$683,761	\$499,345
	Platinum salts—			
	Ounces.....	1,561	19,068	7,312
	Value.....	\$19,123	\$175,682	\$54,600
	Chloroform—			
	Pounds.....	1,861,435	616,070	396,540
	Value.....	\$472,759	\$165,604	\$98,070
	Ether—			
	Pounds.....	1,177,886	660,763	293,298
	Value.....	\$199,448	\$334,935	\$129,876
	Acetone—			
	Pounds.....	6,927,896	1,200,395	1,628,715
	Value.....	\$719,895	\$161,320	\$178,666
	All other.....	\$5,189,584	\$4,248,898	\$1,428,373
	Chemicals not elsewhere specified:			
	Glycerin—			
	Pounds.....	33,986,974	18,791,997	15,383,798
	Value.....	\$4,538,826	\$2,345,206	\$2,012,886
	Epsom salts—			
	Pounds.....	47,785,318	15,935,837	6,072,309
	Value.....	\$37,728	\$145,801	\$45,966
	Blue vitriol—			
	Pounds.....	810,958	50,100	7,500,000
	Value.....	\$37,626	\$2,500	\$375,000

For footnotes, see page 496.

PRODUCT.	1909	1904	1899
Chemicals not elsewhere specified— Continued.			
Copperas—			
Pounds.....	24,190,526	8,815,059	14,007,905
Value.....	\$71,081	\$28,061	\$58,581
Phosphates of soda—			
Pounds.....	35,178,351	12,018,815	3,473,350
Value.....	\$634,292	\$243,822	\$104,554
Tin salts—			
Pounds.....	12,992,233	9,573,719	4,677,471
Value.....	\$1,194,546	\$904,679	\$470,159
Zinc salts—			
Pounds.....	43,204,652	(¹)	(¹)
Value.....	\$1,477,486	(¹)	(¹)
Other chemicals.....	\$21,207,939	\$13,289,416	
By-products and residues sold to other industries.....	\$4,530,024	\$5,743,070	\$15,780,497

¹ In addition, products to the value of \$9,105,458 were produced by establishments engaged primarily in the manufacture of products other than those covered by the industry designation, including the following:

	Pounds.	Value.		Pounds.	Value.
Acids:			Pyroxylin plastics.....		\$282,560
Acetic.....	4,959,085	\$200,740	Compressed or liq- uified gases:		
Hydrofluoric.....	2,051,051	79,722	Anhydrous am- moniac.....	107,710	40,923
Muritic.....	74,865,743	587,253	Carbon dioxide.....	454,354	19,262
Oleic.....	2,959,340	165,091	Laughing gas.....	24,500	4,000
Stearic.....	5,094,774	309,386	Oxygen.....	23,820,325	79,319
Other.....		49,530	Other.....		9,072
Sodas:			Chloroform.....	8,250	4,770
Sal soda..... tons.....	10,822	184,297	Acetone.....	2,007,560	210,287
Other..... tons.....	75,002	1,835,292	Glycerin.....	1,022,020	123,472
Potashes.....	14,293,552	525,054	Blue vitriol.....	37,185,585	1,496,645
Alums.....	49,450,200	443,513	Copperas.....	3,031,500	53,372
Coal-tar distillery products.....		1,610,792	Phosphates of soda.....	310,538	27,034
Bleaching materials:			Zinc salts.....	4,312,983	103,503
Hydrogen per- oxide.....	521,851	20,124	Other chemicals.....		505,483
Bisulphite.....	3,062,000	23,650			
Other.....		20,703			

^a Not including acids reported by manufacturers of explosives and fertilizers.
^b Including sodas reported by manufacturers of paints and varnishes and fertilizers.

^c Not including 4,871,014 pounds, value \$448,455, reported by manufacturers of coke.

^d Not including 52,518,919 pounds, value \$6,790,264, reported by manufacturers of soap.

^e In addition, products to the value of \$3,063,397 were produced by establishments engaged primarily in the manufacture of products other than those covered by the industry designation, including the following:

	Pounds.	Value.		Pounds.	Value.
Acids:			Bleaching materials:		
Muritic.....	47,018,080	\$431,938	Bisulphite..... tons.....	536	\$11,937
Stearic.....	1,750,000	140,000	Glycerin.....	520,000	53,000
Hydrofluoric.....	1,217,573	71,668	Ether.....	193,028	92,466
Other.....		146,716	Epsom salts.....	1,350,000	13,500
Sodas:			Blue vitriol.....	107,100	5,994
Sal soda..... tons.....	1,763	20,561	Copperas.....	81,816	585
Caustic..... tons.....	14	668	Tin salts.....	1,103,222	188,301
Other..... tons.....	14,200	363,765	Other chemicals.....		742,467
Alums.....	33,074,340	532,185			
Coal-tar distillery products.....		238,645			

^a See Table 80 for sulphuric, nitric, and mixed acids.

^b Not reported separately.

^c See chemical substances produced by the aid of electricity for additional product.

^d Not reported.

Coke.—Table 67, which presents the statistics for the manufacture of coke, does not include those for gas-house coke, which are shown in Table 71. The total production of coke, including gas-house coke sold and that made and consumed in gas manufacture, was 41,947,949 tons in 1909 as compared with 27,857,441 tons in 1904, an increase of 50.6 per cent. The gas-house coke included in these figures formed 6.3 per cent of the total product in 1909 and 9.9 per cent in 1904.

The value of all products of the coke industry proper was \$98,078,383 in 1909, \$51,728,647 in 1904, and \$35,585,445 in 1899, an increase for the decade of 175.6 per cent. A marked feature of the industry is the increasing use of retort ovens. Although the

retort coke product was not reported separately in 1899, the by-products of this branch of the industry were given and aggregated \$952,027 in value. In 1909 the value of the retort by-products was \$8,112,900. The value of the coke and by-products made by retort ovens constituted 29.1 per cent of the total value of all products of the industry in 1909. Of the total value of the products made by retort ovens, two-fifths is contributed by the by-products. The ton of 2,000 pounds is used in showing quantities.

	1909	1904	1899
MATERIALS.			
Total cost.....	\$65,388,124	\$29,884,532	\$19,665,532
Coal charged into ovens:			
Tons.....	159,354,937	36,781,006	30,157,829
Run of mine—			
Unwashed.....	40,594,842	24,872,731	20,844,637
Washed.....	6,007,700	2,649,251	1,457,901
Slack—			
Unwashed.....	6,926,484	4,414,326	5,036,675
Washed.....	5,825,851	4,844,698	2,818,555
Cost.....	\$62,203,382	\$28,300,121	\$18,355,252
All other materials.....	\$3,184,742	\$1,524,411	\$1,310,280
PRODUCTS.			
Total value.....	\$98,078,383	\$51,728,647	\$35,585,445
Coke: ^a			
Tons.....	30,315,065	24,733,063	19,540,798
Value.....	\$30,995,483	\$49,002,051	\$34,633,418
Made in beehive ovens—			
Tons.....	33,060,421	22,516,280	(¹)
Value.....	\$69,530,794	\$42,885,773	(¹)
Made in retort or by-product ovens—			
Tons.....	6,254,644	2,216,783	(¹)
Value.....	\$20,434,689	\$6,116,278	(¹)
By-products obtained from retort or by- product ovens—			
Gas made, cubic feet (thousands) ..	76,590,763	18,761,101	(¹)
Used in process or wasted, cubic feet (thousands) ..	60,799,543	14,878,301	(¹)
Sold—			
Cubic feet (thousands).....	15,791,220	3,882,800	1,171,943
Value.....	\$2,609,211	\$684,404	\$225,022
Tar—			
Gallons.....	60,120,000	23,074,225	10,468,733
Value.....	\$1,408,611	\$551,836	\$207,952
Ammonia, sulphate or reduced to equivalent in sulphate—			
Pounds.....	123,111,107	20,050,713	11,084,681
Value.....	\$3,227,316	\$681,427	\$330,921
Anhydrous ammonia—			
Pounds.....	4,871,014	(¹)	(¹)
Value.....	\$448,455	(¹)	(¹)
Ammonia liquor—			
Gallons.....	(¹)	4,339,679	1,572,325
Value.....	(¹)	\$697,644	\$180,642
All other.....	\$419,307	\$111,225	\$7,490
EQUIPMENT.			
Ovens, number in existence at end of year.....	103,982	76,099	47,142
Building at end of year.....	2,950	2,127	(¹)
Abandoned during the year.....	201	178	(¹)

¹ Includes coal and coking products produced by establishments engaged primarily in the manufacture of products other than those covered by the industry designation, viz: Coal used, unwashed, 566,539 tons, cost, \$1,363,597; products valued at \$2,381,761, comprising retort coke, 415,472 tons, valued at \$1,404,162; tar, 4,398,576 gallons, valued at \$7,639; ammonium sulphate, 9,952,744 pounds, valued at \$235,605; gas sold, 2,160,915 thousand cubic feet, valued at \$534,075; and other products, \$80,280.

² In addition, 410,225 tons of coke, valued at \$1,302,572, were produced by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

³ The statement for coke made in gas establishments will be found in detail under the classification "Gas, illuminating and heating."

⁴ Not reported.

⁵ Reported in part as anhydrous ammonia and in part as ammonium sulphate or reduced equivalents.

Dyestuffs and extracts.—The statistics for dyestuffs and extracts given in Table 68 cover the products of establishments manufacturing the same for sale, and do not include those made by dye and print works or tanneries and consumed by the same in further processes of manufacture.

The total value of products was \$15,954,574 in 1909 and \$7,350,748 in 1899, an increase of 117 per cent. The chief products were oak and chestnut extract,

which together increased almost ninefold in quantity and even more in value during the decade. Artificial dyestuffs nearly doubled in quantity and in value, but the production of natural dyestuffs (included under "All other products") has fallen off greatly, the value of the product being \$1,035,711 in 1899 and only \$233,935 in 1904. It was materially less in 1909, but can not be shown separately without disclosing individual operations. The census report on Forest Products for 1909 gives 386,817,895 pounds as the total consumption of tanning extracts in that year, which quantity exceeds the quantity of oak, chestnut, hemlock, and sumac extracts here reported by over 83,000,000 pounds. This difference can be taken as representing approximately the amount of tanning extract imported or made and consumed in tanning establishments.

PRODUCT.	1909	1904	1899
Total value.....	\$15,954,674	\$10,893,113	\$7,350,748
Artificial dyestuffs:			
Pounds.....	12,267,399	4,600,462	6,581,850
Value.....	\$3,462,436	\$1,764,454	\$1,806,730
Extracts:			
Hemlock—			
Pounds.....	12,588,078	18,833,450	26,011,714
Value.....	\$280,487	\$406,619	\$563,591
Logwood—			
Pounds.....	22,317,248	29,799,606	39,252,743
Value.....	\$901,874	\$1,472,047	\$1,485,971
Oak and chestnut—			
Pounds.....	287,908,285	156,520,123	28,983,036
Value.....	\$6,061,162	\$2,411,184	\$529,670
Sumac—			
Pounds.....	3,148,790	4,093,619	4,349,742
Value.....	\$107,456	\$95,958	\$103,085
Ground sumac:			
Pounds.....	554,032	5,061,333	9,284,000
Value.....	\$24,531	\$65,190	\$114,660
Ground bark:			
Pounds.....	25,142,076	38,001,017	27,028,000
Value.....	\$176,510	\$249,101	\$149,365
Ground and chipped wood:			
Pounds.....	15,046,954	9,999,906	12,690,037
Value.....	\$143,720	\$95,237	\$201,931
Gums and dextrins:			
Pounds.....	16,148,931	6,651,731	(*)
Value.....	\$610,999	\$231,708	(*)
Iron liquors:			
Pounds.....	3,079,418	1,860,744	954,240
Value.....	\$30,282	\$30,757	\$7,525
Mordants:			
Pounds.....	1,735,887	733,245	734,000
Value.....	\$69,515	\$64,656	\$85,466
Sizes:			
Pounds.....	54,054,711	7,812,433	101,920
Value.....	\$1,735,600	\$217,869	\$2,548
Tannic acid:			
Pounds.....	5,085,748	5,165,500	1,326,515
Value.....	\$246,297	\$200,136	\$149,662
Turkey-red oil:			
Pounds.....	1,048,719	3,022,470	2,210,000
Value.....	\$72,053	\$159,666	\$14,757
Other tanning liquors:			
Pounds.....	9,285,048	44,418,929	16,144,292
Value.....	\$365,304	\$1,704,243	\$405,659
All other products ¹	\$1,573,248	\$1,724,298	\$1,780,128

¹ In addition, dyestuffs and extracts, to the value of \$834,102, in 1909 and \$19,111 in 1904, were produced by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

² Not reported separately.

³ Including a small production of natural dyestuffs in 1909, a production in 1904 valued at \$233,935, and a production in 1899 valued at \$1,035,711.

NOTE.—The following products were made and consumed in establishments where produced:

	1909	1904
Ground and chipped wood..... pounds..	936,578,482	524,505,744
Ground bark..... pounds..	293,062,168	40,390,640
Ground leaves..... pounds..	1,955,040	3,586,171

Explosives.—Table 69 presents the statistics for the explosives industry. The value of all products was \$40,139,661 in 1909 as compared with \$17,125,418 in 1899, an increase of 134.4 per cent.

The production of explosives in the industry proper was 469,481,252 pounds in 1909, 360,980,734 pounds in 1904, and 215,980,720 pounds in 1899, an increase for the decade of 117.4 per cent. If the explosives made by establishments operated by the Federal Government and by establishments engaged primarily in the manufacture of other products be added, the total production in 1909 was 471,181,650 pounds. The output of dynamite formed about three-eighths of the total output of explosives, and its value approximately one-half of the total value of explosives reported. The most important product in respect to quantity of output was blasting powder, including "permissible explosives." Permissible explosives, known in Pennsylvania as safety explosives, were reported separately for the first time in 1909. They are specially designed for use in dusty and gaseous coal mines. The ton of 2,000 pounds is used in showing quantities.

	1909	1904	1899
MATERIALS.			
Total cost.....	\$32,811,548	\$17,268,667	\$10,334,974
Nitrate of soda:			
Tons.....	198,889	133,034	88,524
Cost.....	\$7,992,336	\$5,698,587	\$2,962,866
Acids:			
Mixed—			
Pounds.....	51,764,694	195,552,404	66,996,146
Cost.....	\$1,512,626	\$3,693,429	\$1,596,754
Nitric—			
Pounds.....	7,591,756	2,699,500	487,587
Cost.....	\$541,314	\$122,647	\$17,171
Sulphuric—			
Tons.....	22,501	18,298	7,864
Cost.....	\$406,204	\$247,391	\$139,699
Sulphur or brimstone:			
Tons.....	17,389	19,574	12,742
Cost.....	\$367,866	\$507,499	\$317,388
All other materials.....	\$12,091,202	\$7,624,864	\$5,461,161
PRODUCTS.			
Total value.....	\$40,139,661	\$29,602,834	\$17,125,418
Dynamite:			
Pounds.....	177,155,851	139,920,829	85,846,456
Value.....	\$18,699,746	\$12,900,193	\$8,247,223
Nitroglycerin, sold as such:			
Pounds.....	28,913,253	7,665,996	3,618,692
Value.....	\$3,162,434	\$1,629,117	\$783,299
Blasting powder:			
Kegs (25 pounds).....	9,339,687	8,217,448	3,997,612
Value.....	\$9,698,265	\$7,377,977	\$3,837,974
Permissible explosives:			
Pounds.....	9,607,448	(?)	(?)
Value.....	\$663,299	(?)	(?)
Gunpowder:			
Pounds.....	12,862,700	10,383,944	25,638,804
Value.....	\$1,736,427	\$1,541,483	\$1,452,377
Other explosives: ¹			
Pounds.....	7,464,825	6,303,825	3,201,468
Value.....	\$3,913,787	\$4,256,193	\$2,616,193
All other products.....	\$2,155,793	\$1,906,921	\$174,442

¹ In addition, 1,481,042 pounds, to the value of \$802,948, were made by Federal establishments, and 219,356 pounds, to the value of \$135,979, by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

² In addition, 1,104,532 pounds, to the value of \$690,032, were made by Federal establishments and by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

³ Not reported separately.

⁴ Includes smokeless powder and gun-cotton or pyroxylin, to avoid disclosing operations of individual establishments.

NOTE.—The following products were made and consumed in the establishments where produced:

	1909	1904
Saltpeter..... pounds..	12,059,225	3,559,376
Nitroglycerin..... pounds..	79,289,667	44,077,828
Sulphuric acid..... tons..	42,555	30,994
Nitric acid..... tons..	31,484	18,668
Charcoal..... bushels..	737,884	1,156,919
Cellulose nitrates..... pounds..	5,000,228	
Nitrate of ammonia..... pounds..	19,904,319	6,299,317

Fertilizers.—The following table giving statistics for the fertilizer industry does not include the product of establishments engaged primarily in the manufacture of products other than fertilizers, chief of which are slaughtering and meat-packing establishments and cottonseed-oil mills. The value of all products of the industry proper, which includes some that are not fertilizers, was \$103,960,213 in 1909, as compared with \$44,657,385 in 1899, an increase of 132.8 per cent. Including the fertilizer by-products of other indus-

tries, the total production of fertilizers in 1909 was 5,618,234 tons, valued at \$100,089,971. During the period 1899–1909 the tonnage of the fertilizer products of the establishments engaged primarily in the manufacture of fertilizers increased 87.5 per cent. Some of the materials, such as sulphuric acid, are the products of establishments engaged in this industry, and therefore are duplicated in the total value of products. The *ton of 2,000 pounds* is used in showing quantities.

Table 70	1909	1904	1899		1909	1904	1899
MATERIALS.				PRODUCTS.			
Total cost.....	\$69,521,920	\$39,227,914	\$28,958,473	Total value.....	\$103,960,213	\$56,541,253	\$44,657,385
Ammoniates:				Fertilizers:			
Tons.....	778,039	1,015,648	1,094,145	Tons.....	5,240,164	3,267,777	2,794,705
Cost.....	\$16,095,978	\$10,915,648	\$9,934,145	Value.....	\$92,369,631	\$50,460,694	\$40,545,661
Ammonium sulphate:				Superphosphates from minerals, bones, etc.—			
Tons.....	63,381	10,540	4,120	Tons.....	1,201,354	706,338	923,198
Cost.....	\$3,040,502	\$600,856	\$180,000	Value.....	\$13,318,520	\$7,515,257	\$8,471,943
Kainit:				Ammoniated—			
Tons.....	322,720	190,493	54,700	Tons.....	472,757	775,987	142,898
Cost.....	\$2,783,658	\$1,891,073	\$520,833	Value.....	\$10,061,193	\$12,001,057	\$2,449,388
Nitrate of soda:				Concentrated phosphate—			
Tons.....	85,714	42,213	19,518	Tons.....	313,888	(²)	(¹)
Cost.....	\$3,730,070	\$1,760,432	\$700,841	Value.....	\$3,638,210	(²)	(¹)
Phosphate rock:				Complete—			
Tons.....	1,529,124	888,571	787,027	Tons.....	2,717,797	1,329,149	1,436,682
Cost.....	\$8,021,094	\$4,244,554	\$3,554,174	Value.....	\$67,243,899	\$25,673,511	\$25,446,046
Potash salts:				Other—			
Tons.....	257,766	122,107	(²)	Tons.....	534,368	394,703	291,927
Cost.....	\$7,327,549	\$3,606,701	\$3,098,400	Value.....	\$8,107,800	\$4,370,869	\$4,178,284
Pyrites:				Sulphuric acid (reduced to 50° Baumé):			
Tons.....	456,574	342,062	288,778	Tons.....	153,057	24,502	71,176
Cost.....	\$2,831,994	\$2,020,759	\$1,466,285	Value.....	\$923,492	\$194,678	\$437,925
Sulphuric acid:				Other acids—			
Tons.....	603,672	197,865	231,527	Tons.....	30,651	45,689	(²)
Cost.....	\$3,312,687	\$1,084,304	\$1,355,882	Value.....	\$611,288	\$241,506	\$17,872
Sulphur or brimstone:				All other products.....	\$10,056,802	\$5,644,476	\$3,655,927
Tons.....	4,230	4,210	12,728				
Cost.....	\$68,024	\$92,234	\$268,670				
Superphosphates:							
Tons.....	415,056	320,559	288,898				
Cost.....	\$3,946,440	\$2,912,010	\$2,176,245				
Fish.....	\$3,031,437	\$347,142	\$183,542				
All other materials.....	\$14,161,497	\$10,312,201	\$5,504,347				

¹ Includes for 1904, 125,888 tons of ammoniates classified as such, valued at \$2,445,051; cottonseed meal, valued at \$2,376,448; and bones, tankage, and offal, valued at \$5,094,149; and for 1899, cottonseed meal, valued at \$167,410; and bones, tankage, and offal, valued at \$9,766,735.

² Not reported.

³ In addition, in 1909, 231,287 tons of complete fertilizer, valued at \$4,506,832; 49,632 tons of ammoniated fertilizer, valued at \$943,197; 22,615 tons of superphosphates, valued at \$424,302; 63,531 tons of "other" fertilizer, valued at \$1,365,931; 16,955 tons of concentrated phosphate, valued at \$178,678; and other products to the value of \$190,928; and in 1904, fertilizers, to the value of \$2,069,714, were made by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

NOTE.—The following products were made and consumed in establishments where produced:

	1909	1904
Acid phosphate..... tons..	1,838,805	884,211
Sulphuric acid..... tons..	841,935	662,904

Gas, illuminating and heating.—The statistics for the gas industry presented in Table 71 include only those establishments which made gas as their main product. The total production of gas made for sale by such establishments and by retort coke ovens combined—but not including the by-products of establishments outside these two industries—was in 1909, 166,627,013 thousand cubic feet, valued at \$141,224,520; in 1904, 116,432,779 thousand cubic feet, valued at \$113,347,032; and in 1899, 68,265,496 thousand cubic feet, valued at \$69,657,604. The increase in quantity for the period 1899–1909 was thus 144.1 per cent, and that in value 102.7 per cent. In addition to the product above reported for 1909, 1,730,563 thousand cubic feet were made and con-

sumed in gas plants and 60,799,543 thousand cubic feet were made and consumed or wasted by retort coking establishments. There is also a large consumption of producer gas and blast-furnace gas by establishments in other industries which produced the gas themselves.

The value of products of the illuminating-gas industry proper aggregated \$166,814,371 in 1909 as compared with \$75,716,693 in 1899, an increase of 120.3 per cent. Only about four-fifths of this value represents that of the gas itself. The industry shows a progressive decrease from census to census in unit values for all kinds of gas with the exception of acetylene gas. The *ton of 2,000 pounds* is used for showing quantities.

	1909	1904	1899
MATERIALS.			
Total cost	\$52,427,844	\$37,180,086	\$20,605,856
Coal:			
Tons.....	4,940,598	4,431,774	2,487,287
Cost.....	\$16,304,832	\$14,607,485	\$7,184,472
Oil:			
Gallons.....	579,657,152	410,989,564	194,857,296
Cost.....	\$17,345,750	\$15,015,602	\$8,168,637
Coke:			
Tons.....	591,919	435,534	217,354
Cost.....	\$2,667,706	\$1,602,702	\$726,736
All other materials.....	\$16,109,556	\$5,954,217	\$4,545,491
PRODUCTS.			
Total value	\$166,814,371	\$125,144,945	\$75,716,693
Gas: ³			
Cubic feet (thousands).....	150,835,793	112,549,979	67,093,553
Value.....	\$138,615,809	\$112,662,568	\$69,432,532
Straight coal—			
Cubic feet (thousands).....	19,985,253	12,693,034	(¹)
Value.....	\$18,065,841	\$12,868,604	(¹)
Straight water—			
Cubic feet (thousands).....	1,726,082	715,550	(¹)
Value.....	\$1,289,031	\$832,440	(¹)
Carburetted water—			
Cubic feet (thousands).....	79,418,486	54,687,418	(¹)
Value.....	\$69,513,749	\$48,071,180	(¹)
Mixed coal and water—			
Cubic feet (thousands).....	40,775,283	40,980,414	(¹)
Value.....	\$36,953,543	\$45,605,263	(¹)
Oil—			
Cubic feet (thousands).....	8,688,860	3,441,352	(¹)
Value.....	\$12,111,458	\$5,141,460	(¹)
Acetylene—			
Cubic feet (thousands).....	25,186	7,881	(¹)
Value.....	\$361,348	\$104,267	(¹)
All other—			
Cubic feet (thousands).....	216,643	24,330	(¹)
Value.....	\$320,339	\$39,354	(¹)
Coke:			
Bushels.....	82,049,683	89,146,434	
Value.....	\$5,723,215	\$5,195,461	
Tar:			
Gallons.....	578,339,880	67,515,421	\$4,283,204
Value.....	\$1,875,549	\$2,064,343	
All other products.....	\$13,556,908	\$972,992	
Receipts from rents and sales of lamps and appliances.....	\$7,043,390	\$4,249,581	\$2,000,907

¹ Does not include \$4,013,885 paid for lamps and appliances.

² In addition, products of gas manufacture to the value of \$261,802 were produced by establishments engaged primarily in the manufacture of products other than those covered by the industry designation. The items covered by these products were 27,558 (thousands) cubic feet of coal gas, valued at \$29,419; 13,070 (thousands) cubic feet of acetylene gas, valued at \$224,618; 44,347 bushels of coke, valued at \$3,399; 38,370 gallons of tar, valued at \$1,372; and receipts from sale of lamps and appliances to the amount of \$2,994.

³ Statistics of the gas made in coke establishments are shown in detail under the classification "Coke."

⁴ Not reported separately.

⁵ In addition, there were 13,813,058 gallons for which no value was reported.

⁶ Includes 49,720,220 gallons of ammonia liquor, valued at \$725,702, and 1,154,319 pounds of hydrocarbons, valued at \$44,509.

NOTE.—The following products were made and consumed in establishments where produced:

	1909	1904
Coke..... bushels.....	49,550,153	46,561,185
Tar..... gallons.....	31,590,178	14,772,878
Gas, cubic feet..... thousands.....	1,730,563	1,363,737
Benzene or benzol.....	302,994	

Glucose and starch.—Statistics are presented in Table 72 for the glucose and starch industry for the years 1909 and 1904.

Corn is the principal material used. The value of all products of the industry was \$48,799,311 in 1909 and \$32,649,836 in 1904, the increase for the five-year period being 49.5 per cent. The starch product (gross, including duplication), increased in quantity 89.9 per cent and in value 60.3 per cent, the entire gain being in cornstarch. The percentages of increase in the value of glucose, grape sugar, and corn oil are large, notably that for corn oil. In 1899 the production of starch (in part estimated) was 543,040,000 pounds, greatly exceeding the figures for 1904. The decrease in production from 1899 to 1904 was due in

large measure to the decrease in the export trade of this commodity.

Some establishments included in the industry are engaged primarily in reprocessing starch, resulting in a duplication of products. In 1909 105,299,010 pounds of cornstarch were used as material by such factories, 104,597,648 pounds of cornstarch being obtained as products. The deduction of this duplication from the total gives the quantity of marketable cornstarch produced in 1909 as 534,227,718 pounds.

	1909	1904
MATERIALS.		
Total cost	\$36,898,771	\$35,518,876
Corn:		
Pounds.....	2,240,508,915	(¹)
Cost.....	\$26,674,779	\$19,074,728
Wheat and roots:		
Pounds.....	1,640,000	(²)
Cost.....	\$21,435	(²)
Potatoes:		
Pounds.....	219,608,127	209,372,549
Cost.....	\$341,359	\$363,651
Cornstarch:		
Pounds.....	105,299,010	(²)
Cost.....	\$1,763,178	(²)
Wheat flour:		
Pounds.....	19,545,924	(²)
Cost.....	\$48,200	(²)
All other materials.....	\$7,415,762	\$5,890,497
PRODUCTS.		
Total value	\$48,799,311	\$32,649,836
Starch:		
Pounds.....	677,535,647	356,665,335
Value.....	\$17,514,823	\$19,927,538
Corn—		
Pounds.....	698,825,366	311,140,814
Value.....	\$15,962,916	\$6,878,450
Wheat and root—		
Pounds.....	12,127,666	17,845,121
Value.....	\$626,337	\$1,124,612
Potato—		
Pounds.....	26,582,895	27,709,400
Value.....	\$925,579	\$924,476
Glucose, including all sirups:		
Pounds.....	769,680,210	(¹)
Value.....	\$17,322,514	\$12,352,616
Grape sugar:		
Pounds.....	159,090,478	(¹)
Value.....	\$3,620,516	\$2,254,745
Corn oil:		
Gallons.....	8,164,175	(¹)
Value.....	\$2,802,765	\$1,364,466
Stock food.....	\$6,013,965	\$4,445,479
All other products.....	\$224,422	\$1,563,962

¹ Not reported.

² Not reported separately.

³ In addition, 1,309,691 pounds of cornstarch, valued at \$48,059, were made by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

Cottonseed, oil and cake.—The following table presents the statistics for cottonseed products:

	1909 ¹	1904 ¹	1899
Cotton seed crushed tons.....	3,798,549	2,308,930	2,479,386
PRODUCTS.			
Total value	\$147,867,894	\$96,407,621	\$58,756,632
Primary products manufactured, whether for sale or for further use:			
Oil..... gallons.....	157,115,689	132,051,801	98,325,729
Meal and cake..... tons.....	1,661,734	1,343,977	884,391
Hulls..... tons.....	1,258,612	1,291,079	1,169,295
Linters..... pounds.....	174,620,099	116,707,298	57,272,663

¹ In addition, products to the value of \$2,017,705 were produced by establishments engaged primarily in the manufacture of products other than those covered by the industry designation; these establishments crushed 28,783 tons of seed and produced 1,212,532 gallons of crude oil, 12,811 tons of meal and cake, 8,926 tons of hulls, and 1,152,978 pounds of linters.

² In addition, establishments engaged primarily in the manufacture of products other than those covered by the industry designation crushed 36,440 tons of seed and produced 1,765,871 gallons of crude oil, 16,195 tons of meal and cake, 12,255 tons of hulls, and 1,585,671 pounds of linters.

The amount of seed crushed in mills engaged primarily in the industry increased from 2,479,386 tons in 1899 to 3,798,549 tons in 1909, or 53.2 per cent, while the value

of all products, including fertilizer, ice, feed, etc., where carried on in connection with the manufacture of cottonseed products, increased from \$58,726,632 to \$147,867,894, or 151.8 per cent. A marked feature of the industry is the progressive increase in quantity of oil, meal, and linters, and decrease in quantity of hulls per ton of seed crushed. The ton of 2,000 pounds is used for showing quantities.

Oil, essential.—The products of the essential-oil industry, given in the following table, increased in value from \$813,495 in 1899 to \$1,737,234 in 1909, or 113.6 per cent. The output of natural oils increased in value 58.2 per cent, and of witch-hazel over sevenfold.

PRODUCT.	1909	1904	1899
Total value.....	\$1,737,234	\$1,464,662	\$813,495
Natural oils.....	\$1,108,603	\$1,023,037	\$700,700
Peppermint—			
Pounds.....	305,781	130,022	202,550
Value.....	\$519,079	\$470,037	\$188,559
Black birch—			
Pounds.....	67,053	(²)	(²)
Value.....	\$102,045	(²)	(²)
Spearmint—			
Pounds.....	33,400	(²)	(²)
Value.....	\$33,283	(²)	(²)
Wintergreen—			
Pounds.....	22,281	4,737	2,166
Value.....	\$68,983	\$15,570	\$3,638
Other—			
Pounds.....	(³)	327,908	638,024
Value.....	\$335,213	\$538,321	\$508,512
Witch-hazel:			
Gallons.....	679,190	797,700	110,260
Value.....	\$412,322	\$307,873	\$54,649
All other products.....	\$216,309	\$72,852	\$58,137

¹ In addition, essential oils to the value of \$117,489 in 1909 and \$14,500 in 1904 were produced by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

² Not reported separately.

³ The products classified under this head include 49,327 pounds, valued at \$44,494; quantities not reported for the remainder.

Paint and varnish.—The inquiry at the present census in regard to specific materials used in the manufacture of paints and varnishes was confined to pig lead and alcohol, the comparative statistics for which, including establishments engaged primarily in the manufacture of products other than those covered by the industry designation, are as follows:

MATERIAL.	1909	1904	1899
Pig lead:			
Tons (2,000 pounds).....	145,917	129,029	99,052
Cost.....	\$12,014,859	\$11,214,961	\$8,585,688
Alcohol:			
Gallons.....	1,083,382	1,410,740	388,308
Cost.....	\$920,080	\$928,946	\$461,417
Wood—			
Gallons.....	1,327,157	1,357,682	310,050
Cost.....	\$603,362	\$700,243	\$285,510
Grain—			
Gallons.....	356,225	59,064	78,309
Cost.....	\$226,724	\$138,703	\$176,907

The statistics for paint and varnish products are given in the following table, which does not include the pigments ground in establishments classified as engaged in the manufacture of kaolin and ground earths, the blacks made by establishments classified as engaged in the manufacture of bone, carbon, and lamp black, nor lead or zinc oxide made by lead and zinc smelters. During the period 1899 to 1909 the value of all products increased from \$69,562,235 to \$124,889,422, or 79.5 per cent. Paints in oil constitute

the most important group. The output of pigments, including white lead in oil, increased 141.9 per cent, and that of varnishes and japans 69 per cent in value.

PRODUCT.	1909	1904	1899
Total value.....	\$124,889,422	\$90,839,609	\$69,562,235
Pigments.....	\$16,085,588	\$11,965,806	\$13,319,457
White lead, dry—			
Pounds.....	85,234,414	62,395,868	116,202,316
Value.....	\$3,021,803	\$2,877,109	\$4,211,181
Oxides of lead—			
Pounds.....	63,404,846	49,734,330	50,759,622
Value.....	\$3,662,062	\$2,591,772	\$2,550,340
Lampblack and other blacks—			
Pounds.....	1,810,445	757,244	1,065,000
Value.....	\$105,063	\$49,809	\$80,250
Iron oxides and other earth colors—			
Pounds.....	111,674,675	48,345,978	33,453,896
Value.....	\$870,331	\$331,416	\$318,242
Other dry colors—			
Pounds.....	102,409,565	98,194,081	
Value.....	\$6,874,333	\$5,066,083	
Barytes—			
Pounds.....	49,496,025	22,290,980	167,479,090
Value.....	\$268,767	\$134,174	\$5,317,943
Pulp colors, sold moist—			
Pounds.....	28,435,722	25,351,515	20,060,935
Value.....	\$1,277,239	\$915,383	\$801,531
Paints in oil.....	\$56,763,206	\$40,390,059	
White lead in oil—			
Pounds.....	246,567,570	216,496,450	(³)
Value.....	\$15,234,411	\$11,228,889	(³)
Paste—			
Pounds.....	162,356,330	131,940,464	306,410,398
Value.....	\$11,279,459	\$8,713,183	\$17,601,459
Already mixed for use—			
Gallons.....	33,272,033	22,379,020	16,879,595
Value.....	\$30,240,426	\$20,447,087	\$14,864,126
Varnishes and japans.....	\$31,262,535	\$22,871,486	\$18,502,210
Oleo-resinous varnishes—			
Gallons.....	18,476,523		
Value.....	\$17,350,113		
Damar and similar turpentine and benzine varnishes—			
Gallons.....	3,481,231		
Value.....	\$2,836,341		
Spirit varnishes not turpentine—			
Gallons.....	1,181,746	1,553,562	549,811
Value.....	\$1,408,048	\$2,180,713	\$905,229
Pyroxilin varnishes—			
Gallons.....	1,880,141	148,320	160,127
Value.....	\$2,351,425	\$102,163	\$178,826
Dryers, japans and lacquers—			
Gallons.....	9,474,939	(⁴)	(⁴)
Value.....	\$5,094,973	\$3,340,355	\$3,084,610
All other.....	\$2,221,635	\$1,479,258	(⁴)
Fillers.....	\$3,126,271	\$2,344,630	(⁴)
Liquid—			
Gallons.....	1,159,560	1,051,148	(⁴)
Value.....	\$823,063	\$785,617	(⁴)
Paste—			
Pounds.....	14,050,329		
Value.....	\$887,948		
Dry—			
Pounds.....	50,983,472	68,761,174	(⁴)
Value.....	\$295,728	\$1,559,019	(⁴)
Putty—			
Pounds.....	63,502,048		
Value.....	\$1,119,532		
Water in paints and kalsomine:			
Dry.....			
Pounds.....	47,405,205	27,932,447	(⁴)
Value.....	\$1,917,038	\$924,807	(⁴)
Already mixed for use—			
Gallons.....	522,283	123,400	(⁴)
Value.....	\$61,669	\$9,220	(⁴)
Linseed oil:			
Gallons.....	3,477,004	(⁴)	(⁴)
Value.....	\$1,912,594	(⁴)	(⁴)
Bleached shellac:			
Pounds.....	3,014,195	(⁴)	(⁴)
Value.....	\$578,050	(⁴)	(⁴)
All other products.....	\$12,281,481	\$12,333,585	\$5,274,944

¹ In addition, paints and varnishes, to the value of \$2,583,397 in 1909 and \$1,221,338 in 1904, were made by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

² Includes white lead in oil. ³ Not reported separately. ⁴ Not reported.

NOTE.—The following products were made and consumed in establishments where produced:

	1909	1904
White lead, dry.....pounds..	162,702,089	122,283,484
Lead oxides.....pounds..	4,526,425	13,589,147
Varnishes.....gallons..	4,407,312	1,202,674
Drying japans and dryers.....gallons..	3,090,750	988,979
Collodion and other cellulose nitrate solutions.....gallons..	20,600	1,576,442
Pyroxilin and other cellulose nitrates.....pounds..	24,750	12,000
Copperas.....pounds..	11,531,006	

Petroleum refining.—The products of the petroleum-refining industry, statistics for which are presented in the following table, aggregated \$236,997,659 in value in 1909 as compared with \$123,929,384 in 1899, the increase during the decade being 91.2 per cent. This conforms closely to the increase in the cost of crude petroleum used, which was 89.4 per cent. The crude petroleum used increased in quantity from 52,011,005 barrels of 42 gallons in 1899 to 120,775,439 barrels in 1909, or 132.2 per cent, and the refined-oil products aggregated 40,290,985 barrels of 50 gallons in 1899, 46,454,062 barrels in 1904, and 89,082,810 barrels in 1909, an increase for the decade of 136.2 per cent.

Table 77	1909	1904	1899
Crude petroleum used:			
Barrels (42 gallons).....	120,775,439	66,982,862	52,011,005
Cost.....	\$152,307,040	\$107,487,091	\$80,424,207
PRODUCTS.¹			
Total value.....	\$236,997,659	\$175,005,320	\$123,929,384
Oils:			
Illuminating—			
Barrels (50 gallons).....	33,495,798	27,135,094	25,171,289
Value.....	\$94,547,010	\$91,366,434	\$74,694,297
Fuel (including gas oils)—			
Barrels.....	34,034,577	7,209,428	6,095,224
Value.....	\$36,462,883	\$9,205,391	\$7,550,664
Lubricating—			
Barrels.....	10,745,885	6,298,251	3,408,918
Value.....	\$38,884,236	\$23,553,091	\$10,897,214
Naphtha and gasoline (including gas naphtha)—			
Barrels.....	10,806,550	5,811,289	5,615,554
Value.....	\$39,771,959	\$21,314,837	\$15,991,742
Paraffin wax—			
Barrels.....	946,830	794,068	774,924
Value.....	\$9,388,812	\$10,007,274	\$7,791,149
Oil asphaltum—			
Tons (2,000 pounds).....	233,323	(²)	(²)
Value.....	\$2,724,752	(²)	(²)
Residuum or tar—			
Barrels.....	1,787,008	3,187,921	596,615
Value.....	\$2,215,623	\$3,135,361	\$688,455
Greases (lubricating, etc.)—			
Barrels.....	138,302	202,439	572,140
Value.....	\$1,567,647	\$1,394,130	\$2,454,617
Coke and black naphtha—			
Value.....	\$507,695	\$149,653	\$176,281
Sludge acid—			
Tons (2,000 pounds).....	133,215	165,104	(³)
Value.....	\$402,295	\$400,480	(³)
All other products.....	\$10,524,747	\$14,475,669	\$3,684,965
EQUIPMENT.			
Stills, number.....	2,395	1,907	1,774
Heated by steam—			
Number.....	451	282	290
Capacity (barrels 42 gallons).....	424,564	(⁴)	(⁴)
Heated by superheated steam—			
Number.....	16	15	26
Capacity (barrels 42 gallons).....	6,200	(⁴)	(⁴)
Heated by fire—			
Number.....	1,928	1,610	1,458
Capacity (barrels 42 gallons).....	1,650,534	(⁴)	(⁴)
Agitators, number.....	529	374	327
Chilling houses for paraffin, number.....	79	67	48
Hydraulic or other presses, number.....	357	311	510
Storage tanks for crude petroleum:			
Number.....	678	304	257
Capacity, gallons.....	242,590,505	245,760,493	(⁴)
Storage tanks for refined petroleum:			
Number.....	6,476	3,575	2,869
Capacity, gallons.....	1,041,627,444	576,458,825	(⁴)
Cooper shops, number.....	53	64	48
Tin shops, number.....	14	17	13

¹ In 1909, 48,580 tons of sulphuric acid, and in 1904, 49,379 tons, were made and consumed in establishments where produced.

² Not reported separately.

³ Not reported.

The largest gain was that in the output of fuel oils, which increased from 7,209,428 barrels in 1904 to 34,034,577 barrels in 1909, as the result of the increase in the refining of low-grade crude oils. The output

of lubricating oils and naphtha also increased very rapidly. The decrease in the value of "all other products" in 1909 as compared with 1904 is due in part to the fact that the products of the box, cooperage, tinware, and paint shops operated by the refineries were included in 1904, but when possible separate reports were obtained for these departments in 1909 and the statistics for them were included with those for other industries at this census.

Salt.—The statistics for the salt industry are given in the following table.¹ The value of all products increased from \$7,966,897 in 1899 to \$11,327,834 in 1909, or 42.2 per cent. The production of salt increased from 15,187,819 barrels in 1899 to 29,933,060 barrels in 1909, or 97.1 per cent, while the value of the product increased from \$5,869,362 to \$8,311,729, or 41.6 per cent, the average value per barrel decreasing from 39 cents in 1899 to 28 cents in 1909 on account of the greatly increased proportion of the lower grades of salt manufactured. The barrel of 280 pounds is used in showing quantities.

Table 78	1909	1904	1899
Total value.....	\$11,327,834	\$9,437,662	\$7,966,897
Salt:			
Barrels.....	29,933,060	17,128,572	15,187,819
Value.....	\$8,311,729	\$6,955,734	\$5,569,362
Bromine:			
Pounds.....	728,875	261,665	279,437
Value.....	\$92,735	\$72,584	\$94,921
All other products.....	\$2,923,370	\$2,409,344	\$2,692,614
Salt, classified by grade (barrels).			
Table and dairy.....	3,042,824	3,119,091	1,866,658
Common fine.....	7,745,204	6,254,293	6,866,126
Common coarse.....	2,542,393	1,878,666	2,635,282
Packers.....	385,802	498,943	182,936
Coarse solar.....	1,109,396	1,677,182	910,974
Rock salt, mined.....	5,938,721	3,416,835	2,543,679
Milling, other grades, and brine.....	8,867,720	283,562	182,776
Process employed.			
Total number of establishments.....	124	146	159
Number reporting:			
Solar.....	46	63	(²)
Kettle.....	1	7	(²)
Grainer.....	59	79	(²)
Open pan.....	11	12	(²)
Vacuum pan.....	21	26	(²)

¹ In addition, 25,043 barrels of salt, to the value of \$8,415, were produced by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

² Includes potassium bromide.

³ Not reported.

Soap.—The statistics for the soap industry given in Table 79 for 1909 and 1904 include those for the soap factories operated by the owners of slaughtering and meat-packing establishments as well as for establishments engaged primarily in the manufacture of soap. In 1899 the manufacture of soap and of candles was reported as one industry, the value of products being \$53,231,017. In 1904 the value of the combined products of these industries was \$72,164,062 and in 1909, \$114,488,298.

The cost of the materials used in the soap industry was \$72,179,418 in 1909 and \$43,625,608 in 1904, the

¹ The statistics differ from those published by the United States Geological Survey, which include Hawaii and Porto Rico.

increase for the five-year period being 65.5 per cent. The value of all products was \$111,357,777 in 1909 and \$68,274,700 in 1904, the increase for the five-year period being 63.1 per cent. With the addition of the by-products from establishments in other industries the total value of soap products was \$115,455,172 in 1909. The chief soap product was hard soap, which, including that made in establishments engaged primarily in the manufacture of products other than soap, aggregated 883,583 net tons in 1909. Glycerin is an important product of the soap industry. Reference should be made to Table 66 for the glycerin product of chemical establishments.

Table 79

	1909	1904
MATERIALS.		
Total cost	\$72,179,418	\$43,625,608
Tallow, grease, and other fats:		
Pounds.....	413,909,787	475,618,277
Cost.....	\$23,341,905	\$19,723,311
Cocconut and palm-kernel oil:		
Gallons.....	11,856,837	6,833,132
Cost.....	\$5,875,204	\$2,692,034
Cottonseed oil:		
Gallons.....	24,221,712	13,276,090
Cost.....	\$9,718,988	\$3,832,987
Rosin:		
Pounds.....	207,296,447	168,107,246
Cost.....	\$4,362,412	\$2,734,848
Feet:		
Pounds.....	94,050,892	59,701,740
Cost.....	\$2,453,000	\$1,222,082
Caustic soda:		
Tons (2,000 pounds).....	52,172	71,551
Cost.....	\$2,212,232	\$2,843,988
Soda ash:		
Tons (2,000 pounds).....	121,016	53,777
Cost.....	\$2,281,787	\$1,011,694
All other materials.....	\$21,933,191	\$9,513,704
PRODUCTS.		
Total value	\$111,357,777	\$68,274,700
Hard soap:		
Pounds.....	1,736,740,466	1,355,358,649
Value.....	\$88,550,830	\$56,878,486
Soft soap:		
Pounds.....	44,052,615	33,613,416
Value.....	\$943,676	\$667,064
Glycerin:		
Pounds.....	² 39,689,300	27,660,661
Value.....	\$5,713,558	\$2,958,115
Special soap articles.....	\$731,823	\$554,881
All other products.....	\$15,417,890	\$7,216,154

¹ In addition, the following products were made by establishments engaged primarily in the manufacture of products other than those covered by the industry designation:

	1909	1904
Soap:		
Hard—		
Pounds.....	30,424,855	31,251,795
Value.....	\$1,279,004	\$1,148,920
Soft—		
Pounds.....	15,984,065	10,285,839
Value.....	\$325,511	\$94,017
Glycerin:		
Pounds.....	³ 7,208,721	595,000
Value.....	\$1,070,798	\$45,200
All other products.....	\$1,416,174	\$148,981

² In addition, 5,597,519 pounds were reported with no value.

³ In addition, 25,319 pounds were reported with no value.

NOTE.—The following products were made and consumed in establishments where produced:

	1909	1904
Red oil.....	gallons.. 3,175,795	1,149,346
Tallow.....	pounds.. 17,700,219	10,613,271
Cottonseed oil.....	gallons.. 2,422,843	920,410
Caustic lye, 30° Baumé.....	gallons.. 15,931,639	9,568,522
Sodium silicate.....	pounds.. 37,498,246	1,597,886
Glycerin.....	pounds.. 5,318,279	3,433,359
Framed soap.....	pounds.. 527,370,128	114,452,424

Sulphuric, nitric, and mixed acids.—Comparative statistics for the products of establishments engaged primarily in the manufacture of sulphuric, nitric, and mixed acids are given in the following table. The total value of products was \$9,884,057 in 1909, as compared with \$8,596,390 in 1899, an increase of 15 per cent. This increase was chiefly in sulphuric acid, the output of which increased in quantity (on the basis of 50° acid) 88.8 per cent and in value 38.3 per cent. The ton of 2,000 pounds is used in showing quantities.

Table 80	PRODUCT.	1909	1904	1899
	Total value	\$9,884,057	\$9,062,646	\$8,596,390
	Acids	\$7,567,274	\$6,955,078	\$6,209,872
	Sulphuric:			
	Tons, reduced to 50° Baumé.....	855,191	407,614	452,942
	Tons.....	703,185	364,374	324,365
	Value.....	\$5,020,400	\$4,286,312	\$4,071,848
	60° Baumé—			
	Tons.....	267,476	199,663	250,328
	Value.....	\$3,153,007	\$2,836,179	\$3,244,585
	60° Baumé—			
	Tons.....	73,073	13,634	13,650
	Value.....	\$401,784	\$121,432	\$199,360
	50° Baumé—			
	Tons.....	² 362,636	³ 151,077	60,337
	Value.....	\$2,069,665	\$1,278,701	\$627,332
	Nitric:			
	Pounds.....	8,300,320	30,306,555	20,492,570
	Value.....	\$499,303	\$1,446,471	\$1,023,266
	Mixed:			
	Pounds.....	45,361,020	42,812,894	42,301,319
	Value.....	\$1,438,475	\$1,222,295	\$1,109,758
	All other products.....	\$2,316,783	\$2,097,568	\$2,386,518

¹ In addition, the following products were made by establishments engaged primarily in the manufacture of products other than those covered by the industry designation:

	1909	1904
Acids:		
Sulphuric (50°)—		
Tons.....	621,801	433,377
Value.....	\$4,455,263	\$3,655,899
Nitric—		
Pounds.....	18,029,620	15,957,526
Value.....	\$357,795	\$304,473
Mixed—		
Pounds.....	11,820,542	22,518,433
Value.....	\$422,312	\$735,051
All other products.....	\$511,532	.....

² Includes the equivalent of 27,602 tons of oleum.

³ Includes the equivalent of 13,268 tons of oleum.

NOTE.—In 1909, 1,271,535 tons of sulphuric acid (50°) and 110,700,619 pounds of nitric acid, and in 1904, 968,455 tons of sulphuric acid (50°) and 62,116,306 pounds of nitric acid were made and consumed in establishments where produced.

Including by-products from establishments engaged primarily in the manufacture of products other than those covered by the industry designation, the total production of these acids for sale in 1909 and 1904 was as follows:

Table 81	KIND.	1909	1904
	Sulphuric acid (50°):		
	Tons.....	1,470,992	900,991
	Value.....	\$10,084,759	\$7,942,211
	Nitric acid:		
	Pounds.....	27,325,946	46,264,081
	Value.....	\$1,357,098	\$2,260,944
	Mixed acids:		
	Pounds.....	57,182,168	65,331,327
	Value.....	\$1,800,787	\$1,857,356

A large amount of sulphuric acid made and consumed in the establishments where manufactured, particularly in fertilizer factories, must be taken into

account in considering the total production. The following table gives the total production for the three census years:

SULPHURIC ACID.	1909	1904	1899
Total, reduced to 50° Baumé acid..... tons..	2,748,527	1,869,437	1,548,123
For sale.....	1,476,992	900,992	733,765
For consumption.....	1,271,535	968,445	764,358

Turpentine and rosin.—The products of the turpentine and rosin industry for which statistics are presented in the following table increased in value from \$20,344,888 in 1899 to \$25,295,017 in 1909, or 24.3 per cent, but the gain was due wholly to the great increase in the price of rosin. The turpentine product decreased in both quantity and value during the decade. The output of rosin also decreased 24.9 per cent, but its value increased 145.2 per cent. The average value of rosin per barrel increased from \$1.18 in 1899 to \$3.85 in 1909.

PRODUCT.	1909	1904	1899
Total value.....	\$25,295,017	\$23,937,024	\$20,344,888
Turpentine:			
Gallons.....	28,988,954	30,687,051	38,488,170
Value.....	\$12,654,228	\$15,170,489	\$14,960,235
Rosin:			
Barrels (280 pounds).....	3,263,857	3,508,347	4,348,094
Value.....	\$12,576,721	\$8,726,619	\$5,129,283
Dross and other products.....	\$64,068	\$40,906	\$255,385

¹ In addition, 682,702 gallons of turpentine, valued at \$243,491, was produced by wood distillation.

CLAY, GLASS, AND STONE PRODUCTS.

Under this general head are assembled the industries using clay, sand, and stone as basic materials, namely, the manufacture of brick, tile, pottery, terra-cotta, and fire-clay products, and that of cement, glass, and lime.

The statistics for all these industries, except glass manufacture, were collected in 1909 in cooperation with the United States Geological Survey, and the tables include, except as otherwise stated, the respective products made by establishments engaged primarily in the manufacture of other products as well as those establishments making such products as their principal business.

Brick and tile, and pottery, terra-cotta, and fire-clay products.¹—Table 84 summarizes the statistics in regard to the products of the brick and tile, pottery, and terra-cotta and fire-clay products industries. The total value of these classes of products was \$168,895,365 in 1909 and \$95,533,862 in 1899, the increase during the decade being 76.8 per cent. Of the total value of products in 1909, that of brick formed 57.5 per cent, that of tile and allied products 23.2 per cent, and that of pottery 18.4 per cent. The percentages were practically the same in 1904 and 1899. Some of the classes show large ratios of in-

¹ The statistics differ from those published by the United States Geological Survey, which include Porto Rico.

crease, notably porcelain electrical supplies and building terra cotta, including architectural terra cotta, fireproofing, and tiling.

PRODUCT.	1909	1904	1899
Total value.....	\$168,895,365	\$135,352,854	\$95,533,862
Brick and tile, terra-cotta, and fire-clay products.....	\$136,387,846	\$109,003,306	\$76,551,645
Brick.....	\$97,137,844	\$78,728,093	\$58,640,228
Common—			
Thousand.....	9,787,671	8,683,897	7,654,528
Value.....	\$37,216,789	\$31,239,871	\$39,674,749
Fire—			
Thousand.....	838,167	678,362	800,882
Value.....	\$16,629,695	\$11,752,625	\$8,636,562
Vitrified, paving, etc.—			
Thousand.....	1,023,654	715,559	590,729
Value.....	\$11,269,596	\$7,255,088	\$4,828,456
Front, including fancy colored and fancy or ornamental—			
Thousand.....	821,641	626,142	451,420
Value.....	\$9,886,292	\$7,335,511	\$5,176,492
Sand lime.....	\$1,150,590	\$698,003	(1)
Enameled.....	\$993,902	\$445,985	\$329,949
Drain tile.....	\$9,798,978	\$5,622,198	\$3,662,184
Sewer pipe.....	\$19,322,324	\$8,416,009	\$4,808,334
Architectural terra cotta.....	\$6,251,625	\$5,792,763	\$2,627,532
Fireproofing, terra-cotta lumber and hollow building tile, or blocks.....	\$4,466,708	\$4,317,312	\$1,668,631
Tile, not drain.....	\$5,291,963	\$2,726,717	\$1,278,309
Stove lining.....	\$423,533	(1)	\$419,235
Other.....	\$2,694,821	\$8,601,224	\$4,303,801
Pottery.....	\$31,048,341	\$25,834,513	\$17,222,640
White ware, including C. C. ware, white granite, semiporcelain ware, and semivitreous porcelain ware.....	\$13,728,316	\$9,195,769	\$6,376,351
Sanitary ware.....	\$5,999,295	\$3,932,506	\$2,211,877
Stoneware and yellow and Rockingham ware.....	\$3,993,859	\$3,481,521	\$2,130,263
Porcelain electrical supplies.....	\$3,047,429	\$1,508,283	\$479,355
China, bone china, Delft and Beiliek ware.....	\$1,766,766	\$3,478,627	\$1,297,978
Red earthenware.....	\$804,808	\$821,695	\$732,290
Other.....	\$1,717,800	\$3,424,178	\$3,972,956
All other products.....	\$1,459,178	\$515,035	\$1,780,177

¹ Not reported separately.

² Product of Ohio included in "other" pottery.

Cement.—The statistics of products for the cement industry for 1909 and 1904, given in the following table, show a total value of \$63,205,455 in 1909 as compared with \$29,873,122 in 1904, the rate of increase for the five-year period being 111.6 per cent. In 1899 the statistics for the lime and cement industries were combined, the products aggregating \$28,673,735 in value. The value of the combined lime and cement product in 1909 was \$81,157,442, the increase for the decade being 183 per cent.

During the period 1904–1909 the output of cement increased 110.5 per cent in quantity, all of the increase being in Portland cement, while the output of natural cement and of puzzolan cement decreased greatly. Portland cement formed 97.5 per cent of the total in 1909, as compared with 83.7 per cent in 1904.

PRODUCT.	1909	1904
Total value.....	\$63,205,455	\$29,873,122
Cement:		
Barrels.....	68,889,715	31,675,257
Value.....	\$53,610,563	\$26,031,920
Portland—		
Barrels.....	64,991,431	26,505,881
Value.....	\$52,858,354	\$23,355,119
Natural—		
Barrels.....	1,537,638	4,866,331
Value.....	\$632,756	\$2,450,150
Puzzolan—		
Barrels.....	180,646	303,045
Value.....	\$99,463	\$226,651
All other products.....	\$9,594,892	\$3,841,202

Glass.—The following table presents comparative statistics for the glass industry, giving the total cost of materials and the total value of products, together with the quantities of the principal materials and products, for the years 1909, 1904, and 1899. There was an increase of 62.9 per cent in the value of all

products for 1909 as compared with 1899. The increase in the value of building glass amounted to 53.9 per cent; that in the value of pressed and blown glass to 60.4 per cent; and that in the value of bottles and jars to 66.2 per cent. The *ton of 2,000 pounds* is used in showing quantities.

Table 86	1909	1904	1899		1909	1904	1899
PRINCIPAL MATERIALS.				PRODUCTS—continued.			
Total cost.....	\$32,119,499	\$26,145,522	\$16,781,009	Building glass—Continued.			
Glass sand, tons.....	1,004,086	760,792	581,720	Skylight—			
Soda ash (carbonate of soda), tons.....	373,764	215,462	157,779	Square feet.....	15,400,966	15,255,541	3,679,694
Salt cake (sulphate of soda), tons.....	76,540	53,905	53,257	Value.....	\$788,726	\$978,301	\$165,086
Nitrate of soda, tons.....	19,676	11,915	10,770	All other.....	\$904,599	\$1,138,214	\$250,056
Limestone, tons.....	156,377	115,655	91,015	Pressed and blown glass.....	\$27,398,445	\$21,956,158	\$17,076,125
Lime, bushels.....	1,256,117	1,166,342	993,349	Tableware, 100 pieces.....	1,286,056	1,283,074	655,141
Arsenic, pounds.....	3,140,720	2,076,050	2,349,261	Jellies, tumblers, and goblets, dozen.....	11,087,036	7,340,214	8,544,050
Carbon, tons.....	5,480	3,750	4,155	Lamps, dozen.....	322,482	487,017	807,765
Manganese, pounds.....	3,882,465	3,006,930	1,493,538	Chimneys, dozen.....	6,652,967	7,039,766	6,901,192
Litharge and red lead, pounds.....	11,653,149	9,613,640	8,388,100	Lantern globes, dozen.....	952,620	1,705,247	1,044,816
Potash or pearlash, pounds.....	6,938,355	5,446,338	4,406,211	Globes and other electrical goods, dozen.....	11,738,798	1,901,415	(¹)
Grinding sand, tons.....	706,089	410,856	265,438	Shades, globes, and other gas goods, dozen.....	1,541,440	878,244	2,673,854
Rouge, pounds.....	1,383,182	1,098,506	837,536	Blown tumblers, stem ware, and bar goods, dozen.....	9,182,060	6,282,600	6,127,367
				Opal ware, dozen.....	3,095,066	1,091,208	3,750,448
				Cut ware, dozen.....	266,336	83,736	134,726
				Bottles and jars.....	\$36,018,333	\$33,631,003	\$21,676,791
PRODUCTS.				Prescriptions, vials, and druggists' wares, gross.....	3,624,022	3,202,586	2,423,932
Total value.....	\$92,095,203	\$79,607,998	\$56,539,712	Beer, soda, and mineral, gross.....	2,345,204	2,351,852	1,351,118
Building glass.....	\$26,308,438	\$21,097,861	\$17,090,234	Liquors and flasks, gross.....	1,887,344	2,157,801	985,374
Window—				Milk jars, gross.....	440,302	263,651	146,142
50-foot boxes.....	6,921,611	4,852,315	4,341,282	Fruit jars, gross.....	1,124,485	1,061,820	789,286
Value.....	\$11,742,959	\$11,610,851	\$10,870,355	Battery jars and other electrical goods, gross.....	0,981	19,074	(¹)
Plate—				Patent and proprietary, gross.....	1,637,798	1,057,372	1,296,131
Total cast, square feet.....	60,105,694	34,804,086	21,172,129	Packers and preservers, gross.....	1,237,175	1,237,005	784,538
Polished—				Demi-johns and carboys, dozen.....	122,570	64,460	83,243
Square feet.....	47,370,254	27,293,138	16,883,578	All other products.....	\$2,369,987	\$2,322,916	\$690,562
Value.....	\$12,204,875	\$7,978,253	\$5,158,598				
Rough, made for sale—							
Square feet.....	205,690	17,784	628,684				
Value.....	\$37,431	\$3,520	\$75,887				
Cathedral—							
Square feet.....	7,405,980	6,615,093	8,846,301				
Value.....	\$509,848	\$293,023	\$567,252				

¹ In addition, 42,639 gross of bottles and jars, valued at \$90,490, were made by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

² In addition, glassware to the value of \$9,663 was made by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

³ Not reported.

Lime.¹—The total value of the lime reported as manufactured in 1909 was \$13,763,604 as compared with \$9,951,456 in 1904, an increase for the five-year period of 38.3 per cent. The quantity reported in 1909 was 3,467,523 tons (2,000 pounds), of which 1,904,202 tons was used for building or structural purposes; 591,792 tons for fertilizing; and the remainder in various manufacturing establishments, such as paper mills, tanneries, sugar factories, and alkali works. The value of all products reported by establishments engaged primarily in the manufacture of lime was \$17,951,987 in 1909 and \$14,751,170 in 1904.

VEHICLES FOR LAND TRANSPORTATION.

Under the above heading are given statistics for the manufacture of automobiles, bicycles, motorcycles, and carriages and wagons, and the construction of steam and electric railroad cars, and also for the operations of the construction and repair shops of railroads.

Automobiles.—The statistics for automobiles are presented in Table 87. Under "all other products" are included the products of establishments engaged

in the manufacture of automobile bodies and parts, which are sold largely to automobile manufacturers, as well as the value of bodies and parts made and sold separately by automobile manufacturers. The total value of products for the industry thus involves considerable duplication. The growth of the automobile industry has been phenomenal. In 1899 the general statistics for the industry were included with those for carriage and wagon manufacture, and only 3,897 automobiles were reported. In 1904 the total number, including automobiles made by concerns classified under other industries, was 22,830, while in 1909 the number was 127,287, or nearly thirty-three times the number reported in 1899.

The value of all products of the industry proper was \$249,202,075 in 1909 and \$30,033,536 in 1904. Gasoline machines formed 95.1 per cent of the total number made in 1909 and 86.2 per cent in 1904. Of the total number manufactured in 1909, 3,226, or 2.5 per cent, were rated at 50 horsepower or more; 51,218, or 40.5 per cent, at from 30 to 49 horsepower; 35,257, or 27.8 per cent, at from 20 to 29 horsepower; 29,353, or 23.2 per cent, at from 10 to 19 horsepower; and 7,539, or 6 per cent, at less than 10 horsepower. Passenger vehicles constituted 97.4 per cent of the total number and business vehicles 2.6 per cent.

¹ The statistics differ from those published by the United States Geological Survey, which include Hawaii and Porto Rico.

PRODUCT.	1909		1904	
	Number.	Value.	Number.	Value.
Total value.....		\$249,202,075		\$30,033,536
Automobiles.....	126,593	164,269,324	21,692	23,751,234
Gasoline.....	120,893	153,529,653	18,689	19,568,941
Electric.....	3,826	7,259,430	1,425	2,496,255
Steam.....	2,374	3,480,241	1,568	1,688,038
Passenger vehicles (pleasure, family, and public conveyances).....	123,338	159,039,301	21,281	22,804,287
Gasoline.....	117,633	149,530,232	18,504	19,300,654
Electric.....	3,331	6,028,828	1,211	1,819,595
Steam.....	2,374	3,480,241	1,566	1,684,038
Buggies.....	4,582	2,391,250	(*)	
Gasoline.....	4,314	2,039,129	(*)	
Electric.....	268	352,121	(*)	
Runabouts.....	36,204	28,030,479	12,131	8,831,504
Gasoline.....	35,347	27,116,901	10,999	7,976,821
Electric.....	496	648,630	455	453,304
Steam.....	391	264,948	677	401,379
Touring cars.....	76,114	113,403,188	7,220	11,781,521
Gasoline.....	73,883	109,844,295	6,444	10,576,023
Electric.....	243	387,526	39	55,038
Steam.....	1,988	3,171,367	737	1,150,460
Closed (limousine, cabs, etc.).....	5,205	12,729,304	(*)	
Gasoline.....	3,290	8,762,768	(*)	
Electric.....	1,915	3,966,536	(*)	
All other (omnibuses, sight-seeing wagons, ambulances, patrol wagons, etc.).....	1,233	2,485,080	1,930	2,191,262
Gasoline.....	799	1,767,139	1,061	747,810
Electric.....	409	674,015	717	1,311,253
Steam.....	25	43,926	152	132,199
Business vehicles (merchandise).....	3,255	5,230,023	411	945,947
Gasoline.....	2,760	3,969,421	195	268,287
Electric.....	495	1,230,602	214	676,660
Steam.....			2	4,000
Delivery wagons.....	1,802	1,918,856	251	455,457
Gasoline.....	1,645	1,474,063	140	215,897
Electric.....	217	444,793	109	235,560
Steam.....			2	4,000
Trucks.....	1,366	3,165,512	160	491,490
Gasoline.....	1,090	2,384,703	55	50,390
Electric.....	276	780,809	105	441,100
All other.....	27	145,655	(*)	
Gasoline.....	25	140,655	(*)	
Electric.....	2	5,000	(*)	
All other products, including bodies and parts.....		\$78,584,783		5,431,249
Amount received for custom work and repairing.....		6,317,998		851,053

¹ In addition, 694 automobiles, valued at \$330,080, and bodies and parts valued at \$4,415,266, were made by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

² In addition, 1,138 automobiles, valued at \$379,205, were made by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

³ Not reported separately.

⁴ None reported.

⁵ Includes custom work and repairing by establishments manufacturing bodies and parts.

Bicycles and motorcycles, and parts.—The following table presents the comparative statistics of products for the bicycle and motorcycle industry. It does not include children's bicycles and tricycles. A marked feature is the decline in the manufacture of bicycles and tricycles and the increase in the manufacture of motorcycles.

PRODUCT.	1909	1904	1899
Total value.....	\$10,698,567	\$5,153,240	\$31,915,908
Bicycles:			
Number.....	168,824	225,309	1,112,880
Value.....	\$2,436,996	\$3,203,505	\$22,127,310
Tricycles:			
Number.....	(*)	32	328
Value.....		\$3,350	\$17,261
Motorcycles:			
Number.....	18,628	2,300	160
Value.....	\$3,015,988	\$354,980	\$33,674
All other products, including parts.....	\$5,245,583	\$1,591,405	\$9,737,663

¹ In addition, the following products were made by establishments engaged primarily in the manufacture of products other than those covered by the industry designation: In 1909, 64,883 bicycles, valued at \$791,193, and other products, including parts, etc., valued at \$579,927; in 1904, 25,178 bicycles, valued at \$37,418; 23 motorcycles, valued at \$4,200; and other products, including parts, valued at \$34,841; and in 1899, 69,811 bicycles, valued at \$1,529,177, and other products valued at \$24,000.

² None reported.

The total value of products of the industry decreased from \$31,915,908 in 1899 to \$5,153,240 in 1904, but by 1909 it had risen again to \$10,698,567, or more than double the figures for 1904.

Carriages and wagons and materials.—The following table presents statistics for the manufacture of carriages and wagons, including under "All other products" the products of establishments engaged in the manufacture of carriage and wagon materials, but not including children's carriages and sleds. The total value of products increased from \$138,261,763 in 1899 to \$159,892,547 in 1909, or 15.6 per cent. The value of wagons increased \$8,852,172, or 28.5 per cent, though the number manufactured was very little larger in 1909 than in 1899. The carriages reported were both fewer in number and lower in value in 1909 than in 1899. Public conveyances also show a decrease in value, but a slight increase in number. In each of these three classes the decreases that appear for the decade as a whole have taken place entirely since 1904, in which year the numbers and values reported exceeded those for 1899. The decreases are presumably due to the growth of the automobile industry.

PRODUCT.	1909	1904	1899
Total value.....	\$159,892,547	\$155,808,849	\$138,261,763
Carriages (family and pleasure):			
Number.....	828,411	937,499	904,639
Value.....	\$47,756,118	\$55,790,276	\$31,295,393
Wagons:			
Number.....	587,685	643,755	570,428
Value.....	\$39,932,910	\$37,195,230	\$31,080,738
Business—			
Number.....	154,631	133,422	(*)
Value.....	\$16,440,816	(*)	(*)
Farm—			
Number.....	429,952	505,625	(*)
Value.....	\$22,615,875	(*)	(*)
Government, municipal, etc.—			
Number.....	3,102	5,368	(*)
Value.....	\$876,219	(*)	(*)
Public conveyances (cabs, hacks, hansoms, hotel coaches, omnibuses, etc.):			
Number.....	2,243	2,711	2,238
Value.....	\$939,267	\$1,214,562	\$1,114,690
Sleighs and sleds:			
Number.....	100,899	127,455	117,906
Value.....	\$2,065,830	\$2,694,560	\$2,200,903
Automobiles: ¹			
Number.....	544	199	174
Value.....	\$560,119	\$235,675	\$129,653
All other products, including parts, and amount received for repair work.....	\$48,629,263	\$58,678,156	\$52,351,586

¹ In addition, 14,908 carriages, valued at \$1,073,935; 42,112 wagons, valued at \$2,093,288; 104 public conveyances, valued at \$5,615,829; sleighs and sleds, valued at \$166,917; and parts and materials, valued at \$1,184,256, were made by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

² In addition, carriages and wagons, valued at \$612,173, were made by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

³ Not reported separately.

⁴ Automobiles manufactured in establishments devoted primarily to the manufacture of carriages and wagons.

Cars and general shop construction and repairs by steam-railroad companies.—Table 90 presents statistics of the work done by construction and repair shops operated by steam-railroad companies, not including roundhouses where running repairs are made. The total value of such work was \$405,600,727 in 1909 and \$218,238,277 in 1899, the rate of increase

for the decade being 85.9 per cent. Most of the value represents that of repairs, comparatively little representing new construction.

Table 90	CLASS OF WORK.	1909	1904	1899 ¹
	Total value.....	\$405,600,727	\$309,775,089	\$218,238,277
	Motive power and machinery department.....	\$184,971,870	\$149,643,953	\$94,447,260
	Locomotives built:			
	Number.....	215	148	272
	Value.....	\$3,289,140	\$1,853,939	\$3,276,393
	Repairs to locomotives, motors, etc.....	\$127,928,773	\$101,326,805	\$57,383,143
	Work for other corporations.....	\$4,735,004	\$5,681,307	\$3,338,589
	All other products or work.....	\$49,018,953	\$40,781,902	\$30,449,135
	Car department.....	\$199,768,939	\$149,748,820	\$118,376,552
	Cars built.....	\$13,326,171	\$12,990,011	\$10,521,352
	Passenger—			
	Number.....	218	414	390
	Value.....	\$1,291,354	\$2,387,977	\$1,441,733
	Freight—			
	Number.....	13,972	14,742	26,543
	Value.....	\$11,767,604	\$10,006,642	\$15,079,619
	Other—			
	Number.....	359	2,000	(²)
	Value.....	\$287,153	\$645,392	(³)
	Repairs to cars of all kinds.....	\$147,194,095	\$105,319,032	\$74,665,500
	Work for other corporations.....	\$3,784,239	\$6,946,990	\$7,084,857
	All other products or work.....	\$30,464,464	\$24,492,787	\$20,104,843
	Bridge and building departments (shopwork).....	\$2,799,898	\$5,096,141	\$5,414,465
	Repairs and renewals.....	\$1,906,737	\$4,351,487	\$3,937,170
	Work for other corporations.....	\$46,496	\$40,581	\$241,626
	All other products or work.....	\$346,665	\$704,073	\$1,235,669
	All other products and work, not classified.....	\$18,060,020	\$5,286,175	(⁴)

¹ Includes Alaska.

² None reported.

Cars and general shop construction and repairs by street-railroad companies.—The following table presents statistics of the operations of the construction and repair shops of street-railroad companies, including all electric systems and interurban electric lines—all railroads, in fact, except steam roads. The work done, which consists almost wholly of repairs, was not reported in detail in 1899, but its aggregate value in that year was \$9,370,811, as compared with \$13,437,121 in 1904 and \$31,962,561 in 1909, an increase for the decade of 241.1 per cent.

Table 91	CLASS OF WORK.	1909	1904
	Total value.....	\$31,962,561	\$13,437,121
	Motive power and machinery department.....	\$4,510,332	\$510,046
	Repairs to motors, etc.....	\$4,004,336	
	Work for other corporations.....	\$88,070	\$2,020
	All other products or work.....	\$417,926	\$508,320
	Car department.....	\$25,835,463	\$12,581,865
	Cars built.....	\$620,752	\$805,144
	Passenger—		
	Number.....	129	288
	Value.....	\$498,709	\$580,669
	Freight—		
	Number.....	63	13
	Value.....	\$69,102	\$11,366
	Other—		
	Number.....	51	0
	Value.....	\$85,941	\$13,109
	Repairs to cars of all kinds.....	\$22,869,777	\$11,254,505
	Work for other corporations.....	\$624,805	\$36,714
	All other products or work.....	\$1,714,129	\$685,002
	Bridge and building department (shopwork).....	\$330,948	\$327,855
	Repairs and renewals.....	\$273,581	\$253,133
	Work for other corporations.....	\$5,093	
	All other products or work.....	\$52,274	\$74,722
	All other products and work not classified.....	\$1,285,818	\$10,955

¹ Includes value of three electric locomotives.

Cars, steam-railroad.—The statistics of establishments constructing steam-railroad cars given in the

following table do not include the work of steam-railroad companies in their repair shops or that of concerns primarily engaged in the construction of street cars. The total value of products of this industry was \$123,729,627 in 1909, as compared with \$90,510,180 in 1899, an increase for the decade of 36.7 per cent. The freight cars made in 1909 were fewer in number and lower in aggregate value than those made in either 1904 or 1899, and the cars for passenger service made in 1909 were fewer in number and lower in aggregate value than those made in 1904. In fact, while there are a number of classes of products, such as passenger cars (day coaches) and ore cars, which show an increase in number and value for the five-year period 1904–1909, the increase in value for the total is more than covered by the increase in the value of "all other products."

Table 92	PRODUCT.	1909	1904	1899
	Total value.....	\$123,729,627	\$111,175,810	\$90,510,180
	Steam-railroad cars:			
	Passenger service—			
	Total number.....	1,601	2,030	979
	Value.....	\$13,820,607	\$18,140,293	\$7,368,299
	Baggage and express—			
	Number.....	210	199	72
	Value.....	\$1,105,770	\$806,185	\$238,554
	Mail—			
	Number.....	95	95	42
	Value.....	\$600,912	\$576,230	\$197,465
	Passenger—			
	Number.....	957	428	331
	Value.....	\$7,209,425	\$2,955,517	\$1,975,469
	Chair, dining and buffet, parlor, sleeping, and all other—			
	Number.....	333	1,308	534
	Value.....	\$4,013,491	\$13,712,361	\$4,956,811
	Freight service—			
	Total number.....	73,177	100,616	116,590
	Value.....	\$61,691,825	\$60,148,955	\$62,161,013
	Box—			
	Number.....	29,728	38,184	47,383
	Value.....	\$23,982,446	\$23,508,632	\$26,562,893
	Coal and coke—			
	Number.....	11,473	27,998	28,857
	Value.....	\$9,419,655	\$21,367,218	\$18,414,718
	Flat—			
	Number.....	3,232	5,412	4,525
	Value.....	\$2,033,801	\$2,893,154	\$1,923,525
	Fruit—			
	Number.....	900	2,840	1,620
	Value.....	\$784,476	\$1,727,771	\$665,354
	Furniture—			
	Number.....	90	801	1,717
	Value.....	\$70,515	\$505,000	\$1,148,265
	Gondola or ore—			
	Number.....	19,607	9,518	11,521
	Value.....	\$18,128,180	\$5,518,084	\$6,873,145
	Refrigerator—			
	Number.....	2,618	3,353	2,554
	Value.....	\$2,747,957	\$3,042,895	\$1,956,097
	Stock—			
	Number.....	2,349	4,235	2,760
	Value.....	\$1,586,008	\$2,463,123	\$1,429,800
	Caboose—			
	Number.....	537	160	183
	Value.....	\$625,005	\$150,977	\$184,865
	Other—			
	Number.....	2,043	8,115	14,905
	Value.....	\$2,413,176	\$2,982,161	\$3,005,351
	Street-railroad cars:			
	Number.....	603	418	685
	Value.....	\$2,023,922	\$994,654	\$1,090,854
	Passenger—			
	Number.....	558	331	692
	Value.....	\$1,903,317	\$930,791	\$1,062,172
	Other—			
	Number.....	45	87	33
	Value.....	\$120,605	\$63,863	\$28,682
	All other products.....	\$46,184,273	\$22,891,408	\$19,890,014

¹ In addition, 8,077 cars, valued at \$5,924,871, and parts and repairs to the value of \$210,487, were reported by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

² In addition, 2,541 cars, valued at \$1,012,820, and parts and repairs to the value of \$101,073, were reported by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

Cars, street-railroad.—The following table presenting comparative statistics of products for establishments constructing street or electric railroad cars does not include cars made in the shops of railroad companies or by concerns primarily engaged in making steam-railroad cars. In 1899 the value of all products was \$7,305,368 and in 1909 only \$7,809,866, a slight increase thus being shown for the decade. The value of products in 1904, however, exceeded that in 1909. The decrease in the construction of open cars since 1904 is especially marked.

PRODUCT.	1909	1904
Total value.....	\$7,809,866	\$10,844,196
Electric-railroad cars:		
Number.....	1,922	3,966
Value.....	\$4,602,435	\$8,302,512
Closed—		
Number.....	1,323	2,621
Value.....	\$3,500,781	\$5,777,257
Combination—		
Number.....	369	502
Value.....	\$704,309	\$1,240,594
Open—		
Number.....	95	554
Value.....	\$141,008	\$860,349
Freight, express, and mail—		
Number.....	92	16
Value.....	\$179,293	\$24,022
Other varieties—		
Number.....	43	473
Value.....	\$77,044	\$400,020
Steam-railroad cars:		
Freight service, all classes—		
Number.....	167	136
Value.....	\$111,813	\$59,663
All other products.....	\$3,095,618	\$2,482,021

¹ Products were not shown in detail for 1899; the total value was \$7,305,368.
² In addition, 607 cars, valued at \$2,033,922, were made by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.
³ In addition, 418 cars, valued at \$994,654, were made by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.
⁴ Includes 38 horse cars, valued at \$29,182.

Summary for railroad cars.—The following table assembles the statistics of all railroad cars constructed, including those made in establishments not engaged primarily in the construction of railroad cars:

PRODUCT.	1909	1904	1899
Total value.....	\$102,137,396	\$110,249,222	
Steam-railroad cars.....	\$94,874,287	\$100,346,912	\$86,050,664
Passenger service—			
Number.....	1,819	2,446	1,369
Value.....	\$15,120,661	\$20,486,260	\$3,810,032
Freight service—			
Number.....	96,648	117,494	143,133
Value.....	\$79,753,326	\$79,860,652	\$77,240,632
Street-railroad cars: ¹			
Number.....	2,772	4,694	(³)
Value.....	\$7,263,109	\$9,902,310	(⁴)

¹ Including all service not passenger.
² Chiefly electric.
³ Not reported separately; the total value of products of establishments engaged primarily in the construction of street-railroad cars amounted to \$7,305,368.

MISCELLANEOUS INDUSTRIES.

Statistics for all industries that can not properly be classified with any of the groups before presented, on account of the character either of the products or of the raw materials used, are given under the above head.

Agricultural implements.—Table 95 presents comparative statistics of the production of agricultural implements. The value of all products increased from \$101,207,428 in 1899 to \$146,329,268 in 1909, or 44.6

per cent. This includes the value of miscellaneous agricultural implements and parts not classifiable under either of the four groups shown separately and of a large number of products not distinctively agricultural, but made by manufacturers of agricultural implements, such as windmills, carriages and wagons, engines, presses, castings, lawn swings, etc. In 1909 the aggregate value of the four groups of agricultural implements—seeders and planters, implements of cultivation, harvesting implements, and separators—was \$94,524,494, compared with \$79,335,400 in 1904, an increase of 19.1 per cent.

PRODUCT.	1909	1904	1899
Total value.....	\$146,329,268	\$112,007,344	\$101,207,428
Implements of cultivation.....	\$35,246,030	\$30,607,960	
Seeders and planters.....	\$19,879,821	\$11,225,122	
Harvesting implements.....	\$34,568,131	\$30,862,425	\$38,010,506
Seed separators.....	\$11,030,412	\$6,639,853	
All other products.....	\$48,690,082	\$30,703,645	
Amount received for repair work.....	\$3,114,692	\$1,968,296	\$3,196,822
Principal kind of implements, by number.			
Implements of cultivation:			
Cultivators—			
Beet.....	3,172	3,450	2,668
Small.....	469,696	239,173	207,171
Wheeled.....	435,429	315,685	295,739
Cotton scrapers.....	20,150	22,519	15,230
Harrows—			
Disk.....	193,000	104,323	97,261
Spring-tooth.....	112,832	86,498	386,259
Spike-tooth.....	394,968	262,442	
Plows—			
Disk.....	22,122	39,146	17,345
Gang.....	91,626	(¹)	(²)
Shovel.....	254,737	121,899	102,320
Steam.....	2,355	1,599	297
Sulky or wheel.....	134,936	123,999	136,195
Walking.....	1,110,006	956,893	819,622
Seeders and planters:			
Broadcast.....	38,007	33,546	36,862
Combination.....	23,963		
Corn planters—			
Hand.....	96,465	86,553	129,515
Horse.....	122,780	90,929	78,335
Listers.....	44,840	23,012	28,995
Cotton planters.....	79,271	127,052	45,575
Potato planters.....	23,682	35,756	35,338
Drills.....			
Corn.....	20,137	28,228	21,940
Disk.....	21,292	(³)	(⁴)
Grain.....	68,611	76,929	91,655
All other.....	32,507	606	5,892
Seed sowers.....	7,847	59,919	83,283
Harvesting implements:			
Grain cradles.....	22,635	30,656	36,193
Harvesters—			
Bean.....	1,409	665	1,425
Corn.....	19,693	6,924	29,797
Grain.....	129,374	108,810	233,542
Harvesters and thrashers combined.....	543	(⁵)	(⁶)
Other.....	1,707	3,161	6,293
Hay carriers.....	45,094	55,121	54,368
Hayforks, horse.....	43,675	62,501	51,779
Hay loaders.....	34,705	27,174	7,223
Hayrakes, horse.....	266,260	236,297	216,345
Haystackers.....	17,212	5,670	12,699
Hay tedders.....	34,896	35,745	14,510
Mowers.....	359,264	273,355	398,616
Potato diggers, horse.....	25,682	11,768	(⁷)
Reapers.....	58,294	60,996	35,945
Seed separators:			
Clover hullers.....	437	351	661
Corn huskers.....	372	1,327	10,726
Corn huskers and shredders.....	1,240		
Corn shellers—			
Hand.....	74,223	47,189	106,331
Power.....	9,049	6,082	8,185
Fanning mills.....	33,805	22,994	20,399
Thrashers—			
Horsepower.....	822	2,237	1,314
Steam power.....	23,686	7,950	3,651

¹ In addition, agricultural implements, to the value of \$2,929,276, in 1909, and to the value of \$1,349,679, in 1904, were made by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.
² Not reported separately.

Electrical machinery, apparatus, and supplies.—Table 96 summarizes the statistics of the output of electrical machinery, apparatus, and supplies, and

includes figures for such products made by establishments engaged primarily in the manufacture of other products, as well as for all products of establishments engaged primarily in the manufacture of electrical machinery, apparatus, and supplies. The value of all products was \$243,965,093 in 1909, as compared with \$105,831,865 in 1899, an increase for the decade of 130.5 per cent. Among the leading groups the highest rate of increase is for incandescent lamps, the value of which was \$3,515,118 in 1899 and \$15,714,809 in 1909.

Table 96	PRODUCT.	1909	1904	1899
	Total value	\$243,965,093	\$159,551,402	\$105,831,865
Dynamos:	Number.....	16,791	15,080	10,527
	Kilowatt capacity.....	1,405,950	906,182	578,124
	Value.....	\$13,081,048	\$11,084,284	\$10,472,570
Dynamotors, motor generators, boosters, rotary converters, and double current generators.....		\$3,154,733	\$1,740,534	\$370,747
Transformers.....		\$3,801,019	\$4,468,507	\$2,002,871
Switchboards, panel boards, and cut-out cabinets.....		\$5,971,804	\$3,766,044	\$1,840,624
Motors:	Total number.....	504,030	200,343	159,780
	Horsepower.....	2,733,418	1,493,012	1,221,482
	Value.....	\$32,087,482	\$22,370,020	\$19,595,504
For power—	Number.....	243,423	79,877	35,604
	Horsepower.....	1,683,677	678,010	515,705
	Value.....	\$18,306,451	\$13,120,948	\$7,551,480
For automobiles—	Number.....	2,796	1,819	3,017
	Horsepower.....	12,471	19,907	8,220
	Value.....	\$294,152	\$152,685	\$102,030
For fans—	Number.....	199,113	102,535	97,577
	Horsepower.....	178,033	80,796	12,766
	Value.....	\$2,450,739	\$1,168,254	\$1,055,369
For elevators—	Number.....	4,988	1,333	385
	Horsepower.....	63,585	13,399	6,730
	Value.....	\$1,188,653	\$638,473	\$2,523,901
For railways, and miscellaneous services, including value of parts and supplies—	Number.....	53,710	20,779	23,107
	Horsepower.....	795,652	750,001	678,001
	Value.....	\$9,847,487	\$7,290,266	\$8,182,724
Storage batteries, including value of parts and supplies:	Weight of plates in pounds.....	23,119,331	10,113,073	(1)
	Value.....	\$4,678,209	\$2,645,749	\$2,559,601
Primary batteries, including value of parts and supplies:	Number.....	34,333,531	6,623,162	2,654,705
	Value.....	\$5,934,261	\$1,598,144	\$1,110,444
Arc lamps:	Number.....	123,985	195,157	158,187
	Value.....	\$1,706,959	\$1,674,422	\$1,827,771
Searchlights, projectors, and focusing lamps.....		\$935,874	\$114,795	\$225,635
Incandescent lamps.....		\$15,714,809	\$6,953,205	\$3,515,118
Carbon filament.....		\$6,157,066		
Tungsten.....		\$6,241,133		
Gem, tantalum, glow, and vacuum and vapor lamps.....		\$2,715,991	\$6,703,454	\$3,442,183
Decorative and miniature lamps, X-ray bulbs, vacuum tubes, etc.....		\$600,619	\$249,751	\$72,935
Socket, receptacles, bases, etc.....		\$4,521,729	\$2,010,860	\$593,929
Electric-lighting fixtures of all kinds.....		\$6,128,282	\$3,204,006	\$3,750,670
Telegraph apparatus.....		\$1,057,432	\$1,111,194	\$1,642,266
Telephone apparatus.....		\$14,259,357	\$15,863,698	\$10,512,412
Insulated wires and cables.....		\$51,624,737	\$34,519,099	\$21,202,001
Electric conduits.....		\$5,098,264	\$2,416,245	\$1,066,163
Annunciators—domestic, hotel, and office.....		\$235,567	\$185,370	\$224,885
Electric clocks and time mechanisms.....		\$352,513	\$373,026	\$132,149
Fuses.....		\$1,001,719	\$368,079	
Lightning arresters.....		\$940,171	\$587,124	\$595,497
Rheostats and resistances.....		\$2,674,963	\$932,025	
Heating, cooking, and welding apparatus.....		\$1,003,038		\$1,186,878
Electric flatirons.....		\$951,074	\$305,827	
Electric measuring instruments.....		\$7,800,010	\$5,004,763	\$1,842,135
Electrical therapeutic apparatus.....		\$1,107,868	\$1,036,962	(2)
Magneto-ignition apparatus, sparks, coils, etc.....		\$6,092,343	\$678,077	(1)
Electric switches, signals, and attachments.....		\$5,877,843	\$1,451,337	\$1,129,891
Circuit fittings of all kinds.....		\$1,080,287	\$3,525,446	(2)
All other products.....		\$39,691,708	\$28,078,444	\$17,448,008

¹ Includes values of electrical machinery, apparatus, and supplies made by establishments engaged primarily in the manufacture of products other than those covered by the industry designation, as follows: 1909, \$22,656,530; 1904, \$18,742,033; and 1899, \$13,397,430.

² Not reported separately.

Ice, manufactured.—Table 97 includes the product of all establishments engaged primarily in manufacturing ice for sale, but does not include establishments making ice for their own use. Ice made for sale by establishments engaged chiefly in some other business, such as breweries, is reported in a footnote.

The value of all products of the industry proper increased from \$13,874,513 in 1899 to \$42,953,055 in 1909, or 209.6 per cent. The quantity of ice produced increased at about the same rate, and amounted to 12,647,949 tons in 1909.

Table 97	1909	1904	1899
MATERIALS.			
Ammonia used.....	\$1,021,013	\$613,138	\$359,549
Compressor system—			
Anhydrous—			
Pounds.....	3,097,191	1,944,266	946,666
Cost.....	\$826,222	\$403,524	\$249,838
Absorption system—			
Anhydrous—			
Pounds.....	369,093	136,604	109,869
Cost.....	\$100,283	\$37,500	\$29,842
Aqua—			
Pounds.....	1,670,698	1,347,561	1,323,454
Cost.....	\$95,498	\$82,108	\$79,869
PRODUCTS.			
Ice: Total value.....	\$42,953,055	\$23,790,045	\$13,874,513
Tons (2,000 pounds).....	12,647,949	7,199,448	4,294,439
Value (2,000 pounds).....	\$30,880,263	\$22,450,503	\$13,303,874
Can—			
Tons (2,000 pounds).....	11,671,547	6,695,789	4,139,764
Value (2,000 pounds).....	\$37,085,533	\$21,020,547	\$12,863,160
Plate—			
Tons (2,000 pounds).....	976,402	503,659	154,675
Value (2,000 pounds).....	\$2,863,730	\$1,429,950	\$440,714
All other products.....	\$3,063,792	\$1,339,542	\$570,639

¹ Includes 148,373 pounds of aqua ammonia, costing \$3,755.

² In addition, in 1909, 1,582,259 tons of ice, valued at \$4,249,790, and in 1904, 814,689 tons, valued at \$1,899,912, were produced by establishments engaged primarily in the manufacture of products other than ice.

³ Includes, for purposes of comparison, products valued at \$93,535, not included in the general tables for this industry at census of 1900.

Lumber and timber products.—Beginning with 1906 an annual canvass of forest products has been made by the Bureau of the Census in cooperation with the Forest Service of the Department of Agriculture. The statistics for the year 1909 given in the following table are compiled from this annual report; those for 1904 and 1899 are from the regular census reports.

The totals for 1909 include statistics for some small neighborhood mills sawing chiefly or exclusively for local consumption, also a relatively small number of establishments using logs or bolts as material and engaged primarily in the manufacture of products other than those covered by the classified lumber and timber products industry, which classes are not represented in the totals for the other two years. Detailed statistics for the lumber and other forest-products industries will be found in the several annual reports published by the Bureau of the Census. The figures given in Table 98 can not be compared with those given in Table 110 because in the latter table the statistics cover not only the products of the sawmills, shingle and lath mills, but also the products of planing mills operated independently of sawmills; logging camps, veneer mills, and box factories.

Table 98	PRODUCT.	1909	1904	1899
	Total value.....	\$724,705,760	\$465,153,662	\$414,058,487
Lumber:	Total quantity (M feet, board measure).....	44,509,761	34,135,139	1 35,084,166
	Total value.....	\$684,479,859	\$435,708,084	\$390,489,873
Softwoods	Quantity.....	33,896,959	27,353,312	26,153,063
	Value.....	\$477,345,046	\$319,835,746	\$268,481,112
Yellow pine—	Quantity.....	16,277,185	11,521,781	9,658,548
	Value.....	\$206,505,297	\$114,780,600	\$81,740,300
Western pine—	Quantity.....	1,499,985	1,290,526	944,560
	Value.....	\$23,077,854	\$14,586,149	\$9,163,256
White pine—	Quantity.....	3,900,034	5,332,704	7,742,391
	Value.....	\$70,830,131	\$79,594,717	\$98,002,555
Douglas fir—	Quantity.....	4,856,378	2,928,409	1,736,507
	Value.....	\$60,435,793	\$27,862,228	\$15,050,038
Hemlock—	Quantity.....	3,051,399	3,268,787	3,420,673
	Value.....	\$42,580,800	\$38,938,154	\$34,136,862
Spruce—	Quantity.....	1,748,547	1,303,886	1,448,091
	Value.....	\$29,561,315	\$18,289,327	\$16,322,666
Cypress—	Quantity.....	955,635	749,592	495,836
	Value.....	\$19,549,741	\$13,115,339	\$6,004,495
Redwood—	Quantity.....	521,630	519,267	360,167
	Value.....	\$7,720,124	\$6,661,499	\$3,645,608
Cedar—	Quantity.....	346,008	223,035	232,978
	Value.....	\$6,901,948	\$3,201,331	\$2,542,818
All other—	Quantity.....	740,158	215,325	113,312
	Value.....	\$10,182,043	\$2,806,402	\$1,271,884
Hardwoods—	Quantity.....	10,612,802	6,781,827	8,634,021
	Value.....	\$207,134,813	\$115,872,338	\$116,817,192
Oak—	Quantity.....	4,414,457	2,902,855	4,438,027
	Value.....	\$90,512,069	\$50,832,303	\$61,174,129
Maple—	Quantity.....	1,106,604	587,558	633,466
	Value.....	\$17,447,814	\$8,780,727	\$7,495,032
Red gum—	Quantity.....	706,945	523,990	285,417
	Value.....	\$9,334,268	\$5,693,555	\$2,747,680
Chestnut—	Quantity.....	663,891	243,537	206,688
	Value.....	\$10,703,130	\$3,856,054	\$2,764,089
Birch—	Quantity.....	452,370	224,009	132,601
	Value.....	\$7,666,186	\$3,459,501	\$1,657,021
Basswood—	Quantity.....	399,151	228,041	308,069
	Value.....	\$7,781,563	\$3,845,885	\$3,954,625
Elm—	Quantity.....	347,456	258,330	458,731
	Value.....	\$6,088,098	\$3,732,609	\$5,240,530
Cottonwood—	Quantity.....	265,600	321,574	415,124
	Value.....	\$4,794,424	\$4,797,779	\$4,303,544
Ash—	Quantity.....	291,209	169,178	269,120
	Value.....	\$7,116,089	\$3,174,861	\$4,263,599
Hickory—	Quantity.....	333,929	106,824	96,636
	Value.....	\$10,283,776	\$2,557,601	\$1,814,500
Walnut—	Quantity.....	46,108	31,455	38,681
	Value.....	\$1,972,835	\$1,435,509	\$1,411,611
Sycamore—	Quantity.....	56,511	18,002	29,715
	Value.....	\$834,612	\$236,856	\$327,933
All other—	Quantity.....	1,528,571	1,166,474	1,323,746
	Value.....	\$32,599,949	\$23,969,098	\$19,662,279
Lath:	Quantity (thousands).....	3,708,195	2,647,847	2,523,998
	Value.....	\$9,963,439	\$5,435,968	\$4,698,909
Shingles:	Quantity (thousands).....	14,907,371	14,547,477	12,102,017
	Value.....	\$30,262,462	\$24,009,610	\$18,809,765

¹ Includes 297,082 M feet of lumber, board measure, valued at \$5,191,569, reported as "other sawed products," and not by kinds of wood.

Pianos and organs and materials.—Table 99 includes the statistics for pianos and organs, and materials therefor, but does not include the products of establishments engaged primarily in the manufacture of other musical instruments. The value of all products increased from \$41,024,244 in 1899 to \$89,789,544 in 1909, or 118.9 per cent, the increase being almost

wholly in the value of pianos and player attachments for pianos. A marked feature is the gain in the number of pianos with player attachments manufactured, the output of which increased during the period 1904 to 1909 from 1,868 to 34,495, or seventeen fold. A large decrease occurred between 1904 and 1909 in the number of reed organs made.

Table 99	PRODUCT.	1909	1904	1899
	Total value.....	\$89,789,544	\$66,032,630	\$41,024,244
Pianos:	Number.....	374,154	261,197	171,611
	Value.....	\$59,501,225	\$41,476,479	\$27,002,852
Upright—	Number.....	365,413	253,825	166,760
	Value.....	\$55,462,559	\$37,815,056	\$25,391,432
Without player attachment—	Number.....	330,918	251,957	166,536
	Value.....	\$46,157,555	\$37,397,674	\$25,256,687
For or with player attachment—	Number.....	34,495	1,868	224
	Value.....	\$9,275,001	\$417,382	\$44,745
Grand—	Number.....	8,741	7,372	4,281
	Value.....	\$4,038,696	\$3,661,423	\$1,791,429
Player attachments made separate from pianos:	Number.....	10,896	20,391	6,156
	Value.....	\$1,474,630	\$2,004,266	\$697,873
Organs:	Number.....	65,235	113,966	197,266
	Value.....	\$5,309,016	\$6,152,032	\$5,217,261
Pipe—	Number.....	1,224	961	564
	Value.....	\$2,713,587	\$1,969,979	\$1,177,021
Reed—	Number.....	64,111	113,065	196,694
	Value.....	\$2,595,429	\$4,162,053	\$4,040,240
Parts and materials.....		\$20,417,762	\$12,626,892	\$8,196,258
All other products.....		\$3,986,911	\$3,322,961	

¹ In addition, in 1909, parts and materials to the value of \$960,188; in 1904, 1,595 organs, valued at \$149,114; and in 1899, 250 pianos, valued at \$37,639; and 1,144 organs, valued at \$59,508, were made by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

² Includes a few pianos with player attachments.

Paper and wood pulp.—Table 100 includes statistics for all establishments engaged in the manufacture of wood pulp and in the manufacture of paper, either separately or in conjunction. The total production of wood pulp in 1909 was 2,495,523 tons; in 1904, 1,921,768 tons; and in 1899, 1,179,535 tons. The percentage of increase for the decade was 111.6. Sulphite fiber shows the highest rate of increase, 144.6 per cent. An increasing proportion of the wood pulp is made by establishments which themselves consume it in making paper; in 1909, 63.5 per cent was so consumed by the establishments making it.

The value of all products, which includes some duplication, increased from \$127,326,162 in 1899 to \$267,656,964 in 1909, or 110.2 per cent. The output of paper products increased from 2,167,593 tons in 1899 to 4,216,708 tons in 1909, or 94.5 per cent, and their value from \$107,909,046 to \$232,741,049, or 115.7 per cent. Paper stock used for which quantities are reported aggregated 4,588,160 tons in 1909, of which wood pulp formed 61.6 per cent; old and waste paper, 21.4 per cent; rags, 7.8 per cent; straw, 6.6 per cent; and manila stock, 2.6 per cent. The ton of 2,000 pounds is used for showing quantities.

Table 100	1909	1904	1899		1909	1904	1899
MATERIALS.					PRODUCTS—continued.		
Total cost.....	\$165,442,841	\$111,251,478	\$70,530,236		Wrapping paper—Continued.		
Pulp wood.....	\$33,772,475	\$20,800,871	\$9,837,510		Bogus or wood manilla, all grades—		
Wood pulp, purchased:					Tons.....		
Tons.....	1,241,914	877,702	644,000		Value.....		
Cost.....	\$43,861,357	\$27,633,164	\$18,309,464		\$19,777,707	\$10,099,772	\$9,148,677
Ground—					All other—		
Tons.....	452,849	317,288	261,962		Tons.....		
Cost.....	\$9,487,508	\$5,754,259	\$4,361,211		Value.....		
Soda fiber—					Boards:		
Tons.....	154,626	120,078	94,042		Wood pulp—		
Cost.....	\$6,802,864	\$5,047,105	\$3,430,809		Tons.....		
Sulphite fiber—					Value.....		
Tons.....	626,029	433,100	273,194		Straw—		
Cost.....	\$27,184,726	\$16,567,122	\$10,112,189		Tons.....		
Other chemical fiber—					Value.....		
Tons.....	8,410	6,278	14,808		News—		
Cost.....	\$326,259	\$204,078	\$465,255		Tons.....		
Rags, including cotton and flax waste and sweepings:					Value.....		
Tons.....	357,470	294,552	234,514		All other—		
Cost.....	\$10,721,559	\$8,804,007	\$6,595,427		Tons.....		
Old and waste paper:					Value.....		
Tons.....	983,882	588,543	350,193		Other paper products:		
Cost.....	\$13,091,120	\$7,430,335	\$4,869,400		Tissues—		
Manila stock, including jute bagging, rope, waste, threads, etc.:					Tons.....		
Tons.....	117,080	107,020	99,301		Value.....		
Cost.....	\$3,560,033	\$2,502,332	\$2,437,256		Blotting—		
Straw:					Tons.....		
Tons.....	303,137	304,585	307,305		Value.....		
Cost.....	\$1,460,282	\$1,502,886	\$1,305,659		Building, roofing, asbestos, and sheathing—		
All other materials.....	\$58,375,515	\$42,517,283	\$27,025,505		Tons.....		
					Value.....		
PRODUCTS.					Hanging—		
Total value.....	\$267,656,964	\$188,715,189	\$127,326,162		Tons.....		
News paper:					Value.....		
In rolls for printing—					Miscellaneous—		
Tons.....	1,001,017	840,802	454,572		Tons.....		
Value.....	\$42,807,064	\$32,703,308	\$15,754,992		Value.....		
In sheets for printing—					Wood pulp made for sale or for consumption in mills other than where produced:		
Tons.....	84,537	72,020	114,640		Ground—		
Value.....	\$4,048,496	\$3,143,152	\$4,336,882		Tons.....		
Book paper:					Value.....		
Books—					Soda fiber—		
Tons.....	575,616	434,500	282,093		Tons.....		
Value.....	\$42,846,674	\$31,156,728	\$19,466,804		Value.....		
Covered—					Sulphite fiber—		
Tons.....	95,213	(²)	(²)		Tons.....		
Value.....	\$9,413,961	(²)	(²)		Value.....		
Plate, lithograph, map, woodcut, etc.—					All other products.....		
Tons.....	6,498	19,837	22,366		Value.....		
Value.....	\$555,352	\$1,458,343	\$2,018,958		Wood pulp.		
Cover—					Quantity produced (including that used in mills where manufactured), total tons.....		
Tons.....	17,578	22,150	18,740		Ground, tons.....		
Value.....	\$1,982,853	\$2,023,986	\$1,665,376		Soda fiber, tons.....		
Cardboard, bristol board, card middles, tickets, etc.—					Sulphite fiber, tons.....		
Tons.....	51,440	30,060	28,404		Value.....		
Value.....	\$3,352,151	\$2,704,444	\$1,719,813		All other products.....		
Fine paper:					Value.....		
Writing—					EQUIPMENT.		
Tons.....	169,125	131,934	90,204		Paper machines:		
Value.....	\$24,906,102	\$19,321,045	\$12,222,870		Total number.....		
All other—					Capacity, yearly, tons.....		
Tons.....	29,088	14,808	22,503		Fourdriner—		
Value.....	\$4,110,536	\$2,928,125	\$3,673,104		Number.....		
Wrapping paper:					Capacity per 24 hours, tons.....		
Manila (rope, jute, tag, etc.)—					Cylinder—		
Tons.....	73,731	86,826	80,419		Number.....		
Value.....	\$6,989,436	\$6,136,080	\$5,929,704		Capacity per 24 hours, tons.....		
Heavy (mill wrappers, etc.)—					Pulp:		
Tons.....	108,561	96,992	82,875		Grinders, number.....		
Value.....	\$4,380,794	\$4,035,588	\$4,143,240		Digesters, total number.....		
Straw—					Sulphite fiber, number.....		
Tons.....	32,988	54,232	91,794		Soda fiber, number.....		
Value.....	\$870,419	\$1,389,348	\$2,027,518		Capacity, yearly, tons of pulp.....		
					Ground, tons.....		
					Sulphite, tons.....		
					Soda, tons.....		

¹ In addition, paper and wood pulp to the value of \$2,567,267 was made by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

² Not reported separately.

³ Not reported.

Phonographs and graphophones.—The following table gives comparative statistics for the manufacture of phonographs and graphophones. The value of all products increased from \$2,246,274 in 1899 to \$11,725,996 in 1909, or over fivefold, the bulk of the increase being in the first half of the decade. An important feature of the industry is the manufacture of records and blanks, the value of which formed 42.7 per cent of the total value of products in 1909, 45.7 per cent in 1904, and 24 per cent in 1899.

Table 101	PRODUCT.	1909	1904	1899
	Total value.....	\$11,725,996	\$10,237,075	\$2,246,274
Phonographs and graphophones:	Number.....	844,681	(²)	(²)
	Value.....	\$5,406,084	\$2,966,343	\$1,240,503
Records and blanks:	Number.....	27,133,950	(²)	(²)
	Value.....	\$5,007,104	\$4,078,547	\$639,370
All other products.....		\$1,312,208	\$2,592,185	\$466,401

¹ In addition, records and parts to the value of \$31,889 were made by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

² Not reported.

Printing and publishing.—The statistics for printing and publishing given in the following table include book and job printing and publishing; the printing and publishing of music; newspapers and periodicals; bookbinding and blank-book making; engraving, including plate printing; and lithographing.

Under the head of job printing is included the job printing done by newspaper, periodical, and other establishments, as well as that of regular job-printing establishments. The value of products reported for the bookbinding and blank-book industry includes the value of all products of concerns engaged primarily in these branches, as well as the value of bookbinding and blank books reported by printing and publishing establishments. In like manner there is included under electrotyping, engraving, and lithographing the value of all products of establishments engaged primarily in these branches.

The value of all products was \$737,876,087 in 1909,

\$552,473,353 in 1904, and \$395,186,629 in 1899, the rate of increase for the period 1899-1909 being 86.7 per cent. The income of newspapers and periodicals from subscriptions, sales, and advertising was \$337,596,288 in 1909, as compared with \$175,789,610 in 1899, the rate of increase for the decade being 92 per cent. Of the total income from these sources, that from advertising formed 60 per cent in 1909 and 54.5 per cent in 1899, having increased much faster than that from subscriptions and sales.

Newspapers and periodicals increased in number from 18,793 in 1899 to 22,141 in 1909, or 17.8 per cent, and their aggregate circulation increased 53.9 per cent. The average circulation per issue was 7,428 in 1909, as compared with 6,866 in 1904 and 5,688 in 1899. The greatest relative increases in circulation during the decade were reported for dailies and monthlies. In the circulation of the latter, however, there was a decrease between 1904 and 1909.

Table 102	PRODUCT.	1909	1904	1899	PRODUCT.	1909	1904	1899
	Total value	\$737,876,087	\$552,473,353	\$395,186,629	NEWSPAPERS AND PERIODICALS—			
	Publications:				continued.			
	Newspapers and periodicals.....	\$337,596,288	\$256,816,282	\$175,789,610	<i>By character—Continued.</i>			
	Subscriptions and sales..	\$135,063,043	\$111,298,691	\$79,925,483	Commerce, finance, insurance,			
	Advertising.....	\$202,533,245	\$145,517,591	\$95,861,127	railroads, etc.—			
	Newspapers.....	\$232,983,034	(¹)	(¹)	Number.....	264	264	190
	Subscriptions and sales..	\$54,438,702			Aggregate circulation.....	1,411,736	2,470,832	(²)
	Advertising.....	\$148,554,392			Trade journals generally—			
	Periodicals.....	\$104,603,194	(¹)	(¹)	Number.....	655	627	520
	Subscriptions and sales..	\$50,624,841			Aggregate circulation.....	3,572,441	3,428,596	(²)
	Advertising.....	\$53,978,353			General literature, including			
	Ready prints, patent insides and				monthly and quarterly maga-			
	outsides.....	\$2,293,077	(¹)		zines—			
	Books and pamphlets—				Number.....	340	323	229
	Published, or printed and				Aggregate circulation.....	31,322,035	30,615,577	(²)
	published.....	\$62,930,394	\$53,312,492		Medicine and surgery—			
	Printed for publication by				Number.....	197	192	111
	others.....	\$10,209,509	(¹)		Aggregate circulation.....	931,584	1,054,948	(²)
	Sheet music and books of music—				Law—			
	Published or printed and				Number.....	56	81	62
	published.....	\$5,510,698	\$4,673,685	\$219,397,019	Aggregate circulation.....	151,346	194,035	(²)
	Printed for publication by				Science and mechanics—			
	others.....	\$1,000,966	(¹)		Number.....	139	83	66
	Products for sale and in execution of				Aggregate circulation.....	1,421,955	525,523	(²)
	orders:				Fraternal organizations—			
	Job printing.....	\$207,940,227	\$149,262,070		Number.....	419	450	200
	Book binding and blank books..	\$50,552,808	\$40,738,768		Aggregate circulation.....	6,982,235	5,356,427	(²)
	Electrotyping, engraving, and				Education and history—			
	lithographing.....	\$47,956,979	\$35,018,234		Number.....	202	173	120
	All other products.....	\$11,885,141	\$12,601,822		Aggregate circulation.....	1,879,383	2,119,797	(²)
	NEWSPAPERS AND PERIODICALS.				Society, art, music, fashions, etc.—			
	Number.....	22,141	21,848	18,793	Number.....	164	155	88
	Aggregate circulation.....	164,463,940	150,009,723	106,889,334	Aggregate circulation.....	13,445,661	15,289,431	(²)
	<i>By period of issue:</i>				College and school periodicals—			
	Daily (exclusive of Sunday)—				Number.....	271	178	139
	Number.....	2,600	2,452	2,226	Aggregate circulation.....	330,705	245,240	(¹)
	Aggregate circulation.....	24,211,977	19,632,603	15,102,156	Miscellaneous—			
	Sunday—				Number.....	139	536	296
	Number.....	520	494	567	Aggregate circulation.....	1,087,937	4,860,518	(²)
	Aggregate circulation.....	13,347,282	12,022,341	(²)	<i>By language:</i>			
	Semiweekly and triweekly—				English—			
	Number.....	708	703	699	Number.....	20,744	20,599	17,761
	Aggregate circulation.....	2,648,308	3,233,658	3,061,478	Aggregate circulation.....	155,432,243	142,441,068	(²)
	Weekly—				Foreign (including foreign and			
	Number.....	15,097	15,006	12,979	English)—			
	Aggregate circulation.....	40,822,965	36,226,717	34,242,052	Number.....	1,397	1,249	1,602
	Monthly—				Aggregate circulation.....	9,030,797	7,568,655	(²)
	Number.....	2,491	2,500	1,817	French—			
	Aggregate circulation.....	63,280,535	64,306,155	37,869,897	Number.....	39	49	31
	All other—				Aggregate circulation.....	446,729	252,136	(²)
	Number.....	725	693	505	German—			
	Aggregate circulation.....	20,151,973	14,588,249	16,613,751	Number.....	692	700	633
	<i>By character:</i>				Aggregate circulation.....	4,434,146	3,922,227	(²)
	News, politics, and family read-				Italian—			
	ing—				Number.....	104	63	35
	Number.....	17,698	17,032	15,506	Aggregate circulation.....	500,475	319,450	(²)
	Aggregate circulation.....	61,074,990	53,355,893	(²)	Scandinavian—			
	Religious.....				Number.....	161	162	115
	Number.....	1,251	1,287	952	Aggregate circulation.....	1,118,601	1,149,619	(²)
	Aggregate circulation.....	29,523,777	22,383,631	(²)	Letto Slavic—			
	Agricultural, horticultural, dairy,				Number.....	169	128	75
	stock raising, etc.—				Aggregate circulation.....	917,649	665,987	(²)
	Number.....	316	380	307	All other—			
	Aggregate circulation.....	11,827,253	8,106,275	(²)	Number.....	232	156	143
					Aggregate circulation.....	1,613,187	1,319,237	(²)

¹ Not reported separately.

² Included with circulation of dailies.

³ Not reported.

The statistics in regard to the number of books and pamphlets published in 1909, classified by character, are given below. Comparative statistics for earlier censuses are not available.

Table 103 BOOKS AND PAMPHLETS.	Titles or editions.	Volumes.	Copies.
Total number published.....	46,739	54,620	161,361,844
Biography, correspondence.....	554	616	657,464
Description, geography, travel.....	847	952	4,540,047
Domestic and rural.....	330	336	2,023,103
Education.....	10,390	12,159	41,036,847
Fiction.....	14,006	15,772	46,942,399
Fine arts, illustrated gift books.....	541	587	2,849,371
History.....	613	954	2,023,137
Humor and satire.....	208	211	885,262
Juvenile.....	4,167	4,202	10,184,030
Law.....	535	802	1,496,104
Literature and collected works.....	2,047	3,841	5,037,972
Medical, hygiene.....	681	738	1,519,480
Philosophy.....	222	252	265,077
Physical and mathematical science.....	201	307	356,413
Poetry and the drama.....	1,387	1,574	1,080,824
Political and social science.....	658	689	1,862,429
Scientific and similar associations.....	1,082	1,141	1,258,562
Sports and amusements.....	412	423	2,430,074
Theology and religion.....	5,096	6,539	23,608,230
Useful arts.....	512	538	1,104,599
Works of reference.....	1,560	1,927	7,799,590

Shipbuilding, including boat building.—The following table shows the value of work done on the different classes of water craft during the several census years, not including that done in Government establishments, and also the value of repair work and all other products of the shipbuilding industry. The total value of products was lower in 1909 than in 1904 or 1899.

Table 104 PRODUCT.	1909	1904	1899
Total value.....	\$73,360,315	\$82,769,239	\$74,532,277
Work done during the year on vessels and boats.....	42,310,925	56,121,227	37,719,308
Vessels of 5 gross tons and over.....	37,718,018	53,119,935	35,750,473
Boats of less than 5 gross tons.....	4,592,907	3,001,292	1,968,835
Steam.....	20,800	.....	.....
Motor, gasoline, electric, and other.....	3,155,375	1,879,288	1,059,365
Sailboats, rowboats, canoes, scows, etc.....	1,410,732	1,122,004	909,470
Repair work.....	26,678,643	22,829,040	23,134,436
All other products.....	4,370,747	3,818,972	13,678,533

¹ Not including work done in Government shipyards, valued in 1909 at \$25,872,033; in 1904, at \$17,265,469; and in 1899, at \$11,022,312.

² In addition, the following items were reported by establishments engaged primarily in the manufacture of products other than those covered by the industry designation: Work done on vessels of 5 tons and over, launched, \$418,905; vessels building but not launched, \$36,184; boats of under 5 tons, \$146,155; and other boat products and repairs, \$182,462; or a total of \$776,706.

³ In addition, the following items were reported by establishments engaged primarily in the manufacture of products other than those covered by the industry designation: Work done on vessels of 5 tons and over, launched, \$468,018; boats of under 5 tons, \$147,542; and other boat products and repairs, \$46,782; or a total of \$662,342.

The value of the products of governmental shipyards in 1909 was \$25,872,033; in 1904, \$17,265,469; and in 1899, \$11,022,312. Thus the total value of products reported for all establishments, governmental and private, was \$99,232,348 in 1909, \$100,034,708 in 1904, and \$85,554,589 in 1899. The increase of \$13,677,759, or 16 per cent, shown for the period 1899-1909, was due entirely to work of governmental establishments.

The following table shows the number of vessels of each class launched during the census years 1909, 1904, and 1899. These figures are not strictly comparable with those giving values presented in the preceding table, since the former cover all work done during the year, both on vessels launched during the year and on those not yet launched at its close. The number of vessels of nearly every class was less in 1909 than at the two preceding censuses, but the number of boats increased greatly, the number made by all establishments aggregating 8,577, of which number 97.3 per cent were gasoline motor boats.

Table 105 CLASS OF VESSELS.	1909	1904	1899
Vessels of 5 gross tons and over launched during the year:			
Number.....	* 1,584	* 2,114	2,081
Gross tons.....	407,219	504,020	687,169
Net tons.....	381,198	424,708	542,324
Steel vessels—			
Number.....	158	155	134
Gross tons.....	254,986	154,314	262,516
Net tons.....	193,144	106,826	186,509
Steam—			
Number.....	96	122	123
Gross tons.....	219,617	140,047	237,379
Net tons.....	159,297	93,365	164,313
Motor—			
Number.....	15	.....	.....
Gross tons.....	2,408	.....	.....
Net tons.....	2,078	.....	.....
Sail, with and without auxiliary—			
Number.....	3	8	6
Gross tons.....	2,046	4,779	21,065
Net tons.....	1,735	4,591	18,348
Unrigged—			
Number.....	44	25	5
Gross tons.....	30,857	9,488	4,052
Net tons.....	30,034	8,870	3,848
Wooden vessels—			
Number.....	1,420	1,959	1,947
Gross tons.....	212,233	349,706	424,643
Net tons.....	188,054	317,882	365,815
Steam—			
Number.....	85	186	396
Gross tons.....	15,016	35,048	48,932
Net tons.....	9,692	23,305	32,845
Motor—			
Number.....	430	307	.....
Gross tons.....	6,923	3,157	.....
Net tons.....	5,146	2,393	.....
Sail, with and without auxiliary—			
Number.....	110	341	642
Gross tons.....	15,413	59,836	59,209
Net tons.....	12,955	50,483	51,772
Unrigged—			
Number.....	795	1,125	909
Gross tons.....	174,881	261,065	315,562
Net tons.....	160,291	241,701	271,188
Boats of less than 5 gross tons, number:	* 8,577	* 3,499	1,687
Steam.....	8	.....	.....
Motor.....	8,569	3,499	1,687
Gasoline.....	8,342	(?)	(?)
Electric.....	12	(?)	(?)
Other.....	215	(?)	(?)

¹ Not including vessels launched in Government shipyards as follows: In 1909, 3 steel and 23 wooden vessels, the steel vessels having a total of 360 gross tons and the wooden a total of 1,709 gross tons, and in 1904, 17 steel and 14 wooden vessels, the steel vessels having a total of 23,850 gross tons and the wooden a total of 3,402 gross tons.

² In addition, there were built by establishments engaged primarily in the manufacture of products other than those covered by the industry designation, 8 steel and 14 wooden vessels, the steel vessels having a total of 6,429 gross tons and the wooden a total of 7,106 gross tons.

³ In addition, there were built by establishments engaged primarily in the manufacture of products other than those covered by the industry designation, 3 steel and 131 wooden vessels, the steel vessels having a total of 468 gross tons and the wooden a total of 21,919 gross tons.

⁴ Not including 53 boats built in Government shipyards in 1909 and 53 in 1904.

⁵ In addition, 412 boats were built by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

⁶ In addition, 365 boats were built by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

⁷ Not reported separately.

Laundries.—Steam laundries are not generally considered as manufacturing establishments, and therefore statistics for them have been excluded from prior censuses. Since the industry has, however, developed so rapidly, large amounts of capital now being invested, and many wage earners being employed, it should no longer be omitted from the industrial census. The establishments are conducted according to factory methods, and therefore the statistics are associated with those for the manufacturing industries of the Thirteenth Census. They are not included, however, in the general tables or in the totals for manufacturing industries.

During the year 1909 there were in the United States 5,186 laundries operated by the use of mechanical power. The capital reported by these establishments as invested in the industry amounted to \$68,935,000. In addition, such establishments rent a great deal of property, the annual rental paid by laundries for plant and equipment amounting in 1909 to \$2,277,000. The value of the work done was \$104,680,086.

In addition to ascertaining the average number of wage earners employed during the entire year, the census calls for the actual number of wage earners, by sex and age periods, employed on December 15, 1909, or the nearest representative day. On that date there were employed 112,064 wage earners, of whom 31,947, or 28.5 per cent, were men; 79,152, or 70.6 per cent, women; and 965, or 0.9 per cent, children under 16 years of age.

The following statement summarizes the statistics:

Number of establishments.....	5,186
Capital invested.....	\$68,935,000
Cost of materials used.....	\$17,696,000
Salaries and wages, total.....	\$53,007,747
Salaries.....	\$3,180,769
Wages.....	\$44,826,978
Miscellaneous expenses.....	\$14,483,497
Value of products or amount received for work done..	\$104,680,086

Employees:

Number of salaried officials and clerks.....	9,170
Average number of wage earners employed during the year.....	109,484
Actual number of wage earners employed on Dec. 15, 1909, or nearest representative day..	112,064
Men 16 years and over.....	31,947
Women 16 years and over.....	79,152
Children under 16 years—	
Male.....	274
Female.....	691
Primary power used, horsepower.....	123,477

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

MONTH.	WAGE EARNERS.		MONTH.	WAGE EARNERS.	
	Number.	Per cent of maximum.		Number.	Per cent of maximum.
January.....	103,746	90.6	July.....	114,211	99.7
February.....	103,937	90.7	August.....	114,539	100.0
March.....	104,970	91.6	September.....	113,738	99.3
April.....	106,422	92.9	October.....	111,500	97.3
May.....	108,149	94.4	November.....	110,479	96.5
June.....	111,313	97.2	December.....	110,805	96.7

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

KIND.	Number of engines or motors.	Horsepower.
Primary power, total.....		123,477
Owned.....		
Steam.....	4,527	109,879
Gas.....	4,119	105,272
Water wheels.....	379	4,873
Water motors.....	18	456
Rented.....		
Electric.....	11	69
Other.....	2,461	13,067
		11,157
		2,450

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

KIND.	Unit.	Quantity.
Anthracite coal.....	Tons (2,240 lbs.)	175,649
Bituminous coal.....	Tons (2,000 lbs.)	859,734
Coke.....	Tons (2,000 lbs.)	14,785
Wood.....	Cords	94,723
Oil.....	Barrels	372,585
Gas.....	1,000 feet	2,729,324

Small custom sawmills and gristmills.—Statistics for small 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. The cost of materials and value of products for gristmills include an estimate of the grain ground, but it was impossible to estimate the value of the lumber sawed in the custom sawmills.

	Small custom sawmills.	Small custom gristmills.
Number of establishments.....	4,133	11,961
Persons engaged in industry.....	12,836	22,596
Proprietors and firm members.....	5,702	15,435
Salaried employees.....	44	147
Wage earners (average number).....	7,090	7,014
Primary horsepower.....	93,289	272,793
Capital.....	\$5,655,145	\$21,253,510
Expenses.....	2,169,271	43,119,545
Services.....	1,696,152	1,186,349
Materials.....	97,574	1,46,314,808
Miscellaneous.....	366,545	626,157
Value of products.....	4,515,881	155,115,553

¹ Includes estimated value of all grain ground.

² Includes estimate of value of products from all grain ground. In addition, custom ground products, valued at \$1,170,751, were made by establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

COMPARATIVE SUMMARY FOR THE UNITED STATES, BY SPECIFIED INDUSTRIES: 1909, 1904, AND 1899.

NOTES.—The figures for some industries do not represent the total production, because important establishments that manufacture the same class of products may be included in other industries. (See Introduction.)

Primary horsepower includes power generated in manufacturing establishments plus electric and other power rented from outside sources; it does not include electric power generated by primary units of the establishments reporting.

In the statistics of power for 1899 there is a difference of 154,723 horsepower between the total and the sum of the figures for the various industries. This is due to the impossibility of making correct revision of the figures for each industry for comparison with 1904 and 1909.

[A minus sign (—) denotes decrease.]

INDUSTRY.	Cen- sus.	Number of estab- lish- ments.	PERSONS ENGAGED IN INDUSTRY.				Primary horse- power.	Capital.	Sala- ries.	Wages.	Cost of materials.	Value of products.	Value added by manu- facture (value of products less cost of mate- rials).	PER CENT OF INCREASE.		
			Total.	Pro- pri- etors and firm mem- bers.	Salaried em- ployees.	Wage earn- ers (average number).								Wage earn- ers (aver- age num- ber).	Wage earn- ers (aver- age num- ber).	Value of prod- ucts.
All industries.....	1909 1904 1899	268,491 216,180 207,514	7,678,578 6,213,612	273,265 225,673	790,287 519,556 364,120	6,615,046 5,488,383 4,712,763	18,675,376 13,487,707 10,097,893	\$18,428,270 12,675,681 8,975,256	\$938,575 574,439 380,771	\$3,427,038 2,610,445 2,008,361	\$12,142,791 8,500,208 6,675,951	\$20,672,052 14,793,903 11,406,927	\$8,520,261 6,293,695 4,831,076	21.0 16.0	39.7 29.7	
Agricultural implements.	1909 1904 1899	640 648 715	60,220 55,080	465 496	9,213 7,100 10,040	50,551 47,394 40,682	100,601 89,738 70,646	250,281 106,741 157,708	10,140 7,573 8,803	23,600 25,003 22,451	60,307 48,281 43,945	146,320 112,007 101,207	86,022 63,720 57,202	6.7 1.7	30.6 10.7	
Artificial flowers and feathers and plumes.	1909 1904 1899	412 213 224	11,583 4,013	520 280	1,047 281	10,016 4,343 5,331	334 184 113	9,693 2,568 3,633	1,160 232 201	3,674 1,397 1,561	13,627 2,014 2,783	23,081 5,247 6,293	10,354 3,233 3,530	130.0 -18.5	357.0 -16.6	
Artificial stone ¹	1909 1904	3,489 477	15,202 3,417	4,208 571	1,037 340	9,957 2,500	12,185 2,770	16,010 3,316	785 261	5,342 1,403	7,043 1,430	18,596 4,128	11,553 2,008	297.3	350.5	
Artists' materials.....	1909 1904 1899	46 28 21	805 372	25 30	182 08	658 274 200	1,028 508 289	1,730 876 377	202 67 38	307 137 70	1,300 687 249	2,340 1,130 497	980 452 248	140.1 37.0	165.4 128.2	
Automobiles, including bodies and parts.	1909 1904 1899	743 178 57	85,359 13,333	405 103	9,233 1,181	75,721 12,049 2,241	75,550 10,109	173,837 23,084 5,769	9,479 1,257 296	48,004 7,159	131,046 13,151	249,202 30,034 4,748	117,556 10,883 2,644	528.4 437.7	729.7 532.6	
Awnings, tents, and sails.	1909 1904 1899	621 390 340	5,747 4,400	648 442	857 532	4,242 3,432 3,835	2,022 1,105 921	7,865 4,793 3,637	800 507 325	2,188 1,757 1,509	8,377 6,070 5,228	14,499 11,209 3,610	0,122 4,650 3,119	23.6 2.9	28.7 23.2	
Axle grease.....	1909 1904 1899	38 25 29	334 106	13 22	145 55	176 119 127	492 210 181	935 608 577	155 55 83	88 62 55	828 368 300	1,481 879 718	653 511 611	47.9 -6.3	68.5 22.4	
Babbitt metal and solder.	1909 1904 1899	109 75 51	1,491 822	66 70	528 243	897 560 535	2,293 1,138 999	7,418 4,129 3,116	739 265 172	501 338 295	16,270 10,804 7,998	19,768 13,100 9,101	3,498 2,236 1,193	57.6 6.4	50.9 42.5	
Bags, other than paper...	1909 1904 1899	109 70 73	8,838 6,308	72 54	798 532	7,068 5,722 3,022	6,855 4,522 1,755	24,025 12,387 7,418	1,068 602 370	2,042 1,829 1,102	46,304 30,758 10,430	54,882 37,390 10,652	8,518 6,041 3,213	39.3 45.9	46.7 90.3	
Bags, paper.....	1909 1904 1899	74 62 63	3,683 2,880	42 53	429 300	3,212 2,473 1,080	3,885 2,927 2,148	10,780 11,441 6,917	714 405 369	1,306 930 628	10,355 6,595 4,490	15,698 10,087 2,302	5,343 3,492 2,300	29.9 24.3	55.6 48.4	
Baking powders and yeast.	1909 1904 1899	144 164 191	3,531 3,355	110 150	1,266 766	2,155 2,449 1,038	3,335 2,965 2,446	33,647 13,233 8,338	1,710 939 835	1,040 1,042 717	9,338 8,040 7,127	20,775 19,043 14,568	11,437 10,103 7,441	-12.0 28.4	9.1 30.7	
Baskets, and rattan and willow ware.	1909 1904 1899	450 486 464	5,419 5,807	470 525	279 236	4,664 5,106 4,217	7,100 6,252 5,997	4,100 3,000 2,844	244 203 140	1,747 1,731 1,218	2,335 1,803 1,335	5,095 5,187 3,630	3,360 3,384 2,301	-8.7 21.1	9.8 42.7	
Beet sugar.....	1909 1904 1899	58 51 30	8,389 4,726	1	1,184 703	7,204 3,963 1,970	57,202 35,490 14,460	129,620 55,923 20,142	1,760 1,005 357	4,808 2,487 1,092	27,265 14,487 4,804	48,122 24,504 7,324	20,857 9,907 2,520	81.8 101.2	67.3 233.1	
Belt and hose, leather.	1909 1904 1899	130 117 104	4,370 2,800	100 94	1,264 614	3,006 2,092 1,667	5,638 3,220 2,192	17,457 10,785 7,408	1,502 787 485	1,801 1,105 614	15,623 9,317 7,500	23,692 14,220 10,623	8,069 4,903 3,123	43.7 25.5	66.8 33.9	
Belt and hose, woven and rubber.	1909 1904 1899	46 39 25	7,304 5,019	11 15	974 614	6,310 4,890 2,025	20,547 13,491 5,612	24,200 15,909 6,020	1,384 984 380	2,956 2,057 982	14,505 10,787 4,528	24,720 17,701 6,886	10,224 7,004 2,358	43.9 116.8	39.0 158.4	
Bicycles, motorcycles, and parts.	1909 1904 1899	95 101 312	5,017 3,761	78 81	502 361	4,437 3,319 17,525	5,932 5,730 19,847	9,780 5,883 29,784	582 351 1,753	2,908 1,971 8,190	5,083 2,628 16,792	10,999 5,153 31,916	5,616 2,625 15,124	33.7 -31.1	107.6 -33.9	
Billiard tables and ma- terials.	1909 1904 1899	54 48 74	1,776 964	48 52	233 116	1,495 706 453	2,642 631 277	4,705 1,618 884	352 151 105	1,011 501 278	3,300 937 720	5,878 2,223 1,648	2,500 1,280 619	87.8 75.7	164.4 34.9	
Black and cleansing and polishing prepara- tions.	1909 1904 1899	501 294 275	4,407 2,786	434 231	1,556 723	2,417 1,782 1,758	3,977 2,708 1,873	7,557 4,660 3,662	1,780 774 713	1,146 738 634	6,062 4,383 3,152	14,670 8,051 6,698	7,717 4,268 3,546	35.6 1.4	69.7 28.2	
Bluing.....	1909 1904 1899	32 56 65	545 306	94 53	138 47	313 206 220	242 284 116	556 570 415	112 45 41	114 77 70	494 266 245	1,074 670 576	580 430 331	51.9 -6.4	58.2 17.9	
Bone, carbon, and lamp black.	1909 1904 1899	27 25 15	302 258	7 11	07 47	228 200 85	1,023 1,085 365	1,842 1,063 782	78 48 24	149 105 40	445 203 106	1,093 648 360	648 448 254	135.3	80.0	
Boots and shoes, includ- ing cut stock and find- ings.	1909 1904 1899	1,918 1,895 2,253	215,923 171,940	1,838 2,128	15,788 9,518 8,348	198,297 160,294 151,231	90,302 63,963 55,489	222,324 136,802 110,363	18,620 9,412 8,159	98,463 325,072 61,924	332,738 225,288 191,456	512,798 357,688 290,047	180,000 132,400 98,591	23.7 6.0	43.4 23.3	

¹ Included in "marble and stone" in 1899.

STATES, CITIES, AND INDUSTRIES.

515

COMPARATIVE SUMMARY FOR THE UNITED STATES, BY SPECIFIED INDUSTRIES: 1909, 1904, AND 1899—Continued.

[See explanatory notes on the first page of this table.]

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 (value of products less cost of materials).	PER CENT OF INCREASE.										
			Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).	Wage earners (average number).								Wage earners (average number).										
Expressed in thousands.																									
Boots and shoes, rubber..	1909	22	18,899	.....	1,287	17,612	25,903	\$43,905	\$1,415	\$8,544	\$29,577	\$49,721	\$20,144	-7.3	-20.0									
	1904	22	19,815	2	822	18,991	26,084	39,442	874	8,867	32,000	70,055	38,065	32.0	70.5										
	1899	22	.....	.....	483	14,391	25,017	33,668	597	6,427	22,683	41,090	18,407	.....	.....								
Boxes, cigar.....	1909	274	6,852	301	436	6,115	6,049	5,403	471	2,234	4,313	8,491	4,178	-2.7	9.1										
	1904	297	7,036	384	370	6,282	5,543	4,457	333	2,120	3,810	7,786	3,976	36.3	32.9										
	1899	315	.....	.....	216	4,609	4,274	3,288	172	1,440	3,061	5,857	2,796	.....	.....								
Boxes, fancy and paper..	1909	949	43,568	815	3,239	39,514	23,323	35,475	3,709	14,015	25,716	54,450	28,734	23.2	47.7										
	1904	796	35,194	786	2,326	32,082	15,117	22,661	2,313	10,208	16,686	36,867	20,181	16.0	35.0										
	1899	729	.....	.....	1,368	27,653	9,286	14,979	1,269	8,152	11,765	27,316	15,551	.....	.....								
Brass and bronze products.	1909	1,021	45,441	828	3,995	40,618	106,120	109,319	5,540	23,677	99,228	149,989	50,761	22.5	46.5										
	1904	813	30,952	784	3,000	33,168	69,494	77,696	3,778	17,696	65,633	102,497	36,754	22.1	15.5										
	1899	695	.....	.....	1,813	27,166	47,257	51,120	2,297	13,599	61,189	88,654	27,465	.....	.....								
Bread and other bakery products.	1909	23,926	144,322	26,982	17,124	100,216	65,298	212,910	13,764	59,351	238,034	396,865	158,931	28.3	47.2										
	1904	18,226	109,673	20,037	8,358	81,278	37,241	122,353	6,273	43,172	155,989	269,583	113,594	35.0	53.7										
	1899	14,836	.....	.....	9,167	60,192	22,472	80,902	6,063	27,864	95,052	178,369	80,317	.....	.....								
Brick and tile.....	1909	4,215	85,764	4,285	4,951	76,528	341,169	174,673	5,439	37,139	23,736	92,776	69,040	15.9	30.4										
	1904	4,634	75,006	5,295	3,690	65,021	255,362	119,957	3,530	28,646	16,317	71,152	54,835	6.5	38.8										
	1899	5,423	.....	.....	2,426	61,979	176,700	82,086	2,025	21,883	11,006	51,270	40,264	.....	.....								
Brooms and brushes ¹	1909	1,282	15,143	1,451	1,539	12,153	8,800	18,982	1,661	5,404	15,578	29,126	13,548	6.4	38.0										
	1904	1,816	13,958	1,551	982	11,425	6,441	12,052	925	4,380	10,999	21,104	10,105	10.4	14.2										
	1899	1,523	.....	.....	900	10,346	4,482	9,616	758	3,788	9,544	18,464	8,940	.....	.....								
Butter, cheese, and condensed milk.	1909	8,479	31,506	8,019	5,056	18,431	101,349	71,284	3,591	11,081	235,546	274,558	39,612	18.5	63.2										
	1904	8,926	25,865	6,801	3,507	15,557	93,845	47,256	1,376	8,413	142,920	168,183	25,263	21.5	28.6										
	1899	9,242	.....	.....	2,818	12,799	88,062	36,303	912	6,146	106,841	130,783	21,942	.....	.....								
Butter, reworking.....	1909	24	418	10	113	295	1,471	3,543	128	186	7,424	8,200	776	-27.0	12.8										
	1904	35	526	32	90	404	1,684	1,719	85	252	6,247	7,271	1,024	173.0	243.8										
	1899	10	.....	.....	29	148	631	256	30	68	1,345	2,115	770	.....	.....								
Buttons.....	1909	444	18,004	519	1,058	16,427	12,831	15,640	1,209	6,789	9,541	22,708	13,167	55.5	104.0										
	1904	275	11,637	302	768	10,567	7,711	7,784	701	3,680	4,144	11,134	6,990	21.7	44.7										
	1899	238	.....	.....	339	8,685	4,165	4,213	296	2,825	2,808	7,696	4,803	.....	.....								
Calcium lights.....	1909	10	26	7	4	15	53	55	4	11	24	52	28	-63.4	-61.6										
	1904	22	85	28	16	41	132	144	12	24	35	135	100	-25.5	13.4										
	1899	19	.....	.....	6	55	80	95	6	24	35	119	84	.....	.....								
Candles ²	1909	16	640	7	103	539	799	2,959	161	246	2,176	3,130	954	-33.9	-19.5										
	1904	17	930	25	89	816	931	3,004	135	294	2,911	3,889	978	.....	.....								
Canning and preserving..	1909	3,767	71,972	4,244	7,760	59,968	81,179	119,207	7,864	19,082	101,823	157,101	55,278	5.3	20.4										
	1904	3,168	66,022	3,450	5,628	56,944	60,831	79,246	5,231	16,336	83,147	130,466	47,519	-0.1	31.3										
	1899	2,570	.....	.....	4,199	57,012	38,624	55,481	3,479	13,705	63,668	99,335	35,667	.....	.....								
Card cutting and designing.	1909	68	702	79	98	525	269	684	93	238	374	1,031	657	-24.6	-4.8										
	1904	60	834	72	66	696	222	488	52	261	478	1,063	605	114.2	75.2										
	1899	43	.....	.....	25	325	219	338	22	135	313	618	305	.....	.....								
Carpets and rugs, other than rag.	1909	139	34,706	134	1,265	33,307	38,553	75,627	2,209	15,536	39,563	71,188	31,625	0.3	15.6										
	1904	139	34,393	149	1,023	33,221	33,945	56,781	1,397	13,724	37,948	61,586	23,638	10.9	27.8										
	1899	133	.....	.....	687	28,411	26,740	44,449	881	11,121	27,229	29,963	20,963	.....	.....								
Carpets, rag.....	1909	428	2,688	489	217	1,982	2,651	1,546	182	860	669	2,508	1,379	14.2	33.9										
	1904	363	2,331	458	137	1,736	1,667	1,100	87	675	489	1,918	1,429	31.7	9.2										
	1899	805	.....	.....	57	1,318	599	867	30	443	622	1,755	1,133	.....	.....								
Carriages and sleds, children's.	1909	84	5,769	50	419	5,300	5,281	6,883	490	2,217	4,129	8,805	4,678	32.4	36.2										
	1904	78	4,379	52	324	4,003	3,633	4,336	341	1,783	2,840	6,371	3,531	46.8	48.5										
	1899	77	.....	.....	172	2,726	2,462	2,907	159	1,090	1,996	4,290	2,294	.....	.....								
Carriages and wagons and materials.	1909	5,492	82,944	6,213	6,808	69,928	126,032	175,474	7,960	37,395	81,951	159,893	77,942	-10.2	2.6										
	1904	5,588	90,751	6,575	6,294	77,882	106,159	152,345	6,581	38,863	77,628	155,869	78,341	5.5	12.7										
	1899	6,792	.....	.....	5,026	73,812	83,771	128,962	4,759	33,566	66,772	138,262	71,490	.....	.....								
Cars and general shop construction and repairs by steam-railroad companies.	1909	1,145	301,273	2	19,097	282,174	293,361	238,317	17,339	181,344	199,413	405,601	266,188	19.1	30.9										
	1904	1,140	250,199	.....	13,329	236,870	167,973	146,896	11,920	142,153	151,105	309,775	158,670	26.4	42.0									
	1899	1,292	.....	.....	7,094	173,595	95,087	119,473	6,208	96,007	109,472	218,114	108,642	.....	.....								
Cars and general shop construction and repairs by street-railroad companies.	1909	541	23,699	.....	1,281	22,418	35,794	38,899	1,204	14,486	15,168	31,963	16,795	102.8	137.9									
	1904	86	11,551	.....	499	11,052	3,154	12,906	543	7,013	5,463	13,437	7,874	87.3	43.4									
	1899	108	.....	.....	201	7,025	6,443	10,782	194	4,405	4,337	9,371	5,634	.....	.....								
Cars, steam-railroad, not including operations of railroad companies.	1909	110	47,094	7	4,001	43,086	97,797	139,805	5,138	27,135	78,753	123,730	44,977	26.5	11.3										
	1904	73	36,367	6	2,303	34,068	55,994	88,179	2,858	20,248	75,657	111,175	35,518	1.8	22.8										
	1899	65	.....	.....	1,366	33,453	33,395	88,324	1,538	16,987	61,743	90,510	28,767	.....	.....								
Cars, street-railroad, not including operations of railroad companies.	1909	14	4,005	1	421	3,583	15,161	14,168	594	2,177	4,260	7,810	3,550	-24.2	-26.0										
	1904	14	4,997	3	264	4,730	7,654	12,976	398	2,840	5,341	10,844	5,563	31.9	48.4										
	1899	20	.....	.....	144	3,585	4,865	7,615	235	1,951	3,967	7,306	3,338	.....	.....								
Cash registers and calculating machines.	1909	50	9,249	7	1,777	7,465	6,944	27,224	2,736	5,312	3,552	23,708	20,156	83.0	140.1										
	1904	32	5,012	10	923	4,079	4,139	7,583	1,109	2,442	1,516	9,875	8,259	97.3	74.0										
	1899	18	.....	.....	327	2,067	1,340	5,242	329	1,250	921	5,675	4,754	.....	.....								
Cement ³	1909	135	29,511	17	2,719	28,775	371,799	187,398	3,653	15,320	29,344	63,205	33,861</												

ABSTRACT OF THE CENSUS—MANUFACTURES.

COMPARATIVE SUMMARY FOR THE UNITED STATES, BY SPECIFIED INDUSTRIES: 1909, 1904, AND 1899—Continued.

[See explanatory notes on the first page of this table.]

INDUSTRY.	Census.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.				Primary horsepower.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture (value of products less cost of materials).	PER CENT OF INCREASE.	
			Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).								Wage earners (average number).	Value of products.
Expressed in thousands.															
Chemicals ¹	1909	340	27,701	154	3,923	23,714	208,604	\$155,144	\$6,137	\$14,085	\$64,122	\$117,689	\$53,567	19.7	56.5
	1904	275	22,707	123	2,778	10,806	132,262	96,621	4,048	10,790	42,063	75,222	33,159	4.1	20.1
	1899	433	2,123	19,020	90,840	89,060	2,923	9,393	34,546	62,637	28,091
China decorating.....	1909	40	436	45	63	328	18	559	80	191	311	756	475	45.8	140.4
	1904	28	273	30	13	225	0	261	16	99	108	327	210	-24.5	-32.6
	1899	49	.....	.....	31	208	.....	209	21	122	207	485	278	.....	.....
Chocolate and cocoa products.	1909	27	3,404	10	568	2,826	10,593	13,035	970	1,269	15,523	22,390	6,807	35.2	55.6
	1904	25	2,390	15	291	2,000	5,217	8,379	403	822	9,723	14,390	4,667	59.1	48.9
	1899	24	.....	.....	289	1,314	2,756	6,891	371	526	6,773	9,666	2,739	.....	.....
Clocks and watches, including cases and materials.	1909	120	25,439	53	1,529	23,857	14,057	57,500	2,181	12,944	11,131	35,197	24,066	5.7	18.2
	1904	97	23,891	63	1,240	22,670	10,731	42,189	1,638	11,892	9,872	29,790	19,918	31.6	34.7
	1899	109	.....	.....	670	17,155	7,251	31,514	957	8,315	8,819	22,110	13,291	.....	.....
Cloth, sponging and re-finishing.	1909	57	1,167	67	125	975	704	629	127	651	85	1,544	1,459	22.6	46.6
	1904	55	922	68	59	795	322	401	62	504	39	1,053	1,014	48.9	86.0
	1899	46	.....	.....	89	634	109	289	35	208	17	506	549	.....	.....
Clothing, horse.....	1909	33	1,830	40	142	1,648	1,454	3,270	171	492	2,773	4,185	1,362	55.0	93.2
	1904	29	1,168	32	73	1,063	656	1,469	72	342	1,320	2,140	811	84.9	64.0
	1899	26	.....	.....	55	575	271	654	47	177	848	1,305	457	.....	.....
Clothing, men's, button-holes.	1909	146	1,031	181	20	830	170	225	12	389	105	781	676	-8.1	11.6
	1904	141	1,075	164	8	903	137	262	5	380	95	700	605	-4.3	2.8
	1899	149	.....	.....	11	944	113	247	6	332	98	681	583	.....	.....
Clothing, men's, including shirts.	1909	6,354	271,437	8,502	23,239	239,096	42,725	275,320	20,723	106,277	297,515	508,077	270,562	38.0	39.7
	1904	5,145	196,366	7,006	15,071	173,089	20,829	176,557	15,740	68,450	211,433	406,768	193,335	10.2	25.6
	1899	6,419	.....	.....	11,906	157,540	20,457	140,191	12,032	56,391	108,169	323,839	155,670	.....	.....
Clothing, women's.....	1909	4,558	179,021	6,482	18,796	153,743	22,294	129,301	20,418	78,568	384,758	175,064	32.9	55.4	
	1904	3,851	131,538	4,913	10,920	115,705	14,016	73,948	9,970	51,180	239,720	247,692	110,942	38.2	55.4
	1899	2,701	.....	.....	6,715	83,739	9,902	48,432	6,574	32,589	84,705	159,340	74,638	.....	.....
Coffee and spice, roasting and grinding. ²	1909	407	13,516	497	5,529	7,490	22,334	46,042	6,596	3,676	83,205	110,533	27,328	25.7	31.3
	1904	421	9,245	442	2,844	5,959	15,703	33,735	3,216	2,830	65,847	84,183	18,341	-3.7	21.1
	1899	458	.....	.....	2,749	6,387	16,270	28,437	2,651	2,487	55,112	69,527	14,415	.....	.....
Coffins, burial cases, and undertakers' goods.	1909	234	11,448	161	1,948	9,330	16,400	25,843	2,411	4,633	11,064	24,526	12,562	10.3	21.0
	1904	239	9,707	168	1,161	8,468	13,178	18,532	1,345	4,120	9,501	20,296	10,765	23.8	45.3
	1899	217	.....	.....	948	6,840	8,927	13,685	1,023	3,077	6,945	13,952	7,007	.....	.....
Coke.....	1909	315	31,226	101	1,852	29,273	62,002	152,321	2,072	15,454	64,025	65,697	31,672	54.2	85.0
	1904	278	20,440	73	1,338	18,081	60,669	90,713	1,247	9,304	20,885	21,844	21,844	11.7	45.4
	1899	241	.....	.....	915	10,999	34,767	36,503	797	7,088	10,666	35,585	15,919	.....	.....
Confectionery.....	1909	1,044	54,854	1,822	8,384	44,638	35,870	68,320	9,137	15,615	81,151	134,796	53,645	23.2	54.8
	1904	1,348	42,729	1,366	5,124	36,239	24,292	43,125	4,840	11,699	48,810	87,087	38,277	34.9	43.6
	1899	962	.....	.....	4,304	26,866	10,410	26,310	3,525	8,020	35,354	60,644	25,290	.....	.....
Cooperage and wooden goods, not elsewhere specified.	1909	1,693	20,717	1,760	1,688	20,269	65,108	56,342	2,047	11,715	36,928	60,248	23,220	-5.3	4.0
	1904	1,719	31,133	1,853	1,537	27,743	59,088	36,756	1,752	11,843	34,971	57,056	22,985	9.6	37.9
	1899	1,798	.....	.....	969	25,323	38,402	26,602	603	9,860	23,619	42,025	18,406	.....	.....
Copper, tin, and sheet-iron products.	1909	4,228	86,934	4,423	8,896	73,615	62,366	217,532	10,288	39,561	112,582	199,824	87,242	38.8	66.6
	1904	2,540	60,713	2,851	4,827	53,035	30,229	147,608	6,070	26,260	63,921	119,933	59,012	38.4	53.1
	1899	1,985	.....	.....	2,924	38,317	28,829	40,079	2,810	16,924	42,602	78,359	35,757	.....	.....
Gordage and twine and jute and linen goods.	1909	104	27,214	80	1,314	25,820	78,549	76,020	1,863	9,133	40,915	61,020	20,105	1.9	-5.6
	1904	145	26,442	60	1,050	25,332	66,244	56,467	1,697	8,824	40,031	64,604	18,033	17.0	31.8
	1899	160	.....	.....	682	21,661	47,999	43,153	1,021	6,554	33,064	40,078	16,014	.....	.....
Cordials and syrups.....	1909	117	1,638	94	449	1,095	1,154	4,804	627	503	5,341	9,062	4,321	65.9	175.3
	1904	63	899	68	171	660	782	1,066	242	235	2,140	3,510	1,361	82.3	66.6
	1899	39	.....	.....	112	362	573	1,153	121	117	1,505	2,107	602	.....	.....
Cork, cutting.....	1909	62	3,376	49	185	3,142	3,746	5,327	267	1,098	3,435	5,040	2,505	8.5	32.3
	1904	50	3,080	49	136	2,895	2,589	4,009	198	888	2,459	4,491	2,032	23.7	2.3
	1899	62	.....	.....	136	2,340	1,563	2,684	195	688	2,404	4,392	1,988	.....	.....
Corsets.....	1909	138	19,611	91	1,950	17,504	4,581	18,033	2,871	6,464	15,640	33,257	17,617	60.0	123.8
	1904	109	11,948	60	877	10,975	3,284	6,589	1,010	3,600	6,135	14,862	8,727	-10.8	2.8
	1899	138	.....	.....	815	12,207	3,838	7,290	966	3,645	6,367	6,367	8,094	.....	.....
Cotton goods, including cotton small wares.	1909	1,324	387,771	377	8,514	378,880	1,266,517	822,238	14,412	132,859	371,000	628,392	257,383	19.9	39.5
	1904	1,154	323,287	432	6,981	315,874	986,604	613,111	10,233	96,206	286,255	450,468	164,213	4.3	32.8
	1899	1,055	.....	.....	4,902	302,861	795,834	467,240	7,350	86,690	176,552	330,200	102,648	.....	.....
Crucibles.....	1909	12	398	4	59	335	810	2,051	130	180	1,089	1,840	760	19.6	37.7
	1904	11	340	3	57	280	627	1,577	116	159	762	1,343	581	-58.3	-48.5
	1899	11	.....	.....	89	671	760	1,844	154	251	1,673	2,607	934	.....	.....
Cutlery and tools, not elsewhere specified.	1909	959	37,161	814	3,351	32,990	68,294	67,380	4,182	17,581	18,279	53,266	34,687	26.0	36.5
	1904	838	29,004	827	1,089	26,183	54,397	43,729	2,333	13,125	13,278	39,022	25,744	33.3	38.6
	1899	721	.....	.....	1,404	19,642	38,283	30,152	1,606	9,434	9,748	28,146	18,398	.....	.....
Dairymen's, potters', and apiarists' supplies. ³	1909	233	6,431	206	1,354	4,871	6,898	15,188	1,416	2,671	6,080	15,463	9,374	86.8	136.3
	1904	176	3,273	165	500	2,608	3,094	5,030	359	1,167	3,203	6,545	3,342	.....	.....
	1899	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dentists' materials.....	1909	87	1,982	69	340	1,573	865	6,258	545	744	8,101	10,836	2,735	-13.2	38.7
	1904	80	2,201	79	200	1,922	1,113	4,681	334	940	5,510	7,810	2,300	89.0	109.9
	1899	68	.....	.....	182	1,017	1,017	2,112	184	509	2,109	3,721	1,612		

STATES, CITIES, AND INDUSTRIES.

517

COMPARATIVE SUMMARY FOR THE UNITED STATES, BY SPECIFIED INDUSTRIES: 1909, 1904, AND 1899—Continued.

[See explanatory notes on the first page of this table.]

INDUSTRY.	Census.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.				Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manu- facture (value of products less cost of materials).	PER CENT OF INCREASE.	
			Total.	Pro- pri- etors and firm mem- bers.	Salaried em- ployees.	Wage earn- ers (average number).								Wage earn- ers (aver- age num- ber).	Value of prod- ucts.
Expressed in thousands.															
Drug grinding.....	1909	25	1,152	16	214	922	3,322	\$5,187	\$268	\$464	\$3,454	\$6,007	\$2,553	-6.9	16.7
	1904	27	1,111	23	107	981	2,866	4,991	155	483	3,024	5,146	2,122	52.3	19.5
	1899	26	.....	.....	102	644	4,697	2,838	127	232	3,315	4,398	933	.....	.....
Dyeing and finishing tex- tiles.	1909	426	47,303	318	2,939	44,046	107,746	114,093	5,035	21,227	35,261	83,556	48,235	23.8	64.3
	1904	360	38,071	310	2,196	35,565	84,868	88,709	3,497	15,469	19,621	50,850	31,229	19.4	13.1
	1899	298	.....	.....	1,318	29,776	69,238	60,643	2,267	12,726	17,958	44,963	27,035	.....	.....
Dyestuffs and extracts...	1909	107	3,015	65	553	2,397	22,213	17,935	942	1,291	9,684	15,955	6,271	-11.5	46.5
	1904	98	3,150	82	361	2,707	17,671	14,904	609	1,264	6,829	10,893	4,664	64.4	48.2
	1899	77	.....	.....	229	1,647	11,409	7,839	312	788	4,746	7,351	2,605	.....	.....
Electrical machinery, ap- paratus, and supplies.	1909	1,009	105,600	439	17,905	87,256	158,768	267,844	20,193	49,381	108,566	221,309	112,743	44.3	57.2
	1904	784	71,485	400	10,619	60,466	105,376	174,066	11,091	31,842	66,837	140,809	73,972	43.9	52.3
	1899	581	.....	.....	5,067	42,013	43,674	83,660	4,632	20,579	49,458	92,434	42,976	.....	.....
Electroplating.....	1909	461	3,558	554	287	2,717	4,461	2,324	243	1,652	1,205	4,519	3,395	39.8	52.1
	1904	312	2,458	371	144	1,943	2,588	1,287	132	1,093	747	2,965	2,218	-6.9	9.0
	1899	302	.....	.....	115	2,086	2,933	1,322	93	949	784	2,720	1,936	.....	.....
Emery and other abrasive wheels.	1909	51	2,446	20	483	1,943	4,005	6,231	657	1,156	2,651	6,711	4,099	142.6	225.5
	1904	34	1,000	11	188	801	1,965	2,249	451	517	1,055	2,062	1,357	46.7	49.2
	1899	34	.....	.....	125	546	1,044	1,490	127	303	509	1,832	873	.....	.....
Enameling and japan- ning. ¹	1909	108	2,418	105	188	2,125	1,695	2,880	204	922	1,496	3,316	1,820	-78.7	-79.7
	1904	124	10,657	99	595	9,963	7,856	18,571	814	3,830	7,394	16,316	8,622	27.2	69.1
	1899	107	.....	.....	307	7,835	3,052	9,302	309	2,334	5,522	10,194	4,672	.....	.....
Engravers' materials.....	1909	18	189	13	47	129	549	393	68	96	609	921	312	163.2	438.6
	1904	10	68	13	6	49	135	98	11	31	171	96	75	-35.5	-39.4
	1899	11	.....	.....	13	76	105	101	22	45	142	282	140	.....	.....
Engraving and diesinking	1909	253	1,782	300	174	1,308	768	1,449	168	821	351	2,250	1,890	-16.8	-7.1
	1904	305	2,100	352	175	1,573	1,032	1,211	160	1,032	376	2,422	2,046	63.2	65.0
	1899	277	.....	.....	75	964	616	720	63	543	203	1,468	1,265	.....	.....
Engraving, wood.....	1909	82	480	89	73	318	39	193	82	259	126	711	585	-5.9	9.7
	1904	114	505	129	38	338	45	185	42	245	60	648	588	6.6	5.5
	1899	144	.....	.....	22	336	47	231	23	206	63	614	551	.....	.....
Explosives.....	1909	86	7,058	21	763	6,274	28,601	50,168	1,134	4,304	22,812	40,140	17,328	8.2	35.6
	1904	124	7,113	24	1,289	5,800	29,665	42,307	1,797	3,309	17,204	29,693	12,399	28.8	72.9
	1899	97	.....	.....	768	4,502	19,195	19,466	914	2,384	10,335	17,125	6,790	.....	.....
Fancy articles, not else- where specified.	1909	494	14,194	477	1,526	12,191	8,310	15,768	1,728	5,096	10,361	22,632	12,271	19.5	28.6
	1904	435	11,748	483	1,066	10,199	5,886	9,501	1,037	4,080	7,537	17,594	10,637	20.7	39.4
	1899	496	.....	.....	875	8,451	4,386	6,854	739	3,023	5,943	12,896	6,953	.....	.....
Fertilizers.....	1909	550	21,950	823	3,317	18,310	64,711	121,537	4,406	7,477	69,522	103,960	34,438	29.1	83.9
	1904	399	16,091	294	1,613	14,184	47,989	68,517	1,934	5,127	39,288	56,841	17,253	22.5	26.6
	1899	422	.....	.....	1,712	11,581	38,680	60,686	2,125	4,185	28,958	44,657	15,699	.....	.....
Files.....	1909	57	4,521	47	816	4,158	7,383	10,413	338	1,978	1,596	5,691	4,095	26.9	29.6
	1904	62	3,450	65	109	3,276	5,697	5,866	170	1,514	1,311	4,392	3,081	3.7	29.0
	1899	86	.....	.....	127	3,160	4,835	3,858	154	1,277	1,166	3,494	2,238	.....	.....
Firearms and ammuni- tion.	1909	66	16,042	30	1,297	14,715	17,840	39,377	1,920	8,427	17,021	34,112	17,691	7.9	20.9
	1904	62	14,400	38	728	13,634	21,408	22,493	1,100	7,755	12,339	28,306	15,867	49.4	62.7
	1899	65	.....	.....	432	9,713	7,470	13,635	614	5,108	8,742	18,472	9,730	.....	.....
Fire extinguishers, chem- ical.	1909	31	300	10	95	195	215	527	134	127	205	754	449	9.6	29.6
	1904	35	267	23	66	178	140	338	59	108	229	582	353	178.1	167.0
	1899	17	.....	.....	47	64	26	137	39	83	71	218	147	.....	.....
Fireworks.....	1909	42	1,567	22	142	1,403	517	2,209	217	579	896	2,269	1,373	-5.2	14.2
	1904	34	1,637	25	132	1,480	347	1,543	141	536	769	1,987	1,218	-9.6	11.3
	1899	46	.....	.....	136	1,638	219	1,086	146	507	628	1,785	1,157	.....	.....
Flags, banners, regalia, society badges, and em- blems.	1909	211	4,522	207	743	3,572	1,173	5,781	710	1,489	3,810	8,114	4,304	24.4	44.7
	1904	171	3,517	169	476	2,872	949	3,916	482	1,128	2,506	5,608	3,102	38.2	37.2
	1899	145	.....	.....	306	2,078	435	2,406	259	620	2,144	4,088	1,944	.....	.....
Flavoring extracts.....	1909	420	2,634	377	1,028	1,229	1,060	5,341	1,082	558	4,458	8,828	4,370	-20.4	13.6
	1904	377	2,599	384	672	1,543	873	4,405	698	653	3,936	7,772	3,536	23.3	23.2
	1899	350	.....	.....	594	1,251	704	3,314	654	478	3,291	6,308	3,617	.....	.....
Flax and hemp, dressed..	1909	16	216	22	30	164	1,147	785	29	64	336	467	131	-23.4	34.6
	1904	17	246	17	15	214	600	239	9	60	233	347	114	1.4	118.2
	1899	4	.....	.....	12	211	187	72	7	46	91	159	68	.....	.....
Flour-mill and gristmill products.	1909	11,691	66,054	14,570	12,031	39,453	853,584	349,152	12,517	21,464	767,576	883,584	116,068	6.9	23.9
	1904	10,051	59,623	13,098	7,415	39,110	775,318	265,117	7,352	19,822	619,971	713,693	93,062	21.4	42.2
	1899	9,476	.....	.....	5,522	32,226	670,719	189,281	5,258	16,285	428,117	501,296	73,279	.....	.....
Food preparations.....	1909	1,213	20,965	1,131	4,866	14,968	55,166	64,685	5,865	7,043	83,942	124,361	41,389	32.1	104.9
	1904	766	14,739	749	2,657	11,333	28,162	51,784	2,999	4,398	37,668	61,180	23,512	38.0	53.6
	1899	645	.....	.....	1,538	8,214	15,455	21,401	1,495	3,699	24,777	39,337	15,060	.....	.....
Foundry and machine- shop products. ²	1909	13,253	615,485	9,851	74,623	531,011	869,305	1,514,332	93,795	321,521	540,011	1,228,584	688,464	19.8	39.5
	1904	10,765	502,185	9,370	49,406	443,409	606,165	1,034,135	59,703	246,573	367,412	880,514	513,102	3.8	10.3
	1899	11,046	.....	.....	34,286	426,985	443,055	790,741	39,318	219,870	363,036	798,454	436,418	.....	.....
Foundry supplies.....	1909	49	710	27	219	464	4,995	2,688	255	276	1,272	2,298	1,026	47.3	117.0
	1904	34	414	22	77	315	3,543	1,516	73	156	625	1,659	434	13.3	-6.2
	1899	30	.....	.....	75	278	3,505	982	79	136					

ABSTRACT OF THE CENSUS—MANUFACTURES.

COMPARATIVE SUMMARY FOR THE UNITED STATES, BY SPECIFIED INDUSTRIES: 1909, 1904, AND 1899—Continued.

[See explanatory notes on the first page of this table.]

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 (value of products less cost of materials).	PER CENT OF INCREASE.	
			Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).								Wage earners (average number).	Value of products.
Expressed in thousands.															
Fur goods.....	1909	1,241	10,152	1,717	2,508	11,027	2,120	\$20,249	\$2,553	\$7,788	\$31,777	\$55,038	\$24,161	27.3	50.7
	1904	867	11,787	1,245	1,172	9,370	1,994	17,090	1,220	5,123	21,202	37,119	15,017	20.8	43.3
	1899	734			1,141	7,758	907	12,484	1,000	3,927	14,281	25,890	11,618		
Furnishing goods, men's.....	1909	900	43,985	1,022	4,431	38,482	12,116	49,000	5,210	15,093	49,125	87,710	38,585	41.6	78.9
	1904	547	30,476	694	2,507	27,185	8,421	28,044	2,158	8,760	26,565	49,032	22,467	-10.3	10.6
	1899	457			2,149	30,322	3,652	20,576	2,188	9,730	23,670	44,346	20,676		
Furniture and refrigerators.....	1909	3,155	144,140	2,657	13,031	128,452	221,451	227,134	15,561	65,618	108,775	239,886	131,111	12.5	34.9
	1904	2,593	126,093	2,286	8,642	114,165	169,774	158,986	9,524	51,788	76,802	177,795	100,963	26.0	36.1
	1899	1,900			6,751	90,591	119,608	109,237	6,692	36,920	57,406	130,634	73,228		
Furs, dressed.....	1909	93	1,472	115	116	1,241	2,103	1,672	135	806	811	2,391	1,580	12.3	-25.7
	1904	85	1,324	109	110	1,105	1,260	1,206	110	755	1,642	3,216	1,574	32.3	129.7
	1899	92			46	835	1,063	708	49	478	620	1,400	880		
Galvanizing.....	1909	40	1,680	26	216	1,447	1,367	4,197	257	787	5,710	7,338	1,019	15.2	14.3
	1904	36	1,457	34	167	1,256	1,003	2,600	102	620	4,745	6,419	1,074	134.8	159.8
	1899	28			52	535	409	1,776	47	220	1,678	2,471	793		
Gas and electric fixtures and lamps and reflectors.....	1909	619	22,000	431	3,614	18,861	15,802	36,835	4,340	10,393	20,467	45,057	24,500	50.0	60.6
	1904	405	14,653	334	1,749	12,570	8,444	25,862	2,108	6,408	11,078	20,500	15,483	11.9	34.0
	1899	377			1,204	11,238	6,991	18,865	1,402	5,188	7,902	19,821	11,859		
Gas, illuminating and heating.....	1909	1,206	51,007	277	13,515	37,215	128,350	915,537	12,335	20,931	52,428	106,814	114,386	21.8	33.3
	1904	1,019	40,043	71	9,400	30,566	73,101	725,035	8,464	17,058	37,180	87,005	87,005	36.1	65.3
	1899	877			5,004	22,459	31,797	507,001	5,273	12,436	20,605	75,717	55,112		
Glass.....	1909	363	72,573	87	3,575	68,911	123,132	129,288	4,994	30,300	32,119	92,095	69,970	7.7	15.7
	1904	399	67,105	90	3,040	63,060	91,470	89,389	3,940	37,288	28,146	70,608	53,462	21.1	40.8
	1899	355			2,268	52,818	52,943	81,424	2,702	27,085	16,731	56,540	39,809		
Glass, cutting, staining, and ornamenting.....	1909	583	11,090	617	1,111	9,362	4,807	10,206	1,295	5,240	6,240	16,101	9,855	11.7	22.6
	1904	453	9,626	504	743	8,379	3,973	7,365	776	4,350	4,845	13,138	8,293	70.5	50.1
	1899	411			475	4,914	2,008	4,001	487	2,394	3,535	8,750	5,215		
Gloves and mittens, leather.....	1909	377	12,050	458	1,138	11,354	2,880	16,000	1,256	4,704	13,208	23,631	10,423	6.7	33.2
	1904	339	11,712	427	640	10,645	2,726	10,703	585	3,840	10,001	17,740	7,739	-25.8	4.8
	1899	394			650	14,345	2,105	9,000	547	4,183	9,483	16,926	7,443		
Glucose and starch.....	1909	118	5,827	86	968	4,773	28,257	38,866	1,413	2,660	36,809	48,709	11,900	2.0	49.5
	1904	140	5,400	111	619	4,670	35,986	24,053	655	2,641	25,519	32,050	7,131	-21.3	5.6
	1899	132			553	5,943	26,642	52,683	732	2,855	21,580	30,927	9,347		
Glue.....	1909	65	3,840	45	530	3,265	15,506	14,289	747	1,571	7,525	13,718	6,103	14.0	38.7
	1904	58	3,253	42	352	2,864	14,280	10,673	465	1,529	6,186	10,035	3,840	77.0	86.2
	1899	61			150	1,618	6,806	6,144	102	685	3,707	5,389	1,822		
Gold and silver, leaf and foil.....	1909	88	1,553	108	62	1,383	259	1,184	78	637	1,518	2,630	1,112	-1.4	-2.4
	1904	83	1,564	106	86	1,402	278	1,072	85	663	1,476	2,695	1,210	20.6	1.1
	1899	93			35	1,103	149	1,087	36	400	1,604	2,666	1,062		
Gold and silver, reducing and refining, not from the ore.....	1909	62	600	61	173	450	1,735	3,394	240	340	21,984	23,612	1,628	53.9	26.1
	1904	41	439	57	95	287	1,068	2,320	127	200	17,538	18,724	1,130	31.0	58.5
	1899	57			76	219	705	1,644	83	141	10,932	11,812	880		
Graphite and graphite refining.....	1909	9	262	4	96	102	1,472	1,780	115	89	405	1,140	735	-25.7	233.3
	1904	11	257	6	33	218	922	478	30	108	117	342	225	69.1	-20.3
	1899	11			16	137	805	411	21	64	217	420	212		
Grease and tallow.....	1909	353	5,504	364	783	4,357	14,613	16,670	991	2,020	15,543	23,419	7,876	20.1	24.5
	1904	300	4,415	306	481	3,023	11,738	10,284	583	2,114	12,300	18,815	6,446	77.8	57.4
	1899	287			250	2,040	8,031	7,071	266	1,067	8,762	11,053	3,201		
Grindstones.....	1909	14	1,485	6	85	1,394	5,700	4,930	150	638	408	1,688	1,220	61.4	114.2
	1904	23	706	10	50	706	2,602	1,869	81	275	264	788	524	-39.5	-27.6
	1899	25			60	1,167	2,677	903	58	407	264	1,089	825		
Haircloth ¹	1909	14	621	11	72	538	905	2,281	72	262	1,614	2,230	616		
Hair work.....	1909	250	4,383	298	551	3,534	218	4,716	434	1,610	6,081	11,216	5,135	309.5	529.4
	1904	125	1,137	148	126	863	62	1,132	98	355	728	1,782	1,054	5.2	26.7
	1899	158			44	820	23	700	33	287	496	1,406			
Hammocks.....	1909	15	325	14	39	272	157	344	34	65	311	578	267	0.4	29.3
	1904	14	316	10	26	271	171	290	27	91	190	447	257	-20.1	-6.9
	1899	13			21	330	113	308	16	102	243	480	237		
Hand stamps and stencils and brands.....	1909	361	2,539	375	513	1,651	903	2,439	433	652	1,127	3,673	2,540	9.6	30.7
	1904	327	2,149	363	280	1,500	721	1,915	224	797	737	2,811	2,074	2.4	7.7
	1899	360			171	1,470	462	1,736	141	696	693	2,611	1,948		
Hat and cap materials.....	1909	74	2,618	63	188	2,367	2,922	6,183	231	947	5,380	8,236	2,856	-1.9	27.9
	1904	65	2,615	87	114	2,414	2,239	4,239	127	840	4,217	6,440	2,223	76.1	67.3
	1899	70			50	1,371	1,770	1,744	60	434	2,798	3,840	1,051		
Hats and caps, other than felt, straw, and wool. ²	1909	494	7,600	688	720	6,201	990	5,275	783	3,421	6,690	13,680	6,999	-6.0	5.7
	1904	415	7,017	605	418	6,594	797	4,185	436	3,354	6,308	12,056	6,648	-47.4	-39.4
	1899	644			643	12,644	3,252	8,394	675	5,025	10,907	21,393	10,486		
Hats, fur-felt.....	1909	273	27,061	264	1,763	25,064	10,245	35,734	2,007	14,223	22,109	47,865	25,756	13.7	30.7
	1904	216	23,606	252	1,367	22,047	10,630	18,986	1,488	11,282	15,975	36,620	20,654	16.5	31.7
	1899	171			720	18,880	11,843	10,701	944	9,119	13,514	27,811	14,297		
Hats, straw ³	1909	98	9,704	91	700	8,814	3,482	11,538	1,427	4,471	11,468	21,424	9,956	58.3	106.9
	1904	68	6,084	79	438	5,567	2,866	6,036	487	2,434	5,510	10,357	4,847		

¹ Included in other classifications in 1904 and 1899.

² Includes "hats, straw," in 1899.

STATES, CITIES, AND INDUSTRIES.

519

COMPARATIVE SUMMARY FOR THE UNITED STATES, BY SPECIFIED INDUSTRIES: 1909, 1904, AND 1899—Continued.

[See explanatory notes on the first page of this table.]

INDUSTRY.	Cen- sus.	Number of estab- lish- ments.	PERSONS ENGAGED IN INDUSTRY.				Primary horse- power.	Capital.	Sala- ries.	Wages.	Cost of materials.	Value of products.	Value added by manu- facture (value of products less cost of mate- rials).	PER CENT OF INCREASE.		
			Total.	Pro- pri- etors and firm mem- bers.	Salaried em- ployees.	Wage car- ners (average number).								Wage car- ners (average num- ber).	Wage car- ners (average num- ber).	Value of pro- ducts.
Expressed in thousands.																
Hones and whetstones...	1909	18	173	13	8	152	677	\$382	\$6	\$72	\$110	\$268	\$158	-30.9	-13.0	
	1904	17	251	12	19	220	684	423	20	94	103	308	205	16.4	87.1	
	1899	18	...	...	...	189	593	217	6	73	64	196	132	...	...
Horseshoes, not made in steel works or rolling mills.	1909	19	360	7	60	293	1,045	1,396	99	166	356	1,015	659	26.3	-27.0	
	1904	8	273	1	40	232	1,014	1,227	54	127	256	799	543	0.4	60.4	
	1899	7	...	...	...	231	545	463	36	117	211	498	287	...	...
Hosiery and knit goods...	1909	1,374	136,130	1,134	5,721	129,275	103,709	163,641	7,691	44,740	110,241	200,143	89,502	24.2	46.0	
	1904	1,144	109,489	1,067	4,330	104,092	78,769	109,943	4,455	31,615	76,789	137,076	60,287	24.4	43.0	
	1899	1,006	...	...	2,831	83,091	57,346	82,006	3,133	24,434	51,195	95,534	44,639	...	...
House-furnishing goods, not elsewhere specified.	1909	260	5,916	236	773	4,907	9,328	12,784	1,007	2,035	12,371	18,509	6,136	2.7	23.3	
	1904	237	5,555	234	543	4,778	8,745	9,872	582	1,880	9,627	15,011	5,384	-8.3	5.1	
	1899	209	...	...	584	5,212	8,511	10,634	628	1,633	9,198	14,278	5,080	...	...
Ice, manufactured.....	1909	2,004	21,107	1,066	3,927	16,114	317,789	118,641	3,868	9,779	11,317	42,653	21,636	59.5	80.6	
	1904	1,320	13,179	746	2,332	10,101	191,060	66,592	2,001	5,549	6,011	23,790	17,779	46.8	72.6	
	1899	775	...	...	1,531	6,880	100,421	35,020	1,226	3,403	3,312	13,781	10,469	...	...
Ink, printing.....	1909	71	1,854	38	695	1,121	5,857	7,144	1,092	773	4,175	8,865	4,690	57.7	53.5	
	1904	60	1,117	45	361	711	3,384	4,610	530	475	2,613	5,774	3,161	41.4	87.5	
	1899	60	...	...	253	503	1,895	2,945	298	1,536	3,080	1,544	...	...
Ink, writing.....	1909	47	824	37	282	505	169	2,114	376	203	1,078	2,505	1,427	17.4	33.2	
	1904	42	607	36	141	430	224	1,287	191	170	858	1,851	1,023	50.9	45.5	
	1899	44	...	...	148	285	359	877	134	114	573	1,283	739	...	...
Instruments, professional and scientific.	1909	293	6,175	222	1,138	4,817	4,856	11,724	1,233	2,925	2,918	10,504	7,586	40.2	95.3	
	1904	225	4,145	200	508	3,437	2,110	5,383	532	1,823	1,350	5,378	4,028	23.9	10.8	
	1899	261	...	...	389	2,775	-2,471	4,476	402	1,429	1,363	4,853	3,490	...	...
Iron and steel, blast fur- naces.	1909	208	43,061	48	4,584	38,429	1,173,422	487,581	5,525	24,607	320,638	391,429	70,791	9.6	68.8	
	1904	190	37,335	26	2,231	35,078	773,278	236,146	2,891	18,935	178,942	221,833	52,881	-10.6	12.1	
	1899	223	...	...	1,757	39,241	497,272	143,159	2,304	18,484	131,504	206,757	75,253	...	...
Iron and steel, steel works and rolling mills.	1909	446	260,762	47	20,639	240,078	2,100,878	1,004,735	26,191	163,201	657,501	965,723	336,222	15.7	45.3	
	1904	415	221,956	64	14,330	207,592	1,649,269	700,182	17,860	122,492	441,204	673,965	232,761	13.3	12.9	
	1899	445	...	...	7,454	183,249	1,100,801	430,232	9,433	102,336	300,595	597,212	266,317	...	...
Iron and steel, bolts, nuts, washers, and rivets, not made in steel works or rolling mills.	1909	108	12,395	38	1,012	11,345	22,113	30,250	1,373	5,793	12,904	24,435	11,681	40.2	68.7	
	1904	88	8,771	49	632	8,090	13,825	18,913	912	3,642	7,807	14,687	6,880	5.6	5.1	
	1899	72	...	...	420	7,860	9,165	10,800	571	2,992	3,071	13,978	5,907	...	...
Iron and steel, doors and shutters.	1909	29	1,816	18	197	1,601	1,997	3,045	224	874	1,283	3,006	1,723	129.0	103.5	
	1904	24	811	19	93	699	969	1,120	117	407	602	1,477	875	497.4	361.6	
	1899	13	...	...	20	117	223	262	19	86	118	320	204	...	...
Iron and steel forgings....	1909	172	9,193	90	935	8,188	27,803	27,755	1,300	5,003	10,240	20,299	10,053	44.2	67.6	
	1904	138	6,347	77	605	5,665	10,069	28,246	824	3,428	5,752	12,110	6,358	20.8	18.0	
	1899	90	...	...	322	4,688	7,697	9,676	411	2,559	5,213	10,438	5,225	...	...
Iron and steel, nails and spikes, cut and wrought, including wire nails, not made in steel works or rolling mills.	1909	57	3,239	42	432	2,765	7,723	8,898	562	1,353	3,972	8,192	4,230	-24.0	-8.2	
	1904	76	4,147	60	406	3,681	10,533	8,742	454	1,684	4,686	8,923	4,237	-17.8	-39.6	
	1899	102	...	...	431	4,477	12,853	10,751	444	2,042	3,562	14,777	6,215	...	...
Iron and steel pipe, wrought.	1909	28	7,309	17	475	6,817	20,656	22,266	657	3,963	22,942	30,886	7,944	25.9	77.5	
	1904	27	5,723	11	296	5,416	15,094	13,053	369	2,473	12,747	17,491	4,654	-2.2	-18.3	
	1899	19	...	...	193	5,536	11,717	18,344	266	2,496	15,524	21,292	5,766	...	...
Jewelry.....	1909	1,537	36,992	1,846	4,799	30,347	11,204	63,811	5,838	18,358	36,675	80,350	43,675	37.4	51.0	
	1904	1,023	26,119	1,436	2,603	22,080	7,872	39,679	2,939	12,593	24,177	53,295	29,049	7.9	15.4	
	1899	851	...	...	1,806	20,468	6,656	27,872	1,842	10,644	22,235	46,129	23,894	...	...
Jewelry and instrument cases.	1909	120	2,441	139	232	2,070	527	1,841	232	954	1,221	3,116	1,895	23.5	36.0	
	1904	97	1,923	126	121	1,676	359	1,438	107	624	843	2,292	1,449	104.6	98.1	
	1899	63	...	...	52	819	208	548	35	323	438	1,157	721	...	...
Kaolin and ground earths	1909	119	2,351	53	308	1,990	20,920	13,226	417	897	2,042	4,681	2,639	-7.7	5.5	
	1904	131	2,501	91	253	2,157	17,325	10,193	329	899	1,869	4,439	2,570	3.0	19.3	
	1899	145	...	...	232	2,094	18,404	12,212	257	821	1,651	3,722	2,071	...	...
Labels and tags.....	1909	96	2,880	85	482	2,313	1,589	3,857	541	1,123	1,910	4,670	2,780	71.6	89.7	
	1904	67	1,610	65	197	1,348	919	2,118	258	609	957	2,462	1,505	78.3	122.8	
	1899	47	...	...	96	754	392	848	120	289	388	1,105	717	...	...
Lapidary work.....	1909	77	886	90	169	627	679	4,806	195	889	6,560	9,173	2,613	23.7	20.6	
	1904	54	681	72	102	507	554	3,384	109	657	6,224	7,647	1,423	1.8	32.2	
	1899	60	...	...	43	498	212	3,087	51	499	4,656	5,786	1,130	...	...
Lard, refined, not made in slaughtering and meat- packing establishments.	1909	7	515	6	110	399	723	1,434	108	180	9,031	10,236	695	-9.5	68.5	
	1904	9	528	10	77	441	598	1,163	108	219	5,640	6,129	489	-11.6	-29.0	
	1899	19	...	...	54	499	714	1,336	80	238	7,497	8,631	1,134	...	...
Lasts.....	1909	60	2,029	47	254	1,728	3,356	3,061	412	1,203	1,324	4,159	2,835	43.0	65.0	
	1904	55	1,453	59	186	1,208	2,865	2,009	223	798	768	2,520	1,732	6.8	34.0	
	1899	65	...	...	97	1,131	1,951	1,485	108	650	527	1,880	1,353	...	...
Lead, bar, pipe, and sheet.	1909	33	1,044	8	234	802	3,179	20,587	360	510	7,412	9,145	1,733	24.3	-1.4	
	1904	32	834	11	177	646	2,487	5,015	405	322	7,910	9,277	1,367	6.8	24.1	
	1899	34	...	...	151	605	2,007	3,949	202	322	6,280	7,478	1,196	...	...
Leather goods.....	1909	2,375	43,525	2,552	6,066	34,907	28,148	69,814	6,701	17,921	60,027	104,719	44,692	2.1	27.5	
	1904	1,918	40,508	2,148	4,171	34,189	16,257	50,919	4,148	15,707	44,435	82,121	37,086	15.8	35.9	
	1899	1,568	...</													

COMPARATIVE SUMMARY FOR THE UNITED STATES, BY SPECIFIED INDUSTRIES: 1909, 1904, AND 1899—Continued.

[See explanatory notes on the first page of this table.]

INDUSTRY.	Cens. 1909 1904 1899	Number of estab- lishments.	PERSONS ENGAGED IN INDUSTRY.					Primary horse- power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manu- facture (value of products less cost of materi- als).	PER CENT OF INCREASE.										
			Total.	Pro- pri- etors and firm mem- bers.	Salaried em- ployees.	Wage earners (average number).	Wage earners (average number).								Wage earners (average number).										
Leather, tanned, curried, and finished.	1909 1904 1899	919 1,049 1,306	67,100 61,602	784 1,112	4,114 3,261 2,442	62,202 57,239 52,109	148,140 117,450 88,860	\$332,727 242,584 173,977	\$6,744 4,462 3,159	\$32,103 27,049 22,591	\$248,279 191,179 155,000	\$327,874 252,021 204,038	\$70,595 61,442 49,038	8.7 9.8	29.8 23.8										
Lime ¹	1909 1904 1899	853 526 998	15,659 12,383	794 500	908 731 1,406	13,897 11,152 19,085	27,071 18,198 93,540	32,520 22,596 48,787	1,080 703 1,416	5,980 4,597 7,741	6,731 5,437 11,040	17,952 14,761 28,074	11,221 9,314 17,034	24.6 -41.6	21.7 -48.6										
Liquors, distilled.....	1909 1904 1899	613 805 965	8,328 7,229	503 794	1,335 1,080 661	0,430 5,355 3,720	40,120 42,949 31,427	72,450 50,101 32,540	1,988 1,393 890	3,074 2,657 1,733	35,977 25,626 15,145	204,690 131,270 96,794	168,722 105,644 81,649	20.1 44.0	55.9 35.6										
Liquors, malt.....	1909 1904 1899	1,414 1,530 1,507	66,725 58,098	639 876	11,507 9,055 7,140	54,579 48,137 39,459	347,726 266,159 197,901	671,158 615,630 413,767	22,804 17,316 13,038	41,206 34,541 25,776	96,596 74,907 51,598	374,730 208,345 236,915	278,134 223,459 185,317	13.4 22.0	25.6 25.9										
Liquors, vinous.....	1909 1904 1899	290 435 359	2,726 2,801	236 396	579 492 344	1,911 1,913 1,163	6,771 6,713 3,416	27,908 17,775 9,838	893 573 365	972 1,002 446	6,026 5,693 3,689	13,121 11,028 6,547	6,495 5,405 2,858	-0.1 64.5	18.2 69.5										
Locomotives, not made by railroad companies. ²	1909 1904	16 15	16,945 25,979	7 9	2,029 1,164	14,909 24,806	35,162 29,806	52,060 38,421	2,297 1,675	8,014 15,798	15,060 27,703	31,582 50,552	16,522 31,849	-39.0	-47.0										
Looking-glass and pic- ture frames.	1902 1904 1899	437 442 362	7,470 8,076	431 467	1,018 984 884	6,021 6,625 6,029	5,390 4,653 3,357	9,058 7,634 5,500	1,119 955 789	3,261 3,315 2,550	5,525 4,975 4,729	13,475 13,270 10,847	7,950 8,295 0,118	1.0 9.9	1.5 22.3										
Lumber and timber prod- ucts.	1909 1904 1899	40,671 25,153 28,133	784,089 593,342	48,825 30,738	41,145 30,038 20,940	695,019 532,566 508,766	2,840,082 1,886,624 1,658,504	1,176,675 733,708 541,695	47,428 31,737 18,715	318,739 245,834 188,395	508,118 360,325 304,904	1,150,129 884,207 700,992	648,011 523,642 396,028	30.5 4.7	30.7 16.2										
Malt.....	1909 1904 1899	114 141 140	2,237 2,594	52 96	425 444 290	1,760 2,054 1,990	26,441 20,288 13,834	60,286 47,934 39,288	884 747 471	1,348 1,457 1,385	30,464 23,621 14,317	38,252 30,289 19,374	7,788 6,068 4,557	-14.3 3.2	26.3 55.3										
Marble and stone work. ³	1909 1904 1899	4,064 2,908 2,952	77,275 57,866	6,026 3,800	5,046 3,456 2,606	65,603 51,110 41,686	187,686 102,887 83,119	114,842 79,170 52,982	6,386 4,000 2,440	42,546 31,899 22,843	27,307 26,509 21,546	119,093 84,844 63,667	75,690 58,275 42,121	28.4 22.6	33.3 33.3										
Matches.....	1909 1904 1899	26 23 22	4,220 3,308	46 7	543 176 60	3,681 3,185 2,047	6,224 5,534 2,600	11,953 5,334 3,893	723 178 87	1,390 1,101 613	4,599 3,285 3,421	11,353 5,647 6,006	6,754 2,392 2,585	14.0 55.6	101.0 -6.0										
Mats and matting.....	1909 1904 1899	12 12 9	1,040 996	18 13	85 58 42	937 625 1,197	1,433 1,524 1,733	4,051 839 994	95 67 31	385 240 237	1,067 574 516	2,432 1,243 1,165	1,395 609 649	49.9 -47.8	95.7 6.7										
Mattresses and spring beds	1909 1904 1899	930 719 589	14,109 12,438	869 757	1,918 1,254 851	11,322 10,427 7,649	17,680 13,220 7,980	23,735 14,514 7,999	2,039 1,263 770	5,771 4,816 3,102	20,483 15,326 10,227	35,783 27,475 17,956	15,300 12,429 7,729	8.6 36.3	28.9 54.6										
Millinery and lace goods..	1909 1904 1899	1,579 860 591	40,301 31,417	1,934 1,163	5,166 2,754 1,592	39,201 27,500 16,871	7,918 4,737 1,852	35,705 17,850 10,705	5,331 2,206 1,303	16,308 20,307 5,818	45,040 26,259 15,654	85,894 50,778 29,460	40,854 24,519 13,515	42.5 63.0	69.2 72.3										
Mineral and soda waters..	1909 1904 1899	4,016 3,468 2,763	22,060 10,554	5,743 4,099	3,170 1,576 1,423	13,147 10,879 8,788	19,392 12,214 8,037	42,305 28,098 19,727	2,840 1,393 1,161	6,902 5,488 4,080	10,466 10,002 8,565	43,508 30,251 23,200	27,042 20,249 14,704	20.8 23.8	43.8 30.0										
Mirrors.....	1909 1904 1899	148 119 103	3,609 3,068	131 117	394 302 260	2,994 2,795 2,555	3,802 2,795 2,333	4,800 3,859 3,184	450 332 277	1,763 1,375 1,232	5,905 4,587 4,996	9,571 7,005 8,004	3,666 3,018 3,008	13.0 3.7	25.9 -5.0										
Models and patterns, not including paper pat- terns.	1909 1904 1899	709 547 530	5,450 3,678	840 656	439 242 118	4,171 2,780 2,607	5,486 4,358 3,021	5,576 2,806 2,250	490 238 113	2,929 1,788 1,565	2,876 922 825	8,808 4,545 3,834	5,092 3,623 3,009	50.0 6.6	95.1 18.5										
Moving pictures.....	1909	16	718	5	207	506	486	19,428	396	335	2,192	4,200	2,014	.....	.....								
Mucilage and paste.....	1909 1904 1899	127 111 116	901 728	108 100	255 158 166	538 470 458	2,335 1,595 1,426	2,717 2,430 1,220	353 160 155	280 237 193	3,283 2,301 1,613	4,918 3,556 2,556	1,635 1,255 943	14.5 2.6	38.3 39.1										
Musical instruments and materials, not specified.	1909 1904 1899	187 181 229	2,269 2,554	187 190	200 225 158	1,822 2,139 2,405	1,423 1,603 1,417	3,298 3,743 3,896	343 252 142	992 1,162 1,232	800 1,130 1,205	3,228 3,482 3,305	2,338 2,952 2,100	-14.8 -11.1	-7.3 2.6										
Musical instruments, pianos and organs and materials.	1909 1904 1899	507 444 390	41,882 30,106	297 303	3,565 2,722 1,518	38,020 33,081 21,309	41,023 30,134 20,789	103,234 98,482 43,810	5,552 3,728 2,015	22,792 18,527 11,543	43,795 27,987 17,371	89,790 66,093 41,024	40,025 38,106 23,653	14.9 55.2	35.9 61.1										
Needles, pins, and hooks and eyes.	1909 1904 1899	49 46 52	4,978 4,196	27 31	313 200 135	4,638 3,965 2,653	4,542 2,440 2,103	6,705 5,332 4,618	393 253 147	2,064 1,594 1,067	2,329 1,584 1,228	6,064 4,751 3,238	4,365 3,167 2,010	17.0 49.5	40.9 46.7										
Oakum.....	1909 1904 1899	6 6 7	120 158	7 5	9 11 10	113 142 171	289 367 375	342 488 416	14 14 17	42 241 284	232 301 440	338 120 156	106 120 156	-20.4 -17.0	-6.4 -18.0										
Oil, castor.....	1909 1904 1899	4 4 3	70 57	4	12 14 12	54 43 49	385 500 260	1,038 625 539	27 27 17	32 487 20	661 487 395	905 643 102	244 150 102	25.6 -12.2	40.7 62.8										
Oil, cottonseed, and cake.	1909 1904 1899	817 715 369	21,273 18,832	110 63	4,092 3,229 1,569	17,071 15,540 11,007	192,342 150,246 73,071	91,086 73,770 34,451	4,295 3,002 1,579	5,835 4,838 3,143	119,833 90,030 46,106	147,898 96,408 58,727	28,035 16,878 13,561	9.9 41.2	53.4 64.2										

¹ Includes "cement" and "wall plaster" in 1899.

² Included in "foundry and machine-shop products" in 1899.

³ Includes "artificial stone" in 1899.

STATES, CITIES, AND INDUSTRIES.

521

COMPARATIVE SUMMARY FOR THE UNITED STATES, BY SPECIFIED INDUSTRIES: 1909, 1904, AND 1899—Continued.

[See explanatory notes on the first page of this table.]

INDUSTRY.	Cen- sus.	Number of estab- lish- ments.	PERSONS ENGAGED IN INDUSTRY.				Primary horse- power.	Capital.	Sala- ries.	Wages.	Cost of materials.	Value of products.	Value added by manu- facture (value of products less cost of mate- rials).	PER CENT OF INCREASE.	
			Total.	Pro- pri- etors and firm mem- bers.	Salaried em- ployees.	Wage earners (average number).								Wage earners (aver- age num- ber).	Value of prod- ucts.
Expressed in thousands.															
Oil, essential.....	1909	68	408	73	45	290	1,218	\$1,365	\$61	\$123	\$1,255	\$1,737	\$482	119.7	18.6
	1904	52	237	68	37	132	849	723	40	70	1,111	1,465	354	-21.4	80.2
	1899	47	.....	.....	39	168	1,048	576	25	61	589	813	224	.....	.....
Oil, linseed.....	1909	29	1,753	9	292	1,452	13,211	18,932	740	893	31,035	36,739	5,704	7.6	33.2
	1904	30	1,518	13	156	1,349	9,473	9,850	423	785	23,153	27,577	4,424	1.6	1.4
	1899	48	.....	.....	285	1,328	8,491	15,461	445	693	24,396	27,184	2,788	.....	.....
Oil, not elsewhere speci- fied.....	1909	189	3,144	118	1,311	1,715	5,772	18,441	1,923	1,060	21,407	30,965	9,458	31.4	34.6
	1904	186	2,116	148	663	1,305	5,207	11,229	752	752	14,428	22,923	8,495	-10.4	23.2
	1899	201	.....	.....	810	1,456	3,432	9,889	991	738	10,975	18,612	7,637	.....	.....
Olecloth and linoleum....	1909	31	5,557	11	345	5,201	16,125	19,634	649	2,826	15,559	23,339	7,780	33.9	57.8
	1904	27	4,112	12	217	3,883	10,112	13,803	361	1,944	10,059	14,782	4,722	20.2	29.7
	1899	27	.....	.....	153	3,280	7,561	8,879	295	1,628	7,550	11,403	3,853	.....	.....
Oleomargarine.....	1909	12	773	1	166	606	2,408	3,558	276	413	6,497	8,148	1,651	16.1	48.2
	1904	14	730	2	206	522	1,560	1,551	253	315	4,398	5,574	1,176	-51.8	-55.4
	1899	24	.....	.....	394	1,084	1,856	3,024	412	534	7,640	12,590	4,950	.....	.....
Optical goods.....	1909	217	7,809	163	1,248	6,398	5,725	10,147	1,157	3,394	4,187	11,735	7,598	47.8	91.8
	1904	122	4,742	96	816	4,330	3,410	5,381	427	1,923	2,320	6,117	3,797	16.6	17.4
	1899	91	.....	.....	375	3,715	2,544	4,212	287	1,599	2,101	5,211	3,110	.....	.....
Paint and varnish.....	1909	791	21,896	456	7,200	14,240	56,162	103,995	10,378	8,271	79,016	124,889	45,873	22.4	37.5
	1904	639	16,450	439	4,408	11,633	41,288	75,489	5,677	6,264	59,827	90,840	31,013	20.0	30.6
	1899	600	.....	.....	3,710	9,697	30,443	60,053	5,017	4,926	44,739	69,562	24,823	.....	.....
Paper and wood pulp....	1909	777	81,473	250	5,245	75,978	1,304,265	409,348	9,510	40,805	165,442	267,657	102,215	15.2	41.8
	1904	761	70,051	309	3,778	65,964	1,093,708	277,444	6,097	32,019	111,252	188,715	77,463	32.9	48.2
	1899	763	.....	.....	2,935	49,646	762,118	167,508	4,501	20,746	70,530	127,236	56,796	.....	.....
Paper goods, not else- where specified.....	1909	403	22,385	228	2,946	19,211	27,067	48,662	3,701	8,169	31,249	55,171	23,922	30.5	62.5
	1904	308	16,696	236	1,734	14,726	16,226	27,345	1,993	5,577	19,645	33,946	14,301	31.4	30.4
	1899	246	.....	.....	1,092	9,727	10,421	18,152	1,242	3,658	14,191	24,255	10,164	.....	.....
Paper patterns.....	1909	27	1,755	22	812	921	751	4,578	675	497	646	2,611	1,965	-14.9	15.3
	1904	26	1,790	15	693	1,082	38	2,237	490	445	397	2,265	1,928	29.6	309.0
	1899	15	.....	.....	92	835	9	256	72	262	125	562	437	.....	.....
Patent medicines and compounds and drug- gists' preparations.....	1909	3,642	41,101	2,802	15,404	22,895	25,659	99,942	17,007	9,897	50,376	141,942	91,566	11.8	29.9
	1904	2,777	32,248	2,203	9,483	20,472	17,008	75,607	9,975	7,913	39,494	117,436	77,942	7.6	32.3
	1899	2,154	.....	.....	8,094	19,028	12,707	56,173	8,265	6,910	31,950	88,791	56,841	.....	.....
Paving materials.....	1909	49	1,731	31	281	1,419	5,757	11,410	373	750	3,478	6,229	2,751	-26.1	23.8
	1904	54	2,106	30	157	1,919	5,156	5,218	197	953	2,666	5,033	2,367	-21.2	27.9
	1899	99	.....	.....	173	2,436	34,397	13,464	184	1,144	1,582	3,996	2,354	.....	.....
Peanuts, grading, roast- ing, cleaning, and shell- ing. ¹	1909	46	2,177	35	193	1,949	2,827	3,646	209	351	8,612	9,737	1,125	43.7	34.1
	1904	30	1,490	18	116	1,356	1,602	1,169	122	205	6,224	7,261	937	.....	.....
Pencils, lead.....	1909	11	4,513	4	375	4,134	3,448	7,867	697	1,712	3,596	7,379	3,783	34.9	66.7
	1904	8	3,351	3	283	3,065	2,625	4,981	396	1,059	1,804	4,426	2,622	41.8	69.2
	1899	7	.....	.....	81	2,162	1,360	2,227	112	683	1,091	2,222	1,191	.....	.....
Pens, fountain, stylo- graphic, and gold.....	1909	65	1,820	51	544	1,225	569	3,121	554	712	2,246	4,789	2,493	31.3	70.8
	1904	49	1,196	39	224	933	349	1,545	198	533	1,166	2,774	1,608	24.1	62.6
	1899	45	.....	.....	146	696	527	1,087	148	371	664	1,706	1,042	.....	.....
Pens, steel.....	1909	5	755	56	669	244	804	86	230	95	577	482	5.4	21.7	
	1904	5	736	1	72	663	294	576	60	205	103	474	371	40.2	61.2
	1899	3	.....	.....	13	473	188	357	21	138	52	294	284	.....	.....
Petroleum, refining.....	1909	147	16,640	42	2,669	13,929	90,268	181,916	3,929	9,830	199,273	236,998	37,725	-16.9	35.4
	1904	98	18,768	24	1,974	16,770	46,019	136,281	2,724	9,989	139,387	175,065	35,615	37.4	41.2
	1899	87	.....	.....	1,201	12,199	36,127	95,328	1,811	6,717	102,859	123,629	21,670	.....	.....
Phonographs and graph- ophones.....	1909	18	5,928	2	727	5,199	6,371	14,363	945	2,841	3,099	11,726	8,627	53.0	14.5
	1904	14	3,940	6	537	3,397	2,522	8,741	606	1,684	4,161	10,237	6,676	168.1	358.8
	1899	11	.....	.....	144	1,267	1,082	3,348	179	608	828	2,246	1,418	.....	.....
Photographic apparatus and materials.....	1909	103	6,598	59	1,342	5,195	8,637	18,918	1,462	3,037	6,708	22,561	15,853	36.3	72.2
	1904	130	5,041	74	1,155	3,812	5,061	7,720	1,109	1,796	4,162	12,623	8,891	10.7	67.0
	1899	153	.....	.....	469	3,444	3,412	5,518	453	1,443	3,378	7,799	4,421	.....	.....
Photo-engraving.....	1909	313	7,277	233	1,701	5,343	2,638	5,474	1,840	4,750	2,134	11,624	9,490	37.8	59.9
	1904	223	5,071	227	968	3,876	1,925	4,071	934	2,916	1,303	7,268	5,965	44.0	73.5
	1899	203	.....	.....	484	2,601	1,040	1,994	450	1,780	725	4,160	3,485	.....	.....
Pipes, tobacco.....	1909	62	3,090	70	245	2,775	1,506	3,528	283	1,255	2,459	5,312	2,833	42.5	67.4
	1904	68	2,111	82	120	1,947	1,058	1,256	81	531	1,354	2,834	1,480	22.8	14.6
	1899	98	.....	.....	120	1,585	855	1,111	109	738	1,106	2,472	1,366	.....	.....
Pottery, terra-cotta, and fire-clay products.....	1909	822	61,622	452	4,402	56,168	110,017	141,350	5,818	29,753	21,911	78,119	54,205	7.1	18.6
	1904	873	56,730	550	3,752	52,428	104,918	110,926	4,628	25,173	16,561	47,610	35,615	19.9	45.0
	1899	1,000	.....	.....	2,777	43,714	75,802	65,462	3,012	17,692	11,915	44,363	32,248	.....	.....
Printing and publishing..	1909	31,445	388,466	30,424	99,608	258,434	297,763	588,346	103,458	164,628	201,775	737,576	536,181	18.0	33.8
	1904	27,793	316,047	28,368	68,592	219,087	166,380	432,854	67,748	127,166	142,514	552,473	409,959	12.2	39.8
	1899	23,814	.....	.....	40,685	195,260	119,775	333,003	39,475	99,816	103,654	395,187	291,533	.....	.....
Pulp goods.....	1909	17	882	1	98	783	3,125	2,680	124	377	971	1,770	799	12.5	29.7
	1904	14	759	7	56	696	2,368	3,198	83	264	1,467	719	748	0.7	15.8
	1899	22	.....	.....	75	691									

COMPARATIVE SUMMARY FOR THE UNITED STATES, BY SPECIFIED INDUSTRIES: 1909, 1904, AND 1899—Continued.

[See explanatory notes on the first page of this table.]

INDUSTRY.	Cen- sus.	Num- ber of estab- lish- ments.	PERSONS ENGAGED IN INDUSTRY.				Primary horse- power.	Capital.	Sala- ries.	Wages.	Cost of materials.	Value of products.	Value added by manu- facture (value of products less cost of mate- rials).	PER CENT OF INCREASE.	
			Total.	Pro- pri- etors and firm mem- bers.	Salaried em- ployees.	Wage earners (average number).								Wage earners (aver- age num- ber).	Value of prod- ucts.
Expressed in thousands.															
Pumps, not including steam pumps.	1909 1904 1899	102 115 130	2,023 1,721	87 113	400 204 95	2,130 1,404 632	4,214 2,569 1,245	\$6,018 3,230 1,201	\$420 215 84	\$1,258 719 247	\$2,487 1,193 638	\$5,583 2,853 1,342	\$3,005 1,080 704	52.1 122.2	95.7 112.6
Rice, cleaning and pol- ishing.	1909 1904 1899	71 74 80	1,777 1,901	38 33	500 436 169	1,239 1,492 651	10,519 15,800 7,540	13,347 8,821 2,001	613 549 182	564 041 266	10,501 16,297 7,576	22,371 2,982 1,148	2,870 2,982 1,148	-17.0 129.2	37.3 86.8
Roofing materials.....	1909 1904 1899	117 307 267	3,530 10,162	46 314	1,019 1,020 695	2,405 8,819 7,593	0,431 23,022 18,217	15,349 16,925 10,814	1,381 1,162 663	1,330 4,008 3,072	12,458 10,842 6,886	10,204 10,871 13,691	6,740 9,029 6,805	-72.0 16.1	-3.4 45.1
Rubber goods, not else- where specified.	1909 1904 1899	227 224 261	31,284 23,651	102 103	4,661 2,304 1,825	26,521 21,184 20,404	70,062 48,381 40,835	98,507 46,288 39,302	5,400 2,857 2,216	14,120 9,412 8,082	82,192 38,912 33,482	128,436 62,996 52,622	46,244 24,084 10,140	25.2 3.8	103.9 19.7
Rules, ivory and wood...	1909 1904 1899	9 13 11	127 177	0 13	9 15 14	109 149 213	167 318 303	104 253 203	11 15 12	51 55 67	31 55 73	144 249 208	113 194 135	-42.2 -30.8	19.7
Safes and vaults.....	1909 1904 1899	42 31 35	4,060 3,918	8 18	700 415 272	3,343 3,488 2,033	5,540 4,080 2,209	8,944 7,323 5,480	1,058 723 283	2,072 2,102 1,017	3,443 3,211 1,689	8,491 7,801 3,928	5,048 4,650 2,239	-4.2 71.6	3.0 100.1
Salt.....	1909 1904 1899	124 146 159	5,580 5,171	74 87	570 418 406	4,930 4,660 4,774	27,293 19,434 23,865	20,012 10,434 27,123	719 487 500	2,531 2,066 1,911	5,203 4,166 3,336	11,328 9,438 7,907	6,125 5,272 4,631	5.8 -2.3	20.0 18.5
Sand and emery paper and cloth.	1909 1904 1899	10 8 9	779 356	9 11	159 40 63	611 305 274	3,351 1,133 898	4,400 1,206 1,372	210 78 98	370 183 144	2,382 1,055 681	4,358 1,477 1,176	1,076 422 405	100.3 11.3	195.1 25.6
Saws.....	1909 1904 1899	96 83 96	5,757 5,301	84 75	841 576 312	4,832 4,050 3,215	11,862 7,491 5,493	14,855 11,288 8,509	966 623 329	2,856 2,707 1,093	4,012 4,036 2,000	11,536 9,820 6,444	6,624 5,784 3,844	3.9 44.6	17.5 52.4
Scales and balances.....	1909 1904 1899	87 85 86	4,275 3,041	44 77	672 431 305	3,559 3,133 2,775	6,183 3,251 2,466	10,183 8,513 6,308	815 477 207	2,186 1,755 1,437	2,704 1,633 5,240	8,786 6,003 5,200	6,082 4,370 3,707	13.6 12.9	46.4 14.6
Scissors, machine.....	1909 1904 1899	43 20 25	1,863 2,189	32 15	164 209 108	1,667 1,965 1,657	3,310 3,201 1,407	3,728 4,133 2,467	199 244 126	970 942 703	1,160 951 707	3,014 2,712 2,059	1,854 1,761 1,202	-15.2 26.2	11.1 31.7
Scissors, wood.....	1909 1904 1899	11 7 8	3,758 1,947	1 1	293 158 139	3,464 1,488 1,070	5,018 3,715 3,400	9,570 5,900 5,465	375 193 169	1,454 550 721	2,300 732 928	6,199 2,134 2,600	3,890 1,402 1,677	132.8 -24.5	190.5 -17.9
Sewing machines, cases, and attachments.	1909 1904 1899	47 54 64	20,556 18,064	14 19	1,246 924 704	10,296 17,121 13,365	19,426 17,162 10,009	33,104 32,583 20,884	1,423 1,152 933	11,102 6,403 3,331	11,455 10,701 9,468	28,202 26,142 21,125	16,807 15,441 11,667	12.7 28.1	8.1 23.7
Shipbuilding, including boat building.	1909 1904 1899	1,353 1,097 1,107	44,040 54,424	1,463 1,190	2,980 2,480 1,405	40,506 50,754 46,747	88,093 78,127 61,707	126,118 121,624 77,341	4,035 3,340 2,007	25,268 20,241 24,825	31,214 37,493 33,476	73,360 82,769 74,532	42,140 45,306 41,057	-20.2 8.0	-11.4 11.1
Shoddy.....	1909 1904 1899	88 97 105	2,320 2,371	83 110	196 172 139	2,041 2,089 1,928	13,820 12,244 11,455	6,887 5,804 5,273	290 245 167	907 835 749	5,001 6,056 4,876	7,446 8,406 6,731	2,445 2,350 1,856	-2.3 8.5	-11.4 24.9
Show cases.....	1909 1904 1899	149 141 102	3,943 3,522	154 135	390 305 106	3,390 3,082 1,303	4,746 4,087 1,232	5,300 3,143 1,153	505 330 88	2,017 1,081 708	3,140 2,374 1,058	7,167 5,722 2,468	4,027 3,348 1,410	10.0 126.1	25.3 131.8
Signs and advertising novelties. ¹	1909	288	7,277	211	1,526	5,540	3,790	9,647	1,476	3,105	4,709	13,546	8,837	.....	.....
Silk and silk goods, in- cluding throwsters.	1909 1904 1899	852 624 483	105,238 84,153	664 525	5,537 4,027 2,667	99,037 79,601 65,416	97,047 71,760 57,397	152,158 109,557 81,082	7,527 4,742 3,134	38,570 26,768 20,982	107,767 75,801 62,407	106,912 133,288 107,256	89,145 57,427 44,849	24.4 21.7	47.7 24.3
Silverware and plated ware.	1909 1904 1899	183 158 169	18,774 16,305	114 120	2,050 1,324 1,129	16,610 14,861 12,205	15,183 12,873 8,486	40,759 37,732 30,628	2,745 1,730 1,467	10,282 8,625 6,531	18,332 14,459 11,659	42,229 32,840 20,114	23,897 18,381 14,455	11.8 21.8	28.6 25.8
Slaughtering and meat packing.	1909 1904 1899	1,041 1,221 1,080	108,716 88,819	1,669 1,324	17,320 12,916 10,317	89,728 75,399 69,264	208,707 119,311 190,219	363,249 240,419 190,209	20,054 13,453 10,211	51,645 41,067 33,840	1,202,828 811,420 685,310	1,370,568 922,038 738,368	167,740 110,612 103,058	19.0 8.9	48.6 17.0
Smelting and refining, copper.	1909 1904 1899	38 40 47	16,832 13,592	7 1	1,197 809 488	15,628 12,752 11,630	158,126 76,524 61,630	111,443 76,825 53,063	2,419 1,527 955	13,306 10,827 8,529	333,532 166,737 122,174	378,806 240,780 165,182	45,274 44,043 42,058	22.0 12.6	57.3 45.8
Smelting and refining, lead.	1909 1904 1899	28 32 30	8,050 8,102 .....	..... 5	635 524 425	7,424 8,573 7,519	26,054 25,697 10,342	132,310 63,823 72,149	1,476 888 755	5,431 5,375 5,080	151,963 168,953 144,165	107,400 185,827 175,406	15,443 16,369 31,271	-2.0 -9.0	-9.9 5.9
Smelting and refining, zinc.	1909 1904 1899	29 31 31	7,156 6,884	3 2	498 354 208	6,655 6,528 4,800	21,457 18,404 11,145	27,760 23,702 14,142	993 581 440	4,210 3,856 2,356	25,230 17,028 13,286	34,206 24,791 18,188	8,976 7,769 4,002	1.9 34.1	38.0 36.3
Smelting and refining, not from the ore.	1909 1904 1899	80 65 61	2,596 1,994	73 57	370 225 203	2,147 1,712 983	10,705 17,111 8,633	13,834 9,807 5,201	570 354 220	1,281 995 592	23,162 13,760 5,900	28,072 17,403 7,785	4,010 3,643 1,855	25.4 74.2	61.3 123.5

¹ Included in other classifications in 1904 and 1899.

COMPARATIVE SUMMARY FOR THE UNITED STATES, BY SPECIFIED INDUSTRIES: 1909, 1904, AND 1899—Continued.

[See explanatory notes on the first page of this table.]

INDUSTRY.	Cen- sus.	Number of estab- lish- ments.	PERSONS ENGAGED IN INDUSTRY.				Primary horse- power.	Capital.	Sala- ries.	Wages.	Cost of materials.	Value of products.	Value added by manu- facture (value of products less cost of mate- rials).	PER CENT OF INCREASE.	
			Total.	Pro- pri- etors and firm mem- bers.	Salaried em- ployees.	Wage earn- ers (average number).								Wage earn- ers (average num- ber).	Value of prod- ucts.
Expressed in thousands.															
Soap ¹	1909	420	18,393	329	5,065	12,999	28,360	\$71,951	\$5,506	\$6,227	\$72,179	\$111,358	\$39,179	17.7	63.1
	1904	436	14,501	399	3,058	11,044	20,228	54,816	3,503	4,763	45,626	68,275	24,629	16.4	28.3
	1899	558	.....	.....	2,738	9,487	17,514	35,068	2,777	3,755	33,143	33,231	20,088	.....	.....
Soda-water apparatus....	1909	63	2,399	40	562	1,797	2,894	8,589	624	1,239	2,443	6,556	4.11	22.3	41.5
	1904	37	1,829	27	333	1,469	1,533	3,415	296	835	1,924	4,634	2,710	52.5	53.7
	1899	30	.....	.....	227	963	1,183	4,292	344	550	997	3,015	2,018	.....	.....
Sporting and athletic goods.	1909	180	5,993	155	517	5,321	3,243	6,617	617	2,165	5,565	11,032	5,487	24.9	57.2
	1904	152	4,757	136	361	4,260	2,985	4,249	319	1,641	2,963	7,032	4,069	91.5	93.8
	1899	143	.....	.....	168	2,225	1,133	2,015	167	810	1,802	3,628	1,826	.....	.....
Springs, steel, car and carriage.	1909	54	3,573	24	353	3,196	7,349	8,784	590	1,853	4,727	9,005	4,278	29.1	56.9
	1904	52	2,774	28	270	2,476	5,510	4,016	353	1,243	2,742	5,741	2,999	17.8	9.9
	1899	48	.....	.....	166	2,102	3,185	4,684	275	1,061	3,025	5,690	2,665	.....	.....
Stationery goods, not elsewhere specified.	1909	153	7,938	103	1,629	6,206	6,842	13,508	1,897	2,736	7,744	16,647	8,939	44.5	87.7
	1904	143	5,095	115	885	4,295	3,396	6,929	751	1,500	3,920	8,867	4,947	41.7	75.0
	1899	113	.....	.....	453	3,032	1,706	4,495	412	958	2,128	5,096	2,998	.....	.....
Statuary and art goods ²	1909	194	2,172	275	198	1,699	462	2,221	225	1,339	690	3,442	2,782	12.7	42.4
	1904	135	1,812	191	114	1,507	466	1,669	127	1,030	392	2,417	2,025	.....	.....
Steam packing.....	1909	153	4,968	82	1,238	3,648	11,129	14,126	1,356	1,811	6,659	12,160	5,510	33.4	25.8
	1904	106	3,240	56	450	2,734	8,846	12,253	594	1,273	3,896	8,952	5,056	138.4	156.2
	1899	97	.....	.....	290	1,147	4,488	2,091	326	525	1,546	3,494	1,922	.....	.....
Stereotyping and electro- typing.	1909	174	3,661	133	678	2,850	4,076	3,826	800	2,312	1,765	6,394	4,619	6.4	27.6
	1904	146	3,301	132	490	2,679	2,878	3,298	517	1,963	1,032	5,065	3,973	11.3	32.7
	1899	140	.....	.....	330	2,408	1,470	2,389	312	1,459	767	3,772	3,005	.....	.....
Stoves and furnaces, in- cluding gas and oil stoves. ³	1909	576	42,921	244	5,547	37,130	45,524	86,944	6,975	22,944	29,338	78,853	49,515	11.2	26.9
	1904	494	37,292	306	3,582	33,404	32,017	62,953	4,499	19,770	22,271	62,133	39,822	.....	.....
Sugar and molasses, not including beet sugar. ⁴	1909	233	15,658	204	1,928	13,526	160,603	153,167	2,392	7,484	247,583	279,249	31,666	-0.2	9.7
	1904	344	15,799	364	1,886	13,549	140,650	165,468	2,154	7,576	244,753	277,285	32,532	-4.1	15.7
	1899	657	.....	.....	1,867	14,129	152,569	184,033	1,682	6,918	221,355	239,711	18,326	.....	.....
Sulphuric, nitric, and mixed acids. ⁵	1909	42	2,582	.....	330	2,252	6,494	18,726	551	1,495	5,386	9,384	4,498	-8.0	9.2
	1904	39	2,757	2	308	2,447	5,416	12,762	556	1,505	4,973	9,053	4,060	.....	.....
Surgical appliances and artificial limbs.	1909	324	5,805	316	1,248	4,241	5,752	11,045	1,488	2,129	5,372	12,399	7,027	34.5	70.6
	1904	284	4,049	289	607	3,153	3,214	5,825	594	1,376	2,866	7,269	4,403	76.3	55.3
	1899	308	.....	.....	400	1,788	1,254	2,778	414	767	1,418	4,682	3,264	.....	.....
Tin plate and terneplate.	1909	31	5,846	4	490	5,352	8,154	10,995	620	3,315	41,889	47,970	6,081	10.4	36.9
	1904	36	5,132	1	284	4,847	8,990	10,813	310	2,383	31,376	35,293	3,997	32.0	19.6
	1899	57	.....	.....	333	3,671	3,515	6,650	291	1,890	26,728	31,892	5,164	.....	.....
Tin foil.....	1909	10	762	8	71	683	1,699	2,505	92	304	2,277	3,419	1,142	-10.8	22.3
	1904	14	847	11	70	766	1,388	1,918	86	303	1,838	2,795	997	31.6	75.5
	1899	15	.....	.....	45	582	854	2,094	59	228	1,074	1,593	519	.....	.....
Tobacco manufactures....	1909	15,822	197,687	17,034	13,193	166,810	28,514	245,660	16,779	69,355	177,186	416,695	239,509	4.6	25.8
	1904	16,827	187,652	19,011	9,235	159,406	24,604	323,982	8,800	62,639	126,086	331,111	205,025	29.2	25.6
	1899	14,959	.....	.....	7,836	132,526	22,296	111,517	8,593	47,975	92,867	263,718	170,849	.....	.....
Toys and games.....	1909	226	6,072	185	582	5,305	5,323	6,541	661	2,227	3,554	8,264	4,710	22.5	43.2
	1904	161	4,792	133	329	4,330	4,757	4,831	366	1,615	2,289	5,578	3,289	30.6	39.1
	1899	169	.....	.....	204	3,316	3,155	3,279	184	1,119	1,665	4,010	2,345	.....	.....
Turpentine and rosin....	1909	1,585	44,524	2,567	2,446	39,511	4,129	12,401	1,655	9,363	4,911	25,295	20,384	18.4	5.7
	1904	1,287	37,526	1,997	2,147	33,382	1,175	6,961	1,152	8,383	3,775	28,937	20,162	-20.3	17.7
	1899	1,503	.....	.....	1,889	41,864	866	11,848	779	8,394	6,186	20,349	14,159	.....	.....
Type founding and print- ing materials.	1909	122	2,597	78	493	2,026	1,948	6,793	560	1,191	1,772	4,703	2,931	12.4	19.5
	1904	98	2,255	84	368	1,803	1,497	5,926	387	1,123	1,119	3,935	2,516	-9.1	6.1
	1899	92	.....	.....	247	1,984	1,331	3,175	274	1,036	1,270	3,931	2,661	.....	.....
Typewriters and supplies	1909	89	12,101	34	2,489	9,578	6,845	26,369	2,707	6,221	4,077	19,719	15,642	53.7	85.3
	1904	66	7,509	29	1,248	6,232	4,455	16,642	1,246	3,469	1,870	10,649	8,770	43.3	52.5
	1899	47	.....	.....	532	4,340	2,272	8,400	480	2,404	1,402	6,932	5,530	.....	.....
Umbrellas and canes.....	1909	256	6,505	299	734	5,472	2,413	9,556	915	2,253	10,056	15,804	5,908	1.6	19.3
	1904	204	6,155	242	527	5,386	2,122	8,951	474	1,826	8,250	13,296	5,046	-4.5	-2.7
	1899	202	.....	.....	587	5,640	1,457	4,605	504	1,869	8,381	13,669	5,288	.....	.....
Upholstering materials....	1909	230	4,777	214	496	4,067	17,456	10,297	587	1,689	8,069	13,054	4,985	-12.7	3.0
	1904	236	5,405	244	449	4,712	15,604	9,293	526	1,867	7,977	12,678	4,701	-7.6	26.2
	1899	270	.....	.....	358	5,098	11,351	7,594	364	1,715	5,882	10,048	4,166	.....	.....
Vault lights and ventila- tors.	1909	37	453	27	99	327	234	607	109	228	335	957	619	47.3	97.7
	1904	24	278	28	28	222	174	241	31	154	161	484	323	60.9	43.2
	1899	14	.....	.....	11	138	103	121	13	81	141	338	197	.....	.....
Vinegar and cider.....	1909	963	3,073	1,050	481	1,542	16,661	10,879	539	723	4,964	8,448	3,484	0.9	16.3
	1904	568	2,514	645	341	1,528	10,556	7,520	359	725	3,852	7,265	3,413	-1.9	22.5
	1899	613	.....	.....	451	1,557	16,849	5,630	391	652	3,134	5,962	2,798	.....	.....
Wall paper.....	1909	45	4,740	10	689	4,037	5,680	14,153	1,054	2,039	7,623	14,449	6,826	3.2	14.2
	1904	44	4,425	15	497	3,913	4,807	12,354	692	1,868	6,658	12,637	5,979	-6.2	18.5
	1899	51	.....	.....	512	4,172	4,573	8,890	817	2,074	6,073	10,663	4,560	.....	.....

¹ Includes "candles" in 1899.² Included in other classifications in 1899.³ "Stoves and furnaces, not including gas and oil stoves," included in "foundry and machine-shop products" in 1899.⁴ Includes 214 establishments reported as "sugar and mol

COMPARATIVE SUMMARY FOR THE UNITED STATES, BY SPECIFIED INDUSTRIES: 1909, 1904, AND 1899—Continued.

[See explanatory notes on the first page of this table.]

INDUSTRY.	Cen- sus.	Num- ber of estab- lish- ments.	PERSONS ENGAGED IN INDUSTRY.				Primary horse- power.	Capital.	Sala- ries.	Wages.	Cost of materials.	Value of products.	Value added by manu- facture (value of products less cost of mate- rials).	PER CENT OF INCREASE.	
			Total.	Pro- pri- etors and firm mem- bers.	Salaried em- ployees.	Wage earn- ers (average number).								Wage earn- ers (aver- age num- ber).	Value of prod- ucts.
Wall plaster ¹	1909	198	5,024	60	773	4,791	25,892	\$16,885	\$1,040	\$2,391	\$6,007	\$12,804	\$9,797	27.5	26.0
	1904	176	4,459	72	629	3,758	20,054	13,204	620	1,890	4,726	10,164	5,438		
	1899														
Washing machines and clothes wringers.	1909	100	2,294	76	383	1,835	3,351	5,318	466	904	2,837	5,825	2,988	13.1	51.7
	1904	92	1,861	68	171	1,022	3,504	2,952	148	684	2,213	3,839	1,026	7.5	2.8
	1899	118			104	1,509	2,732	2,405	104	540	2,175	3,735	1,500		
Waste.....	1909	53	2,129	41	101	1,897	4,286	6,125	290	716	8,837	11,398	2,561	21.7	36.6
	1904	41	1,716	41	116	1,559	3,803	3,586	164	495	6,825	8,343	1,518	42.9	71.0
	1899	25			58	1,091	2,193	2,437	85	327	4,000	4,880	880		
Wheelbarrows.....	1909	24	775	17	94	664	1,486	1,510	81	321	715	1,025	910	13.7	37.9
	1904	26	665	12	69	584	1,282	1,045	70	296	494	1,178	684	81.9	169.5
	1899	15			31	321	762	514	27	127	180	454	274		
Whips.....	1909	57	1,946	90	310	1,546	1,321	3,900	323	704	1,585	3,949	2,364	-0.5	25.5
	1904	58	1,771	43	174	1,554	1,068	3,398	184	603	1,253	3,147	1,894	20.7	15.1
	1899	60			228	1,287	818	1,894	246	478	1,278	2,734	1,456		
Windmills.....	1909	34	2,742	18	387	2,337	3,301	5,036	479	1,403	3,331	6,677	3,346	21.2	39.2
	1904	53	2,341	25	387	1,929	3,094	5,837	392	909	2,308	4,795	2,487	-5.7	10.1
	1899	68			281	2,045	2,214	4,309	250	940	2,172	4,354	2,182		
Window shades and fix- tures.	1909	219	4,770	194	646	3,930	5,737	10,334	807	1,918	12,653	18,571	5,918	49.8	107.9
	1904	144	3,165	132	400	2,624	2,705	5,977	480	1,086	5,947	8,931	2,984	45.7	10.6
	1899	96			292	1,801	1,927	5,184	323	752	5,575	8,072	2,497		
Wire.....	1909	56	19,045	15	1,840	18,084	71,959	90,157	2,199	10,316	90,543	84,486	23,943	281.8	122.8
	1904	25	5,325	7	581	4,737	25,856	14,890	793	2,869	30,003	37,914	7,851	195.5	302.4
	1899	20			94	1,603	9,979	4,242	136	800	7,014	9,421	2,407		
Wirework, including wire rope and cable.	1909	611	14,004	484	2,162	12,348	20,131	34,970	2,674	6,331	24,394	41,938	17,544	-7.7	26.9
	1904	649	15,967	652	1,936	13,379	18,280	26,894	2,117	6,100	17,866	33,038	15,182	46.3	66.5
	1899	596			995	9,142	12,772	16,345	940	3,894	10,813	19,840	9,027		
Wood carpet.....	1909	10	221	9	28	184	269	423	33	138	228	490	262	-50.7	-38.8
	1904	20	445	22	50	373	473	330	45	269	351	801	450	-38.7	-24.2
	1899	31			49	608	584	412	35	362	418	1,057	639		
Wood distillation, not in- cluding turpentine and rosin. ²	1909	120	3,095	56	318	2,721	9,854	13,017	355	1,463	5,876	9,737	3,861	19.8	24.6
	1904	141	2,655	82	301	2,272	4,620	10,507	298	1,067	4,848	7,813	2,965		
Wood preserving.....	1909	53	2,875	1	471	2,403	10,047	12,468	517	1,066	9,328	14,099	4,771	226.1	318.6
	1904	20	859	7	115	737	3,439	2,935	158	315	2,493	3,368	905	54.2	40.6
	1899	21			54	478	1,007	1,230	57	205	1,825	2,300	571		
Wood, turned and carved.	1909	1,050	16,243	1,097	1,007	14,139	48,447	18,334	1,045	6,213	9,744	22,199	12,455	-3.7	10.1
	1904	1,097	10,837	1,226	924	14,087	47,595	16,842	829	6,031	8,578	20,169	11,591	27.1	40.9
	1899	1,160			565	11,558	31,133	10,280	488	4,371	5,830	14,318	8,488		
Wool pulling.....	1909	37	759	37	91	631	1,366	3,248	132	387	4,103	5,181	1,078	-7.3	487.4
	1904	34	786	40	65	681	1,324	2,534	74	365	104	832	778	43.4	60.1
	1899	34			35	475	820	945	35	248	54	531	477		
Wool scouring.....	1909	28	1,262	18	102	1,142	6,782	3,258	143	558	2,122	3,289	1,167	46.6	212.8
	1904	27	852	18	55	779	3,478	1,188	78	398	215	1,053	838	8.2	18.3
	1899	25			45	720	2,900	1,061	72	339	194	890	696		
Woolen, worsted, and felt goods, and wool hats.	1909	985	175,170	732	5,722	168,722	362,209	430,579	10,097	72,427	282,878	435,979	153,101	15.0	36.5
	1904	1,074	152,306	958	4,593	146,755	288,969	314,081	6,781	57,073	204,613	319,348	114,735	12.3	28.4
	1899	1,281			3,808	130,697	244,825	265,730	5,574	40,812	153,930	248,798	94,808		
All other industries ³	1909	8	132	11	25	96	130	254	39	67	115	390	275	-78.0	-63.1
	1904	15	494	8	50	436	1,707	3,860	59	263	386	1,058	672	-64.1	-60.1
	1899	17			97	1,215	2,354	4,078	113	687	988	2,659	1,062		

¹ Included in "lime and cement" in 1899.² Included in "chemicals" in 1899.³ All other industries embrace "Millstones," 1 establishment; "ordnance and accessories," 2; "pulp, from fiber other than wood," 2; "straw goods, not elsewhere specified," 2; and "whalebone cutting," 1, in 1909. "Millstones," 2; "ordnance and accessories," 4; "pulp, from fiber other than wood," 1; "straw goods, not elsewhere specified," 6; "whalebone cutting," 2, in 1904. "Millstones," 3; "ordnance and accessories," 4; "pulp, from fiber other than wood," 3; "straw goods, not elsewhere specified," 4; "whalebone cutting," 3, in 1899.

STATES, CITIES, AND INDUSTRIES.

525

COMPARATIVE SUMMARY FOR THE UNITED STATES, BY STATES, 1909, 1904, AND 1899.

NOTE.—Primary horsepower includes power generated in manufacturing establishments plus electric and other power rented from outside sources; it does not include electric power generated by primary units of the establishments reporting.

[A minus sign (—) denotes decrease.]

DIVISION AND STATE.	Census.	Number of establishments.	PERSONS ENGAGED IN INDUSTRY.				Primary horsepower.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture (value of products less cost of materials).	PER CENT OF INCREASE.	
			Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).								Wage earners (average number).	Value of products.
Expressed in thousands.															
United States.....	1909	268,491	7,678,578	273,265	790,267	6,615,046	18,675,376	\$18,428,270	\$938,575	\$3,427,038	\$12,142,791	\$20,672,052	\$3,529,231	21.9	39.7
	1904	216,180	6,213,612	225,673	519,556	5,468,383	13,487,707	12,675,561	574,439	2,610,445	2,566,208	14,732,998	6,293,655	16.0	29.7
	1899	207,514	.....	.....	364,120	4,712,763	10,097,893	8,975,256	380,771	2,008,361	6,578,851	11,496,927	4,831,976	.....	.....
GEOGRAPHIC DIVISIONS:															
New England.....	1909	25,351	1,212,158	24,171	86,697	1,101,290	2,715,121	2,503,854	112,284	557,631	1,476,297	2,670,065	1,193,768	17.1	31.8
	1904	22,279	1,023,708	22,698	60,258	940,752	2,125,815	1,870,995	73,799	459,050	1,116,273	2,025,999	909,726	19.4	22.9
	1899	22,576	.....	.....	45,402	851,903	1,792,342	1,507,630	53,396	367,674	904,037	1,660,348	756,311	.....	.....
Middle Atlantic....	1909	81,315	2,576,677	85,516	283,414	2,207,747	5,531,502	6,505,675	345,266	1,182,568	4,159,498	7,141,761	2,982,263	17.0	36.9
	1904	67,699	2,148,379	74,525	187,289	1,886,565	4,255,264	4,742,357	213,371	926,145	2,961,995	5,218,266	2,256,254	17.6	28.1
	1899	65,834	.....	.....	127,326	1,604,844	3,139,128	3,450,619	141,943	729,365	2,311,404	4,074,719	1,768,315	.....	.....
East North Central..	1909	60,013	1,786,808	57,271	215,773	1,513,704	4,382,070	4,547,225	250,508	827,152	3,034,472	5,211,702	2,177,230	23.6	44.6
	1904	51,754	1,415,888	50,531	140,829	1,224,528	3,120,369	2,895,446	151,992	615,643	2,045,537	3,605,368	1,539,831	14.1	26.4
	1899	50,521	.....	.....	103,350	1,073,322	2,401,808	2,066,117	101,500	473,040	1,647,577	2,559,056	1,266,479	.....	.....
West North Central..	1909	27,171	464,460	26,683	63,440	374,337	1,101,990	1,171,572	69,504	204,792	1,241,855	1,899,899	562,644	19.8	40.4
	1904	21,492	374,787	21,394	41,032	312,301	753,700	857,904	41,993	157,843	862,011	1,284,446	422,435	17.4	32.9
	1899	20,732	.....	.....	30,606	266,051	605,098	577,453	29,127	117,209	647,569	972,989	325,494	.....	.....
South Atlantic.....	1909	28,088	745,830	30,783	52,032	663,015	1,832,001	1,368,475	57,272	244,378	790,065	1,381,186	391,181	26.9	41.8
	1904	19,564	578,989	21,745	34,633	522,611	1,221,040	930,420	34,291	175,461	550,102	974,028	423,928	14.0	36.8
	1899	19,144	.....	.....	24,368	458,344	851,050	583,328	22,408	130,864	395,686	711,890	316,114	.....	.....
East South Central..	1909	15,381	305,465	17,208	26,485	261,772	1,036,560	586,276	29,008	102,191	336,163	630,488	294,325	18.3	35.8
	1904	10,311	249,892	11,449	17,214	221,229	753,928	455,361	17,417	83,942	252,156	464,336	212,189	24.8	42.8
	1899	10,058	.....	.....	11,204	177,208	513,425	234,014	10,385	56,003	176,506	325,086	148,569	.....	.....
West South Central..	1909	12,339	240,902	12,944	23,488	204,520	873,350	547,739	25,382	97,646	282,131	625,443	243,312	42.6	56.6
	1904	8,279	166,640	8,299	14,871	143,470	555,717	328,966	15,190	67,128	246,832	415,232	168,400	26.5	64.6
	1899	7,174	.....	.....	8,255	113,388	397,471	193,969	7,334	42,715	153,510	252,314	98,894	.....	.....
Mountain.....	1909	5,254	89,862	4,849	9,578	75,435	400,766	348,977	12,522	56,870	228,092	363,996	135,904	42.9	42.9
	1904	3,610	61,812	3,302	5,720	52,790	241,825	220,569	7,541	39,046	152,813	254,663	101,850	18.6	32.8
	1899	3,146	.....	.....	3,486	44,497	123,012	126,724	3,897	27,714	115,606	191,825	76,219	.....	.....
Pacific.....	1909	13,579	256,416	13,840	29,410	213,166	802,016	848,477	36,829	153,810	492,678	843,512	349,534	29.9	52.9
	1904	11,192	193,517	11,730	17,710	164,077	400,049	423,623	20,625	106,187	312,489	551,565	239,076	33.2	51.2
	1899	8,329	.....	.....	10,123	123,206	274,559	245,402	10,781	63,777	223,960	364,810	149,850	.....	.....
NEW ENGLAND:															
Maine.....	1909	3,540	88,476	3,661	4,860	79,955	459,599	202,260	5,797	37,632	97,191	176,029	78,928	6.7	22.2
	1904	3,145	82,109	3,379	3,772	74,958	343,627	143,708	3,989	32,692	80,042	144,020	63,978	7.2	27.5
	1899	2,878	.....	.....	3,103	69,914	259,232	114,008	3,051	25,731	61,210	112,959	51,749	.....	.....
New Hampshire....	1909	1,961	84,191	2,014	3,519	78,658	293,991	139,990	4,191	26,200	98,157	164,881	66,424	29.3	39.1
	1904	1,618	69,758	1,726	2,666	65,866	218,344	109,495	2,972	27,693	73,216	123,611	50,395	-3.4	14.9
	1899	1,771	.....	.....	2,068	67,646	200,975	92,146	2,200	25,850	60,163	107,591	47,428	.....	.....
Vermont.....	1909	1,958	38,580	2,113	2,679	33,788	159,445	73,470	2,803	17,272	34,823	68,310	33,487	2.1	8.3
	1904	1,699	37,015	1,856	2,053	33,106	140,616	62,659	2,103	15,221	32,430	63,084	30,654	17.5	22.5
	1899	1,938	.....	.....	1,695	28,179	126,124	43,500	1,610	11,426	26,385	51,515	25,139	.....	.....
Massachusetts.....	1909	11,684	644,899	11,194	48,646	584,559	1,175,071	1,279,687	63,279	301,174	830,765	1,490,529	659,764	19.7	32.6
	1904	10,723	532,481	11,258	32,824	488,399	938,007	965,949	29,654	232,389	626,411	1,124,092	497,681	11.4	23.8
	1899	10,929	.....	.....	25,256	438,234	796,061	781,868	29,480	195,278	498,655	907,627	408,972	.....	.....
Rhode Island.....	1909	1,951	122,641	1,721	7,382	113,538	226,740	290,901	10,577	55,234	158,192	280,344	122,152	16.7	38.7
	1904	1,617	104,299	1,561	5,430	97,318	181,017	215,901	7,041	43,113	112,872	202,110	89,235	10.3	22.1
	1899	1,678	.....	.....	4,022	88,197	153,619	176,901	5,300	35,995	87,982	165,550	77,596	.....	.....
Connecticut.....	1909	4,251	233,871	3,468	19,611	210,792	400,275	517,546	25,687	110,119	257,259	490,272	233,013	16.1	32.8
	1904	3,477	198,046	2,918	13,523	181,605	304,204	373,283	17,040	87,942	191,392	369,082	177,780	13.7	17.1
	1899	3,382	.....	.....	9,258	159,733	256,331	299,207	11,755	73,394	169,672	315,106	145,434	.....	.....
MIDDLE ATLANTIC:															
New York.....	1909	44,935	1,203,241	47,569	151,691	1,003,981	1,997,662	2,779,497	186,082	557,231	1,856,904	3,369,490	1,512,586	17.2	35.4
	1904	37,194	996,725	41,766	98,012	856,947	1,516,592	2,031,460	111,145	430,015	1,348,663	2,485,346	1,139,743	17.9	22.9
	1899	35,957	.....	.....	68,030	726,909	1,099,931	1,523,503	76,740	337,324	1,018,377	1,871,531	833,454	.....	.....
New Jersey.....	1909	8,817	371,265	8,204	36,838	326,223	612,293	977,172	48,387	169,710	720,034	1,145,539	425,495	22.5	47.9
	1904	7,010	296,262	6,730	26,336	236,274	436,274	515,080	28,957	128,169	470,449	774,369	309,280	24.5	49.0
	1899	6,415	.....	.....	15,361	213,975	322,503	477,301	19,068	95,165	334,736	553,006	218,280	.....	.....
Pennsylvania.....	1909	27,563	1,002,171	29,743	94,885	877,543	2,921,547	2,749,006	110,897	455,627	1,582,590	2,626,742	1,044,182	15.0	34.3
	1904	23,495	855,392	26,029	66,081	763,282	2,302,398	1,995,837	73,269	367,961	1,142,943	1,655,551	512,608	15.0	18.5
	1899	23,462	.....	.....	43,935	663,960	1,716,694	1,449,815	46,145	296,876	958,301	1,649,882	691,581	.....	.....
EAST NORTH CENTRAL:															
Ohio.....	1909	15,138	523,004	14,719	61,351	446,934	1,583,155	1,800,733	72,147	245,450	824,202	1,437,936	613,734	22.7	49.7
	1904	13,785	417,946	13,657	30,991	364,298	1,116,932	856,989	43,435	182,429	527,637	960,812	433,175	18.2	28.3
	1899	13,868	.....	.....	28,109	308,109	783,665	970,909	28,151	136,428	409,303	748,671	329,368	.....	.....
Indiana.....	1909	7,969	218,263	7,674	23,605	186,984	633,377	508							

ABSTRACT OF THE CENSUS—MANUFACTURES.

COMPARATIVE SUMMARY FOR THE UNITED STATES, BY STATES: 1909, 1904, AND 1899—Continued.

[See explanatory note on the first page of this table.]

Table 111—Contd.	DIVISION AND STATE.	Census.	PERSONS ENGAGED IN INDUSTRY.					Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture (value of products less cost of materials).	PER CENT OF INCREASE.	
			Total.	Proprietors and firm members.	Salaries employees.	Wage earners (average number).	Wage earners (average number).								Wage earners (average number).	Wage earners (average number).	Value of products.
Expressed in thousands.																
EAST NORTH CENTRAL—Continued.																
	Michigan.....	1909 1904 1899	9,150 7,446 7,310	271,071 200,196	8,905 7,732	30,607 17,235 13,360	231,499 175,229 156,800	598,288 440,800 308,497	\$583,947 337,894 240,906	\$34,870 17,470 12,336	\$118,908 81,279 62,532	\$368,612 230,081 175,900	\$685,100 429,120 319,692	\$316,497 199,039 143,726	32.1 12.5	59.7 34.2
	Wisconsin.....	1909 1904 1899	9,721 8,558 7,841	213,426 173,572	8,550 7,961	22,287 14,220 10,480	182,583 151,391 137,525	554,179 440,234 364,380	905,657 412,647 280,061	25,737 15,498 10,493	93,905 71,472 55,696	346,356 227,255 185,695	500,305 411,140 326,753	243,949 183,885 141,058	20.6 10.1	43.6 25.8
WEST NORTH CENTRAL:																
	Minnesota.....	1909 1904 1899	5,501 4,756 4,096	104,403 83,301	5,376 4,524	14,293 0,141 0,025	84,707 89,036 84,657	297,670 220,934 180,124	275,416 184,903 133,077	15,451 9,033 6,064	47,471 35,843 29,029	281,622 210,554 150,290	409,420 307,858 223,693	127,708 97,304 73,394	21.7 7.9	33.0 37.6
	Iowa.....	1909 1904 1899	5,528 4,785 4,828	78,300 61,361	5,323 4,758	11,402 7,122 5,159	61,635 49,481 44,420	155,384 118,065 100,604	171,219 111,428 85,608	10,972 5,948 4,233	32,542 22,997 18,021	170,707 102,844 85,779	259,238 160,572 132,871	88,531 57,728 47,002	24.6 11.4	61.4 20.8
	Missouri.....	1909 1904 1899	8,375 6,464 6,853	185,705 156,585	8,226 6,299	24,486 17,119 12,474	152,993 133,167 107,704	340,467 247,861 189,117	444,343 379,309 228,781	28,994 19,002 13,295	80,843 66,644 46,714	354,411 252,258 184,189	574,111 439,549 316,304	219,700 187,291 132,115	14.9 23.6	30.6 39.0
	North Dakota.....	1909 1904 1899	752 507 337	4,148 2,545	723 494	636 296 152	2,780 1,755 1,358	13,196 9,873 7,351	11,585 5,704 3,512	629 258 130	1,787 1,032 671	13,674 7,096 4,151	19,137 10,218 6,200	5,403 3,122 2,109	58.9 20.2	87.3 63.2
	South Dakota.....	1909 1904 1899	1,020 686 624	5,226 3,582	942 649	682 441 288	3,602 2,492 2,224	17,666 11,154 11,775	13,018 7,585 6,051	616 204 175	2,207 1,422 1,130	11,476 8,697 6,484	17,870 13,086 9,530	6,394 4,389 3,046	44.5 12.0	36.6 37.3
	Nebraska.....	1909 1904 1899	2,500 1,819 1,695	31,900 25,350	2,522 1,904	5,108 3,192 2,296	24,336 20,260 18,609	64,466 46,372 41,825	99,001 80,235 65,900	5,491 3,075 2,107	13,048 11,022 8,842	151,081 124,052 95,925	199,019 154,918 130,302	47,038 30,866 34,377	20.1 8.5	28.5 18.9
	Kansas.....	1909 1904 1899	3,435 2,475 2,299	54,649 42,057	3,571 2,766	6,863 3,721 3,612	44,215 35,570 27,119	213,141 88,680 68,242	156,090 3,693 59,458	7,351 3,693 3,123	25,004 18,883 12,802	258,884 156,510 120,738	325,004 198,245 154,009	66,220 41,735 33,271	24.3 31.2	64.0 28.7
SOUTH ATLANTIC:																
	Delaware.....	1909 1904 1899	725 631 633	23,984 20,567	722 641	2,024 1,451 1,189	21,238 18,475 20,562	52,779 49,490 40,134	60,903 50,920 38,791	2,322 1,629 1,337	10,296 8,158 8,467	30,938 24,884 24,725	52,840 41,100 41,321	21,002 16,270 10,599	15.0 -10.2	28.4 -0.4
	Maryland.....	1909 1904 1899	4,837 3,852 3,880	125,489 107,303	5,375 4,505	12,192 8,624 6,741	107,921 94,174 94,170	218,244 165,449 132,652	251,227 201,878 140,155	13,617 8,844 6,845	45,436 30,144 23,414	190,049 150,024 120,355	315,669 243,376 211,076	110,620 93,352 81,721	14.6 (1)	29.7 15.3
	District of Columbia.....	1909 1904 1899	518 482 491	9,758 7,778	475 473	1,570 1,006 957	7,707 6,290 6,155	16,563 12,592 10,255	30,553 20,200 17,901	1,840 1,207 872	4,989 3,659 3,023	10,247 7,732 7,475	25,289 18,359 10,426	15,042 10,627 8,951	22.4 2.3	37.7 11.8
	Virginia.....	1909 1904 1899	5,085 3,187 3,186	120,797 85,893	6,570 3,643	8,551 4,970 3,828	105,070 80,285 60,223	283,928 176,998 136,696	216,392 147,989 92,300	9,101 4,875 3,030	38,154 27,043 20,274	125,583 83,040 50,300	219,794 148,857 108,044	94,211 65,208 49,284	31.0 21.2	47.7 37.0
	West Virginia.....	1909 1904 1899	2,580 2,109 1,824	71,463 48,880	2,599 2,230	4,971 2,892 1,744	63,893 43,758 33,080	217,496 138,578 91,894	150,922 80,821 49,103	5,710 2,899 1,519	33,000 21,153 12,040	92,878 54,419 37,228	161,940 90,041 67,007	69,071 44,622 29,772	46.0 32.3	63.5 47.8
	North Carolina.....	1909 1904 1899	4,931 3,272 3,405	133,453 93,142	5,451 3,731	6,529 4,072 2,804	121,473 85,339 72,322	378,556 216,622 154,467	217,185 141,001 98,283	6,003 3,795 2,895	34,355 21,375 14,052	121,861 79,208 44,854	210,650 142,521 85,274	94,795 63,253 40,420	42.3 18.0	52.0 67.1
	South Carolina.....	1909 1904 1899	1,854 1,399 1,369	78,040 69,071	1,737 1,241	3,257 2,389 1,419	73,046 59,441 47,025	276,378 197,479 112,097	173,221 113,422 62,750	3,750 2,355 1,307	20,361 13,809 9,130	66,351 49,909 30,480	113,230 79,376 53,336	46,885 20,407 22,850	22.9 26.4	42.7 48.8
	Georgia.....	1909 1904 1899	4,792 3,219 3,015	118,936 102,305	5,141 3,512	8,307 6,104 3,815	104,588 92,749 83,330	298,241 220,419 136,499	292,778 135,211 79,303	9,062 6,027 3,204	34,805 27,393 10,958	110,970 83,025 49,350	202,863 151,040 94,532	85,593 67,415 45,176	12.8 11.3	34.3 59.8
	Florida.....	1909 1904 1899	2,150 1,413 1,275	64,810 46,985	2,712 1,799	4,625 3,125 1,781	57,473 43,413 35,471	89,816 43,413 30,356	65,201 32,972 25,682	4,055 2,670 1,299	22,982 15,707 10,916	29,128 16,532 12,847	72,890 50,298 34,184	46,762 33,760 21,837	36.5 18.7	44.9 47.1
EAST SOUTH CENTRAL:																
	Kentucky.....	1909 1904 1899	4,776 3,734 3,048	79,000 69,755	5,050 4,108	8,610 5,853 4,356	65,400 59,794 51,735	230,224 174,025 144,161	172,779 147,282 87,996	9,603 5,871 4,185	27,888 24,439 18,454	111,779 86,545 67,406	223,754 159,764 120,509	111,975 73,200 59,103	9.4 15.6	40.1 26.3
	Tennessee.....	1909 1904 1899	4,609 3,175 3,116	87,672 69,287	5,415 3,805	8,417 4,910 3,329	73,840 60,572 45,963	242,277 175,780 130,318	167,924 102,440 63,140	9,186 5,081 3,048	28,251 22,806 14,727	104,016 79,352 54,559	180,217 137,061 92,749	76,201 58,909 38,190	21.9 31.8	36.6 48.7
	Alabama.....	1909 1904 1899	3,398 1,882 2,000	81,972 67,884	3,769 1,948	6,055 3,763 2,259	72,148 62,173 52,711	357,837 293,185 178,208	173,180 105,383 60,166	6,555 3,867 2,059	27,284 21,878 14,912	83,442 60,458 37,998	145,962 109,170 72,110	62,520 45,712 34,112	16.0 18.0	33.7 51.4
	Mississippi.....	1909 1904 1899	2,598 1,520 1,294	56,761 42,966	2,074 1,588	3,403 2,688 1,260	50,384 38,600 26,799	206,222 110,338 52,712	72,393 50,256 22,712	3,054 2,598 1,093	18,768 14,819 7,910	36,926 25,801 16,543	80,555 57,451 33,718	43,629 31,650 17,175	30.2 44.4	40.2 70.4

1 Less than one-tenth of 1 per cent.

STATES, CITIES, AND INDUSTRIES.

527

COMPARATIVE SUMMARY FOR THE UNITED STATES, BY STATES: 1909, 1904, AND 1899—Continued.

[See explanatory note on the first page of this table.]

Table 111—Contd.	DIVISION AND STATE.	Cen- sus.	Number of estab- lish- ments.	PERSONS ENGAGED IN INDUSTRY.				Primary horse- power.	Capital.	Sala- ries.	Wages.	Cost of materials.	Value of products.	Value added by manu- facture (value of products less cost of materials).	PER CENT OF INCREASE.	
				Total.	Pro- pri- etors and firm mem- bers.	Salaried em- ployees.	Wage earn- ers (average number).								Wage earn- ers (aver- age num- ber).	Value of prod- ucts.
Expressed in thousands.																
WEST SOUTH CENTRAL:																
Arkansas.....	1909	2,925	51,730	3,455	3,293	44,982	173,088	\$70,174	\$3,461	\$19,113	\$34,935	\$74,916	\$39,981	35.9	39.1	
	1904	1,907	37,557	2,140	2,328	33,089	109,509	46,306	2,310	14,544	21,799	53,865	32,066	5.0	35.0	
	1899	1,746	.....	.....	.....	.....	79,560	25,385	1,262	10,184	18,288	39,888	21,000	.....	.....
Louisiana.....	1909	2,516	86,563	2,295	8,103	76,165	346,652	221,816	9,008	33,386	134,865	223,949	89,084	36.4	29.2	
	1904	2,091	63,735	1,899	5,977	55,859	251,963	150,811	6,044	25,316	117,035	186,380	69,345	26.6	67.3	
	1899	1,826	.....	.....	.....	.....	190,182	100,875	2,934	14,725	75,464	111,398	35,994	.....	.....
Oklahoma.....	1909	2,310	18,084	2,698	2,193	13,143	71,139	38,873	2,045	7,240	34,153	13,682	19,529	140.9	119.5	
	1904	1,123	7,456	1,187	813	5,456	29,698	16,124	718	2,799	16,394	24,459	8,065	129.1	200.7	
	1899	495	.....	.....	.....	.....	11,572	4,054	219	894	5,430	8,134	2,704	.....	.....
Texas.....	1909	4,588	84,575	4,496	9,849	70,230	282,471	216,876	10,868	37,907	178,178	272,896	94,718	43.1	81.3	
	1904	3,158	57,892	3,073	5,753	49,066	164,637	115,665	6,118	24,469	91,604	150,528	58,924	27.1	62.0	
	1899	3,107	.....	.....	.....	.....	110,157	63,655	2,919	16,912	54,388	92,894	38,506	.....	.....
MOUNTAIN:																
Montana.....	1909	677	13,694	659	1,380	11,655	90,402	44,588	2,054	10,901	49,180	73,272	24,092	39.1	16.3	
	1904	352	10,196	334	905	8,957	46,736	32,590	1,506	8,652	40,930	66,415	25,485	-9.1	25.9	
	1899	395	.....	.....	.....	.....	43,679	38,225	786	7,377	30,068	52,745	22,677	.....	.....
Idaho.....	1909	725	9,909	831	858	8,220	42,804	32,477	984	5,498	9,920	22,400	12,480	168.5	155.4	
	1904	364	3,791	371	359	3,061	16,987	9,689	379	2,059	4,069	8,769	4,700	97.2	192.2	
	1899	287	.....	.....	.....	.....	5,649	2,130	66	818	1,439	3,091	1,962	.....	.....
Wyoming.....	1909	268	3,393	263	263	2,867	7,628	6,193	311	2,061	2,698	6,249	3,641	56.3	77.4	
	1904	169	2,163	150	179	1,834	3,604	2,096	206	1,261	1,301	3,523	2,222	-11.6	7.8	
	1899	139	.....	.....	.....	.....	3,820	2,045	91	1,209	1,370	3,268	1,898	.....	.....
Colorado.....	1909	2,034	34,115	1,722	4,326	28,067	154,615	162,668	5,648	19,012	80,491	136,044	49,553	28.7	29.9	
	1904	1,606	25,888	1,398	2,677	21,813	124,907	107,664	3,549	15,100	63,114	109,144	37,030	11.9	12.4	
	1899	1,323	.....	.....	.....	.....	43,434	58,173	2,059	11,708	60,751	89,068	28,317	.....	.....
New Mexico.....	1909	313	4,766	288	335	4,143	15,465	7,743	383	2,591	3,261	7,898	4,637	19.1	38.4	
	1904	199	3,891	189	224	3,478	5,948	4,638	264	2,153	2,226	5,706	3,479	39.7	40.5	
	1899	174	.....	.....	.....	.....	2,490	3,658	91	1,199	1,999	4,061	2,062	.....	.....
Arizona.....	1909	311	7,202	261	500	6,441	39,140	32,873	798	5,505	33,600	50,257	16,657	34.4	79.0	
	1904	169	5,217	133	291	4,793	21,412	14,396	472	3,969	14,595	28,693	13,488	53.3	37.4	
	1899	154	.....	.....	.....	.....	8,537	9,517	269	2,287	7,877	30,439	12,562	.....	.....
Utah.....	1909	749	14,133	688	1,660	11,785	42,947	52,627	1,966	8,400	41,266	61,989	20,723	46.4	69.2	
	1904	606	9,650	619	979	8,052	19,397	26,004	1,039	5,158	24,940	38,927	13,987	48.8	116.5	
	1899	575	.....	.....	.....	.....	12,674	13,219	501	2,763	11,440	17,982	6,542	.....	.....
Nevada.....	1909	177	2,050	137	256	2,257	7,765	9,806	378	1,982	8,366	11,887	3,521	181.4	263.9	
	1904	115	1,016	108	106	802	2,834	2,892	126	694	1,628	3,696	1,468	59.1	148.5	
	1899	99	.....	.....	.....	.....	1,561	1,251	34	363	662	1,261	599	.....	.....
PACIFIC:																
Washington.....	1909	3,674	80,118	3,264	7,734	69,120	297,897	222,261	9,827	49,766	117,868	220,746	102,858	52.9	71.4	
	1904	2,751	51,459	2,602	3,658	45,199	168,342	90,953	4,093	30,087	66,166	128,822	62,656	43.4	81.9	
	1899	1,926	.....	.....	.....	.....	87,601	41,575	2,064	17,065	38,277	70,831	32,554	.....	.....
Oregon.....	1909	2,246	34,722	2,499	3,473	28,750	175,019	89,082	4,047	19,902	50,552	93,005	42,453	55.2	67.5	
	1904	1,602	22,018	1,726	1,769	18,523	81,348	44,023	2,133	11,443	30,587	55,825	24,928	28.1	51.7	
	1899	1,406	.....	.....	.....	.....	60,005	28,359	1,222	6,822	20,789	36,593	15,894	.....	.....
California.....	1909	7,659	141,576	8,077	18,203	115,296	329,100	537,134	22,955	84,142	325,238	529,761	204,523	14.9	44.3	
	1904	6,839	120,040	7,402	12,283	100,355	210,359	282,647	14,399	64,657	215,726	367,218	151,492	30.0	42.7	
	1899	4,997	.....	.....	.....	.....	126,953	175,468	7,495	39,890	164,894	257,386	92,492	.....	.....

¹ Includes Indian Territory.

ABSTRACT OF THE CENSUS—MANUFACTURES.

COMPARATIVE SUMMARY FOR THE 25 PRINCIPAL CITIES: 1909, 1904, AND 1899.

NOTE.—The figures for some cities 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 cities.

[A minus sign (—) denotes decrease.]

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 (value of products less cost of materials).	PER CENT OF INCREASE.	
			Total.	Proprietors and firm members.	Salaried employes.	Wage earners (average number).	Wage earners (average number).								Wage earners (average number).	Value of products.
Expressed in thousands.																
New York, N. Y.	1909	25,038	680,510	29,055	97,453	554,002	420,003	\$1,304,353	\$122,074	\$323,608	\$1,092,155	\$2,020,693	\$937,538	19.2	33.0	
	1904	20,839	552,952	24,650	63,586	404,716		1,042,946	73,028	248,128	818,020	1,520,523	708,404	19.6	30.2	
	1899	19,243	437,883	21,450	43,783	388,580		853,238	51,656	196,056	634,210	1,172,870	538,660			
Chicago, Ill.	1909	9,650	356,954	8,156	54,821	293,977	525,236	971,841	65,925	174,112	703,470	1,281,171	487,701	21.5	34.1	
	1904	8,159	280,520	7,209	40,276	241,084		637,743	45,601	130,405	589,914	955,030	305,122	9.4	19.7	
	1899	7,608	221,191	6,406	32,406	188,785		511,249	32,068	108,727	402,222	797,879	265,657			
Philadelphia, Pa.	1909	8,379	294,498	9,102	33,452	251,884	305,950	901,397	39,446	120,381	420,092	746,076	316,984	10.0	26.2	
	1904	7,087	259,878	8,140	22,830	228,869		520,179	25,390	107,640	333,352	591,388	258,030	6.6	13.7	
	1899	7,503	17,498	17,498	64,832	214,775		445,725	18,931	94,737	295,175	510,982	224,807			
St. Louis, Mo.	1909	2,067	104,587	1,809	15,347	87,371	163,615	209,392	19,671	48,535	188,189	328,495	140,306	5.6	22.9	
	1904	2,482	95,902	1,883	11,381	82,608		265,937	13,475	42,642	137,740	267,307	129,567	27.6	38.0	
	1899	2,640	64,832	8,807	64,832			150,520	10,070	20,145	101,858	193,733	91,805			
Cleveland, Ohio	1909	2,148	98,086	1,718	12,240	84,728	190,898	227,397	15,506	48,053	154,915	271,961	117,046	32.3	53.2	
	1904	1,616	72,302	1,445	6,876	64,041		156,321	8,299	33,450	97,678	171,924	74,346	15.7	23.4	
	1899	1,350	5,064	5,064	55,341			101,243	5,453	20,518	76,465	130,356	62,891			
Detroit, Mich.	1909	2,036	95,841	1,804	13,020	81,011	114,190	190,125	15,260	43,007	130,218	252,992	123,774	67.1	97.3	
	1904	1,362	55,718	1,312	5,923	48,483		91,038	0,126	22,558	66,581	128,247	61,000	26.3	45.1	
	1899	1,250	4,947	4,947	38,373			67,224	4,720	15,317	47,007	88,300	41,359			
Pittsburgh, Pa.	1909	1,650	79,625	1,553	10,598	67,474	307,066	283,130	12,683	39,973	148,527	243,454	94,927	-5.8	15.2	
	1904	1,562	81,407	1,516	8,273	71,618		260,765	9,763	39,805	124,581	211,259	86,678	-0.2	-3.2	
	1899	1,301	5,850	5,850	71,794			211,774	0,351	37,035	128,458	218,108	89,740			
Boston, Mass.	1909	3,155	85,158	2,873	12,048	69,637	68,410	175,182	15,041	39,910	124,577	237,457	112,880	17.7	28.8	
	1904	2,747	71,421	2,833	9,428	59,100		131,563	10,464	31,873	94,003	184,351	80,748	11.9	13.3	
	1899	2,878	7,601	7,601	8,807	82,853		130,143	8,180	28,209	82,295	102,705	80,470			
Buffalo, N. Y.	1909	1,753	61,240	1,489	8,345	51,412	121,791	193,041	9,347	28,727	136,638	218,804	82,206	18.0	48.5	
	1904	1,538	50,390	1,559	5,204	43,567		137,023	5,542	21,622	88,367	147,378	50,011	27.1	39.5	
	1899	1,478	3,767	3,767	34,275			95,740	3,429	15,078	65,939	105,627	30,688			
Milwaukee, Wis.	1909	1,764	68,933	1,472	7,959	59,502	94,254	219,391	9,405	31,437	150,621	208,324	87,703	37.2	51.0	
	1904	1,527	49,843	1,393	5,984	43,366		161,494	5,837	20,809	71,103	137,995	60,892	5.2	24.5	
	1899	1,419	4,077	4,077	41,220			105,504	4,305	17,102	59,694	110,854	51,160			
Newark, N. J.	1909	1,858	69,986	1,704	8,327	59,955	78,263	154,233	11,777	33,076	114,679	202,511	87,832	18.3	35.0	
	1904	1,600	57,463	1,631	5,135	50,967		119,026	6,055	25,622	80,689	150,055	69,360	18.2	33.1	
	1899	1,573	4,146	4,146	42,878			97,182	5,250	20,305	60,772	112,728	51,956			
Cincinnati, Ohio	1909	2,184	72,488	2,015	10,281	60,192	88,597	150,254	12,759	31,101	101,932	194,516	92,584	2.7	17.1	
	1904	2,171	68,054	2,180	8,190	58,584		130,272	9,077	27,390	83,258	160,059	82,801	6.6	17.2	
	1899	2,454	6,164	6,164	54,942			103,464	0,437	23,104	71,301	141,678	70,287			
Baltimore, Md.	1909	2,502	83,473	2,660	9,369	71,444	76,764	104,437	10,571	18,074	107,024	180,978	79,954	9.8	24.5	
	1904	2,158	74,234	2,432	6,752	65,050		140,961	0,997	25,507	89,555	160,171	69,010	-2.3	11.1	
	1899	2,274	5,501	5,501	66,571			107,217	5,871	23,493	75,223	135,108	59,885			
Minneapolis, Minn.	1909	1,102	33,923	1,012	5,949	20,062	80,247	90,382	6,277	15,638	119,993	105,405	45,412	24.4	36.5	
	1904	876	20,045	847	3,627	21,071		60,135	3,530	11,418	89,882	121,163	32,281	10.5	28.3	
	1899	789	2,158	2,158	10,620			50,177	2,113	9,383	68,910	94,408	25,408			
Kansas City, Kans.	1909	165	14,333	142	1,897	12,294	31,885	42,817	2,138	7,027	144,390	104,081	19,091	16.8	70.1	
	1904	100	11,701	82	1,150	10,520		27,773	1,210	5,449	83,883	60,478	12,500	11.0	20.6	
	1899	114	2,063	2,063	0,483			18,236	1,911	4,259	68,875	80,023	11,148			
San Francisco, Cal.	1909	1,790	36,910	2,544	0,122	28,244	40,934	133,824	8,086	22,381	76,217	133,041	50,824	-20.5	-3.4	
	1904	2,251	46,066	3,047	5,190	38,429		102,392	6,630	25,015	75,946	137,788	61,642	18.0	28.7	
	1899	1,748	3,413	3,413	32,555			60,643	3,920	17,259	65,535	107,024	41,489			
Jersey City, N. J.	1909	745	30,239	614	4,171	25,454	35,917	79,794	5,049	13,216	89,317	128,775	39,458	25.1	70.0	
	1904	628	23,312	580	2,379	20,363		82,395	2,990	10,021	83,799	76,741	26,642	17.0	3.9	
	1899	536	1,614	1,614	17,391			78,012	2,039	7,965	50,266	72,930	22,664			
Indianapolis, Ind.	1909	855	37,929	631	5,483	31,815	50,872	76,497	6,494	16,557	84,151	126,522	42,371	19.0	53.9	
	1904	810	31,431	591	4,115	26,725		53,420	4,096	12,620	51,763	82,228	30,495	27.4	38.6	
	1899	697	2,325	2,325	20,985			34,730	2,248	8,844	38,287	59,322	21,035			
Providence, R. I.	1909	1,080	51,607	1,017	4,269	46,381	56,410	118,512	5,650	24,440	64,770	120,241	55,471	16.5	30.7	
	1904	881	43,748	893	3,051	39,804		95,666	3,819	19,555	49,973	91,081	42,008	3.7	16.9	
	1899	929	2,493	2,493	38,368			79,686	3,053	16,931	42,551	78,657	36,106			
Rochester, N. Y.	1909	1,203	46,017	1,042	6,467	39,108	39,277	95,708	7,734	21,518	50,674	112,670	62,002	23.1	38.9	
	1904	1,100	37,128	1,084	4,265	31,779		99,807	4,520	14,702	37,918	81,109	43,191	13.3	35.9	
	1899	1,221	3,061	3,061	28,049			45,210	3,131	11,969	28,245	59,069	31,424			
Louisville, Ky.	1909	903	32,397	669	4,705	27,023	49,926	79,437	5,533	12,460	54,128	101,284	47,156	8.2	21.7	
	1904	842	28,817	706	3,126	24,955		79,909	3,397	10,812	45,682	89,204	37,522	8.3	25.9	
	1899	860	2,401	2,401	23,062			44,016	2,596	8,436	34,876	60,110	31,234			
South Omaha, Nebr.	1909	71	7,659	63	1,200	6,306	11,850	10,877	1,559	3,544	77,773	92,430	14,763	11.4	37.1	
	1904	41	6,571	34	875	5,632		20,564	950	3,210	59,193	67,415	8,222	-10.5	-3.0	
	1899	41	769	769	6,327			16,382	736	3,115	01,018	09,609	8,401			
Youngstown, Ohio	1909	115	11,851	94	1,259	10,492	140,907	87,160	1,593	7,835	62,292	81,271	18,079</			

STATES, CITIES, AND INDUSTRIES.

CITIES OF 10,000 INHABITANTS OR OVER—NUMBER OF ESTABLISHMENTS, AVERAGE NUMBER OF WAGE EARNERS, VALUE OF PRODUCTS, AND VALUE ADDED BY MANUFACTURE: 1909, 1904, AND 1899.

NOTE.—The figures for some cities 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 cities. Figures for 1904 and 1899 are available for cities which had between 8,000 and 10,000 inhabitants in 1900 and are included, but for cities having less than 8,000 inhabitants in 1900 comparative data are not available.

Table 113.

CITY.	NUMBER OF ESTABLISHMENTS.			AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE (VALUE OF PRODUCTS LESS COST OF MATERIALS).		
	Expressed in thousands.									1909	1904	1899
	1909	1904	1899	1909	1904	1899	1909	1904	1899			
ALABAMA:												
Anniston.....	39	35	25	2,167	2,005	1,445	\$4,333	\$3,327	\$1,863	\$1,509	\$1,449	\$694
Bessemer.....	31			1,816			6,106			1,867		
Birmingham.....	248	122	109	8,999	8,987	3,490	24,128	7,593	5,599	16,118	3,644	4,619
Gadsden.....	37			786			1,525			621		
Mobile.....	126	139	113	2,362	2,496	2,371	5,429	4,942	3,486	2,490	2,629	1,944
Montgomery.....	73	59	52	2,284	1,940	1,528	5,443	3,878	2,944	2,426	1,689	1,229
Selma.....	35	26	32	813	668	669	2,382	1,139	1,419	787	512	557
ARIZONA:												
Phoenix.....	57			304			1,467			603		
Tucson.....	35			555			2,037			767		
ARKANSAS:												
Argonia.....	18			2,157			4,842			2,157		
Fort Smith.....	83	63	66	1,455	1,049	677	3,739	2,329	1,461	1,733	1,216	750
Hot Springs.....	71	22	21	835	239	94	844	697	191	541	309	106
Little Rock.....	125	104	62	2,017	1,971	1,397	6,852	4,690	3,379	2,868	2,131	1,699
Pine Bluff.....	42	34	37	1,118	1,425	990	2,387	2,500	1,541	1,033	1,079	732
CALIFORNIA:												
Alameda.....	51	30	23	915	279	372	2,554	697	1,325	1,625	464	547
Bakersfield.....	27			746			2,819			1,119		
Berkeley.....	34	44	22	1,084	338	211	4,435	1,474	651	1,748	692	269
Eureka.....	48			946			3,012			1,518		
Fresno.....	70	80	62	1,838	1,915	819	11,090	9,754	2,753	3,068	2,926	1,948
Long Beach.....	51			277			927			429		
Los Angeles.....	1,325	814	534	17,327	10,424	5,173	68,536	34,814	15,134	29,673	16,125	7,045
Oakland.....	441	248	195	6,906	3,353	2,476	22,343	9,015	5,366	10,496	4,708	2,654
Pasadena.....	88	46	28	499	318	177	1,724	967	331	570	549	294
Pomona.....	30			224			560			330		
Redlands.....	37			147			1,178			279		
Riverside.....	63			267			1,178			511		
Sacramento.....	211	156	111	4,514	4,203	3,686	13,977	10,073	9,495	7,052	4,822	4,159
San Bernardino.....	41			729			1,630			597		
San Diego.....	117	89	57	1,071	541	255	4,741	1,874	670	2,674	808	385
San Francisco.....	1,796	2,251	1,748	28,244	38,429	32,555	133,041	137,788	107,024	56,824	61,843	41,489
San Jose.....	153	153	124	1,439	1,260	1,221	5,611	4,298	3,292	2,368	1,786	1,442
Santa Barbara.....	51			274			1,169			473		
Santa Cruz.....	24			274			1,161			493		
Stockton.....	144	110	91	1,594	1,333	1,185	11,849	8,030	5,525	3,829	2,189	1,538
Vallejo.....	23			203			1,896			492		
COLORADO:												
Colorado Springs.....	59	49	34	516	410	409	1,733	1,101	845	910	690	450
Cripple Creek.....	22	35		51	167		223	441		147		266
Denver.....	706	722	574	12,058	9,672	8,500	51,538	36,660	37,906	20,611	15,960	13,434
Leadville.....	32	34		861	1,227		5,446	5,833		1,962		1,043
Pueblo.....	94	80	69	1,320	941	790	3,345	2,197	1,440	1,848	1,256	768
Trinidad.....	30			220			814			503		
CONNECTICUT:												
Ansonia.....	53	49	49	4,127	3,394	3,288	20,088	19,132	18,515	5,477	3,324	3,559
Bridgeport.....	367	306	286	25,775	19,492	17,038	65,609	44,586	33,536	27,662	22,262	16,249
Danbury.....	131	103	104	4,810	4,515	3,939	10,318	8,066	6,527	5,439	4,371	3,269
Hartford.....	396	340	322	14,627	11,221	10,677	40,680	25,974	23,829	22,817	14,487	12,890
Meriden.....	120	97	92	7,845	7,281	6,689	16,317	13,764	11,751	9,374	8,129	6,645
Middletown.....	58	65	60	2,434	2,318	2,495	4,965	4,351	4,122	2,012	1,788	1,799
Naugatuck borough.....	24	22	22	3,464	3,628	3,160	11,033	11,010	8,887	3,704	3,750	2,815
New Britain.....	111	95	82	13,513	10,073	8,019	22,021	14,960	11,096	13,693	9,292	6,500
New Haven.....	590	490	437	23,547	21,437	17,594	51,071	39,666	34,900	26,752	21,145	18,764
New London.....	70	57	54	2,225	2,554	1,963	4,483	4,710	4,221	1,952	2,183	1,939
Norwich.....	81	87	89	4,470	3,706	3,172	9,389	6,022	5,935	4,587	2,979	2,889
Stamford.....	86	62	49	3,984	3,341	2,445	8,739	5,890	3,920	5,035	3,660	2,220
Torrington borough.....	54	43	37	4,488	4,025	3,161	12,550	9,674	9,178	5,087	3,759	2,917
Waterbury.....	169	143	124	20,170	15,406	13,225	50,350	32,367	30,330	21,624	14,597	12,128
Willmantic.....	47	35	30	3,020	2,852	2,258	6,783	4,902	3,023	3,539	2,832	1,663
DELAWARE:												
Wilmington.....	261	245	262	14,663	13,508	14,496	38,069	30,285	30,587	16,093	12,164	12,711
DISTRICT OF COLUMBIA:												
	518	482	491	7,707	6,299	6,155	25,289	18,359	16,426	15,042	10,627	8,951
FLORIDA:												
Jacksonville.....	114	125	74	1,988	2,650	1,238	6,722	5,340	1,799	2,725	2,559	963
Key West.....	56	73	53	2,431	2,466	1,809	3,965	4,254	3,088	2,322	2,448	1,537
Pensacola.....	60	39	32	961	1,206	678	1,963	1,937	1,063	1,008	1,117	551
Tampa.....	215	141	70	8,996	5,831	3,919	17,653	11,264	7,083	10,260	6,713	3,717
GEORGIA:												
Athens.....	37	28	27	962	509	589	2,112	1,158	678	783	405	264
Atlanta.....	483	294	196	12,302	11,891	7,966	33,038	25,745	14,419	16,620	12,305	6,976
Augusta.....	71	64	80	5,073	4,839	5,563	10,456	8,829	7,924	2,576	2,476	2,837
Brunswick.....	23	29	25	385	254	351	672	407	703	414	226	304
Columbus.....	55	52	58	4,661	4,434	4,110	8,552	7,080	5,061	2,990	2,786	2,106
Macon.....	80	61	66	3,729	3,661	2,994	10,703	7,297	5,452	3,533	3,181	2,361
Rome.....	36			1,014			1,864			786		
Savannah.....	137	122	82	2,727	3,230	2,249	6,734	6,340	3,750	3,385	3,068	1,942
Waycross.....	21			1,130			1,203			391		
IDAHO:												
Boise.....	50			411			1,661			766		

ABSTRACT OF THE CENSUS—MANUFACTURES.

CITIES OF 10,000 INHABITANTS OR OVER—NUMBER OF ESTABLISHMENTS, AVERAGE NUMBER OF WAGE EARNERS, VALUE OF PRODUCTS, AND VALUE ADDED BY MANUFACTURE: 1909, 1904, AND 1899—Continued.

[See explanatory note on the first page of this table.]

CITY.	NUMBER OF ESTABLISHMENTS.			AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE (VALUE OF PRODUCTS LESS COST OF MATERIALS).		
	Expressed in thousands.											
	1909	1904	1899	1909	1904	1899	1909	1904	1899	1909	1904	1899
ILLINOIS:												
Alton.....	69	62	59	2,420	3,009	2,174	\$10,006	\$8,697	\$4,250	\$2,834	\$3,274	\$1,778
Aurora.....	165	103	97	5,095	4,078	3,949	10,954	7,329	5,638	5,373	3,791	3,046
Belleisle.....	119	96	89	1,872	1,705	1,335	4,615	4,857	2,873	2,291	2,570	1,938
Bloomington.....	107	81	68	2,077	2,275	1,071	4,808	5,777	3,012	2,341	2,285	1,417
Cairo.....	56	57	53	1,237	1,435	1,501	4,440	4,382	3,116	1,483	1,544	1,216
Canton.....	33	.....	.....	1,202	.....	.....	2,042	.....	.....	1,759	.....	.....
Champaign.....	42	30	33	273	289	245	846	486	364	427	328	292
Chicago.....	9,056	8,159	7,068	293,977	241,984	221,191	1,281,171	955,036	797,879	487,701	365,122	285,687
Chicago Heights.....	79	.....	.....	3,953	.....	.....	10,339	.....	.....	5,227	.....	.....
Cleora town ¹	7	.....	.....	658	.....	.....	1,461	.....	.....	728	.....	.....
Danville.....	70	70	72	1,744	1,884	957	3,351	3,304	1,914	1,921	1,639	867
Decatur.....	157	116	108	2,099	2,340	1,920	9,708	8,667	5,134	3,850	3,074	1,775
East St. Louis.....	139	91	58	5,252	4,605	3,106	18,228	10,550	6,241	6,788	4,890	2,583
Elgin.....	115	76	80	6,094	4,885	4,376	11,120	9,349	6,386	5,282	5,259	3,772
Evanston.....	60	33	27	837	738	400	3,778	2,551	830	1,428	988	468
Freeport.....	61	51	51	2,853	1,516	1,333	7,811	3,109	2,708	3,394	1,680	1,394
Galesburg.....	62	58	39	1,465	1,447	1,070	2,919	2,218	1,450	1,503	1,282	830
Jacksonville.....	57	55	55	947	899	1,000	2,299	1,952	1,684	992	880	834
Joliet.....	137	104	135	0,383	5,792	5,792	38,817	32,897	26,132	11,059	11,638	8,939
Kankakee.....	55	49	36	1,349	1,038	877	2,723	2,089	649	1,230	1,063	360
La Salle.....	29	24	26	1,293	1,197	917	5,308	3,158	3,300	2,380	1,280	912
Lincoln.....	40	39	30	220	236	188	570	375	280	280	409	219
Mattoon.....	35	34	39	948	1,022	632	1,434	1,300	764	765	787	418
Moline.....	66	62	55	5,449	3,987	4,138	20,892	13,158	9,302	9,703	6,263	4,704
Oak Park village.....	23	.....	.....	282	.....	.....	1,118	.....	.....	727	.....	.....
Ottawa.....	.....	54	57	.....	1,127	1,020	.....	2,078	1,738	.....	1,365	987
Peoria.....	283	263	291	5,981	5,334	5,996	63,061	60,420	44,569	45,288	44,585	31,584
Quincy.....	235	234	198	4,032	4,602	3,815	11,436	10,748	7,919	5,644	5,560	3,568
Rock Island.....	74	72	66	1,754	1,703	1,835	5,387	5,333	4,622	2,569	2,753	1,939
Rockford.....	205	180	159	9,309	7,239	5,851	22,266	15,276	11,022	11,684	7,210	4,820
Springfield.....	171	122	106	3,652	3,071	2,199	8,497	5,797	3,467	4,293	3,307	2,055
Streator.....	45	34	42	1,275	1,544	1,283	2,137	1,839	1,245	1,320	1,305	833
Waukegan.....	59	41	32	3,090	825	495	10,984	3,962	733	5,820	1,004	395
INDIANA:												
Anderson.....	116	102	96	4,393	3,079	3,537	13,765	8,181	8,206	5,638	3,321	3,856
East Chicago.....	16	.....	.....	2,370	.....	.....	5,483	.....	.....	2,423	.....	.....
Elkhart.....	69	58	57	3,010	2,265	2,123	6,932	4,345	3,933	3,911	2,329	2,051
Elwood.....	37	32	46	2,073	1,779	2,745	8,408	6,111	9,433	2,159	1,714	2,678
Evansville.....	299	268	273	8,997	7,768	6,234	22,929	18,091	12,168	10,135	7,969	5,623
Fort Wayne.....	230	193	178	10,299	7,729	6,519	23,087	14,011	11,263	12,272	6,992	5,231
Hammond.....	49	38	21	3,841	1,648	2,633	15,580	7,071	25,070	5,229	5,126	4,868
Huntington.....	33	30	30	1,370	1,811	1,240	2,228	2,081	1,075	1,008	985	758
Indianapolis.....	855	810	697	31,815	29,725	20,985	120,522	82,228	59,322	42,371	30,465	21,035
Jeffersonville.....	35	33	34	760	1,492	1,510	1,910	4,520	3,772	333	1,699	1,336
Kokomo.....	72	61	62	2,051	1,917	1,355	5,451	3,651	2,062	2,469	2,057	1,052
Lafayette.....	69	80	85	1,060	1,780	1,343	5,542	4,031	3,514	2,096	1,928	1,524
Laporte.....	41	.....	.....	1,674	.....	.....	3,972	.....	.....	2,153	.....	.....
Logansport.....	68	61	68	2,169	1,720	1,316	4,201	2,956	2,100	2,219	1,394	1,074
Marion.....	39	90	81	2,269	2,219	2,843	4,442	4,034	4,593	2,118	2,296	2,394
Michigan City.....	48	52	41	2,887	3,140	2,912	8,290	6,814	6,032	2,225	2,334	2,071
Mishawaka.....	42	.....	.....	3,445	.....	.....	10,883	.....	.....	6,613	.....	.....
Muncie.....	102	97	90	4,033	2,855	3,848	9,684	5,891	7,042	4,210	2,671	3,194
New Albany.....	95	93	95	1,910	2,240	2,137	3,493	3,835	3,638	1,607	1,794	1,522
Peru.....	31	43	39	619	912	1,136	1,097	1,343	1,338	615	718	667
Richmond.....	107	98	88	3,621	2,970	2,688	10,374	9,732	4,764	5,256	3,731	2,523
South Bend.....	218	156	131	11,789	8,997	7,678	27,854	15,180	12,900	12,601	7,010	6,119
Terre Haute.....	170	178	143	4,359	4,044	4,679	21,798	18,008	26,296	13,136	10,361	13,927
Vincennes.....	84	62	48	1,233	1,354	906	4,234	3,029	1,970	1,818	1,288	1,038
IOWA:												
Boone.....	34	34	35	330	367	485	682	714	629	399	415	315
Burlington.....	128	109	125	4,190	2,915	2,054	8,449	5,779	4,459	3,798	3,073	2,098
Cedar Rapids.....	153	134	89	3,505	3,259	2,374	24,824	16,280	11,136	6,174	4,000	2,973
Clinton.....	69	83	81	2,414	2,153	2,502	7,489	4,906	6,203	2,260	2,283	2,283
Council Bluffs.....	101	71	74	1,434	1,001	788	3,709	1,924	1,692	1,812	994	888
Davenport.....	232	173	163	4,231	3,840	3,403	18,802	13,696	9,872	7,231	4,867	3,815
Des Moines.....	387	291	218	5,383	4,155	3,479	23,585	15,085	8,397	10,020	6,441	4,259
Dubuque.....	156	156	161	5,163	4,274	4,658	15,376	9,279	9,651	6,266	4,573	4,283
Fort Dodge.....	44	42	30	1,115	961	390	2,975	3,026	1,006	1,163	1,324	327
Iowa City.....	44	.....	.....	282	.....	.....	805	.....	.....	465	.....	.....
Keokuk.....	61	80	88	1,541	1,533	1,362	7,399	4,226	3,049	2,715	1,992	1,458
Marshalltown.....	40	44	44	1,365	888	1,112	4,822	3,090	3,957	1,643	950	1,161
Mason City.....	49	.....	.....	807	.....	.....	2,881	.....	.....	1,085	.....	.....
Muscatine.....	113	107	105	3,496	2,703	2,589	6,166	5,049	5,220	3,428	2,025	1,705
Ottumwa.....	93	62	61	2,650	2,304	1,820	14,833	10,374	8,683	2,672	1,841	1,783
Stout City.....	136	106	123	3,750	2,299	2,463	37,425	14,761	14,227	7,037	3,365	4,097
Waterloo.....	108	90	55	3,124	1,674	804	8,999	4,694	2,088	4,357	1,945	745
KANSAS:												
Atchison.....	68	60	39	824	708	583	4,405	3,829	2,093	1,268	873	591
Coffeyville.....	47	.....	.....	1,069	.....	.....	4,752	.....	.....	1,260	.....	.....
Fort Scott.....	36	46	32	296	244	355	1,010	736	714	340	323	335
Galena.....	15	19	.....	.....	130	114	.....	797	421	.....	109	105
Hutchinson.....	67	44	42	667	510	536	3,614	2,031	1,541	941	644	593
Independence.....	81	.....	.....	252	.....	.....	3,757	.....	.....	365	.....	.....
Kansas City.....	165	100	114	12,294	10,529	9,483	164,081	90,473	30,023	10,691	12,590	11,148
Lawrence.....	49	39	39	422	402	461	1,653	608	1,239	498	341	347
Leavenworth.....	79	89	80	1,311	1,321	1,141	4,875	4,152	3,251	1,677	1,564	1,270
Parsons.....	25	.....	.....	1,130	.....	.....	1,620	.....	.....	801	.....	.....
Pittsburg.....	49	34	33	972	919	882	1,817	1,494	1,434	1,093	848	533
Topeka.....	202	154	145	4,244	3,953	2,874	17,821	14,449	8,357	5,562	4,216	3,079
Wichita.....	225	110	103	2,783	1,262	863	22,564	7,390	3,329	5,579	1,963	973

¹ While the population for 1900 was in excess of 10,000, statistics for that census are not available.
² Does not include statistics for Gary.

STATES, CITIES, AND INDUSTRIES.

CITIES OF 10,000 INHABITANTS OR OVER—NUMBER OF ESTABLISHMENTS, AVERAGE NUMBER OF WAGE EARNERS, VALUE OF PRODUCTS, AND VALUE ADDED BY MANUFACTURE: 1909, 1904, AND 1899—Continued.

[See explanatory note on the first page of this table.]

Table 113—Continued.

CITY.	NUMBER OF ESTABLISHMENTS.			AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE (VALUE OF PRODUCTS LESS COST OF MATERIALS).		
	Expressed in thousands.											
	1909	1904	1899	1909	1904	1899	1909	1904	1899	1909	1904	1899
KENTUCKY:												
Covington.....	196	199	204	3,942	3,703	3,212	\$8,712	\$6,100	\$5,479	\$4,241	\$3,499	\$2,962
Frankfort.....	31	30	34	537	525	281	3,083	1,747	1,327	1,115	614	496
Henderson.....	43	34	26	1,088	459	352	2,832	1,365	1,032	1,219	603	451
Lexington.....	85	84	88	1,032	1,114	797	2,831	2,773	1,889	1,632	1,389	993
Louisville.....	903	842	890	27,023	24,985	23,062	101,284	83,204	66,130	47,156	37,522	31,294
Newport.....	144	105	134	2,632	1,958	1,955	6,491	5,231	3,548	3,125	2,259	2,075
Owensboro.....	69	60	51	1,064	1,392	890	3,505	3,319	1,740	1,253	1,504	825
Paducah.....	91	84	70	2,013	2,841	2,061	4,967	4,443	2,977	2,639	2,396	1,642
LOUISIANA:												
Alexandria.....	30			513			1,279			681		
Baton Rouge.....	33	37	13	357	620	329	658	1,383	718	322	785	331
Lake Charles.....	33			736			2,251			683		
Monroe.....	23			681			1,255			719		
New Orleans.....	846	690	688	17,186	17,468	16,185	78,794	81,411	57,446	30,662	22,388	17,061
Shreveport.....	61	63	46	1,114	1,162	736	3,643	2,836	1,556	1,554	1,554	655
MAINE:												
Auburn.....	83	72	67	3,452	2,652	2,749	8,843	6,407	5,965	3,653	1,990	1,978
Augusta.....	40	44	52	2,096	1,860	2,018	4,662	3,387	3,313	2,178	2,000	2,101
Bangor.....	122	87	101	1,327	1,496	1,511	3,346	3,408	3,336	1,469	1,671	1,431
Bath.....		46	54		1,950	2,097		3,654	2,697		1,672	1,739
Biddeford.....	43	33	39	5,076	4,764	4,375	9,012	6,949	5,472	4,114	2,333	2,596
Lewiston.....	83	81	84	6,788	6,167	6,677	10,475	8,528	7,779	5,296	3,811	4,061
Portland.....	271	243	234	4,902	4,345	3,763	11,950	9,133	7,334	5,641	4,778	3,721
Waterville.....	33	40	29	1,812	2,011	1,926	3,179	3,069	2,284	1,436	1,296	1,295
MARYLAND:												
Baltimore.....	2,502	2,158	2,274	71,444	65,030	66,571	186,978	150,171	135,108	79,954	69,616	59,865
Cumberland.....	71	72	56	1,936	2,276	1,643	4,534	4,595	2,900	1,836	1,917	1,226
Frederick.....	55	56	54	1,025	1,032	939	2,911	1,938	1,438	836	715	519
Hagerstown.....	76	67	80	1,718	2,210	1,515	3,197	3,027	1,820	1,399	1,376	721
MASSACHUSETTS:												
Adams town.....	31	23	26	3,991	3,994	3,182	6,410	5,492	3,894	3,328	2,804	2,181
Arlington town.....	19	18	12	283	209	122	695	463	256	384	267	144
Attleborough town.....	128	108	108	6,429	5,044	4,811	16,160	10,050	8,751	6,347	5,399	4,955
Beverly.....	63	71	73	4,487	2,083	2,275	8,653	4,101	3,781	5,362	1,775	1,627
Boston.....	3,155	2,747	2,878	69,637	59,160	52,853	237,457	184,351	162,705	112,850	99,743	90,470
Brockton.....	196	201	186	14,737	13,889	10,296	45,972	37,791	24,855	17,497	13,298	9,322
Brookline town.....	16	13	8	340	495	324	532	733	485	462	462	266
Cambridge.....	275	262	243	15,200	14,586	11,070	44,227	42,407	29,092	20,661	17,290	12,319
Chelsea.....	110	130	120	5,954	4,939	2,959	17,003	13,879	9,519	6,434	5,572	4,008
Chilcope.....	58	40	46	7,260	4,670	4,085	19,219	7,716	5,389	3,267	2,396	2,099
Clinton town.....	39	35	22	4,123	3,482	3,836	7,845	5,458	5,043	2,629	2,650	2,326
Everett.....	62	51	52	2,080	2,186	1,877	8,747	6,136	4,437	4,241	3,012	1,968
Fall River.....	288	234	240	37,139	26,836	30,646	64,146	43,473	39,103	28,622	17,377	21,033
Fitchburg.....	122	107	115	8,497	6,498	6,218	23,262	15,391	13,008	8,810	5,970	5,328
Framingham town.....	27	36	34	3,069	2,484	2,207	6,917	4,174	3,007	3,506	1,657	1,313
Gardner town.....	52	50	46	3,617	3,168	2,896	6,485	5,019	4,386	3,662	2,449	2,102
Gloucester.....	102	132	137	2,181	1,763	2,367	7,763	6,921	4,293	2,983	2,449	2,061
Greenfield town.....	47			1,251			2,801			1,767		
Haverhill.....	346	320	390	11,689	9,574	9,761	35,377	24,447	23,419	13,691	10,190	8,425
Holyoke.....	187	179	158	16,513	14,685	12,519	40,097	30,731	24,093	17,796	14,152	11,387
Hyde Park town.....	40	40	33	4,320	3,991	2,483	7,336	6,739	3,985	3,158	1,877	1,877
Lawrence.....	162	187	167	80,542	21,910	20,899	79,993	48,087	41,742	24,553	18,621	15,900
Leominster town.....	94	65	70	5,001	4,127	3,412	10,531	7,502	5,377	4,355	3,526	2,626
Lowell.....	320	256	286	32,575	29,303	29,254	60,271	46,879	41,203	27,440	19,968	20,924
Lynn.....	431	431	423	27,368	21,540	16,377	71,503	55,003	39,347	30,142	22,367	14,876
Malden.....	86	59	53	2,900	2,954	2,416	8,206	11,236	6,602	3,818	7,191	2,518
Marlborough.....	59	46	50	4,265	3,479	2,524	10,382	7,469	4,498	4,007	2,883	1,664
Medford.....	40	37	36	500	484	575	2,045	872	1,132	795	496	592
Melrose.....	25	24	16	1,038	1,571	1,180	2,825	9,451	3,415	1,236	6,536	1,270
Methuen town.....	19			1,572			3,476			1,260		
Milford town.....	53	44	50	1,801	1,782	1,357	4,442	3,390	2,532	2,053	1,614	1,096
New Bedford.....	207	176	171	26,586	17,855	15,263	53,238	29,469	23,397	24,674	13,378	11,614
Newburyport.....	74	69	64	3,215	2,955	2,801	6,931	6,810	5,141	3,150	2,548	2,060
Newton.....	46	48	45	2,174	1,893	1,823	6,279	4,141	3,679	2,896	1,909	1,785
North Adams.....	60	58	68	5,414	5,502	6,312	10,315	8,096	10,741	4,729	4,025	5,694
Northampton.....	71	77	66	3,150	2,963	2,635	6,999	5,756	4,707	3,526	2,714	2,187
Peabody town.....	74	76	86	4,850	3,953	2,661	15,549	10,237	6,944	5,357	3,489	1,870
Pittsfield.....	71	44	69	6,353	4,455	3,198	15,215	8,577	5,754	6,687	3,945	2,676
Plymouth town.....	32	35	27	2,912	2,300	1,511	11,618	11,116	5,530	3,143	2,548	1,966
Quincy.....	183	161	153	5,492	5,371	2,128	10,565	8,982	3,012	6,061	5,278	2,106
Revere town.....	14	12	17	101	125	87	497	355	156	115	106	106
Salem.....	155	143	162	6,338	5,945	5,625	14,578	12,202	10,711	5,936	4,381	4,127
Somerville.....	114	78	85	5,280	3,474	3,528	38,687	22,955	20,065	6,794	3,244	3,244
Southbridge town.....	36	32	32	4,037	3,223	2,687	6,269	4,202	3,512	3,144	1,922	1,736
Springfield.....	346	296	278	11,855	10,523	8,152	31,773	25,890	18,155	17,430	13,480	9,269
Taunton.....	146	127	114	7,407	6,608	6,590	15,380	13,645	11,544	7,695	5,953	6,094
Wakefield town.....	23	22	25	2,280	1,804	1,436	5,527	4,806	3,647	2,692	1,920	1,369
Waltham.....	80	69	74	6,037	6,208	4,861	7,814	7,150	5,890	5,370	5,053	4,091
Watertown town.....	25	20	27	4,335	3,322	1,935	11,546	15,525	5,320	5,053	9,936	1,531
Webster town.....	23	16	20	3,409	3,107	2,377	11,296	8,868	4,908	3,476	1,827	1,546
Westfield town.....	91	86	97	3,060	2,634	2,370	7,362	5,818	4,441	4,494	3,357	2,336
Weymouth town.....	41	46	51	1,991	1,841	1,922	6,827	4,922	5,380	2,422	1,934	2,211
Winthrop town.....	7			7			42			17		
Woburn.....	59	52	47	1,633	1,482	1,356	5,408	4,654	4,003	2,294	1,846	1,134
Worcester.....	580	470	465	28,221	22,796	22,393	77,148	52,145	46,793	34,547	25,134	23,320

ABSTRACT OF THE CENSUS—MANUFACTURES.

CITIES OF 10,000 INHABITANTS OR OVER—NUMBER OF ESTABLISHMENTS, AVERAGE NUMBER OF WAGE EARNERS, VALUE OF PRODUCTS, AND VALUE ADDED BY MANUFACTURE: 1909, 1904, AND 1899—Continued.

[See explanatory note on the first page of this table.]

CITY.	NUMBER OF ESTABLISHMENTS.			AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE (VALUE OF PRODUCTS LESS COST OF MATERIALS).		
	Expressed in thousands.											
	1909	1904	1899	1909	1904	1899	1909	1904	1899	1909	1904	1899
MICHIGAN:												
Adrian	80	65	03	1,050	1,502	1,030	\$0,085	\$4,807	\$2,125	\$1,935	\$2,068	\$1,227
Alpena	58	57	46	1,432	1,245	1,202	3,964	2,905	2,273	1,603	1,220	997
Ann Arbor	63	65	71	673	549	623	1,866	1,386	1,377	850	612	562
Battle Creek	105	120	75	4,175	3,380	2,051	20,174	12,208	6,301	13,106	8,314	4,201
Bay City	182	173	177	4,737	4,456	4,309	10,294	8,809	9,011	4,647	3,861	3,776
Detroit	2,036	1,302	1,259	81,011	48,483	38,373	252,992	128,247	88,366	122,774	61,660	41,359
Escanaba	39	34	26	720	940	520	1,074	1,333	610	710	929	300
Flint	104	70	03	7,088	2,161	1,060	24,118	6,177	4,713	10,147	2,408	1,950
Grand Rapids	524	388	382	17,590	15,514	12,029	42,231	30,690	22,220	22,495	16,268	11,108
Holland	59	14	14	1,940	201	90	4,622	202	145	176	124	90
Ironwood	19	15	14	66	73	80	132	247	195	80	105	100
Ishpeming	169	147	117	4,797	3,967	3,715	14,000	8,348	6,710	5,838	4,070	2,902
Jackson	193	157	120	6,272	5,600	3,870	17,904	13,142	7,186	8,309	6,246	3,293
Kalamazoo	109	98	74	5,285	2,982	1,425	10,567	6,887	2,042	7,765	3,414	1,810
Lansing	64	47	56	2,125	2,084	2,103	3,344	3,055	3,025	2,055	1,983	2,249
Manistee	34	31	20	498	738	836	1,254	2,304	1,685	698	972	772
Marquette	64	47	38	1,700	1,489	1,703	3,728	2,974	4,028	2,071	1,601	2,239
Menominee	52	45	07	4,522	3,078	3,078	9,048	6,319	4,628	4,710	2,793	2,269
Muskegon	101	70	47	1,739	1,296	1,092	5,594	3,047	2,471	2,654	1,312	869
Pontiac	42	47	78	1,530	2,136	2,026	3,588	3,715	3,027	1,630	1,968	1,875
Port Huron	82	74	78	1,590	4,445	4,205	18,833	10,079	8,653	8,424	4,712	3,569
Saginaw	203	179	184	5,990	4,445	4,205	4,619	2,412	728	1,496	985	449
Sault Ste. Marie	47	38	33	1,005	895	317	4,619	2,412	728	1,496	985	449
Traverse City	61	46	30	1,220	1,108	909	2,289	2,177	1,201	1,100	1,070	686
MINNESOTA:												
Duluth	194	163	126	0,083	3,987	3,658	17,180	10,139	7,811	8,330	5,505	4,152
Mankato	63	54	47	807	724	620	3,723	3,422	1,887	995	893	532
Minneapolis	1,102	876	789	20,962	21,671	19,620	165,405	121,103	94,408	45,412	32,281	25,498
St. Cloud	69	39	30	626	414	507	2,299	1,800	1,501	957	688	494
St. Paul	719	614	537	19,339	14,363	13,019	58,090	38,319	30,056	25,090	18,831	14,144
Stillwater	38	36	32	688	955	829	2,686	2,784	1,801	1,038	1,300	761
Virginia	21	18	18	188	188	188	610	610	367	367	367	367
Winona	99	80	72	2,032	1,953	1,965	11,199	7,850	6,013	3,800	2,576	2,012
MISSISSIPPI:												
Hattiesburg	29			648			1,251			626		
Jackson	45			799			3,113			1,145		
Meridian	54	53	42	1,524	1,340	894	4,238	3,267	1,924	1,764	1,215	899
Natchez	27	24	16	428	316	648	1,114	820	1,115	425	817	534
Vicksburg	47	32	24	1,202	1,031	987	2,220	1,888	1,368	1,081	895	652
MISSOURI:												
Hannibal	66	58	66	2,445	1,811	1,238	0,195	3,564	2,699	1,879	1,408	964
Jefferson City	35	45	41	1,336	202	299	5,446	3,927	3,051	1,794	1,440	930
Joplin	77	50	45	830	680	632	4,136	3,000	2,325	1,778	1,046	769
Kansas City	902	612	585	14,643	11,039	9,099	54,704	35,573	23,585	23,742	16,048	11,057
Moberly	31	28	32	999	496	666	1,984	801	792	692	4,754	4,420
St. Joseph	261	219	184	5,390	4,663	5,095	17,626	11,574	11,362	6,673	4,754	4,420
St. Louis	2,667	2,482	2,046	87,371	82,698	64,832	328,495	207,307	193,733	140,306	129,597	91,895
Sedalia	75	50	57	935	974	900	2,333	1,692	1,283	1,117	867	608
Springfield	108	82	79	2,131	2,158	1,710	5,382	5,293	3,434	2,334	1,001	1,443
Webb City	25	19	12	170	138	126	777	638	354	264	243	140
MONTANA:												
Anaconda	13			97			591			434		
Billings	37			220			1,243			478		
Butte	66	54	56	662	478	411	2,404	1,700	1,517	1,544	1,192	739
Helena	44	34	27	420	340	204	1,303	1,163	776	810	735	440
Missoula	26			428			1,171			769		
NEBRASKA:												
Grand Island	44			616			1,837			820		
Lincoln	167	128	81	2,140	1,617	1,104	7,010	5,222	2,764	3,146	2,531	1,168
Omaha	432	318	307	8,023	5,822	5,276	60,854	54,004	38,074	17,439	11,111	18,145
South Omaha	71	41	41	6,306	5,062	6,327	92,436	67,415	69,599	14,763	8,222	8,491
NEVADA:												
Reno	40			310			1,862			601		
NEW HAMPSHIRE:												
Berlin	20	17	17	1,790	2,282	2,810	5,807	5,989	5,985	2,243	2,324	2,974
Concord	111	80	86	2,693	2,654	2,432	6,477	5,374	4,211	2,931	2,543	2,122
Dover	51	42	40	3,030	2,859	2,797	6,370	6,043	5,440	3,134	2,173	2,107
Keene	64	50	67	1,709	1,085	1,570	3,483	2,601	2,594	1,046	1,314	1,138
Laconia	43	55	53	2,146	1,957	1,535	3,818	3,097	2,152	1,805	1,377	1,339
Manchester	175	155	166	24,735	17,679	17,862	46,812	30,697	24,628	16,315	11,090	10,525
Nashua	104	78	72	7,312	6,159	5,777	17,326	12,858	10,096	6,947	4,375	3,970
Portsmouth	36	27	38	992	638	1,923	2,871	2,602	3,961	1,510	1,714	2,066
NEW JERSEY:												
Asbury Park	27			204			602			308		
Atlantic City	94	62	30	726	351	305	2,260	675	608	1,124	610	327
Bayonne	97	58	63	7,519	7,057	4,670	73,641	60,634	38,601	14,709	13,650	4,807
Bloomfield town	46	33	30	2,957	1,893	1,612	5,895	4,645	3,371	3,895	2,895	1,665
Bridgeton	74	61	62	2,387	2,276	2,182	4,070	2,964	2,259	2,073	1,725	1,216
Camden	305	208	322	16,527	12,601	7,742	49,138	33,587	17,070	21,764	13,164	7,528
East Orange	42	17	22	1,388	854	690	3,725	2,327	2,087	1,957	1,219	1,176
Elizabeth	163	124	141	12,737	12,335	9,493	29,147	20,301	22,861	12,718	12,320	9,948
Garfield borough	25			2,530			8,894			2,019		411
Hackensack town	46	23	21	738	812	487	1,978	1,488	782	1,070	801	2,855
Harrison town	54	41	41	6,500	4,040	2,850	13,142	8,409	6,087	7,720	4,780	5,457
Hoboken	244	279	194	8,100	7,227	5,712	20,413	14,077	10,483	10,944	7,497	5,457
Irvington town	51			540			3,018			675		

1 Does not include statistics for Great Falls.

STATES, CITIES, AND INDUSTRIES.

533

CITIES OF 10,000 INHABITANTS OR OVER—NUMBER OF ESTABLISHMENTS, AVERAGE NUMBER OF WAGE EARNERS, VALUE OF PRODUCTS, AND VALUE ADDED BY MANUFACTURE: 1909, 1904, AND 1899—Continued.

[See explanatory note on the first page of this table.]

Table 113—Continued.

CITY.	NUMBER OF ESTABLISHMENTS.			AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE (VALUE OF PRODUCTS LESS COST OF MATERIALS).		
	Expressed in thousands.											
	1909	1904	1899	1909	1904	1899	1909	1904	1899	1909	1904	1899
NEW JERSEY—Continued.												
Jersey City.....	745	628	536	25,454	20,353	17,391	\$128,775	\$75,741	\$72,930	\$39,458	\$26,942	\$22,664
Kearny town.....	18	11	16	2,820	1,303	986	8,306	4,428	1,607	3,043	923	1,626
Long Branch.....	34	26	11	415	294	96	1,117	577	281	533	370	172
Millville.....	39	35	18	2,761	2,767	2,239	4,182	3,719	2,514	2,583	2,335	1,595
Montclair town.....	23	19	23	252	151	169	1,026	621	664	357	202	278
Morristown town.....	31	26	22	201	307	252	724	705	596	355	406	286
New Brunswick.....	93	71	72	5,264	4,590	3,836	10,005	8,917	5,791	5,456	4,759	2,797
Newark.....	1,858	1,600	1,673	59,955	50,697	42,878	202,511	150,055	112,728	87,832	69,966	51,956
Orange.....	35	66	74	4,383	2,450	1,640	9,176	6,151	2,996	5,898	3,509	1,416
Passaic.....	169	95	70	15,086	11,000	6,399	41,729	22,783	12,805	17,394	9,673	5,287
Paterson.....	702	513	487	32,004	28,509	28,542	69,584	54,673	48,502	34,856	27,232	23,447
Perth Amboy.....	80	53	47	5,866	3,950	2,005	73,093	34,800	14,061	9,161	4,484	2,714
Phillipsburg town.....	39	32	34	3,432	3,148	2,216	9,150	6,684	4,585	4,386	3,118	1,782
Plainfield.....	60	49	32	1,758	1,986	1,384	3,649	3,572	2,437	2,119	2,418	1,624
Trenton.....	340	311	246	18,543	14,130	13,138	49,009	32,330	28,458	21,536	14,809	11,877
Union town.....	83	77	57	2,894	1,856	1,376	7,941	5,512	3,403	4,402	2,120	1,956
West Hoboken town.....	137	95	65	2,782	3,562	2,733	5,577	5,947	4,789	3,089	2,825	2,240
West New York town.....	66			1,508			9,274			1,845		
West Orange town.....	10			476			748			349		
NEW MEXICO:												
Albuquerque.....	31			587			1,288			704		
NEW YORK: 1												
Albany.....	395	490	511	9,861	8,976	8,106	22,826	20,299	17,269	12,365	10,832	9,792
Amsterdam.....	97	89	98	10,284	7,993	6,261	22,449	15,007	10,643	9,254	6,154	4,653
Auburn.....	140	111	120	6,497	6,690	5,895	15,961	13,421	9,375	7,024	5,176	4,303
Batavia village.....	59	51	54	2,007	1,003	1,573	4,401	3,599	2,573	2,620	1,905	1,327
Binghamton.....	206	241	219	6,823	5,636	5,011	17,114	13,907	10,539	8,388	7,496	5,177
Buffalo.....	1,763	1,538	1,478	51,412	43,567	34,275	218,804	147,378	105,627	82,296	59,011	39,686
Cohoes.....	103	88	112	8,209	6,910	8,273	14,831	10,290	11,031	6,655	4,006	5,123
Corning.....	45	57	48	2,074	2,355	1,600	3,050	3,084	2,275	2,156	2,009	1,353
Corland.....	51	53	46	2,356	2,282	1,412	6,395	4,574	3,064	2,821	1,976	1,296
Dunkirk.....	57	58	41	2,756	3,395	2,533	6,576	9,909	5,228	3,568	5,160	2,211
Elmira.....	154	142	144	3,647	3,208	3,570	8,067	6,308	6,597	4,477	3,597	2,696
Fulton.....	45			2,799			7,897			3,610		
Geneva.....	56	54	49	1,526	1,580	1,180	5,154	4,962	2,716	2,163	1,956	1,096
Glens Falls.....	68	49	57	2,774	2,052	3,101	4,877	2,825	3,394	2,563	1,533	2,156
Gloversville.....	187	180	183	5,741	5,048	7,813	14,171	9,941	9,070	6,109	4,089	3,316
Hornell.....	45	45	45	2,183	2,200	1,549	3,648	3,163	2,431	1,776	1,699	1,123
Hudson.....	45	45	45	1,302	1,524	1,132	3,506	4,116	2,084	1,443	2,036	1,279
Ithaca.....	81	67	62	873	873	851	1,920	2,080	1,561	1,080	1,281	845
Jamestown.....	156	149	108	6,789	5,227	4,528	14,720	10,350	7,731	7,336	6,069	3,937
Johnstown.....	138	100	115	2,589	2,426	3,695	6,574	4,543	5,123	2,849	1,982	2,138
Kingston.....	99	98	109	3,281	2,636	2,042	5,986	4,812	3,952	3,404	2,700	2,049
Little Falls.....	55	49	52	4,211	2,621	2,980	8,460	4,471	4,071	3,537	1,926	1,838
Lockport.....	109	109	124	2,138	2,323	2,359	8,168	5,808	5,808	2,818	2,492	2,256
Middletown.....	59	59	51	1,733	1,596	1,396	4,658	3,358	2,155	1,753	1,400	830
Mount Vernon.....	90	54	37	1,207	670	438	3,376	1,877	910	2,090	1,092	582
Newburgh.....	104	79	93	4,344	4,013	3,074	9,928	7,036	5,358	5,053	3,760	2,719
New Rochelle.....	42	28	25	735	517	198	1,669	1,103	908	853	641	230
New York.....	25,938	20,839	19,243	554,002	464,716	388,586	2,029,693	1,526,523	1,172,570	937,538	708,494	538,669
Niagara Falls.....	156	85	93	6,069	4,574	2,840	28,652	16,916	8,540	14,381	7,734	3,632
North Tonawanda.....	81	38	34	2,824	2,025	1,656	9,600	6,499	6,294	3,211	1,965	2,050
Ogdensburg.....	75	55	74	1,259	929	809	4,948	3,057	2,261	1,440	794	740
Olean.....	54	41	47	2,259	1,175	1,783	10,005	4,677	6,210	2,277	1,350	1,395
Ossining village.....	34			356			1,229			863		
Oswego.....	81	77	75	3,817	3,746	3,457	10,413	7,562	7,487	4,310	2,875	3,175
Peekskill village.....	62	46	37	2,055	1,957	1,281	7,888	7,252	1,763	4,946	4,970	1,022
Plattsburg.....	41	39	39	1,049	750	621	3,137	1,057	1,043	1,392	547	519
Port Chester village.....	34			2,122			6,243			1,689		
Poughkeepsie.....	111	108	118	3,290	3,775	2,810	9,151	7,207	5,576	5,284	3,674	2,596
Rensselaer.....	93			763			2,296			1,130		
Rochester.....	1,203	1,109	1,221	39,108	31,779	28,049	112,678	81,109	59,669	62,002	43,191	31,424
Rome.....	119	89	87	3,633	3,209	2,274	14,423	8,631	5,549	4,219	2,937	2,087
Saratoga Springs village.....	39	35	44	833	590	602	2,337	1,709	1,334	1,454	1,007	656
Schenectady.....	134	103	83	14,931	14,316	8,494	38,165	33,084	17,605	16,213	16,587	7,680
Schenectady.....	738	637	630	18,148	14,554	11,809	49,435	34,687	26,546	27,659	18,605	13,988
Syracuse.....	363	311	327	20,020	19,114	22,933	37,980	31,861	28,739	22,354	18,115	17,277
Troy.....	317	333	311	13,153	10,882	8,898	31,199	22,880	16,479	14,553	10,106	8,265
Watertown.....	107	85	91	3,291	3,020	3,223	8,527	7,251	6,889	4,706	3,909	3,180
Watervliet.....	36	36	41	753	1,111	1,000	1,669	1,738	1,507	853	899	774
White Plains village.....	33			249			816			444		
Yonkers.....	158	106	107	12,711	9,779	7,555	59,334	33,549	17,304	16,132	10,219	7,782
NORTH CAROLINA:												
Asheville.....	52	45	37	984	792	804	3,250	1,918	1,300	955	671	479
Charlotte.....	108	73	57	4,199	2,234	2,787	10,460	4,850	4,187	3,629	1,981	1,583
Durham.....	61			3,718			23,271			13,461		
Greensboro.....	61	63	43	952	1,098	677	2,631	1,744	926	825	766	418
Raleigh.....	55	42	39	1,023	585	549	2,376	1,067	947	1,109	575	514
Wilmington.....	64	53	50	1,213	1,594	1,533	3,005	2,904	2,262	1,202	1,189	891
Winston.....	52	47	30	6,708	4,850	2,894	16,778	11,353	4,888	6,882	7,510	3,255
NORTH DAKOTA:												
Fargo.....	61	47	36	510	386	307	2,477	1,161	1,231	1,067	606	446
Grand Forks.....	38			350			1,910			669		

1 Does not include statistics for Lackawanna.

ABSTRACT OF THE CENSUS—MANUFACTURES.

CITIES OF 10,000 INHABITANTS OR OVER—NUMBER OF ESTABLISHMENTS, AVERAGE NUMBER OF WAGE EARNERS, VALUE OF PRODUCTS, AND VALUE ADDED BY MANUFACTURE: 1909, 1904, AND 1899—Continued.

[See explanatory note on the first page of this table.]

CITY.	NUMBER OF ESTABLISHMENTS.			AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE (VALUE OF PRODUCTS LESS COST OF MATERIALS).		
	Expressed in thousands.											
	1909	1904	1899	1909	1904	1899	1909	1904	1899	1909	1904	1899
OHIO:												
Akron.....	240	186	178	15,831	9,620	8,259	\$73,158	\$33,559	\$22,016	\$30,087	\$13,149	\$9,206
Alliance.....	44	40	39	2,524	1,442	1,436	6,135	3,547	3,203	3,282	1,646	1,555
Ashabula.....	44	36	29	1,471	846	373	3,459	1,895	884	1,375	899	357
Bellaire.....	30	37	30	2,597	2,183	1,928	10,091	10,712	8,838	2,032	3,396	2,851
Cambridge.....	32	34	28	1,230	814	708	4,201	2,441	2,202	1,406	921	885
Canton.....	204	158	164	9,964	5,938	5,149	28,583	10,591	9,575	13,039	5,997	5,226
Chillicothe.....	57	64	40	1,074	1,553	1,112	4,345	3,147	1,010	1,307	1,219	738
Cincinnati.....	2,184	2,171	2,454	66,192	58,584	54,942	194,516	106,059	141,678	92,584	82,801	70,287
Cleveland.....	2,148	1,610	1,850	84,728	64,041	55,341	271,961	171,024	130,356	117,046	74,346	62,691
Columbus.....	580	459	408	10,428	14,350	13,787	49,032	30,530	34,748	23,828	20,288	16,496
Dayton.....	513	431	425	21,549	17,093	14,408	60,378	39,597	31,015	32,550	21,092	16,685
East Liverpool.....	82	81	75	4,873	5,228	4,171	6,029	6,437	4,749	4,108	4,330	3,286
Elyria.....	58	50	32	2,073	1,144	638	8,065	2,933	1,221	3,570	1,838	481
Findlay.....	74	71	80	1,376	1,343	1,107	3,487	2,925	1,680	1,303	1,346	635
Hamilton.....	125	113	97	6,895	0,107	5,147	18,184	13,811	10,650	8,544	7,427	5,653
Ironton.....	63	57	53	1,920	1,800	1,577	7,118	4,755	5,411	2,124	1,332	2,266
Lancaster.....	42	42	36	1,532	1,095	1,069	4,074	3,848	1,905	1,023	1,347	846
Lima.....	85	77	76	3,607	2,733	1,980	7,754	4,828	6,223	3,885	2,573	2,287
Lorain.....	57	43	26	6,037	3,102	2,233	38,987	14,491	9,481	14,765	4,783	2,996
Mansfield.....	121	109	95	3,204	3,021	2,622	8,173	7,354	6,076	3,817	3,831	3,371
Marletta.....	66	73	77	1,288	1,314	1,511	3,214	2,599	2,398	1,427	1,233	1,248
Marion.....	55	47	34	2,010	1,721	1,171	5,667	3,228	2,426	3,690	1,876	1,460
Massillon.....	56	52	40	1,934	1,995	1,474	4,788	3,707	2,749	2,498	2,125	1,488
Middletown.....	41	47	41	2,576	1,814	1,578	16,517	8,538	5,800	8,567	4,846	3,327
Newark.....	72	78	69	3,013	3,627	2,075	7,861	5,013	2,870	3,669	3,180	1,699
Norwood.....	40	.....	.....	3,907	.....	.....	9,684	.....	.....	5,663	.....	.....
Piqua.....	82	76	68	2,683	2,044	1,955	6,931	4,036	5,552	3,070	2,128	1,942
Portsmouth.....	75	81	100	3,728	4,072	4,153	7,277	6,465	6,050	3,883	3,125	3,254
Sandusky.....	91	93	81	2,118	2,323	1,453	5,947	4,870	2,834	3,112	2,748	1,627
Springfield.....	195	157	164	7,405	6,258	6,290	19,246	13,382	12,116	10,327	7,620	6,827
Steubenville.....	55	72	54	4,267	4,184	1,773	21,187	12,370	4,547	6,744	4,127	2,141
Tiffin.....	75	87	75	1,632	1,645	1,238	3,254	1,932	2,404	2,002	1,434	1,094
Toledo.....	790	597	445	18,878	15,097	12,747	61,230	44,501	31,976	27,146	19,035	12,579
Warren.....	68	53	44	1,798	1,505	1,832	5,988	4,414	4,585	2,024	2,366	2,042
Youngstown.....	115	113	103	10,498	8,095	8,079	81,271	46,853	33,908	18,979	11,670	10,775
Zanesville.....	109	99	115	3,150	3,098	3,405	9,145	6,347	5,708	3,941	3,056	2,622
OKLAHOMA:												
Chickasha.....	30	.....	.....	364	.....	.....	1,867	.....	.....	582	.....	.....
Enid.....	65	.....	.....	303	.....	.....	2,453	.....	.....	646	.....	.....
Guthrie.....	34	34	33	282	333	241	1,443	1,200	649	496	490	312
McAlester.....	29	.....	.....	180	.....	.....	451	.....	.....	256	.....	.....
Muskogee.....	64	.....	.....	381	.....	.....	2,279	.....	.....	801	.....	.....
Oklahoma City.....	171	80	36	1,398	720	220	7,868	3,671	845	2,722	1,300	328
Shawnee.....	40	.....	.....	1,014	.....	.....	2,081	.....	.....	918	.....	.....
Tulsa.....	53	.....	.....	462	.....	.....	1,563	.....	.....	689	.....	.....
OREGON:												
Portland.....	649	437	408	12,214	8,171	5,380	46,861	28,651	16,904	20,785	11,627	6,737
Salem.....	62	.....	.....	597	.....	.....	2,208	.....	.....	1,031	.....	.....
PENNSYLVANIA:												
Allentown.....	274	257	216	11,481	8,984	7,355	26,263	16,841	14,000	10,082	6,968	6,013
Altoona.....	44	73	57	8,409	6,573	6,573	16,763	14,350	11,273	7,929	7,102	4,390
Beaver Falls borough.....	44	42	47	2,180	2,232	2,174	6,460	4,908	6,220	3,385	2,666	2,370
Bethlehem borough ^a	49	.....	.....	1,583	.....	.....	3,712	.....	.....	1,382	.....	.....
Bradford borough.....	41	38	30	1,040	1,225	815	5,094	4,125	4,691	1,747	1,387	1,526
Bradford.....	82	80	65	1,318	1,400	1,200	3,887	3,192	3,125	1,445	1,500	1,490
Butler borough.....	61	48	41	2,823	2,093	1,792	11,058	6,832	1,403	3,464	2,172	883
Carbondale.....	34	32	26	1,503	1,475	1,023	2,523	2,316	1,146	1,270	1,203	676
Carlisle borough.....	50	48	39	1,334	1,340	1,121	2,490	1,986	1,708	1,065	857	661
Carnegie borough.....	19	.....	.....	422	.....	.....	3,099	.....	.....	658	.....	.....
Chambersburg borough.....	57	47	44	1,364	848	612	2,456	1,085	815	1,286	516	337
Chester.....	128	131	121	6,980	7,061	6,972	19,373	16,845	14,940	7,797	6,223	6,369
Columbia borough.....	47	44	53	2,773	3,034	2,519	4,807	3,887	4,214	2,136	1,434	1,642
Connellsville borough.....	39	.....	.....	1,035	.....	.....	1,071	.....	.....	1,154	.....	.....
DuBois borough.....	37	34	24	1,015	1,057	817	1,890	2,007	1,798	964	882	615
Dunmore borough.....	18	15	18	1,308	1,133	614	1,851	2,460	1,132	1,181	910	642
Easton.....	120	97	108	3,388	2,720	3,202	6,015	6,050	5,425	3,491	2,375	2,232
Erie.....	391	201	260	9,796	8,415	8,032	24,226	18,630	16,403	12,162	9,212	5,285
Greensburg borough.....	47	.....	.....	310	.....	.....	728	.....	.....	396	.....	.....
Harrisburg.....	199	175	175	9,743	7,955	6,439	22,725	16,571	14,006	8,642	6,244	5,991
Hazleton.....	77	62	45	2,682	1,406	822	4,707	2,186	690	2,005	1,056	706
Homestead borough.....	26	27	15	171	307	164	650	713	307	337	448	165
Johnstown.....	97	82	66	10,574	6,914	5,000	48,106	28,862	21,365	15,758	9,137	7,457
Lancaster.....	306	300	284	7,957	8,603	7,504	15,979	14,048	12,750	7,138	7,050	6,297
Lebanon.....	109	103	97	5,591	4,387	4,475	11,420	8,978	7,658	4,651	3,699	2,913
McKeesport.....	68	75	67	8,246	8,848	7,213	42,405	23,054	30,058	15,190	10,744	14,223
McKees Rocks borough.....	31	.....	.....	3,591	.....	.....	6,787	.....	.....	4,380	.....	.....
Mahanoy City borough.....	33	29	29	590	238	301	868	431	401	485	298	288
Meadville.....	62	52	46	2,048	1,300	1,201	3,550	2,075	1,668	1,843	1,111	779
Mentmore borough.....	20	19	0	600	197	109	735	620	310	369	183	133
Nanticoke borough.....	17	12	17	348	229	140	423	358	310	243	198	128
New Castle.....	82	71	71	5,339	5,433	4,599	38,038	28,923	20,010	7,064	7,711	6,870
Norristown borough.....	111	84	77	3,818	3,517	2,944	7,413	5,825	4,107	4,130	3,058	1,948
Oil City.....	34	36	42	1,338	1,557	1,083	4,122	3,082	5,164	1,822	1,743	1,476
Philadelphia.....	8,379	7,087	7,503	251,884	228,899	214,775	746,076	501,868	519,982	310,984	258,036	224,807
Phoenixville borough.....	31	31	32	2,599	2,888	2,249	5,376	5,500	3,322	2,159	2,477	1,475
Pittsburgh.....	1,650	1,562	1,301	67,474	71,618	71,794	243,454	211,259	218,198	94,927	86,678	89,740
Pittston.....	40	40	27	792	830	357	1,909	1,475	993	902	747	375

¹ Does not include statistics for Lakewood.² While the population for 1900 was in excess of 10,000, statistics for that census are not available.

STATES, CITIES, AND INDUSTRIES.

585

CITIES OF 10,000 INHABITANTS OR OVER—NUMBER OF ESTABLISHMENTS, AVERAGE NUMBER OF WAGE EARNERS, VALUE OF PRODUCTS, AND VALUE ADDED BY MANUFACTURE: 1909, 1904, AND 1899—Continued.

[See explanatory note on the first page of this table.]

Table 113—Continued.

CITY.	NUMBER OF ESTABLISHMENTS.			AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE (VALUE OF PRODUCTS LESS COST OF MATERIALS).		
	Expressed in thousands.											
	1909	1904	1899	1909	1904	1899	1909	1904	1899	1909	1904	1899
PENNSYLVANIA—Continued.												
Plymouth borough.....	23	23	24	908	827	756	\$1,179	\$860	\$583	\$475	\$413	\$293
Pottstown borough.....	78	77	65	3,650	3,457	2,681	12,505	8,145	7,857	3,506	2,787	2,512
Pottsville borough.....	91	79	77	2,872	1,904	1,699	9,138	5,806	4,830	3,211	1,781	1,406
Reading.....	482	402	403	24,145	18,053	16,892	51,135	30,491	32,682	21,287	13,782	15,696
Scranton.....	293	258	247	12,851	10,912	11,139	26,355	20,453	24,742	12,083	9,200	7,522
Shamokin borough.....	39	48	46	1,623	897	762	3,544	1,444	1,147	1,415	418	447
Sharon borough.....	45	37	35	3,316	1,812	1,827	9,881	5,071	3,765	3,198	1,889	1,501
Shenandoah borough.....	29	30	22	242	170	107	888	595	302	552	414	208
South Bethlehem borough.....	49	46	38	7,985	5,754	4,645	26,417	15,275	9,964	10,450	8,014	5,192
Steelton borough.....	39	18	18	4,656	4,782	.....	.....	13,746	14,034	4,966	4,068	4,068
Sunbury borough.....	39	32	20	2,069	1,457	968	4,450	2,593	1,968	2,222	891	710
Uniontown borough.....	41	.....	.....	335	.....	.....	1,347	.....	.....	908	.....	.....
Warren borough.....	72	63	43	1,489	1,174	1,050	5,744	4,666	3,681	2,008	1,947	1,527
Washington borough.....	75	.....	.....	2,126	.....	.....	4,837	.....	.....	2,300	.....	.....
West Chester borough.....	35	35	35	916	849	497	2,146	2,121	859	1,479	1,447	543
Wilkes-Barre.....	176	129	138	7,553	5,920	4,749	13,526	11,000	8,617	7,093	5,735	4,306
Wilkesburg borough.....	24	30	16	185	184	100	538	472	246	276	237	129
Williamsport.....	159	115	142	5,641	5,296	4,717	13,348	11,267	9,726	6,288	5,351	4,125
York.....	218	228	241	10,492	7,952	6,851	18,622	13,333	10,560	9,756	6,853	5,100
All other cities.....	99	.....	.....	18,283	.....	.....	103,268	.....	.....	25,328	.....	.....
RHODE ISLAND:												
Central Falls.....	43	33	36	2,475	2,443	2,372	5,471	5,091	4,511	2,090	1,761	1,795
Cranston.....	28	13	13	1,711	587	493	5,625	1,639	1,403	2,728	1,043	790
Cumberland town.....	29	19	10	5,359	4,574	1,500	9,827	5,965	1,756	5,209	2,828	1,164
East Providence town.....	26	21	15	2,041	1,381	836	7,146	5,544	5,347	2,096	1,299	1,059
Newport.....	54	48	43	726	849	881	1,379	1,347	1,575	899	791	922
Pawtucket.....	217	186	191	15,275	12,054	10,712	37,696	25,847	19,272	10,136	11,735	9,285
Providence.....	1,080	881	929	46,281	39,804	38,368	120,241	91,961	78,657	55,471	42,006	36,196
Warwick town.....	49	37	27	6,471	6,163	5,465	10,589	7,052	6,020	5,186	3,204	3,579
Woonsocket.....	130	103	104	10,703	8,672	7,691	28,218	19,261	14,745	11,456	8,682	7,576
SOUTH CAROLINA:												
Charleston.....	116	108	104	2,874	3,450	3,187	6,951	6,007	5,713	2,722	2,259	2,208
Columbia.....	55	41	41	2,822	2,393	2,091	5,572	4,677	3,134	2,294	2,005	1,286
Greenville.....	41	36	22	1,182	1,204	770	2,142	1,677	967	914	576	249
Spartanburg.....	36	35	28	1,773	1,650	1,361	3,276	2,127	1,591	1,191	835	685
SOUTH DAKOTA:												
Aberdeen.....	37	.....	.....	295	.....	.....	1,575	.....	.....	564	.....	.....
Sioux Falls.....	83	61	48	677	465	311	2,899	1,898	884	1,260	802	562
TENNESSEE:												
Chatanooga.....	185	177	149	6,410	6,420	4,729	16,026	14,261	10,518	7,692	6,787	4,097
Jackson.....	42	42	33	1,405	1,268	1,015	2,710	2,318	1,577	1,495	1,135	884
Knoxville.....	159	138	102	2,773	2,999	4,203	8,149	6,699	6,202	3,048	2,598	2,650
Memphis.....	329	289	223	7,927	7,374	6,626	30,242	20,043	14,233	12,391	8,784	6,354
Nashville.....	384	257	237	9,721	8,032	6,726	29,650	21,567	15,301	12,194	9,085	6,274
TEXAS:												
Austin.....	108	62	34	754	641	495	2,845	1,569	765	1,218	798	308
Beaumont.....	56	40	30	883	732	1,005	4,831	2,610	1,913	1,357	1,098	815
Brownsville.....	9	.....	.....	51	.....	.....	121	.....	.....	75	.....	.....
Cleburne.....	24	.....	.....	825	.....	.....	1,577	.....	.....	718	.....	.....
Dallas.....	305	247	177	4,882	3,445	2,842	26,959	15,628	9,488	9,993	6,421	4,090
Denison.....	29	25	20	833	725	668	1,314	1,235	840	721	644	451
El Paso.....	88	54	38	1,752	1,158	716	3,637	2,378	1,213	2,141	1,247	674
Fort Worth.....	147	102	68	2,059	1,423	943	8,661	5,668	3,488	3,295	2,479	1,341
Galveston.....	61	67	100	1,094	761	1,422	6,308	2,997	3,675	2,041	1,398	1,650
Houston.....	249	209	145	5,338	5,056	3,188	23,015	13,564	7,492	8,694	5,947	3,297
Laredo.....	23	18	14	213	515	372	221	454	331	147	258	192
Marshall.....	22	.....	.....	977	.....	.....	1,787	.....	.....	964	.....	.....
Palestine.....	20	17	19	745	544	481	1,313	735	704	691	430	355
Paris.....	45	29	27	541	210	263	1,430	855	743	568	327	282
San Angelo.....	26	.....	.....	115	.....	.....	318	.....	.....	185	.....	.....
San Antonio.....	194	141	113	3,105	2,457	2,683	13,435	7,402	5,989	6,483	3,661	3,008
Sherman.....	36	39	31	273	307	314	4,676	2,641	1,461	629	492	391
Temple.....	37	.....	.....	366	.....	.....	1,346	.....	.....	512	.....	.....
Tyler.....	23	21	16	484	368	431	996	629	682	459	318	330
Waco.....	92	76	80	1,033	947	1,004	4,769	2,980	2,294	1,804	1,291	968
UTAH:												
Ogden.....	68	63	51	1,323	1,013	678	3,713	2,507	1,242	1,643	1,199	563
Salt Lake City.....	245	192	154	4,287	2,776	2,154	13,351	7,544	4,279	6,736	4,029	2,502
VERMONT:												
Barre.....	139	105	146	2,340	2,198	1,875	3,852	3,373	2,761	2,744	2,464	1,978
Burlington.....	82	67	78	2,371	2,300	2,232	6,800	6,355	6,066	2,477	2,562	2,772
Rutland.....	63	51	61	1,636	1,803	1,496	2,680	2,523	1,959	1,473	1,361	1,124
VIRGINIA:												
Alexandria.....	54	51	57	1,470	1,291	859	4,420	2,187	1,539	1,689	1,195	869
Danville.....	52	34	46	3,076	3,018	2,933	5,389	4,775	3,694	2,153	2,009	1,827
Lynchburg.....	82	55	61	4,026	2,534	1,487	10,188	4,965	2,994	3,720	2,682	1,499
Norfolk.....	215	121	140	4,749	2,935	2,638	10,341	5,739	4,682	4,868	2,537	2,150
Petersburg.....	72	72	77	3,887	3,288	3,608	8,896	5,891	5,286	3,137	2,697	2,178
Portsmouth.....	31	28	22	842	551	471	1,528	945	906	752	459	346
Richmond.....	380	300	276	14,849	12,444	13,715	47,358	27,745	24,669	23,105	13,982	13,184
Roanoke.....	62	54	38	3,544	3,089	2,431	7,261	5,545	5,398	3,217	2,312	1,965
Staunton.....	44	.....	.....	339	.....	.....	1,223	.....	.....	527	.....	.....

1 Included in "all other cities" for 1909.

2 Includes: Coatesville, Duquesne, Monessen, North Braddock, Old Forge, South Sharon, and Steelton boroughs, to avoid disclosure of individual operations.

3 Does not include statistics for Newport News.

ABSTRACT OF THE CENSUS—MANUFACTURES.

CITIES OF 10,000 INHABITANTS OR OVER—NUMBER OF ESTABLISHMENTS, AVERAGE NUMBER OF WAGE EARNERS, VALUE OF PRODUCTS, AND VALUE ADDED BY MANUFACTURE: 1909, 1904, AND 1899—Continued.

[See explanatory note on the first page of this table.]

CITY.	NUMBER OF ESTABLISHMENTS.			AVERAGE NUMBER OF WAGE EARNERS.			VALUE OF PRODUCTS.			VALUE ADDED BY MANUFACTURE (VALUE OF PRODUCTS LESS COST OF MATERIALS).		
	Expressed in thousands.											
	1909	1904	1899	1909	1904	1899	1909	1904	1899	1909	1904	1899
WASHINGTON:												
Aberdeen.....	43			1,500			\$3,590			\$1,418		
Bellingham.....	96	73	47	1,566	1,314	1,502	4,000	\$3,294	\$2,620	2,178	\$1,043	\$1,076
Everett.....	94			2,375			7,423			3,564		
North Yakima.....	36			602			2,175			1,225		
Seattle.....	751	467	352	11,331	6,390	4,440	50,569	25,406	15,323	21,884	11,048	6,459
Spokane.....	286	188	84	3,089	2,428	1,060	18,880	8,831	3,756	8,037	4,131	1,723
Tacoma.....	276	230	174	5,765	4,457	3,552	22,450	14,204	10,301	8,734	6,107	3,980
Walla Walla.....	48	33	34	388	242	213	2,317	1,486	964	932	557	343
WEST VIRGINIA:												
Bluefield.....	15			670			1,465			570		
Charleston.....	63	54	48	951	887	680	3,235	2,101	1,262	1,008	1,103	603
Huntington.....	67	44	20	3,156	2,229	1,717	6,511	4,407	3,642	3,120	1,731	1,144
Martinsburg.....	39			1,420			2,516			1,239		
Parkersburg.....	75	68	72	1,495	1,444	1,237	5,499	3,778	3,101	1,939	1,290	1,215
Wheeling.....	176	195	178	7,809	7,127	6,180	27,077	21,797	15,074	11,052	9,308	6,668
WISCONSIN:												
Appleton.....	97	108	88	2,125	2,486	1,561	6,734	6,673	3,861	2,477	2,647	1,504
Ashland.....	38	37	41	1,116	1,361	1,812	2,748	4,210	3,000	1,262	2,018	2,084
Detroit.....	51	44	43	2,986	2,471	1,845	5,880	4,485	2,800	3,447	2,650	1,462
Bay City.....	75	73	64	2,524	1,985	1,758	5,855	3,602	3,870	2,881	1,803	1,784
Fond du Lac.....	97	85	74	2,707	2,566	1,520	8,227	5,600	2,861	3,153	2,289	1,226
Green Bay.....	102	103	70	2,570	2,111	1,427	6,235	4,873	2,760	2,342	2,177	1,346
Janesville.....	78	73	72	1,451	1,348	1,308	5,156	3,846	3,184	2,270	1,790	1,416
Kenosha.....	62	45	38	6,449	4,354	3,090	23,182	12,363	7,334	8,400	4,971	2,311
La Crosse.....	151	150	131	3,329	2,644	2,763	14,103	8,130	7,677	6,306	3,414	3,032
Madison.....	116	84	60	1,792	1,476	1,365	5,467	3,291	2,080	3,130	1,968	1,551
Manitowoc.....	80	70	62	1,525	1,321	975	5,930	4,428	1,935	1,076	1,488	1,099
Marinette.....	43	37	45	1,491	1,045	2,485	3,300	3,633	4,411	1,606	2,052	2,697
Milwaukee.....	1,764	1,527	1,419	50,502	33,306	41,220	208,324	137,905	110,854	87,703	66,832	51,160
Oshkosh.....	159	134	129	5,778	4,840	4,220	14,739	8,652	8,081	7,658	4,220	3,799
Racine.....	142	148	135	8,381	6,504	6,138	24,073	16,459	11,070	13,101	9,316	5,760
Sheboygan.....	100	96	80	5,988	5,903	4,902	11,299	9,751	6,907	5,210	4,198	3,195
Superior.....	90	72	75	1,847	1,343	1,705	6,574	6,357	6,830	2,302	1,709	1,810
Wausau.....	67	58	56	2,092	1,945	1,716	6,287	4,645	3,381	2,962	2,096	1,473
WYOMING:												
Cheyenne.....	22	18	17	853	552	423	1,577	925	722	970	617	433
All other cities ¹	142	54	71	10,331	8,401	6,892	82,537	22,346	15,272	22,218	11,389	6,666

¹ Includes Gary, Ind., Great Falls, Mont., Lackawanna, N. Y., Lakewood, Ohio, and Newport News, Va., in 1909, and Great Falls, Mont., and Newport News, Va. in 1904 and 1899.