

CASH REGISTERS AND ADDING, CALCULATING, AND CARD-TABULATING MACHINES

Description of the industry.—This industry embraces establishments engaged primarily in the manufacture of cash registers; adding and calculating machines; fare registers and fare boxes; taxicab meters; slide rules; change-making machines; coin-counting, ticket-counting, and other counting machines; voting machines; and card-punching, card-sorting, and card-tabulating machines.

TABLE 1.—SUMMARY FOR THE UNITED STATES: 1899 TO 1929

[Data for establishments with products under \$5,000 in value included for 1919 and prior years but not for 1921 and subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

YEAR OR PERIOD	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy ¹	Value of products ²	Value added by manufacture ³	Horsepower
1929	46	16,840	\$29,745,865	\$10,766,013	\$110,000,986	\$99,234,073	28,257
1927	41	14,372	21,756,094	11,132,191	106,844,969	95,712,778	21,954
1925	41	13,296	21,142,430	11,165,658	98,383,910	87,218,252	17,616
1923	37	14,971	22,778,197	12,483,128	95,105,570	82,622,442	(⁴)
1921	49	9,786	13,243,471	9,572,828	53,652,943	44,080,115	(⁵)
1919	65	16,544	22,537,265	10,889,998	83,539,025	72,849,027	14,645
1914	52	8,956	6,110,271	3,992,076	30,519,587	26,527,511	10,619
1911	50	7,465	5,311,890	3,552,466	23,708,326	20,155,860	6,719
1909	32	4,079	2,442,001	1,515,980	9,876,099	8,359,119	4,094
1899	18	2,067	1,249,741	921,237	5,675,365	4,754,128	1,317
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929	(⁶)	17.2	36.7	-3.3	3.0	3.7	28.7
1925-1927	(⁶)	8.1	2.9	-0.3	8.6	9.7	24.6
1923-1925	(⁶)	-11.2	-7.2	-10.6	3.4	5.6	-----
1921-1923	(⁶)	53.0	72.0	30.4	77.3	87.4	-----
1919-1921	(⁶)	-40.8	-41.2	-12.1	-35.8	-39.3	-----
1919-1929	(⁶)	1.8	32.0	-1.1	31.7	36.6	92.9
1909-1919	(⁶)	121.6	324.3	208.5	252.4	260.4	118.0
1899-1909	(⁶)	261.2	325.0	285.6	317.7	324.0	410.2

¹ The cost of mill supplies is included in the figures for 1927 and earlier years but not in that for 1929. See GENERAL EXPLANATIONS—Comparableness with Preceding years—Schedule Changes—Mill or Shop Supplies.

² The figures for 1929 refer to sales (shipments or deliveries) by manufacturers; those for earlier years represent production. See GENERAL EXPLANATIONS—Value of Products.

³ Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

⁴ No comparable data.

⁵ Not called for on schedule.

⁶ Per cent not computed where base is less than 100.

TABLE 2.—GENERAL STATISTICS, BY STATES: 1929, 1927, AND 1919

[This table presents statistics separately for each State for which figures can be given without disclosing data for individual establishments. Certain of the "Other States," however, were more important in the industry than some of the States shown separately]

STATE	Census year	Number of establishments	Salaried officers and employees ¹	Wage earners (average for the year)	HORSEPOWER (RATED CAPACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products ³	Value added by manufacture ⁴
					Total	Prime movers	Electric motors run by purchased energy			Total	Materials ⁵	Fuel and purchased energy		
United States	1929	46	3,339	16,840	28,257	22,984	5,273	\$9,280,453	\$29,745,865	\$10,766,013	\$10,285,427	\$480,586	\$110,000,986	\$99,234,073
	1927	41	3,415	14,372	21,954	16,427	5,527	8,712,951	21,756,094	11,132,191	10,753,846	378,345	106,844,969	95,712,778
	1919	65	2,388	16,544	\$14,645	11,530	\$3,115	3,982,670	22,537,265	10,889,998	10,527,407	362,591	83,539,025	72,649,027
Illinois	1929	6	330	1,051	1,180	280	900	764,128	1,540,090	808,055	730,152	77,903	9,096,631	8,288,576
	1927	8	188	1,228	1,198	300	898	390,249	1,777,376	804,625	740,099	64,526	10,312,522	9,507,897
	1919	11	306	1,855	1,383	200	1,183	582,454	2,281,286	1,553,702	1,507,236	46,466	7,353,876	5,800,174
Missouri	1929	4	17	56	81	-----	81	82,720	82,593	64,017	59,532	4,485	275,694	211,677
New York	1929	12	375	2,125	1,914	75	1,839	1,117,892	4,722,170	3,138,905	3,049,542	89,364	11,961,164	8,522,258
	1927	9	255	1,384	2,681	915	1,766	679,531	1,740,114	2,708,409	2,654,555	53,853	8,139,433	5,451,024
	1919	10	102	538	-----	-----	283	295,685	576,994	888,177	872,500	15,677	1,966,490	1,078,313
Other States	⁶ 1929	24	2,617	13,608	25,082	22,629	2,453	7,315,713	23,401,012	6,755,035	6,446,201	308,534	88,667,497	81,912,462
	⁷ 1927	24	2,972	11,760	18,075	15,212	2,863	7,743,171	18,238,604	7,619,157	7,359,191	259,966	88,393,014	80,773,857
	⁸ 1919	44	1,980	14,151	12,984	11,330	1,654	3,104,531	19,678,985	8,448,119	8,147,671	300,448	74,218,659	65,770,540

¹ Not including proprietors and firm members. The total numbers of persons engaged and the numbers of proprietors and firm members, as reported for this industry, are as follows: For 1929, total, 20,133; proprietors and firm members, 9. For 1927, total, 17,792; proprietors and firm members, 5. For 1919, total, 18,958; proprietors and firm members, 26.

² The cost of mill supplies is included in the figures for 1927 and 1919 but not in that for 1929.

³ The figures for 1929 refer to sales (shipments or deliveries) by manufacturers; those for earlier years represent production. See GENERAL EXPLANATIONS—Value of Products.

⁴ Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

⁵ Data for purchased power other than electric (power transmitted into the plant by belt or shaft) are included in the State items for 1919 but not in the United States totals.

⁶ California, 2 establishments; Connecticut, 2; Florida, 1; Indiana, 1; Michigan, 6; New Jersey, 2; Ohio, 5; Pennsylvania, 1; Rhode Island, 1; Wisconsin, 3.

⁷ California, 1 establishment; Connecticut, 2; Florida, 1; Michigan, 4; Missouri, 4; New Jersey, 2; Ohio, 6; Pennsylvania, 1; Rhode Island, 1; Wisconsin, 2.

⁸ California, 5 establishments; Connecticut, 3; Iowa, 2; Maine, 1; Massachusetts, 3; Michigan, 8; Missouri, 7; New Jersey, 1; Ohio, 6; Pennsylvania, 6; Rhode Island, 1; Wisconsin, 1.

CASH REGISTERS, ADDING MACHINES, ETC.

1121

TABLE 3.—PRODUCTS, BY CLASS, NUMBER, AND VALUE, FOR THE UNITED STATES: 1929 AND 1927

[The figures for 1929 refer to sales (shipments or deliveries) by manufacturers; those for 1927 represent production. See GENERAL EXPLANATIONS—Value of Products. No corresponding data for earlier years are available. Statistics for States are withheld from publication in order to avoid disclosing an approximation of data for individual establishments]

CLASS	1929	1927	CLASS	1929	1927
1. Cash registers and adding, calculating, and card-tabulating machines industry, all products, total value.....	\$110,000,986	\$106,844,969	Cash registers, etc.—Continued.		
2. Cash registers, adding machines, calculating machines, etc., and parts and attachments, made in the "Cash registers, etc." industry.....	\$105,278,251	\$100,117,443	Calculating machines—		
3. Other products (not normally belonging to the industry), value, and receipts for repairing.....	\$4,722,735	\$6,727,526	Number.....	57,201	62,126
4. Cash registers, adding machines, etc., made as secondary products in other industries, value.....	\$938,365	\$485,442	Value.....	\$11,616,947	\$10,613,610
Cash registers, adding machines, etc., all industries:			Cash registers, card punching, sorting, and tabulating machines; change-making machines; coin counters; fare registers and fare boxes; taxicab meters and ticket-counting machines; value.....	\$61,272,174	\$49,524,693
Total value (sum of 2 and 4).....	\$106,216,616	\$100,602,885	Other adding, calculating, and computing devices, value.....	\$771,248	(1)
Adding machines—			Parts and attachments, value.....	\$6,646,686	\$7,076,618
Number.....	157,740	156,144			
Value.....	\$25,909,561	\$33,385,964			

¹ No comparable data.

TABLE 4.—PRIME MOVERS, MOTORS, GENERATORS, AND CONSUMPTION OF PURCHASED ELECTRIC ENERGY—NUMBER AND RATED CAPACITY OF PRIME MOVERS AND ELECTRIC MOTORS, 1929, 1927, 1925, 1919, AND 1914, AND OF GENERATORS, 1929, 1927, AND 1925; QUANTITY OF ELECTRIC ENERGY PURCHASED, 1929

TYPE	1929		1927		1925		1919		1914		PER CENT DISTRIBUTION OF RATED HORSEPOWER CAPACITY	
	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	1929	1919
		Horse-power		Horse-power		Horse-power		Horse-power		Horse-power		
Prime movers and electric motors driven by purchased energy, aggregate.....	1,328	28,257	1,214	21,954	950	17,616	482	14,645	394	10,619	100.0	100.0
Prime movers, total.....	19	22,984	26	16,427	22	12,752	26	11,530	17	8,539	81.3	78.7
Steam, total.....	17	22,980	25	16,425	21	12,750	23	11,265	15	8,339	81.3	76.9
Engines.....	9	3,030	17	5,885	14	4,950	21	9,015	(1)	(1)	10.7	61.6
Turbines.....	8	19,950	8	10,540	7	7,800	2	2,250	(1)	(1)	70.6	15.3
Internal-combustion engines.....	2	4	1	2	1	2	1	15	2	200		0.1
Water wheels and water turbines.....							2	250				1.7
Electric motors driven by purchased energy.....	1,309	5,273	1,188	5,527	928	4,864	456	3,115	377	2,080	18.7	21.3
Electric motors, total.....	4,085	21,230	3,634	20,475	2,728	16,469	1,753	17,523	1,634	12,145	100.0	100.0
Driven by purchased energy.....	1,309	5,273	1,188	5,527	928	4,864	456	3,115	377	2,080	24.8	17.8
Driven by energy generated in establishments reporting.....	2,776	15,957	2,446	14,948	1,800	11,605	1,297	14,408	1,257	10,065	75.2	82.2
Electric generators.....	16	Kilowatts 12,265 Kilowatt-hours	22	Kilowatts 11,840	15	Kilowatts 8,790	(2)	(2)	(2)	(2)		
Electric energy purchased ⁴		7,721,993		(3)		(3)		(2)		(2)		

¹ Not called for separately on schedule.

² Not called for on schedule.

³ This item covers the consumption of purchased electric energy for all purposes—power, heat, light, etc.

⁴ Data incomplete.

TABLE 5.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1929, 1925, 1919, 1914, AND 1909, AND BY STATES, 1929

[This table presents statistics for only those States for which figures can be given without disclosing data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures]

STATE	Average number employed during year	NUMBER EMPLOYED ON 15TH DAY OF MONTH OR NEAREST REPRESENTATIVE DAY												Per cent minimum is of maximum
		January	February	March	April	May	June	July	August	September	October	November	December	
United States:														
1929.....	16,840	<i>15,555</i>	16,633	17,219	17,321	17,119	17,335	17,033	16,774	16,773	16,968	16,805	16,540	89.7
1925.....	13,206	<i>12,954</i>	12,877	13,013	13,134	13,152	13,383	13,435	13,317	13,376	13,497	13,718	13,692	93.9
1919.....	16,544	<i>13,845</i>	13,773	14,766	15,115	16,261	16,670	17,306	17,486	18,151	18,250	18,342	18,558	74.2
1914.....	8,956	<i>10,187</i>	10,220	10,138	10,180	9,876	9,341	8,817	7,812	7,137	7,123	7,020	68.7	
1909.....	7,465	<i>6,640</i>	7,129	7,418	7,520	7,562	7,556	7,545	7,417	7,406	7,559	7,780	8,062	82.4
Illinois.....	1,051	1,057	1,071	1,067	1,051	1,026	1,041	1,016	1,020	1,010	1,060	1,104	1,089	91.5
Missouri.....	56	97	91	60	58	84	36	145	47	50	51	54	55	35.1
New York.....	2,125	1,995	2,223	2,371	2,427	2,103	2,323	2,180	2,068	1,968	1,897	1,917	2,013	78.2

ELECTRICAL MACHINERY, APPARATUS, AND SUPPLIES

Description of the industry.—This industry embraces establishments engaged primarily in the manufacture of machinery, apparatus, and supplies for employment directly in the generation, storage, transmission, or utilization of electric energy. It does not cover establishments whose principal products are electric-lighting fixtures, electric signs, or motor-driven tools, mechanical refrigerators, washing machines, and other machines and appliances constructed with built-in motors, these being classified for census purposes in other industries. (See Table 19, p. 1133.)

Detailed statistics of products (Tables 3-18).—For those classes of products which are manufactured

principally in the electrical machinery, apparatus, and supplies industry, the detailed statistics of products cover, in addition to the output of establishments assigned to this industry, electrical equipment made as secondary products (so far as separately reported) by establishments engaged primarily in other lines of manufacture. (See GENERAL EXPLANATIONS—Classification of Establishments.) The most important example of such secondary production is insulated wire and cable, reported for 1929 to the value of \$105,366,081, chiefly by establishments engaged in the manufacture of plain wire.

TABLE 1.—SUMMARY FOR THE UNITED STATES: 1899 TO 1929

[Data for establishments with products under \$5,000 in value included for 1919 and prior years but not for 1921 and subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

YEAR OR PERIOD	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, containers for products, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²	Horsepower
1929	1,802	328,722	\$456,377,629	\$971,017,623	\$2,300,915,672	\$1,329,897,949	893,519
1927	1,777	241,566	336,238,756	645,761,699	1,637,307,035	991,545,336	661,168
1925	1,739	239,921	323,834,541	636,692,076	1,540,002,041	903,309,965	539,398
1923	1,671	234,892	305,455,263	548,626,673	1,293,001,771	744,375,008	489,268
1921	1,333	161,204	194,242,357	314,069,963	833,985,443	489,915,480	(1)
1919	1,404	212,374	238,188,852	425,008,211	997,968,119	572,869,908	438,082
1914	1,030	118,078	73,806,329	154,728,076	335,170,194	180,442,118	226,320
1909	1,069	87,256	49,381,145	108,566,404	221,308,563	112,742,159	157,809
1904	784	60,466	31,841,521	66,836,926	140,809,369	73,972,443	102,433
1899	581	42,013	20,579,194	40,458,272	92,434,435	42,976,163	40,682
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929	1.4	36.1	54.8	50.4	40.5	34.1	35.1
1925-1927	2.2	0.7	3.8	1.4	6.3	9.8	12.2
1923-1925	4.1	2.1	6.0	16.1	19.1	21.4	22.7
1921-1923	25.4	45.7	57.3	59.5	56.0	51.0	-----
1919-1921	-5.1	-24.1	-18.5	-19.1	-16.4	-14.5	-----
1919-1929	26.3	54.8	91.6	128.4	130.6	132.1	100.4
1909-1919	39.1	143.4	382.3	291.6	350.9	408.1	177.6
1899-1909	73.7	107.7	140.0	119.5	139.4	162.3	-----

¹ Figures for all census years refer to production, not sales. See GENERAL EXPLANATIONS—Value of Products.

² Value of products less cost of materials, containers for products, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

³ Not called for on schedule.

ELECTRICAL MACHINERY AND SUPPLIES

1123

TABLE 2.—GENERAL STATISTICS, BY STATES: 1929, 1927, AND 1919

[This table presents statistics separately for each State for which figures can be given without disclosing data for individual establishments, and for the remaining States in groups. Data for establishments with products under \$5,000 in value are included for 1919 but not for subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

STATE	Census year	Number of establishments	Salaried officers and employes ¹	Wage earners (average for the year)	HORSEPOWER (RATED CAPACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, CONTAINERS FOR PRODUCTS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products ²	Value added by manufacture ³
					Total	Prime movers	Motors run by purchased energy			Total	Materials and containers	Fuel and purchased energy		
United States	1929	1,802	75,867	328,722	893,519	284,835	608,684	\$170,817,326	\$456,377,629	\$971,017,623	\$947,528,397	\$23,489,316	\$2,300,915,573	\$1,329,897,919
	1927	1,777	64,487	241,566	661,168	241,313	419,855	148,248,997	396,238,770	645,761,699	620,617,053	19,144,646	1,637,307,033	991,545,330
	1919	1,404	59,065	212,374	438,082	202,477	235,605	98,190,439	228,188,852	425,098,211	411,359,101	13,739,110	997,968,119	572,899,898
Individual States:														
Alabama	1929	5	10	65	121		121	43,768	78,458	241,913	237,465	4,418	431,523	189,610
California	1929	138	1,147	4,353	12,032	50	11,082	2,669,989	5,609,273	20,977,634	20,618,611	329,023	42,139,952	21,153,318
	1927	115	941	3,349	9,122		9,122	2,050,087	4,368,805	15,179,553	14,949,929	229,624	31,461,835	16,282,282
	1919	73	649	2,098	3,884		3,884	945,365	1,894,094	5,029,911	4,898,427	131,484	11,368,196	6,338,285
Colorado	1929	8	19	71	141		141	41,218	76,159	334,829	319,529	15,390	510,903	206,074
	1927	8	20	53	57		57	53,208	68,895	112,643	167,457	5,290	377,432	284,789
	1919	8	8	38	85		85	10,639	33,624	57,138	55,056	2,082	138,849	81,711
Connecticut	1929	59	2,384	15,225	43,737	25,397	18,340	5,923,587	17,732,189	39,911,245	38,683,095	1,228,150	86,893,996	46,982,751
	1927	70	2,381	14,500	41,715	23,520	18,195	5,429,073	16,998,723	34,799,064	33,724,561	1,074,503	75,926,216	41,127,152
	1919	54	1,928	11,403	15,368	7,508	7,860	3,548,209	12,453,872	23,441,798	22,792,830	648,968	51,911,332	28,409,534
Florida	1929	6	8	35	27		27	19,940	35,278	80,373	73,890	6,483	186,715	106,342
Georgia	1929	5	50	98	177		177	61,271	133,569	342,550	333,805	8,655	943,372	600,822
	1927	4	39	67	102		102	62,346	85,810	208,497	201,509	1,985	542,309	338,812
Illinois	1929	245	15,635	87,347	95,739	59,075	36,664	35,080,541	95,440,817	165,725,215	163,161,014	2,564,201	435,021,917	209,296,702
	1927	258	11,044	84,626	66,689	40,315	26,374	20,891,229	52,502,568	92,616,058	90,857,800	1,758,258	261,089,307	168,473,249
	1919	101	9,179	27,290	32,060	21,078	11,882	16,153,008	30,571,410	51,626,299	50,258,394	1,367,905	119,528,022	67,901,723
Indiana	1929	57	2,855	20,757	54,813	6,305	48,508	6,622,686	25,782,978	56,866,228	55,463,432	1,402,796	133,352,549	76,486,321
	1927	58	2,318	16,048	42,769	0,428	36,341	4,752,523	24,925,292	47,165,382	45,902,666	1,262,716	102,690,445	55,625,063
	1919	47	2,308	11,756	32,611	5,433	27,178	3,415,618	11,160,493	20,809,677	20,262,035	547,642	41,594,125	20,784,448
Kansas	1929	5	21	64	152		152	33,992	95,365	272,283	263,298	8,985	436,485	164,202
Kentucky	1929	15	173	1,031	1,741	50	1,691	347,556	865,095	2,236,916	2,178,321	58,595	6,471,539	4,234,623
	1927	12	180	600	911	50	861	281,799	649,471	1,355,738	1,329,195	26,638	3,904,849	2,549,111
	1919	9	65	255	439	65	374	117,316	243,039	553,826	546,573	7,259	1,137,081	683,205
Maryland	1929	14	590	665	8,369		8,369	603,540	875,246	2,793,335	2,758,696	34,639	5,180,729	2,363,385
	1927	(⁴)	(⁴)	(⁴)	(⁴)		(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)
	1919	13	327	137	188		188	65,408	144,903	186,907	152,150	4,757	522,865	365,958
Massachusetts	1929	106	6,377	28,844	80,052	44,098	35,954	13,757,280	41,011,734	64,323,352	62,060,003	2,263,349	184,786,944	120,463,592
	1927	122	6,031	24,759	95,191	44,246	50,945	13,856,581	33,803,793	42,197,890	40,036,378	2,161,512	130,348,252	97,150,835
	1919	110	5,551	23,889	36,367	28,808	7,469	9,014,062	27,649,667	31,837,076	30,545,217	1,291,859	91,938,738	60,101,602
Michigan	1929	61	1,350	8,196	12,335	1,610	10,655	3,654,816	10,140,613	29,694,935	29,219,508	475,427	62,394,174	32,699,239
	1927	60	1,245	4,379	7,624	4,50	7,074	3,164,657	5,977,033	16,530,665	16,270,326	260,339	36,623,319	20,092,654
	1919	54	958	4,190	5,059	302	5,357	2,011,107	4,685,479	9,035,056	8,812,160	222,896	25,022,528	15,190,472
Minnesota	1929	37	351	1,280	3,015	120	2,895	905,674	1,604,557	5,122,065	4,993,599	128,406	11,022,492	5,900,487
	1927	29	331	913	1,487		1,487	876,865	1,145,910	3,010,140	2,923,018	87,092	6,099,351	3,689,211
	1919	20	281	942	881		881	554,889	753,094	2,033,348	1,976,575	56,773	4,353,949	2,200,601
Missouri	1929	65	1,604	7,225	17,120	1,000	16,120	4,571,480	8,483,557	20,038,782	19,596,682	442,100	52,936,797	32,898,015
	1927	52	1,410	6,791	14,083	1,233	13,450	3,522,320	8,575,523	16,895,667	16,500,970	394,697	43,371,941	26,476,274
	1919	35	1,621	6,367	0,128	1,350	4,778	2,449,900	5,683,802	8,162,253	7,964,570	197,653	22,007,658	13,845,405
Nebraska	1929	4	24	76	27		27	88,177	94,271	388,340	372,952	15,388	784,241	395,901
	1927	(⁵)	(⁵)	(⁵)	(⁵)		(⁵)	(⁵)	(⁵)	(⁵)	(⁵)	(⁵)	(⁵)	(⁵)
	1919	6	25	88	77		77	45,438	91,589	212,423	210,348	2,075	419,655	207,232
New Hampshire	1929	7	32	462	629	50	576	108,609	316,962	500,311	485,776	14,535	1,180,731	680,420
	1927	6	32	253	665		665	65,460	226,296	352,857	344,279	8,578	886,723	533,866
	1919	7	35	425	671	338	233	116,536	359,801	642,703	634,667	8,036	1,463,679	820,976
New Jersey	1929	151	12,490	42,193	70,584	28,583	53,091	24,272,758	54,638,737	136,811,277	134,441,484	2,369,793	292,785,977	155,974,700
	1927	137	6,729	22,734	58,343	19,280	39,063	14,781,911	31,083,557	68,444,637	66,581,401	1,863,236	173,932,303	105,487,096
	1919	105	6,444	26,135	51,664	29,939	21,725	10,700,550	27,305,532	58,982,622	57,088,248	1,894,374	120,341,356	61,358,734
New York	1929	287	9,643	43,970	205,180	47,590	157,590	23,511,002	63,717,802	129,342,988	124,810,520	4,532,468	280,139,078	150,796,090
	1927	298	8,836	39,770	91,620	43,784	47,836	20,531,408	55,820,625	109,658,585	97,419,189	3,237,396	243,269,371	142,652,786
	1919	255	13,220	37,317	136,321	55,266	81,055	21,724,426	45,721,978	73,839,250	70,728,707	3,112,543	179,972,586	106,133,339
North Carolina	1929	6	11	68	158		158	27,178	56,736	108,041	103,774	4,267	259,716	151,675
	1927	6	8	49	130		130	14,523	42,852	100,415	97,872	2,743	197,249	96,834
	1919	7	36	270	296		192	72,770	131,694	355,305	332,228	23,077	663,207	307,902
Ohio	1929	211	6,956	36,267	85,523	7,059	78,454	16,826,022	46,170,296	105,338,355	102,544,516	2,793,839	264,359,741	159,021,386
	1927	206	5,817	24,423	61,565	8,215	53,350	13,184,404	32,386,890	78,961,303	76,754,312	2,206,991	188,763,978	109,802,675
	1919	189	5,776	26,672	42,753	6,609	36,144	9,469,379	30,632,032	72,237,207	70,633,157	1,664,020	156,924,143	84,626,936
Oregon	1929	7	15	61	44		44	38,363	90,783	149,215	143,338	5,877	313,068	123,854
	1927	10	18	60	106		106	34,771	97,377	175,342	168,623	6,819	401,196	268,853
	1919	3	9	20	35		35	16,201	20,998	38,308	37,241	1,007	103,127	64,819
Pennsylvania	1929	137	11,155	47,373	150,334	57,907	101,427	24,600,021	67,733,588	149,356,274	145,608,139	3,748,135	347,140,742	197,784,468
	1927	136	12,993	37,020	141,728	49,320	62,408	28,468,754	52,415,303	9				

CENSUS OF MANUFACTURES: 1929

TABLE 2.—GENERAL STATISTICS, BY STATES: 1929, 1927, AND 1919—Continued

[See note at head of this table]

STATE	Census year	Number of establishments	Salaried officers and employees ¹	Wage earners (average for the year)	HORSEPOWER (RATED CAPACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, CONTAINERS FOR PRODUCTS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products ²	Value added by manufacture ³
					Total	Prime movers	Motors run by purchased energy			Total	Materials and containers	Fuel and purchased energy		
Individual States—Continued.														
Tennessee	1929	4	31	373	315	6	309	\$129,025	\$337,287	\$748,130	\$724,102	\$24,028	\$1,707,230	\$1,049,109
	1927	3	19	136	265	—	265	71,351	128,631	172,859	163,550	0,309	501,409	328,550
	1919	4	9	52	123	76	48	21,838	44,275	70,270	66,555	3,715	184,829	114,559
Texas	1929	17	33	150	561	120	441	72,610	152,515	477,980	451,429	26,557	917,469	439,483
	1927	11	41	166	329	—	329	85,387	213,193	500,673	477,830	22,843	1,011,812	511,139
	1919	6	8	33	98	—	98	17,168	45,763	92,166	90,457	1,709	174,877	82,711
Virginia	1929	7	9	58	243	—	243	12,173	47,920	68,900	64,366	4,540	174,445	105,539
	1927	5	9	71	307	—	307	15,969	75,461	89,232	78,814	10,418	230,175	140,943
Washington	1929	20	89	294	466	10	456	221,802	350,209	928,604	912,771	15,833	1,813,071	884,467
	1927	25	83	269	646	—	646	185,794	336,449	612,763	597,029	15,734	1,563,850	951,087
	1919	12	70	190	632	—	632	113,997	201,899	645,702	640,064	5,638	1,066,512	420,810
West Virginia	1929	8	112	482	2,738	1,770	908	297,914	576,900	1,895,021	1,751,049	144,872	3,423,821	1,527,900
	1927	10	99	482	3,238	2,423	815	270,162	611,790	1,910,541	1,785,504	124,977	3,222,992	1,312,451
Wisconsin	1929	62	2,104	7,652	11,324	1,500	9,824	5,078,950	9,703,972	16,782,488	16,288,249	494,239	48,532,600	31,750,112
	1927	65	2,297	7,150	9,982	1,000	8,982	5,109,932	8,749,295	17,473,971	17,089,550	384,412	48,027,662	30,553,691
	1919	43	1,873	5,875	7,470	2,110	5,360	2,841,757	6,028,437	9,368,062	9,001,101	366,961	23,636,473	14,288,411
Groups of States:														
Ariz., 1 est.; Ark., 1; Miss., 1; Okla., 5	1929	8	25	125	362	—	362	61,314	130,038	493,706	477,494	16,212	863,247	309,541
Iowa, 16 est.; N. Dak., 1; S. Dak., 1; Utah, 7	1929	26	180	1,688	2,525	70	2,455	417,683	1,950,013	8,586,238	8,401,891	94,347	15,330,216	6,752,978
Other States (D. C., 2 est., Vt., 1)	1929	3	4	47	257	185	72	15,870	52,983	82,570	50,010	2,560	145,657	93,087
States not shown separately														
	1927	57	458	2,216	5,197	222	4,975	885,524	2,935,337	3,934,091	3,774,677	159,414	12,522,506	8,588,415
	1919	41	263	1,006	3,096	2,420	676	306,952	934,582	1,326,498	1,197,277	120,221	3,250,742	1,624,244

¹ Not including proprietors and firm members. The total numbers of persons engaged and the numbers of proprietors and firm members, as reported for this industry, are as follows: For 1929, total, 405,653; proprietors and firm members, 464. For 1927, total, 306,968; proprietors and firm members, 915. For 1919, total, 271,912; proprietors and firm members, 473.

² Figures for all years refer to production, not sales. See GENERAL EXPLANATIONS—Value of Products.

³ Value of products less cost of materials, containers for products, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

⁴ Data for purchased power other than electric (power transmitted into the plant by belt or shaft) are included in the State items for 1919 but not in the United States totals.

⁵ Withheld from publication in order to avoid disclosing data for individual establishments.

⁶ Alabama, 3 establishments; District of Columbia, 2; Florida, 2; Iowa, 9; Kansas, 7; Louisiana, 3; Maine, 1; Maryland, 17; Nebraska, 2; Oklahoma, 5; Utah, 5; Vermont, 1.

⁷ Alabama, 1 establishment; Arkansas, 1; District of Columbia, 1; Florida, 1; Georgia, 2; Idaho, 1; Iowa, 7; Kansas, 2; Louisiana, 5; Maine, 1; Montana, 1; North Dakota, 1; South Carolina, 2; South Dakota, 1; Utah, 2; Vermont, 1; Virginia, 5; West Virginia, 6.

TABLE 3.—PRODUCTS, BY CLASS AND VALUE, FOR THE UNITED STATES: 1923 TO 1929

[The figures for all census years refer to production, not sales. See GENERAL EXPLANATIONS—Value of Products]

	1929	1927	1925	1923
1. Electrical machinery, apparatus, and supplies industry, all products, total	\$2,300,915,572	\$1,637,307,035	\$1,540,002,041	\$1,293,001,771
2. Electrical machinery, apparatus, and supplies	2,149,007,936	1,551,816,138	1,435,470,008	1,194,187,188
3. Other products (not normally belonging to the industry), value, and receipts for repairing	151,907,636	85,490,897	104,532,033	98,814,583
4. Electrical machinery, apparatus, and supplies made as secondary products in other industries	185,238,722	116,288,827	113,548,024	84,513,098
Electrical machinery, apparatus, and supplies, all industries, aggregate value (sum of 2 and 4)	2,334,246,358	1,668,104,965	1,540,018,032	1,278,700,286
Batteries, and parts and supplies (see Table 8)	149,934,676	150,388,880	155,247,811	118,065,613
Conduits, interior (see Table 10)	156,270,403	1,417,710,798	1,457,785,062	1,375,590,210
Control apparatus (see Table 5)	44,288,544	34,180,864	31,302,841	33,176,615
Domestic household heating and cooking appliances (see Table 11)	84,485,468	77,519,218	75,102,165	63,914,840
Electric fans (see Table 7)	10,196,353	10,352,366	10,654,208	9,582,612
Electrotherapeutic and electromedical apparatus (see Table 6)	23,555,082	(9)	(9)	(9)
Fuses and fuse blocks (see Table 17)	14,036,325	10,891,242	10,392,806	9,245,283
Generators, including automotive generators and motor-generator sets (see Table 4)	80,932,360	111,089,390	110,185,015	106,376,674
Ignition apparatus for internal-combustion engines (see Table 14)	58,627,039	36,431,444	41,854,295	31,831,251
Industrial and commercial apparatus and appliances (not including motor-driven tools) (see Table 11)	28,636,977	12,761,010	10,283,335	6,788,157
Insulated wire and cable (see Table 15)	312,592,093	210,047,947	210,617,310	184,472,066
Lamps (not including sockets and other fittings), incandescent filament (see Table 9)	85,319,515	87,933,244	73,558,210	71,966,225
Measuring instruments, meters, and instrument and meter transformers (see Table 12)	36,812,777	33,271,914	29,678,668	26,959,974
Motors, including automotive starter motors, and motor parts and supplies (see Table 7)	104,845,523	122,348,388	113,109,577	109,188,685
Radio apparatus and tubes (see Table 10)	411,637,312	149,657,894	150,046,130	20,678,516
Switchboards, circuit breakers, and switches (see Table 13)	81,201,122	71,924,341	69,759,667	57,856,166
Transformers and current-limiting reactors (see Table 5)	77,824,952	66,804,204	62,153,155	59,114,722
Wiring devices (see Table 16)	38,395,283	32,703,331	34,806,452	34,966,232
Miscellaneous electrical machinery, apparatus, and supplies (see Table 18)	544,654,554	408,072,540	314,482,015	288,016,384

¹ For 1929, total value of all conduit, including that manufactured by plants which made their own steel pipe; for 1927 and earlier years, does not include value of finished conduit manufactured by plants which made their own steel pipe.

² Revised.

³ Not strictly comparable with figures for later years; includes data for underground conduits.

⁴ No comparable data; included in figures for "Miscellaneous electrical machinery, apparatus, and supplies."

⁵ Not comparable with figure for 1925; includes value of automotive starter motors (shown in Table 7, "Motors, etc.," for 1925).

⁶ Does not include value of timers (not reported separately prior to 1925) and therefore is not comparable with figures for later years.

⁷ Includes value of induction voltage regulators, synchronous converters, and double-current generators; corresponding item for 1929 included in value of "Other electrical machinery, apparatus, and supplies," Table 18.

ELECTRICAL MACHINERY AND SUPPLIES

1125

TABLE 4.—GENERATORS, MOTOR-GENERATOR SETS, AND AUTOMOTIVE GENERATORS—PRODUCTION,
BY NUMBER AND VALUE: 1923 TO 1929

[See headnote to Table 3]

	1929	1927	1925	1923
Aggregate value.....	\$50,932,360	\$111,069,390	\$110,185,015	\$106,376,674
Generators, not including motor-generator sets, automotive generators, nor self-contained power and lighting outfits:				
Total value.....	\$21,825,076	\$22,838,199	\$23,215,976	\$22,743,565
Steam-turbine driven:				
Direct current—				
Under 500 kw.—				
Number.....	2,694			
Total rated capacity.....	13,191			
Value.....	\$470,195	4,770	6,562	2,247
500 kw. or over—				
Number.....	22	27,301	45,445	20,252
Total rated capacity.....	17,490	\$674,879	\$1,514,708	\$782,761
Value.....	\$218,787			
Alternating current—				
Number.....	312	483	386	594
Total rated capacity (kv. a.).....	2,491,241	1,848,787	2,054,125	2,266,968
Value.....	\$12,267,422	\$8,741,000	\$8,468,376	\$9,317,122
Other than steam-turbine driven:				
Direct current—				
Number.....	6,871	11,789	9,410	8,061
Total rated capacity (kw.).....	76,495	173,945	260,695	(¹)
Value.....	\$1,810,874	\$3,827,930	\$3,801,820	\$3,472,524
Alternating current—				
Number.....	2,645			
Total rated capacity (kv. a.).....	1,377,977	2,373	1,712	1,381
Value.....	\$7,057,798	1,783,904	1,619,895	(²)
Synchronous condensers and frequency changers:				
Number.....	203	\$9,594,410	\$9,431,072	\$9,161,158
Total rated capacity (kv. a.).....	752,179			
Value.....	\$4,240,706			
Automotive generators for battery charging:				
Number.....	4,772,465	2,596,488	3,579,296	3,730,945
Value.....	\$28,210,271	\$58,127,969	\$56,221,356	\$54,007,301
Self-contained power and lighting outfits not exceeding 5 kw.—engine, generator, and control, not including storage batteries:				
Number.....	30,634	43,558	43,408	41,816
Value.....	\$6,840,191	\$8,238,998	\$11,142,620	\$7,684,577
Motor-generator sets and dynamotors (not including arc welding sets):				
Number.....	21,402	17,144	14,509	8,195
Total rated capacity (kw.).....	474,177	(³)	(⁵)	(⁷)
Value.....	\$13,397,158	\$6,764,299	\$8,264,118	\$7,304,964
Railway and vehicle power generators ⁴ (for gasoline-electric and oil-electric cars and busses) and parts and supplies for all types of generators, value.....	\$6,418,888	\$15,129,925	\$11,340,945	\$14,685,777

¹ Not comparable with item for 1929; includes value of automotive starter motors (shown for 1929 in Table 7, "Motors, etc.").

² No comparable data.

³ The item for railway and vehicle power generators is combined with that for parts and supplies for all generators in order to avoid disclosing data reported by individual manufacturers of railway and vehicle power generators. The value of such generators is included with that of railway and vehicle motors for 1927 and earlier years. (See footnote 5, Table 7.)

⁴ Revised.

⁵ Revised.

CENSUS OF MANUFACTURES: 1929

TABLE 5.—TRANSFORMERS, CURRENT-LIMITING REACTORS, AND CONTROL APPARATUS—PRODUCTION, BY NUMBER AND VALUE: 1923 TO 1929

[See headnote to Table 3]

	1929	1927	1925	1923
Aggregate value.....	\$122, 113, 499	\$100, 985, 068	\$93, 455, 900	\$92, 291, 337
Transformers and current-limiting reactors:				
Total value.....	\$77, 824, 952	\$66, 804, 204	\$62, 153, 155	\$50, 114, 722
Constant-potential transformers, except measuring instrument and radio transformers:				
Less than 1 kv. a.—				
Number.....	149, 999	699, 102	1, 191, 588	
Total rated capacity.....	47, 144	434, 608	(²)	
Value.....	\$2, 375, 511	\$1, 706, 823	\$2, 937, 508	
1 to 50 kv. a.—				
Number.....	251, 485			641, 792
Total rated capacity.....	2, 544, 572			4, 790, 163
Value.....	\$25, 726, 005	226, 617	185, 671	\$31, 137, 794
51 to 500 kv. a.—				
Number.....	22, 143	5, 013, 010	3, 981, 777	
Total rated capacity.....	3, 910, 640	\$92, 242, 869	\$28, 766, 327	
Value.....	\$16, 772, 585			
Over 500 kv. a.—				
Number.....	3, 389	3, 945	3, 369	3, 406
Total rated capacity.....	12, 144, 653	10, 095, 470	8, 214, 441	7, 713, 719
Value.....	\$28, 984, 734	\$22, 805, 740	\$20, 233, 698	\$18, 506, 209
Constant-current transformers:				
Number.....	23, 750			
Value.....	\$1, 662, 383			
Current-limiting reactors:				
Number.....	5, 566	\$10, 048, 772	\$10, 215, 532	\$9, 420, 719
Value.....	\$1, 417, 860			
Bell-ringing and toy transformers:				
Value.....	\$85, 874	(¹)	(¹)	(¹)
Control apparatus:				
Total value.....	\$44, 289, 544	\$34, 180, 864	\$31, 302, 841	\$33, 176, 615
Industrial magnetic control for a. c. motors, value.....	\$14, 198, 960	\$7, 013, 012	\$5, 783, 026	\$4, 233, 099
Industrial magnetic control for d. c. motors, value.....	\$6, 947, 281	\$8, 496, 225	\$9, 324, 568	\$4, 002, 829
Industrial manual control for a. c. motors—				
Number.....	617, 437	200, 195	157, 554	(³)
Value.....	\$7, 772, 730	\$5, 325, 311	\$6, 089, 381	\$7, 934, 059
Industrial manual control for d. c. motors—				
Number.....	141, 413	90, 564	(³)	(³)
Value.....	\$2, 258, 011	\$1, 936, 984	\$1, 608, 912	\$4, 335, 731
Railway and vehicle controllers, value.....	\$1, 369, 666			
Field rheostats, generator-voltage regulators, battery-charging rheostats, miscellaneous rheostats, and resistance units (not including theater dimmers), value.....	\$5, 257, 138	\$7, 636, 052	\$6, 960, 151	
Pressure regulators, float switches, limit switches, phase-failure relays (regulating and protective), electric brakes, and other miscellaneous control switches, value.....	\$6, 483, 838	\$3, 273, 280	\$4, 535, 903	\$12, 670, 817

¹ Includes value of induction voltage regulators, synchronous converters, and double-current generators; corresponding item for 1929 included in value of "Other electrical machinery, apparatus, and supplies," Table 18.

² Includes value of bell-ringing and toy transformers.

³ Data incomplete.

⁴ Reported as transformers of less than 1 kv. a.

⁵ Revised.

TABLE 6.—ELECTROTHERAPEUTIC AND ELECTROMEDICAL (INCLUDING DENTAL) APPARATUS—PRODUCTION, BY NUMBER AND VALUE: 1929

[See headnote to Table 3]

	1929 ¹		1929 ¹		1929 ¹
Total value.....	\$23, 555, 082	"Health" lamps, professional:		"Health" lamps, household:	
Motor-driven devices:		Carbon-arc—		Number.....	62, 182
"Health" motors—		Number.....	23, 818	Value.....	\$1, 477, 707
Number.....	101, 523	Value.....	\$670, 751	X-ray apparatus (including X-ray tubes),	
Value.....	\$3, 152, 974	Mercury-vapor—		value.....	\$10, 004, 329
Vibrators—		Number.....	16, 182	Miscellaneous devices, value.....	\$615, 009
Number.....	59, 485	Value.....	\$2, 581, 262		
Value.....	\$475, 356	Other, value.....	\$941, 731		
Other, including dental apparatus—					
Value.....	\$3, 035, 963				

¹ No comparable data for prior years. Values for 1927, 1925, and 1923, so far as reported separately, included in data for "Other electrical machinery, apparatus, and supplies," Table 18.

ELECTRICAL MACHINERY AND SUPPLIES

1127

TABLE 7.—MOTORS (INCLUDING AUTOMOTIVE STARTER-MOTORS BUT NOT INCLUDING CONTROL APPARATUS¹), MOTOR PARTS AND SUPPLIES, AND ELECTRIC FANS—PRODUCTION, BY NUMBER AND VALUE: 1923 TO 1929

[See headnote to Table 3]

	1929	1927	1925	1923
Aggregate value.....	\$205,041,876	\$132,700,704	\$123,763,785	\$118,771,297
Motors, and parts and supplies:				
Total value.....	\$194,845,523	\$122,348,338	\$113,109,577	\$109,188,685
Stationary motors—				
Total value.....	\$136,034,880	\$97,672,987	\$92,647,851	\$84,777,710
Fractional h. p. (excluding "health" motors and vibrators)—				
(1) Under 1/20 h. p. (toy motors and other fractional h. p. motors not having definite commercial rating in accordance with A. I. E. E. standards)—				
Number.....	746,936			
Value.....	\$3,000,943			
(2) 1/20 h. p. and over, but under 1 h. p. (motors built on frames smaller than those of open-type motors having a continuous rating of 1 h. p. at 1,700-1,750 r. p. m.)—				
Universal—				
Number.....	663,695			
Total rated capacity.....	140,013			
Value.....	\$4,450,844			
Split-phase—				
Number.....	1,878,912	3,045,659	2,288,348	1,994,931
Total rated capacity.....	617,119	(2)	(2)	(2)
Value.....	\$18,340,738	\$33,902,719	\$28,249,265	\$23,939,172
Repulsion-induction—				
Number.....	1,113,847			
Total rated capacity.....	371,111			
Value.....	\$17,607,665			
Direct-current—				
Number.....	276,463			
Total rated capacity.....	107,105			
Value.....	\$4,295,139			
Other types, including single-phase condenser type—				
Number.....	158,696			
Value.....	\$3,557,010			
1 h. p. and over—				
Direct-current—				
1 h. p. to 200 h. p., inclusive—				
Number.....	87,376			
Total rated capacity.....	846,653			
Value.....	\$18,817,792			
Over 200 h. p.—				
Number.....	266	65,038	77,637	59,256
Total rated capacity.....	247,994	628,044	635,130	583,394
Value.....	\$3,801,605	\$16,627,962	\$15,796,626	\$13,865,447
Alternating-current—				
Repulsion-induction—				
Number.....	96,639	100,192	76,688	53,227
Total rated capacity.....	172,171	173,606	(2)	(2)
Value.....	\$5,241,601	\$5,623,471	\$5,070,586	\$4,417,802
Polyphase-induction—				
Number.....	525,232	356,373	291,162	297,564
Total rated capacity.....	4,615,280	3,580,055	(2)	(2)
Value.....	\$47,648,072	\$37,834,572	\$37,622,043	\$37,503,788
Synchronous motors (except fractional h. p.)—				
Number.....	3,599	2,442	1,965	2,588
Total rated capacity.....	916,461	636,753	931,514	(2)
Value.....	\$7,820,939	\$4,684,263	\$5,309,331	\$5,051,501
Other types, value.....	\$1,452,632			
Automotive starter-motors—				
Number.....	5,002,944	(3)	(3)	(3)
Value.....	\$32,849,221	(3)	(3)	(3)
Railway and vehicle motors (for gasoline-electric, oil-electric, and electric cars and busses), and parts and supplies for all types of motors, value ⁴	\$25,961,422	\$24,675,351	\$20,461,726	\$24,410,975
Electric fans:				
Total value.....	\$10,196,353	\$10,352,368	\$10,654,208	\$9,582,612
Ceiling and column fans—				
Number.....	80,992	56,632	63,976	51,539
Value.....	\$2,228,041	\$2,565,641	\$1,835,256	\$1,649,215
Desk fans—				
Number.....	659,863	656,565	769,163	610,261
Value.....	\$7,770,658	\$7,786,725	\$8,818,952	\$7,933,397
Not reported by kind or quantity.....	\$197,654			

¹ For control apparatus, see Table 5.

² No comparable data.

³ Combined with data for automotive generators. (See Table 4.)

⁴ The item for railway and vehicle motors is combined with that for parts and supplies for all motors in order to avoid disclosing data reported by individual manufacturers of railway and vehicle motors.

⁵ Includes value of railway and vehicle power generators and therefore is not strictly comparable with 1929 item. (See footnote 4, Table 4.)

⁶ Revised.

TABLE 8.—BATTERIES AND BATTERY PARTS AND SUPPLIES—PRODUCTION, BY NUMBER AND VALUE: 1923 TO 1929

[See headnote to Table 3]

	1929	1927	1925	1923
Total value.....	\$149,934,676	\$150,328,880	\$155,247,811	\$118,005,613
Storage batteries:				
Complete units, weight of single plate under 3 pounds—				
Motor-vehicle, 9 to 21 plate size—				
Number.....	15,655,508			
Value.....	\$56,481,959			
Radio, 3, 5, and 7 plate size—		\$79,673,707	\$88,870,186	\$66,922,291
Number.....	393,148			
Value.....	\$2,477,241			
Other types, value.....	\$16,701,218			
Parts and supplies, value.....	\$3,880,702	\$18,134,041	\$21,341,597	\$25,921,090
Dry batteries:				
6-inch, both single and multiple units—				
Number of 1.5-volt cells.....	46,290,028	54,985,815		
Value.....	\$8,250,288	\$9,287,170		
Radio "B" and "C" battery units, both flat and cylindrical cells—				
Number.....	387,345,863	531,088,457		
Value.....	\$17,738,801	\$27,455,255	\$37,238,607	\$18,908,269
For flashlight use—batteries for hand lanterns and special lighting units, except lights using 6-inch cells—				
Number of 1.5-volt cells.....	216,240,997	135,094,906		
Value.....	\$7,707,409	\$0,182,105		
All other dry batteries, value.....	\$701,308	\$9,656,602	\$7,797,421	\$0,318,654
Wet primary batteries, and parts and supplies for both dry and wet batteries, value.....	\$5,935,750			

TABLE 9.—INCANDESCENT-FILAMENT LAMPS (NOT INCLUDING SOCKETS AND OTHER FITTINGS)—PRODUCTION, BY NUMBER AND VALUE: 1923 TO 1929

[See headnote to Table 3]

	1929	1927	1925	1923		1929	1927	1925	1923
Total.....	\$85,319,515	\$87,933,244	\$73,558,210	\$71,966,225	Miniature tungsten—Contd.				
Large tungsten:					Other types—				
Vacuum—					Number.....	132,869,036	95,428,023	65,946,289	61,008,765
Number.....	149,802,848	174,527,279	204,973,625		Value.....	\$7,351,461	\$5,452,016	\$4,840,733	\$4,860,701
Value.....	\$20,713,116	\$28,879,712	\$34,540,038		Carbon:				
Gas-filled—				232,699,601	Large—				
Number.....	202,451,663	160,678,714	61,488,129	\$54,179,645	Number.....	2,287,596			
Value.....	\$44,724,296	\$41,914,184	\$20,352,400		Value.....	\$409,917	\$6,826,284	7,102,572	7,420,528
Miniature tungsten:					Miniature—				
Automobile—					Value.....	\$1,004,973	\$1,628,612	\$1,392,363	\$1,571,333
Number.....	139,162,835	93,336,957	114,500,550	\$8,243,456					
Value.....	\$11,115,752	\$10,058,720	\$12,432,676	\$11,254,546					

TABLE 10.—RADIO APPARATUS AND TUBES—PRODUCTION, BY KIND, NUMBER, AND VALUE: 1923 TO 1929

[See headnote to Table 3]

	1929	1927	1925	1923
Aggregate value.....	\$411,637,312	\$449,657,894	\$450,046,180	\$429,678,548
Radio apparatus:				
Total value.....	\$329,624,505	\$412,494,792	\$412,031,157	\$419,854,376
Receiving sets—				
6 tubes or fewer—				
Number.....	637,921			
Value.....	\$31,264,855			
7 tubes or more—				
Number.....	4,099,500	1,978,057	12,345,790	190,374
Value.....	\$292,042,659	\$95,162,393	\$93,356,546	\$13,326,116
Not reported by size—				
Number.....	242,573			
Value.....	\$19,479,839			
Other—				
Crystal and short-wave, value.....	\$472,569	(?)	(?)	(?)
Loud speakers—				
Number.....	3,338,522	2,458,785	2,844,052	623,146
Value.....	\$30,550,637	\$18,838,751	\$18,955,916	\$5,608,330
Combination phonographs and radios—				
Number.....	\$152,107	(?)	(?)	(?)
Value.....	\$22,193,702			
Transmitting sets, value.....	\$5,788,077	\$2,233,483	\$1,355,768	\$919,630
Transformers—				
Number.....	573,451	1,304,922	1,976,789	(?)
Value.....	\$1,041,500	\$689,625	\$1,859,977	(?)
Replacement parts, including head sets, value.....	\$16,790,537	\$10,570,540	\$11,502,950	(?)
Radio tubes—				
Total value.....	\$82,012,807	\$22,163,102	\$23,014,973	\$8,824,172
Under 5 watts—				
Number.....	82,542,393	23,650,733	23,444,035	
Value.....	\$61,730,064	\$17,431,296	\$20,528,850	
5 to 50 watts—				
Number.....	5,360,449			
Value.....	\$4,453,819			
Over 50 watts—				
Number.....	4,210,508	2,686,512	622,153	4,087,400
Value.....	\$3,918,784	\$4,681,806	\$2,486,123	\$9,824,172
Screen-grid tubes, all sizes—				
Number.....	9,875,462			
Value.....	\$11,901,140			

1 Revised.

2 No comparable data.

3 Includes data for combination phonographs and radios made by establishments classified in the phonograph industry.

4 For "Miscellaneous radio parts and accessories" made in establishments not making sets as principal products, see Table 18.

ELECTRICAL MACHINERY AND SUPPLIES

1129

TABLE 11.—INDUSTRIAL AND COMMERCIAL AND DOMESTIC APPARATUS AND APPLIANCES—PRODUCTION,
BY NUMBER AND VALUE: 1923 TO 1929

[See headnote to Table 3]

	1929	1927	1925	1923
Aggregate value.....	\$113,122,445	\$90,250,228	\$85,385,500	\$70,702,007
Industrial and commercial apparatus and appliances (not including motor-driven tools):				
Total value.....	\$28,636,977	\$12,761,010	\$10,283,335	\$6,788,157
Cooking apparatus (hotel ranges, broilers, bread-baking ovens, toasters, irons, etc.), value.....	\$2,240,844	\$1,557,010	\$1,508,740	\$749,463
Furnaces, electric—				
Arc—				
Number.....	110			
Value.....	\$909,285			
Induction—				
Number.....	177			
Value.....	\$488,308	\$2,471,196	\$1,047,876	\$731,790
Metallic-resistance—				
Number reported—				
Number.....	2,032			
Value.....	\$3,445,413			
Number not reported, value.....	\$346,000			
Heating devices, complete industrial electric (such as soldering irons, melting pots, kettles, etc.), value.....	\$1,307,694	\$877,595	\$1,243,918	\$725,154
Heating units, industrial electric (such as space heaters, immersion heaters, and other miscellaneous industrial heating units), value.....	\$2,607,486	\$1,752,053	\$1,732,457	\$1,151,551
Ovens, industrial electric, and electric heating equipment for such ovens—				
Number.....	2,150	2,634	3,141	(1)
Value.....	\$860,565	\$745,645	\$1,174,217	\$985,631
Permanent-wave machines, value.....	\$3,414,569	(2)	(2)	(2)
Portable motor-driven hair clippers, hair dryers, blowers, equipment for beauty parlors, and clipping and grooming machines for animals, value.....	\$2,277,480	(1)	(1)	(1)
Welding apparatus—				
A. c. transformer welders—				
Number.....	673	(1)	(1)	(1)
Value.....	\$1,287,766	\$198,097		
D. c. arc welding apparatus, including generating units—				
Number.....	6,952	(1)	(1)	(1)
Value.....	\$5,794,296	\$2,540,288	\$1,759,319	\$778,756
Resistance welding apparatus, butt, spot, and line—				
Number.....	3,309	(1)	(1)	(1)
Value.....	\$2,356,601	\$1,859,911	\$1,657,108	\$1,655,512
Welding electrodes, value.....	\$1,290,980	\$728,269	(1)	(1)
Domestic (household) apparatus and appliances:				
Total value.....	\$84,485,468	\$77,519,218	\$75,102,165	\$63,914,840
Heaters, air—				
Convector type—				
Number.....	171,296	86,619	99,297	
Value.....	\$740,422	\$568,568	\$374,367	310,363
Radiant type—				
Number.....	332,198	231,232	396,318	\$1,862,180
Value.....	\$1,082,989	\$869,955	\$1,653,327	
Cooking utensils—				
Grills—				
Number.....	262,504	196,688	200,318	184,834
Value.....	\$503,906	\$320,750	\$577,628	\$928,369
Percolators—				
Number.....	709,154	791,726	434,095	260,050
Value.....	\$3,985,735	\$4,297,395	\$3,563,496	\$2,340,446
Toasters—				
Automatic—				
Number.....	507,017			
Value.....	\$2,293,140	1,276,145	735,856	476,606
Nonautomatic—				
Number.....	1,105,773	\$3,448,301	\$1,885,780	\$1,433,409
Value.....	\$2,186,580			
Waffle irons—				
Number.....	839,633	653,893	315,777	131,445
Value.....	\$4,371,229	\$3,661,411	\$1,864,257	\$758,669
Disc stoves, hot plates, and ranges, under 2½ kw.—				
Number.....	694,330	255,587	216,559	
Value.....	\$1,418,850	\$983,845	\$1,123,823	(1)
Domestic ranges, 2½ kw. and over—				
Number.....	225,477	112,972	85,158	\$3,676,645
Value.....	\$15,514,332	\$11,135,286	\$6,776,963	
Fireless cookers, electric—				
Number.....	79,945	73,406	63,201	11,640
Value.....	\$395,085	\$727,093	\$486,195	\$452,620
Curling irons—				
Number.....	1,334,242	1,355,615	1,534,786	(1)
Value.....	\$972,295	\$984,496	\$1,703,088	\$1,480,395
Flatirons—				
Number.....	3,132,882	2,936,658	2,936,361	2,434,280
Value.....	\$8,018,080	\$7,917,001	\$7,998,429	\$8,198,941
Heating pads—				
Number.....	529,733	306,272	265,588	(1)
Value.....	\$1,715,461	\$1,518,188	\$976,768	\$880,506
Immersion heaters—				
Number.....	29,013	(2)	(2)	(2)
Value.....	\$97,614	(2)	(2)	(2)
Water heaters for permanent installation—				
Tank type—				
Number.....	30,022			
Value.....	\$1,174,208	33,636	54,042	14,507
Side-arm type—				
Number.....	28,250	\$953,471	\$769,009	\$406,199
Value.....	\$466,053			
Vacuum cleaners—				
Number reported—				
Number.....	1,382,070	1,128,256	1,107,592	1,240,742
Value.....	\$34,480,061	\$36,222,271	\$39,971,111	\$35,981,514
Number not reported, value.....	\$627,545			
Miscellaneous household devices not included above, value.....	\$4,431,892	\$3,971,187	\$5,347,984	\$5,489,947

1 No comparable data.

2 Not reported separately.

CENSUS OF MANUFACTURES: 1929

TABLE 12.—MEASURING INSTRUMENTS, METERS, AND INSTRUMENT AND METER TRANSFORMERS—PRODUCTION, BY NUMBER AND VALUE: 1923 TO 1929

[See headnote to Table 3]

	1929	1927	1925	1923
Aggregate value.....	\$36,812,777	\$33,271,914	\$29,678,668	\$26,959,974
Measuring instruments and meters:				
Total value.....	\$31,737,028	\$28,558,337	\$27,905,507	\$24,084,031
Watt-hour meters—				
Alternating-current—				
Number.....	1,571,466	1,933,970	2,255,089	2,011,456
Value.....	\$14,113,375	\$16,547,034	\$18,180,206	\$16,987,548
Direct-current—				
Number.....	16,030			
Value.....	\$456,409			
Demand meters and ampere-hour meters, value ¹	\$1,220,906	\$1,500,141	\$1,043,936	\$898,591
Switchboard meters—				
Number.....	126,506	91,750	90,779	(²)
Value.....	\$2,728,631	\$2,362,202	\$2,412,567	\$1,904,762
Graphic recording meters—				
Number.....	7,518	(²)	(²)	(²)
Value.....	\$1,067,292	\$907,848	\$507,603	\$907,925
Portable meters—				
Number.....	102,302	114,859	56,231	28,968
Value.....	\$2,048,725	\$2,109,934	\$1,460,010	\$810,840
Miniature meters, 3½ inches and under—				
Number.....	936,112	2,664,224	4,047,573	(²)
Value.....	\$2,284,320	\$2,852,503	\$2,787,181	\$1,555,137
Laboratory testing and scientific instruments—				
Number.....	31,761	30,768	(²)	(²)
Value.....	\$6,006,140	\$2,398,615	\$1,507,995	\$1,769,228
Miscellaneous meters, value.....	\$911,230	(²)	(²)	(²)
Instrument and meter transformers:				
Number.....	140,406	136,388	114,402	126,442
Value.....	\$5,075,749	\$4,713,577	\$1,773,161	\$2,275,943

¹ Revised.² Combined to avoid disclosing production of individual establishments.³ No comparable data.

TABLE 13.—SWITCHBOARDS, CIRCUIT BREAKERS, AND SWITCHES—PRODUCTION, BY VALUE: 1923 TO 1929

[See headnote to Table 3]

	1929	1927	1925	1923
Total.....	\$81,201,122	\$71,924,341	\$69,759,087	\$57,856,166
Switchboards for light and power, manually or electrically operated, not including those specified immediately below.....	15,876,824	18,933,748	19,135,502	18,775,862
Switchboards of the automatic type for unattended light and power stations.....	3,822,586			
Outdoor switch houses (including switchboards).....	1,153,166	1,533,542	(¹)	(¹)
Theater switchboards (including dimmers).....	968,987	1,429,686	(¹)	(¹)
Light and power panel boards, including main-service-feeder, power-feeder, and lighting-branch-circuit panel boards, with their inclosing cabinets.....	6,971,260	5,442,063	5,866,628	3,903,898
Oil circuit breakers (not included in switchboards).....	24,485,351	14,798,909	17,891,246	12,256,844
Air circuit breakers (not included in switchboards).....	5,509,361	3,779,865	2,596,599	2,952,356
Indoor disconnecting switches, single-pole units (not included in switchboards).....	2,485,637	1,287,695	1,333,048	
Outdoor disconnecting switches, single-pole units.....	4,522,548	5,060,456	2,310,233	1,927,620
Knife switches:				
Open.....	1,225,943	1,203,687	1,856,979	1,340,263
Inclosed.....	7,909,603	6,619,045	5,025,610	4,413,680
Bus supports.....	1,348,591	1,070,045	1,172,150	
Time switches.....	360,843			12,285,643
Miscellaneous switches and switchboard accessories not included above.....	4,562,432	10,156,010	11,671,072	

¹ No comparable data.

TABLE 14.—IGNITION APPARATUS FOR INTERNAL-COMBUSTION ENGINES—PRODUCTION, BY NUMBER AND VALUE: 1923 TO 1929

[See headnote to Table 3]

	1929	1927	1925	1923		1929	1927	1925	1923
Total value.....	\$58,627,039	\$36,431,444	\$41,854,205	\$31,831,251	Magnetos:				
Spark plugs:					Number.....	504,872	1,319,255	466,600	(¹)
Number.....	93,872,403	60,156,858	62,576,387	(²)	Value.....	\$9,212,927	\$6,695,383	\$9,930,223	\$10,303,620
Value.....	\$20,244,418	\$13,371,623	\$13,878,282	\$13,659,921	Value (number not reported).....	\$5,248,274	\$2,320,648		
Coils:					Distributors (timers):				
Number.....	7,767,500	6,996,838	4,178,334	(¹)	Number.....	7,748,120	3,638,775	3,572,489	(¹)
Value.....	\$9,501,679	\$8,467,252	\$7,836,656	\$7,867,710	Value.....	\$14,410,841	\$5,670,638	\$10,209,044	(¹)

¹ Revised.² Does not include value of timers (not reported separately prior to 1925) and therefore is not comparable with figures for 1925 and later years.³ No comparable data.⁴ Not reported separately.

ELECTRICAL MACHINERY AND SUPPLIES

1131

TABLE 15.—INSULATED WIRE AND CABLE—PRODUCTION, BY VALUE: 1929 AND 1927¹

[See headnote to Table 3]

	1929	1927 ¹		1929	1927 ¹
Aggregate value.....	\$312,592,093	\$210,047,947	Insulated wire and cable reported by kind of insulation—Continued. Paper-insulated: Lighting and power circuit and telephone and telegraph cable (including submarine)..... Varnished-cambric-insulated..... Magnet: Cotton and silk covered..... Enameled..... Other insulated wire and cable and that not reported by kind of insulation.....		
Insulated wire and cable reported by kind of insulation, total.....	805,263,180	* 201,445,102			
Rubber-insulated: Lighting and power circuit— Braided..... Leaded..... Telephone..... Flexible cord (rubber-insulated, cotton and silk covered)..... Rubber-insulated, not distributed by class.....	51,130,555 23,037,318 11,742,201 20,189,102	46,538,829 13,103,230 8,863,029 11,461,221 3,956,362		\$96,227,728 7,209,890 18,777,068 30,641,417	\$59,624,158 9,373,242 14,093,786 6,132,838
Cotton-insulated: Weatherproof..... Slow-burning.....	42,011,680 4,296,141	* 25,803,928 2,494,479		7,328,913	* 8,602,845

¹ No comparable statistics in detail for earlier years are available. For total values of insulated wire and cable for 1925 and 1923, see Table 3.
* Revised.

TABLE 16.—WIRING DEVICES AND INTERIOR CONDUITS—PRODUCTION, BY NUMBER AND VALUE: 1923 TO 1929

[See headnote to Table 3]

	1929	1927	1925	1923
Aggregate value.....	\$94,665,686	\$74,420,129	\$80,591,514	\$72,466,442
Wiring devices: Total value.....	\$38,395,283	\$32,703,331	\$34,806,452	\$34,966,222
Lamp sockets and receptacles— Brass-shell sockets and receptacles— Number reported— Number..... Value..... Number not reported, value..... Porcelain, bakelite, and composition sockets and receptacles— Number..... Value..... Miniature and candelabra sockets and receptacles— Number..... Value.....	59,639,104 \$5,684,684 \$396,680 36,797,298 \$5,054,236 4,719,830 \$683,958	96,507,671 \$12,393,071	108,117,878 \$14,945,247	(1) \$14,816,916
Snap switches (flush, surface, and pendent, all types)— Number reported— Number..... Value..... Number not reported, value.....	40,771,313 \$9,525,855 \$1,463,705	42,852,389 \$8,310,706	27,152,098 \$7,014,699	(1) \$6,861,898
Attachment plug caps— 10 amperes and under— Number reported— Number..... Value..... Number not reported, value..... Over 10 amperes— Number..... Value.....	39,903,078 \$1,209,841 \$426,054 5,106,341 \$366,970			
Convenience outlets— Single— Number reported— Number..... Value..... Number not reported, value..... Double— Number reported— Number..... Value..... Number not reported, value.....	8,660,362 \$953,120 \$66,137 9,152,003 \$1,353,990 \$77,340	55,997,437 \$5,320,857	45,165,532 \$4,204,683	(1) ⁴ \$4,378,900
Face plates for wiring devices— Number reported— Number..... Value..... Number not reported, value.....	14,370,977 \$1,151,551 \$178,821	16,816,867 \$1,271,010	11,365,464 \$1,050,596	(1) \$1,190,555
Miscellaneous wiring devices not elsewhere specified, value.....	\$9,563,935	\$5,407,687	\$7,501,227	\$8,219,469
Interior conduits: Total value.....	\$56,270,403	* * \$41,716,798	* * \$45,785,062	* * \$37,600,210
Rigid steel, and elbows and couplings.....	* \$26,155,379	* * \$17,512,043	* * \$20,818,336	
Other rigid conduit fittings.....	\$2,828,798			
Flexible steel.....	\$504,794	* \$657,842	\$1,197,478	
Armored conductor and fittings.....	\$11,389,839	* \$11,731,032	\$10,922,375	
Nonmetallic.....	\$1,754,866	* \$1,598,236	* \$2,576,529	
Metal raceways for surface wiring, and fittings.....	\$1,403,731	* \$1,153,213	* \$992,690	(1)
Under-floor duct, metal and fiber.....	\$908,250	(1)	(1)	
Outlet boxes.....	\$8,967,302	\$6,146,958	\$6,719,969	
Switch boxes.....	\$1,669,830	\$1,986,333	\$1,306,819	
Locknuts and bushings.....	\$597,614	\$1,031,141	\$1,256,966	

¹ Data incomplete.

² For 1929 total value of all conduit, including that manufactured by plants which made their own steel pipe; for 1927 and earlier years, does not include value of finished conduit manufactured by plants which made their own steel pipe.

³ Revised.

⁴ Not strictly comparable with figures for later years; includes data for underground conduits.

TABLE 17.—FUSES AND FUSE BLOCKS—PRODUCTION, BY NUMBER AND VALUE: 1925¹ TO 1929

[See headnote to Table 3]

	1929	1927	1925 ¹		1929	1927	1925 ¹
Aggregate value.....	\$14,036,325	\$10,891,242	\$10,392,806	Fuses—Continued.			
Fuses:				Inclosed fuses for voltages higher than 600—			
Total value.....	\$11,355,986	\$8,811,050	\$8,176,342	Number.....	1,633,840	121,158	117,528
Inclosed fuses for voltages under 125—				Value.....	\$1,322,604	\$826,063	\$1,079,214
Number.....	48,015,585	12,091,176	7,324,607	All other fuses, value.....	\$1,623,779	\$1,885,493	\$615,177
Value.....	\$751,518	\$303,247	\$244,117	Open-fuse material, value.....	\$60,738	\$72,346	\$160,679
Nonrenewable plug fuses, 125 volts—				Fuse blocks:	\$2,680,339	\$2,080,192	\$2,216,464
Number.....	73,795,695	83,454,545	61,814,563	Total value.....			
Value.....	\$1,809,900	\$1,993,207	\$1,573,424	Fuse blocks for plug fuses—			
Renewable plug fuses, 125 volts—				Number.....	827,515		
Number.....	3,352,221	2,247,039	1,213,625	Value.....	\$239,365		
Value.....	\$126,806	\$88,928	\$154,905	Fuse blocks, clips, and bases, for ferrule-contact and knife-blade fuses, 250 and 600 volts, value.....	\$200,622	\$2,080,192	\$2,216,464
Inclosed renewable fuses, 250 and 600 volts, and renewals therefor—				Fuse blocks, clips, and bases, for fuses higher than 600 volts, value.....	\$2,110,322		
Number.....	49,305,932	27,237,934	24,347,653	All other fuse blocks, value.....	\$130,030		
Value.....	\$4,420,970	\$2,468,813	\$2,729,512				
Inclosed nonrenewable fuses, 250 and 600 volts—							
Number.....	23,866,968	10,686,249	11,903,903				
Value.....	\$1,242,671	\$1,172,355	\$1,593,314				

¹ No comparable statistics in detail for earlier years are available. For total values of fuses and fuse blocks for 1923, see Table 3.
² Revised.

TABLE 18.—MISCELLANEOUS ELECTRICAL MACHINERY, APPARATUS, AND SUPPLIES¹—PRODUCTION, BY NUMBER AND VALUE: 1923 TO 1929

[See headnote to Table 3]

	1929	1927	1925	1923
Total value.....	\$544,654,554	\$408,072,540	\$314,482,015	\$288,016,384
Carbons:				
Carbons or electrodes for lighting, motion-picture projection, and other, value.....	\$2,131,623			
Electrodes for electric furnaces, value.....	\$8,830,003			
Brushes for electrical apparatus—				
With pigtails, value.....	\$2,703,777	\$14,364,158	\$13,055,483	\$14,745,541
Plain, value.....	\$1,397,069			
Carbon specialties, value.....	\$1,986,673			
Electric locomotives, ² value.....	\$17,705,499	\$9,857,881	\$10,331,139	\$8,864,749
Flashlight cases:				
Number.....	11,482,767	(³)	(³)	(³)
Value.....	\$7,050,437	\$4,006,891	\$5,248,405	\$3,042,418
Lightning arresters and choke coils, value.....	\$6,515,115	\$6,327,483	\$5,961,111	\$3,833,631
Miscellaneous radio parts and accessories, ⁴ value.....	\$51,471,923	\$48,778,540	\$28,783,567	\$24,321,622
Overhead trolley-line material, value.....	\$3,260,724	\$5,445,814	\$4,289,547	\$5,796,369
Pole-line hardware, value.....	\$19,035,753	(³)	(³)	(³)
Railway signals and attachments, value.....	\$22,571,760	\$22,339,768	\$14,029,779	\$4,465,648
Searchlights and floodlights:				
Searchlights—				
Number.....	(³)	37,020	20,238	(³)
Value.....	\$797,010	\$848,962	\$521,144	(³)
Floodlights—				
Number reported—				
Number.....	467,681	16,621	18,692	(³)
Value.....	\$1,777,322	\$2,368,318	\$742,140	
Number not reported, value.....	\$1,301,461			
Telephone and telegraph apparatus, value.....	\$160,293,047	\$121,013,184	\$84,432,602	\$64,483,885
Signaling apparatus (other than railway):				
Street traffic signals and accessories, value.....	\$1,842,133			
Bells, buzzers, signal gongs, annunciators, burglar alarms, push buttons, door openers, and battery switches, value.....	\$3,893,257	\$6,365,486	\$5,080,987	\$7,142,364
Clock mechanisms with electrical attachments, value.....	\$55,131			
Other signaling devices, value.....	\$2,427,213			
Fire-alarm apparatus, value.....	\$4,030,146	\$3,611,000	\$3,489,828	\$2,639,019
Rectifying apparatus, value.....	\$4,250,493	\$11,009,527	\$10,466,283	\$4,251,495
Other electrical machinery, apparatus, and supplies, value.....	\$213,317,935	\$150,835,522	\$127,194,940	\$110,828,503

¹ Not including electric lighting fixtures, electric signs, or motor-driven tools, washing machines, cash registers, adding machines, and other machines and appliances with built-in motors, these products being classified for census purposes in other industries.

² Revised to conform to the regrouping of items.

³ The figures represent the combined values of standard-gauge and mining and industrial locomotives and of complete assemblies of electrical equipment for such locomotives, made for separate sale as such. The total number of electric locomotives manufactured in 1929 was 489, but neither the numbers nor the values of the two classes can be given separately without disclosing data for the production of an individual establishment.

⁴ No comparable data.

⁵ Parts and supplies made in establishments which do not manufacture radio sets.

⁶ Included in figure for "Other electrical machinery, apparatus, and supplies."

ELECTRICAL MACHINERY AND SUPPLIES

1133

TABLE 19.—ELECTRICAL EQUIPMENT MADE BY ESTABLISHMENTS CLASSIFIED IN INDUSTRIES OTHER THAN THE "ELECTRICAL MACHINERY, APPARATUS, AND SUPPLIES" INDUSTRY—PRODUCTION, BY NUMBER AND VALUE: 1929, 1927, AND 1925

[This table presents statistics for the production, so far as separately reported, of certain classes of electrically driven equipment made principally by establishments classified in industries other than "Electrical machinery, apparatus, and supplies," principally "Machine tools," "Washing machines, wringers, dryers, and ironing machines, for household use," "Signs and advertising novelties," "Gas and electric fixtures; lamps, lanterns, and reflectors," and "Refrigerators, mechanical." The schedules used for collecting data from establishments engaged in the manufacture of certain classes of equipment, such as pumps, machine tools (other than portable), and many others, did not call for a distribution as between devices driven by electric motors and those driven by other means, and consequently it is impossible to present statistics for all classes of electrically driven equipment. This table should be studied in connection with the product tables for the "Electrical machinery, apparatus, and supplies" industry]

	1929	1927	1925		1929	1927	1925
Portable electric tools:				Electric signs:			
Grinders, value.....	\$2,395,279	\$2,732,603	\$1,756,233	Neon signs, value.....	\$11,373,028	\$15,684,708	\$11,948,847
Drills, value.....	\$4,586,469			Other signs, value.....	\$23,533,905		
Hammers, value.....	\$648,671			Electric-lighting fixtures, value.....	\$121,284,435	\$80,399,661	\$62,619,631
Woodworking tools:				Domestic electric refrigerators:			
Electric hand saws, value.....	\$1,011,372	\$4,701,560	\$4,472,492	Units complete with cabinets--			
Other portable electric woodwork-				Number reported--			
ing tools, value.....	\$542,719			Number.....	697,520	\$367,678	
Other portable electric tools, value.....	\$1,370,199			Value.....	\$102,255,594	\$71,715,251	
Washing machines:				Number not reported.....	\$820,445	\$534,891	(9)
Number.....	956,062	\$759,834	(9)	Units complete without cabinets--			
Value.....	\$50,930,902	\$55,574,397	(9)	Number.....	67,968	\$58,633	
				Value.....	\$8,589,478	\$8,774,055	

¹ Includes data for electric buffers and is not, therefore, strictly comparable with corresponding item for 1929.
² Revised.
³ No comparable data.

TABLE 20.—PRIME MOVERS, MOTORS, GENERATORS, AND CONSUMPTION OF PURCHASED ELECTRIC ENERGY—NUMBER AND RATED CAPACITY OF PRIME MOVERS AND ELECTRIC MOTORS, 1929, 1927, 1925, 1919, AND 1914, AND OF GENERATORS, 1929, 1927, AND 1925; QUANTITY OF ELECTRIC ENERGY PURCHASED, 1929

TYPE	1929		1927		1925		1919		1914		PER CENT DISTRIBUTION OF RATED HORSEPOWER CAPACITY	
	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	1929	1919
		Horse-power		Horse-power		Horse-power		Horse-power		Horse-power		
Prime movers and electric motors driven by purchased energy, aggregate.....	136,536	893,519	86,611	661,168	66,878	589,398	42,468	438,082	17,572	226,320	100.0	100.0
Prime movers, total.....	256	284,835	303	241,313	300	239,763	445	202,477	550	151,844	31.9	46.2
Steam, total.....	205	277,054	231	234,474	247	234,080	325	193,231	350	142,085	31.1	44.1
Engines.....	131	33,974	155	34,047	174	53,768	274	62,000	(1)	(1)	3.8	14.1
Turbines.....	74	243,980	76	200,427	73	180,312	51	131,231	(1)	(1)	27.3	30.0
Internal-combustion engines.....	33	4,731	50	5,204	42	5,061	103	7,446	181	8,694	0.5	1.7
Water wheels and water turbines.....	18	2,150	16	1,635	11	622	17	1,800	19	1,065	0.2	0.4
Electric motors driven by purchased energy.....	136,250	608,684	86,308	419,855	66,578	349,635	42,023	235,605	17,022	74,476	68.2	53.8
Electric motors, total.....	180,639	844,070	141,964	707,215	127,778	688,430	80,495	479,366	39,568	262,119	100.0	100.0
Driven by purchased energy.....	136,250	608,684	86,308	419,855	66,578	349,635	42,023	235,605	17,022	74,476	72.1	49.1
Driven by energy generated in establishments reporting.....	44,389	235,386	55,656	287,360	61,200	338,795	38,472	243,761	22,546	187,643	27.9	50.9
Electric generators.....	210	Kilowatts 185,360 Kilowatt-hours	221	Kilowatts 178,440	308	Kilowatts 172,463	(9)	(9)	(9)	(9)		
Electric energy purchased ³		869,229,302		(9)		(9)		(9)		(9)		

¹ Not called for separately on schedule.
² Not called for on schedule.
³ This item covers the consumption of purchased electric energy for all purposes—power, heat, light, etc.
⁴ Data incomplete.

CENSUS OF MANUFACTURES: 1929

TABLE 21.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1929, 1925, 1919, 1914, AND 1909, AND BY STATES, 1929

[This table presents statistics for only those States for which figures can be given without disclosing data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures]

STATE	Average number employed during year	NUMBER EMPLOYED ON 15TH DAY OF MONTH OR NEAREST REPRESENTATIVE DAY												Per cent minimum is of maximum		
		January	February	March	April	May	June	July	August	September	October	November	December			
United States:																
1929.....	328,722	292,232	294,317	294,636	299,704	309,257	330,048	350,447	365,850	374,146	382,709	344,504	306,809	76.4		
1925.....	239,921	241,194	232,805	226,724	222,257	220,389	<i>218,717</i>	224,454	233,902	248,069	265,006	273,418	272,136	80.0		
1919.....	212,374	209,693	205,356	201,393	198,316	<i>186,418</i>	198,071	204,160	212,354	218,403	227,409	235,285	241,640	81.3		
1914.....	118,078	128,766	126,610	126,240	123,742	120,950	118,743	110,340	115,347	113,768	110,944	108,203	<i>107,277</i>	82.3		
1909.....	87,256	<i>77,444</i>	79,193	80,779	81,069	83,229	85,117	86,080	88,133	91,822	95,490	99,239	98,868	78.0		
Alabama.....	65	<i>51</i>	53	58	59	59	60	61	63	66	62	65	94	53.7		
California.....	4,353	4,406	<i>4,020</i>	4,106	4,249	4,106	4,407	4,372	4,376	4,514	4,794	4,682	4,230	82.3		
Colorado.....	71	70	61	63	66	64	75	68	87	84	80	77	71	64.4		
Connecticut.....	15,225	14,258	14,394	14,703	14,809	15,159	15,573	16,120	16,394	16,193	15,958	14,993	<i>14,152</i>	86.3		
Florida.....	35	38	36	36	36	35	30	33	32	32	36	36	35	84.2		
Georgia.....	98	81	<i>79</i>	88	97	103	115	104	108	106	104	94	93	68.7		
Illinois.....	57,347	<i>48,449</i>	49,045	49,406	49,013	50,053	56,879	59,908	62,800	68,606	73,541	64,540	55,930	65.9		
Indiana.....	20,757	18,060	18,667	19,871	21,194	22,393	22,851	23,022	22,418	21,689	22,495	19,375	<i>17,043</i>	74.0		
Kansas.....	64	68	63	57	43	45	45	47	50	92	84	85	81	46.7		
Kentucky.....	1,031	793	818	836	869	894	943	1,107	1,292	1,387	1,495	1,232	706	47.2		
Maryland.....	665	<i>112</i>	207	261	314	421	576	728	803	939	1,090	1,180	1,348	83.4		
Massachusetts.....	28,844	<i>25,113</i>	25,443	25,964	26,343	27,092	29,855	31,646	32,619	32,507	32,047	29,871	<i>27,723</i>	77.2		
Michigan.....	8,196	7,905	7,671	6,497	<i>5,690</i>	6,416	7,566	8,924	10,059	11,120	11,499	8,863	6,270	46.4		
Minnesota.....	1,280	1,346	1,275	1,094	1,163	1,044	<i>971</i>	1,048	1,158	1,462	1,768	1,645	1,356	54.9		
Missouri.....	7,225	7,025	7,242	7,299	7,516	7,528	7,533	7,273	7,224	7,270	7,190	6,958	<i>6,628</i>	88.0		
Nebraska.....	76	76	66	44	58	41	<i>34</i>	69	86	98	118	114	106	22.3		
New Hampshire.....	462	450	451	458	463	447	<i>443</i>	448	472	492	486	475	455	90.0		
New Jersey.....	42,193	33,781	<i>33,765</i>	35,701	37,624	39,592	42,178	46,229	47,290	49,739	52,679	47,170	40,677	64.1		
New York.....	43,979	41,904	41,396	40,969	41,808	42,368	44,426	46,135	46,245	47,803	49,367	44,758	<i>40,672</i>	82.2		
North Carolina.....	68	69	70	69	67	68	70	66	68	67	66	68	62	88.6		
Ohio.....	36,267	35,631	35,413	34,455	34,337	34,319	34,286	35,727	39,035	40,145	40,629	38,695	<i>32,633</i>	80.3		
Oregon.....	61	57	<i>55</i>	56	58	62	59	58	64	68	68	65	65	80.9		
Pennsylvania.....	47,373	41,030	42,276	<i>40,885</i>	41,941	44,867	48,468	53,085	58,314	54,407	51,685	46,250	44,064	70.1		
Rhode Island.....	2,118	<i>1,699</i>	1,756	1,761	1,774	1,876	1,982	2,161	2,415	2,635	2,871	2,366	2,118	69.2		
Tennessee.....	373	<i>222</i>	238	338	276	381	373	378	487	453	492	446	391	45.1		
Texas.....	150	110	114	113	126	128	138	162	176	180	198	184	181	67.1		
Virginia.....	58	64	63	60	51	48	<i>46</i>	49	40	56	68	72	76	61.3		
Washington.....	294	270	304	284	299	290	303	297	284	278	316	299	297	88.0		
West Virginia.....	482	490	555	538	506	467	<i>416</i>	420	420	472	524	486	485	74.8		
Wisconsin.....	7,652	6,886	7,127	7,000	7,300	7,344	7,524	8,113	8,766	8,875	8,478	7,624	<i>6,881</i>	77.5		

ENGINES, TURBINES, TRACTORS, AND WATER WHEELS

Description of the industry.—This industry embraces establishments whose products of chief value fall in any one of the following four classes: (1) Steam engines (other than locomotives) and turbines; (2) internal-combustion engines of all kinds; (3) tractors and traction engines; (4) water turbines and water wheels. Engines made for installation as parts of complete motor vehicles or other machines *manufactured in the same establishments* are not treated as products of the engine industry. The values of traction and portable steam engines include the values of the boilers on which such engines are mounted. The

value of steam boilers made for sale as separate units by establishments manufacturing engines or water wheels as their products of chief value is included in that of "Other products (not normally belonging to the industry) and receipts for repair work" (Table 3), but the value of steam boilers made in establishments engaged primarily in the manufacture of products other than engines or water wheels is not included. (Establishments manufacturing boilers as their principal products are classified in the "Foundry and machine-shop products, not elsewhere classified" industry.)

TABLE 1.—SUMMARY FOR THE UNITED STATES: 1914 TO 1929

[Data for establishments with products under \$5,000 in value included for 1919 and 1914 but not for 1921 and subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

YEAR OR PERIOD	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²	Horsepower ³
1929.....	199	61,148	\$98,705,080	\$202,900,430	\$457,217,609	\$254,317,239	287,079
1927.....	215	54,341	84,790,771	165,202,801	367,878,588	202,675,787	241,785
1925.....	220	51,099	73,684,921	145,783,687	313,587,851	167,804,164	224,194
1923.....	249	48,495	70,877,950	124,543,051	266,997,778	142,454,727	165,137
1921.....	296	35,567	52,004,861	111,698,365	199,498,575	87,800,210	(4)
1919.....	370	77,617	105,435,455	217,550,771	464,774,735	247,223,964	190,005
1914.....	446	29,657	21,420,737	31,460,227	72,121,112	40,660,885	62,106
PER CENT OF INCREASE OR DECREASE (-)							
1927-1929.....	-7.4	12.5	16.4	22.8	24.3	25.5	18.7
1925-1927.....	-2.3	6.3	15.2	13.3	17.3	20.8	7.8
1923-1925.....	-11.6	5.4	3.8	17.1	17.4	17.8	35.8
1921-1923.....	-15.9	36.3	36.3	11.5	33.8	62.2	-----
1919-1921.....	-20.0	-54.2	-50.7	-48.7	-37.1	-64.5	-----
1910-1929.....	-46.2	-21.2	-6.4	-6.7	-1.6	2.9	51.1

¹ For 1929, manufacturers' sales (shipments or deliveries); for earlier years, production. See GENERAL EXPLANATIONS—Value of Products.

² Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

³ The figures in this column refer to horsepower of power equipment *in use* in factories engaged in the manufacture of engines, turbines, etc.

⁴ Not called for on schedule.

⁵ No comparable figures for earlier years.

CENSUS OF MANUFACTURES: 1929

TABLE 2.—GENERAL STATISTICS, BY STATES: 1929, 1927, AND 1919

[This table presents statistics separately for each State for which figures can be given without disclosing data for individual establishments. Certain of the "Other States," however, reported larger values of products than some of the States shown separately. Data for establishments with products under \$5,000 in value are included for 1919 but not for subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

STATE	Census year	Number of establishments	Salaried officers and employes ¹	Wage earners (average for the year)	HORSEPOWER (RATED CAPACITY) OF POWER EQUIPMENT OF FACTORIES			Salaries	Wages	COST OF MATERIALS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products ²	Value added by manufacture ³
					Total	Prime movers	Motors run by purchased energy			Total	Materials	Fuel and purchased energy		
United States	1929	109	11,032	61,148	287,079	95,698	191,351	\$28,256,279	\$98,705,080	\$202,900,430	\$195,435,364	\$7,465,066	\$457,217,660	\$254,317,239
	1927	215	9,059	54,341	241,788	80,909	160,879	22,467,103	84,790,771	165,202,801	158,436,187	6,766,614	367,878,588	202,675,787
	1919	370	18,576	77,617	190,005	86,690	103,315	30,912,039	106,436,455	217,550,771	211,556,910	5,993,861	464,774,735	247,233,964
California	1929	15	882	2,486	13,039	300	12,739	2,159,554	4,210,161	8,740,775	8,540,074	200,701	19,978,060	11,237,285
	1927	14	597	1,986	9,902	300	9,602	1,458,092	3,127,699	6,054,237	5,941,330	112,907	14,645,190	8,580,953
	1919	22	424	2,231	10,526	129	10,397	1,014,036	3,274,037	5,045,835	5,525,159	120,676	12,687,250	7,041,415
Connecticut	1929	12	318	1,676	3,996	1,535	2,461	1,039,693	2,738,077	6,291,218	6,186,914	104,304	20,169,206	13,877,988
	1927	13	203	1,206	3,423	1,615	1,808	748,207	1,739,118	2,470,230	2,399,960	70,270	7,217,526	4,747,296
	1919	16	320	1,764	4,882	2,120	2,762	677,508	2,104,281	3,293,895	3,194,692	99,203	7,300,474	4,015,570
Illinois	1929	16	2,100	13,419	52,057	2,240	49,817	4,466,274	20,838,442	52,890,998	51,196,467	1,694,531	112,022,154	59,731,156
	1927	17	1,244	7,768	31,307	1,699	29,609	2,511,240	12,032,586	31,203,705	30,047,420	1,156,285	60,471,930	29,208,225
	1919	25	1,684	8,645	16,152	4,442	11,710	748,207	11,755,850	23,644,155	22,959,101	685,054	45,741,267	22,097,112
Indiana	1929	7	150	830	2,735	2,436	299	291,457	1,137,436	1,625,252	1,488,866	136,386	3,514,627	1,889,375
	1927	8	272	906	2,403	780	1,623	555,491	1,301,939	2,409,793	2,309,104	109,599	6,402,757	3,992,994
	1919	16	639	2,853	3,853	2,293	1,560	880,887	3,595,827	7,088,644	7,555,313	133,331	14,472,788	6,784,144
Maryland	1929	3	7	13	34	25	9	14,609	20,773	26,853	25,034	1,819	74,326	47,473
	1927	7	51	221	1,100	591	509	123,175	326,797	254,562	235,575	18,987	851,194	596,632
	1919	5	54	237	674	270	404	131,391	291,562	283,012	274,790	9,122	903,263	619,351
Michigan	1929	20	1,119	8,951	48,771	14,805	33,966	3,286,893	14,216,820	22,883,052	21,740,019	1,137,033	51,454,849	28,571,797
	1927	22	1,062	14,981	64,325	37,989	29,336	3,013,147	23,118,918	50,010,599	47,651,277	2,368,322	103,139,150	53,113,551
	1919	35	1,785	14,258	30,488	3,479	27,009	3,910,183	21,362,743	67,050,693	56,214,185	836,508	101,080,440	44,039,747
Minnesota	1929	8	156	402	1,242	50	1,192	421,018	510,944	1,197,058	1,159,156	37,902	3,180,949	1,933,591
	1927	12	464	1,926	7,185	1,455	5,730	1,071,486	2,650,455	5,722,182	5,582,330	139,852	14,984,114	9,261,932
	1919	14	847	1,529	2,235	66	2,169	1,341,456	1,907,956	4,579,755	4,481,878	97,907	12,946,297	8,366,512
Missouri	1929	5	182	602	2,461	2,020	441	588,695	939,190	865,792	785,797	79,995	3,307,349	2,441,657
	1927	6	292	707	2,289	1,444	845	641,935	993,799	894,400	851,774	42,635	2,994,604	2,100,195
	1919	10	258	782	1,934	1,674	260	468,801	947,143	1,600,902	1,457,737	43,165	4,166,396	2,605,434
New York	1929	15	563	2,038	18,520	4,575	13,945	1,308,545	3,403,698	5,043,395	4,778,161	265,234	15,789,203	10,745,808
	1927	22	637	2,408	12,444	2,745	9,699	1,554,597	4,104,066	5,565,915	5,315,834	250,081	12,861,525	7,295,610
	1919	31	1,144	4,528	17,196	3,398	13,398	1,870,753	6,623,685	10,102,095	9,773,876	328,219	29,822,286	10,720,191
Ohio	1929	25	787	4,742	20,246	8,790	11,456	2,549,484	7,527,276	10,141,917	18,684,016	457,001	40,417,797	21,275,880
	1927	28	686	3,941	9,481	4,685	5,396	1,955,150	6,001,832	11,787,667	11,452,443	335,224	25,333,865	13,546,198
	1919	44	1,327	6,218	12,961	7,298	5,663	2,389,463	8,032,602	20,343,781	19,988,093	355,688	42,850,677	22,506,896
Pennsylvania	1929	20	1,063	6,631	61,944	39,692	22,252	4,439,617	10,783,649	13,551,280	12,776,797	775,483	32,255,959	18,704,679
	1927	21	1,449	6,942	48,826	14,530	34,296	3,875,144	9,011,574	9,723,520	9,120,483	603,037	26,638,815	16,915,295
	1919	34	2,628	9,711	39,179	20,578	9,601	4,889,230	12,933,325	18,835,759	17,931,400	904,359	52,574,026	33,738,267
Wisconsin	1929	21	1,679	12,519	36,106	14,185	21,921	4,623,046	21,436,541	49,292,926	47,612,148	1,680,778	96,392,493	47,099,567
	1927	18	1,412	8,982	35,425	10,905	24,520	2,929,718	15,240,802	28,902,058	27,681,230	1,220,828	62,540,223	33,647,165
	1919	36	3,712	17,782	39,168	33,194	5,974	5,670,863	22,716,483	45,067,184	43,281,200	1,785,924	90,953,496	45,886,312
Other States	1929	25	1,135	6,618	24,828	4,454	20,374	2,944,248	10,615,270	21,095,352	20,221,340	874,012	57,209,563	36,114,151
	1927	29	777	3,381	14,104	3,092	11,012	2,014,896	5,206,391	10,165,604	9,817,152	348,452	29,742,626	19,577,022
	1919	87	3,755	7,316	26,447	7,619	12,828	4,571,281	10,180,923	19,798,043	19,194,216	603,827	40,261,398	29,463,355

¹ Not including proprietors and firm members, as follows: For 1929, 27; 1927, 33; 1919, 93. The total numbers of persons engaged—proprietors and firm members, salaried officers and employes, and wage earners—as reported for the industry, are as follows: For 1929, 72,207; 1927, 63,433; 1919, 96,286.
² For 1929, manufacturers' sales (shipments or deliveries); for earlier years, production. See GENERAL EXPLANATIONS—Value of Products.
³ Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.
⁴ Data for purchased power other than electric (power transmitted into the plant by belt or shaft) are included in the State items for 1919 but not in the United States totals.
⁵ Iowa, 6 establishments; Kansas, 1; Kentucky, 2; Maine, 1; Nebraska, 1; New Jersey, 6; Oklahoma, 2; Tennessee, 1; Texas, 1; Washington, 3; and West Virginia, 1.
⁶ Iowa, 7 establishments; Kansas, 1; Kentucky, 1; Maine, 1; Maryland, 1; Nebraska, 1; New Hampshire, 1; New Jersey, 7; Oklahoma, 2; Tennessee, 1; Texas, 1; Washington, 4; West Virginia, 1.
⁷ Alabama, 1 establishment; Arkansas, 1; Colorado, 3; Delaware, 1; Florida, 1; Iowa, 17; Kansas, 5; Kentucky, 2; Louisiana, 1; Maine, 3; Maryland, 3; Massachusetts, 4; Nebraska, 2; New Hampshire, 2; New Jersey, 15; North Dakota, 1; Oklahoma, 1; Oregon, 3; South Carolina, 1; South Dakota, 1; Tennessee, 1; Texas, 3; Vermont, 1; Virginia, 1; Washington, 13.

ENGINES, TURBINES, TRACTORS, AND WATER WHEELS

1137

TABLE 3.—PRODUCTS, BY CLASS, TYPE, NUMBER, RATED CAPACITY, AND VALUE, FOR THE UNITED STATES: 1929, 1927, AND 1925

[The figures for 1929 refer to sales (shipments or deliveries) by manufacturers; those for earlier years represent production. See GENERAL EXPLANATIONS—Value of Products]

CLASS AND TYPE	1929	1927	1925	CLASS AND TYPE	1929	1927	1925
1. Engines, turbines, tractors, and water wheels industry, all products, total value.....	\$457, 217, 609	\$307, 878, 588	\$313, 587, 851	Engines, turbines, etc.—Continued. Internal-combustion engines—Con. Electric-ignition type—Con. Marine outboard, total value.....	\$7, 852, 298	\$5, 533, 216	\$2, 509, 639
2. Engines, turbines, tractors, and water wheels.....	\$347, 014, 182	\$276, 509, 002	\$229, 573, 810	Reported by number and horsepower—			
3. Parts for sale as such.....	\$58, 340, 660	\$50, 895, 553	\$52, 999, 881	Number.....	58, 456	46, 987	24, 628
4. Other products (not normally belonging to the industry) and receipts for repair work.....	\$50, 962, 837	\$40, 474, 033	\$40, 014, 160	Horsepower (rated capacity).....	802, 791	182, 712	64, 008
5. Engines, turbines, tractors, and water wheels made as secondary products in other industries.....	\$53, 834, 242	\$30, 029, 853	\$43, 680, 853	Value.....	\$7, 852, 298	\$5, 533, 216	\$2, 393, 932
Engines, turbines, tractors, and water wheels, all industries:				Not reported by number or horsepower.....			\$359, 707
Aggregate value (sum of 2 and 5).....	\$401, 748, 424	\$306, 538, 855	\$264, 254, 663	Motor-vehicle (not including motorcycle).....			
Steam engines (except traction) and turbines, total value.....	\$32, 414, 975	\$22, 572, 926	\$24, 411, 344	Number.....	279, 611	324, 858	⁶ 304, 151
Engines (reciprocating), total value ¹	\$5, 136, 696	\$7, 103, 845	\$8, 598, 599	Horsepower (rated capacity).....	10, 024, 629	9, 841, 167	⁶ 9, 737, 478
Reported by number and horsepower—				Value.....	\$59, 654, 294	\$93, 635, 746	⁶ \$55, 623, 879
Number.....	1, 528	2, 020	2, 328	Other electric-ignition engines, total value.....	\$49, 251, 653	\$34, 699, 391	\$27, 648, 376
Horsepower (rated capacity).....	179, 577	237, 435	208, 311	Reported by number and horsepower—			
Value.....	\$3, 511, 271	\$4, 582, 932	\$4, 995, 392	Number.....	312, 069	224, 200	202, 159
Not reported by number or horsepower.....	\$1, 625, 425	\$2, 525, 913	\$3, 603, 207	Horsepower (rated capacity).....	3, 913, 385	1, 994, 419	1, 079, 594
Turbines, total value ¹	\$27, 278, 279	\$15, 464, 081	\$14, 054, 879	Value.....	\$47, 783, 962	\$34, 089, 228	\$28, 637, 611
Reported by number and horsepower—				Not reported by number or horsepower.....	\$1, 467, 091	\$610, 163	\$1, 010, 735
Number.....	3, 320	2, 363	2, 475	Water turbines and water wheels, total value.....	\$5, 027, 907	\$5, 440, 999	\$5, 338, 096
Horsepower (rated capacity).....	3, 218, 206	2, 409, 267	1, 111, 888	Reported by number and horsepower, total—			
Value.....	\$25, 934, 420	\$14, 998, 208	\$9, 125, 801	Number.....	323	357	(⁷) 475
Not reported by number or horsepower.....	\$1, 343, 859	\$465, 873	\$4, 929, 078	Horsepower (rated capacity).....	502, 534	(⁷)	(⁷)
Not reported according to type.....			\$1, 757, 866	Value.....	\$3, 860, 469	\$5, 257, 680	\$5, 338, 066
Internal-combustion engines (except tractors), total value.....	\$166, 633, 777	\$141, 161, 281	\$117, 893, 641	Water wheels—			
Diesel (compression-ignition) and semi-Diesel (surface-ignition) types, total value.....	\$26, 798, 914	\$20, 408, 623	\$23, 227, 645	Number.....	231	(⁸)	(⁸)
Marine, total value.....	\$11, 430, 342	\$7, 061, 862	\$7, 352, 481	Horsepower (rated capacity).....	351, 091	(⁸)	(⁸)
Reported by number and horsepower—				Value.....	\$1, 895, 892	(⁸)	(⁸)
Number.....	1, 562	1, 067	1, 105	Water turbines—			
Horsepower (rated capacity).....	193, 179	115, 312	103, 827	Number.....	92	(⁸)	(⁸)
Value.....	\$11, 430, 342	\$7, 061, 862	\$6, 760, 933	Horsepower (rated capacity).....	451, 443	(⁸)	(⁸)
Not reported by number or horsepower.....			\$591, 548	Value.....	\$1, 964, 577	(⁸)	(⁸)
Other than marine, total value.....	\$15, 368, 572	\$13, 346, 761	\$15, 875, 164	Not reported by number or horsepower.....	\$1, 167, 438	\$153, 319	
Reported by number and horsepower—				Tractors and traction engines, total value.....	\$196, 996, 780	\$136, 949, 650	\$102, 904, 828
Number.....	2, 026	2, 178	2, 996	Tractors (internal-combustion), total value ¹	\$196, 952, 922	\$136, 836, 450	\$102, 647, 205
Horsepower (rated capacity).....	292, 148	252, 228	305, 563	Wheel type—			
Value.....	\$15, 166, 048	\$13, 225, 695	\$15, 218, 684	Number.....	196, 185	196, 123	165, 384
Not reported by number or horsepower.....	\$202, 524	\$121, 066	\$656, 480	Horsepower (rated capacity).....	¹⁰ 4, 832, 277	¹⁰ 4, 728, 965	¹⁰ 3, 779, 831
Electric-ignition type, total value.....	\$139, 834, 863	\$120, 752, 658	\$94, 565, 999	Value.....	\$142, 261, 745	\$136, 022, 354	\$102, 131, 903
Aircraft ² —				Track-laying type—			
Number.....	6, 276	1, 400	(⁹)	Number.....	27, 111		
Horsepower (rated capacity).....	(⁹)	471, 770	(⁹)	Horsepower (rated capacity).....	¹⁰ 877, 975		
Value.....	\$24, 966, 083	\$9, 493, 656	(⁹)	Value.....	\$53, 676, 569		
Marine inboard, total value.....	\$7, 111, 135	\$7, 370, 649	\$8, 833, 105	Garden tractors and motor cultivators—			
Reported by number and horsepower—				Number.....	6, 277	5, 591	3, 456
Number.....	10, 493	9, 368	12, 886	Horsepower (rated capacity).....	¹⁰ 16, 728	¹⁰ 23, 062	¹⁰ 8, 600
Horsepower (rated capacity).....	605, 104	414, 448	473, 476	Value.....	\$1, 014, 608	\$814, 096	\$615, 302
Value.....	\$6, 893, 530	\$7, 348, 841	\$8, 429, 707	Traction engines (steam)—			
Not reported by number or horsepower.....	\$247, 605	\$21, 808	\$493, 398	Reported by number and horsepower—			
				Number.....		44	101
				Horsepower (rated capacity).....		(³)	4, 127
				Value.....		\$113, 200	\$257, 623
				Not reported by number or horsepower.....			
				Engines and turbines, class and type not reported.....	\$43, 858	\$413, 999	\$13, 706, 781
					\$674, 985		

¹ Not shown as marine, stationary, and other, in order to avoid disclosing data for individual establishments.
² Not including engines built for installation in aircraft manufactured by same establishments. The numbers of such engines, as reported by aircraft manufacturers, were 34 for 1929 and 4 for 1927.
³ Data incomplete.
⁴ Included in figures for motor-vehicle engines in order to avoid disclosing data for individual establishments.

⁴ Not including engines built for installation in motor vehicles manufactured by same establishments.
⁵ Includes data for a small number of aircraft engines in order to avoid disclosing figures for individual establishments. (See note 4.)
⁶ Not called for on schedule.
⁷ Not reported separately.
⁸ Includes a relatively small amount of duplication, representing the value of engines made in one plant and installed in tractors made in another plant under the same ownership. The value of such engines can not be given separately without disclosing data for an individual establishment.
⁹ Belt horsepower.

CENSUS OF MANUFACTURES: 1929

TABLE 4.—ENGINES, TURBINES, AND TRACTORS, BY CLASS, TYPE, NUMBER, RATED CAPACITY IN DETAIL, AND VALUE, FOR THE UNITED STATES: 1929

[This table covers all engines, turbines, and tractors for which rated capacity was reported in detail. For value of engines, etc., for which number and horsepower were not reported, and for number, horsepower, and value of water wheels and turbines (for which rated capacity was not reported in detail), see Table 3. The figures refer to sales (shipments or deliveries) by manufacturers. See GENERAL EXPLANATIONS—Value of Products.]

CLASS AND TYPE	TOTAL			NUMBER, BY HORSEPOWER CAPACITY, RATED OR NORMAL, NOT OVERLOAD												
	Number	Rated horsepower capacity	Value	Less than 5	5 or more but under 10	10 or more but under 20	20 or more but under 30	30 or more but under 40	40 or more but under 50	50 or more but under 100	100 or more but under 500	500 or more but under 1,000	1,000 or more but under 2,000	2,000 or more but under 5,000	5,000 or more but under 10,000	10,000 and over
Steam engines (except traction) and turbines:																
Engines (reciprocating).....	1,528	179,577	\$3,511,271	174	276	179	127	49	45	71	557	38	8	4		
Turbines.....	3,320	3,218,206	25,934,420	906	429	321	257	157	117	323	452	118	42	102	17	70
Internal-combustion engines (except tractors):																
Diesel (compression-ignition) and semi-Diesel (surface-ignition) types—																
Marine.....	1,592	193,179	11,430,342		38	9	46	101	409	421	497	26	9	6		
Other than marine.....	2,026	292,148	15,166,048	4	89	156	202	39	178	548	693	95	15	7		
Electric-ignition types—																
Marine—																
Inboard.....	10,493	605,104	6,863,530	445	1,150	2,559	413	1,104	1,026	1,383	2,409	4				
Outboard.....	58,459	802,791	7,852,298	12,847	16,214	15,341	14,054									
Motor-vehicle (not including motor cycle) ¹	279,611	10,029,629	50,654,294			35,960	160,876	18,031	12,571	42,295	9,878					
Other types of electric-ignition engines (except tractors).....	312,069	3,913,385	47,783,962	187,738	24,555	45,919	23,859	6,970	6,099	13,884	2,957	28	58			2
Tractors (internal-combustion): ²																
Wheel type.....	196,165	³ 4,832,277	142,261,745		89	38,599	102,220	53,320	1,668	280						
Track-laying type.....	27,111	³ 857,975	33,676,569			7,612	5,858	6,573	990	5,919	159					
Garden tractors and motor cultivators.....	6,277	³ 16,728	1,014,608	6,177	100											

¹ Not including engines built for installation in motor vehicles manufactured by same establishments.

² Includes a relatively small amount of duplication, representing the value of engines made in one plant and installed in tractors made in another plant under the same ownership. The value of such engines can not be given separately without disclosing data for an individual establishment.

³ Belt horsepower.

ENGINES, TURBINES, TRACTORS, AND WATER WHEELS

1139

TABLE 5.—ENGINES, TURBINES, AND TRACTORS—PRODUCTION, BY CLASS AND VALUE, BY STATES: 1923 TO 1929

[See headnote, Table 3]

CLASS AND STATE	1929	1927	1925	1923	CLASS AND STATE	1929	1927	1925	1923
Steam engines (except traction) and steam turbines, total.....	\$32,414,975	\$22,572,926	\$24,411,344	\$26,765,304	Internal-combustion engines (except tractors)—Con. Electric-ignition—Con. Marine—Continued.				
Illinois.....	309,904	285,170	636,161	655,822	Michigan.....	\$4,055,242	\$3,443,369	\$3,318,125	\$1,189,857
Ohio.....	314,255	471,461	756,866	1,308,874	New York.....	1,255,941	945,640	2,019,581	968,289
Pennsylvania.....	8,517,942	8,142,019	8,703,778	10,102,276	Wisconsin.....	2,980,541	2,087,069	1,426,607	2,228,642
Wisconsin.....	2,079,562	2,791,925	3,200,260	4,025,969	Illinois, Indiana, and Ohio.....	4,688,100			
Alabama, Georgia, and Kentucky.....	87,930				New Jersey and Pennsylvania.....	85,312			
Connecticut and Massachusetts.....	5,431,776				Other States (Massachusetts, Minnesota, and Washington)....	333,419	4,520,333	2,706,779	2,185,904
Iowa and Missouri.....	177,352				Motor-vehicle (not including motorcycle), ¹ total.....	50,654,294	63,635,746	55,623,879	59,074,243
New Jersey and New York.....	14,484,690	10,882,351	11,114,279	10,672,363	Michigan, Ohio, and Pennsylvania.....	37,470,186			
Other States (Michigan, Minnesota, and Washington).....	1,011,466				Other States (California, Illinois, and Wisconsin).....	13,184,108	63,635,746	55,623,879	59,074,243
Internal-combustion engines (except tractors)—Diesel and semi-Diesel and electric ignition, total.....	166,633,777	141,161,281	117,893,644	110,751,692	Other electric-ignition engines, total.....	49,251,053	34,699,391	27,648,376	20,172,683
Diesel (compression-ignition) and semi-Diesel (surface-ignition), marine and other than marine, total.....	26,798,914	20,408,623	23,227,645	14,012,493	California.....	2,164,994	776,180	816,484	493,536
California.....	3,138,269	1,625,243	2,532,666	1,588,979	Illinois.....	9,616,243	4,001,211	2,638,875	920,344
Connecticut.....	407,144	600,400	538,433	666,088	Iowa.....	2,009,767	2,395,995	1,756,040	1,108,374
New York.....	2,618,627	3,333,681	3,672,951	4,299,748	Michigan.....	4,676,349	2,729,621	1,378,451	2,308,752
Ohio.....	3,155,947	2,032,854	2,031,935	838,531	New York.....	2,269,078	1,905,156	962,579	416,529
Illinois.....	380,214				Ohio.....	6,701,191	7,477,425	4,809,897	4,942,295
Indiana.....	545,407				Pennsylvania.....	2,833,399	4,228,312	3,935,015	4,718,496
Missouri.....	1,957,762				Wisconsin.....	16,054,274	7,694,075	7,631,474	10,844,703
Pennsylvania.....	4,253,948				Minnesota.....	1,694,938			
Wisconsin.....	8,885,463	12,816,445	14,401,655	6,569,094	Nebraska.....	323,110			
Massachusetts and New Jersey.....	568,577				Indiana, Missouri, and Tennessee.....	1,350,558	4,087,416	3,719,561	3,419,654
Other States (Michigan, Texas, and Washington).....	887,556				Other States (Connecticut, Kansas, and New Jersey).....	156,161			
Electric-ignition, total.....	139,834,863	120,752,658	94,665,999	96,739,199	Tractors (internal-combustion) and traction engines (steam), total.....	196,996,780	138,949,650	102,904,828	78,319,688
Aircraft ² —California, Connecticut, Indiana, Michigan, New Jersey, New York, Ohio, and Wisconsin.....	24,966,083	9,493,656	(?)	(?)	Illinois.....	81,226,061	39,082,584	18,634,287	10,595,224
Marine (including outboard motors), total.....	14,963,433	12,923,865	11,393,744	8,492,273	Minnesota.....	5,854,771	6,052,411	4,819,999	1,406,389
California.....	445,850	677,514	741,245	546,599	Ohio.....	9,331,351	5,982,797	2,935,302	3,018,023
Connecticut.....	1,119,519	1,249,940	1,181,407	1,374,892	Wisconsin.....	52,369,508	29,072,264	19,351,352	11,013,093
					Michigan.....	1,578,044			
					Maine and Massachusetts.....	219,840			
					New York, Pennsylvania, and West Virginia.....	1,128,225	50,779,594	57,163,888	52,286,954
					Other States (California, Indiana, Iowa, Kansas, Oregon, and Washington).....	45,288,060			

¹ Not including engines built for installation in aircraft manufactured by same establishments.
² Included in figure for motor-vehicle engines.
³ Not including engines built for installation in motor vehicles manufactured in same establishments.
⁴ Includes value of a small number of aircraft engines, to avoid disclosing data for individual establishments.

TABLE 6.—PRINCIPAL MATERIALS CONSUMED IN THE INDUSTRY, BY KIND, QUANTITY, AND COST, BY STATES: 1929

[Costs, and in most cases quantities, of the principal materials consumed were reported by only 165 of the 190 establishments in this industry. The combined value of products reported by these 165 establishments amounted to \$428,814,349, or 43.8 per cent of the total value of products of the industry. Another reason for the difference between the sum of the costs of the several kinds of materials shown in this table and the total cost of materials as given in Tables 1 and 2 is found in the fact that this table covers only certain specified materials, whereas the others cover all materials.]

KIND AND STATE	Total cost	Quantity reported		Quantity not reported, cost	KIND AND STATE	Total cost	Quantity reported		Quantity not reported, cost
		Quantity	Cost				Quantity	Cost	
		Ton, 2,000 lbs.					Ton, 2,000 lbs.		
Pig iron, total	\$6,204,655	291,751	\$6,204,655		Iron and steel, all other forms, total	\$22,276,220	263,693	\$20,504,629	\$1,771,591
California.....	11,442	523	11,442		California.....	741,083	5,797	470,478	270,605
Connecticut.....	7,383	210	7,383		Connecticut.....	92,767	1,387	92,767	
Illinois.....	1,129,825	51,866	1,129,825		Illinois.....	6,812,977	116,483	5,896,969	916,008
Indiana.....	103,243	4,945	103,243		Indiana.....	187,021	3,093	187,021	
Iowa.....	878,685	39,157	878,685		Iowa.....	1,436,002	11,339	1,436,002	
Massachusetts.....	7,951	363	7,951		Kansas.....	5,600	80	5,600	
Michigan.....	991,765	48,431	991,765		Maine.....	3,712	60	3,712	
Minnesota.....	9,766	450	9,766		Maryland.....	12,320	190	12,320	
Missouri.....	94,361	4,599	94,361		Massachusetts.....	6,603	98	6,603	
New York.....	111,450	5,764	111,450		Michigan.....	2,553,752	21,047	2,553,752	
Ohio.....	461,830	23,770	461,830		Minnesota.....	200,441	1,881	180,332	20,109
Pennsylvania.....	665,878	29,492	665,878		Missouri.....	30,398	791	30,398	
Tennessee.....	362	15	362		New Jersey.....	190,767	838	190,767	
Texas.....	1,405	53	1,405		New York.....	435,518	3,432	435,518	
Washington.....	22,769	1,138	22,769		Ohio.....	708,211	11,294	708,211	
Wisconsin.....	1,706,537	89,972	1,706,537		Oklahoma.....	2,000	2	2,000	
Scrap iron and steel purchased as such, total	2,733,989	179,538	2,733,989		Pennsylvania.....	314,296	3,794	314,296	
California.....	4,579	396	4,579		Washington.....	150		150	
Connecticut.....	5,519	380	5,519		West Virginia.....	15,000	2,100	15,000	
Illinois.....	428,136	28,894	428,136		Wisconsin.....	8,527,602	80,167	7,962,883	564,719
Indiana.....	73,989	4,969	73,989						
Iowa.....	347,568	27,389	347,568		Lead, total	153,121	646,591	88,592	64,529
Massachusetts.....	4,034	308	4,034		California.....	829	12,007	829	
Michigan.....	356,248	18,956	356,248		Connecticut.....	500	3,571	500	
Minnesota.....	6,000	500	6,000		Illinois.....	12,423	169,968	12,423	
Missouri.....	70,137	4,466	70,137		Iowa.....	5,714	36,250	5,714	
New York.....	111,475	7,153	111,475		Massachusetts.....	534	6,660	534	
Ohio.....	293,911	17,533	293,911		Michigan.....	4,284	39,616	4,284	
Pennsylvania.....	396,156	23,350	396,156		Minnesota.....	560	4,000	560	
Tennessee.....	372	31	372		Missouri.....	268	3,624	268	
Texas.....	2,700	200	2,700		New York.....	665	10,357	665	
Washington.....	39,549	2,637	39,549		Ohio.....	216	2,600	216	
Wisconsin.....	603,616	42,276	603,616		Pennsylvania.....	14,412	185,638	14,412	
Ferro-alloys, total	178,387	2,892	160,560	\$17,827	Texas.....	200	1,000	200	
Michigan.....	134,326	2,665	134,326		Washington.....	65		65	
Missouri.....	6,171	105	6,171		Wisconsin.....	112,451	180,000	47,987	64,464
New York.....	9,937	81	9,937		Antifriction bearing metals, purchased as such, total	3,925,770	9,775,708	3,920,117	5,653
Pennsylvania.....	1,156	12	1,156		California.....	94,007	194,529	94,007	
Washington.....	17,827		17,827		Connecticut.....	12,300	28,789	12,300	
Wisconsin.....	8,970	29	8,970		Illinois.....	799,487	2,824,615	799,487	
Iron and steel castings and forgings purchased as such, total	51,387,661	361,470	48,586,168	2,801,493	Indiana.....	14,197	27,060	14,197	
California.....	3,259,314	21,090	3,259,314		Iowa.....	15,743	115,620	15,743	
Connecticut.....	378,515	2,431	378,515		Maine.....	60	1,000	60	
Illinois.....	14,809,859	143,268	14,809,859		Massachusetts.....	750	3,200	750	
Indiana.....	208,563	1,225	208,563		Michigan.....	953,424	2,604,182	953,424	
Iowa.....	3,108,180	17,810	3,108,180		Minnesota.....	3,950	8,178	2,460	1,526
Kansas.....	9,480	131	9,480		Missouri.....	18,061	40,235	18,061	
Maine.....	13,835	55	13,835		New Jersey.....	4,133		4,133	
Maryland.....	1,350	15	1,350		New York.....	88,166	186,278	88,166	
Massachusetts.....	47,258	270	47,258		Ohio.....	61,365	250,962	61,365	
Michigan.....	8,692,786	59,949	8,692,786		Oklahoma.....	1,990	2,000	1,990	
Minnesota.....	251,888	1,219	226,435	25,453	Pennsylvania.....	166,811	487,286	166,811	
Missouri.....	181,269	890	181,269		Tennessee.....	131	310	131	
New Jersey.....	240,707		240,707		Texas.....	1,261	500	1,261	
New York.....	1,061,355	4,592	1,061,355		Washington.....	100	200	100	
Ohio.....	4,861,137	34,356	4,861,137		Wisconsin.....	1,690,794	3,000,764	1,690,794	
Oklahoma.....	2,000	2	2,000		Aluminum and aluminum alloys, total	4,699,165	6,798	3,662,634	1,036,531
Pennsylvania.....	4,094,146	19,532	2,726,214	1,367,932	California.....	293,472	212	276,772	16,700
Tennessee.....	213	1	213		Illinois.....	1,024,058	5	4,339	1,019,719
Texas.....	200	50	200		Maryland.....	1,340	1	1,340	
Washington.....	73,609	19	2,909	70,700	Massachusetts.....	6,786	12	6,786	
West Virginia.....	45,000	3,000	45,000		Michigan.....	1,296,360	4,024	1,296,360	
Wisconsin.....	10,046,987	51,565	8,950,266	1,096,761	Minnesota.....	30,250	89	30,250	
					Missouri.....	112		112	
					New Jersey.....	327,350	620	327,350	
					New York.....	500,480	385	500,480	
					Ohio.....	296,728	316	296,728	
					Pennsylvania.....	259,817	194	259,817	
					Washington.....	588	1	588	
					West Virginia.....	10,000	125	10,000	
					Wisconsin.....	651,824	814	651,824	

ENGINES, TURBINES, TRACTORS, AND WATER WHEELS

1141

TABLE 6.—PRINCIPAL MATERIALS CONSUMED IN THE INDUSTRY, BY KIND, QUANTITY, AND COST, BY STATES: 1929—Continued

[See note at head of this table]

KIND AND STATE	Total cost	Quantity reported		Quantity not reported, cost	KIND AND STATE	Total cost	Quantity reported		Quantity not reported, cost
		Quantity	Cost				Quantity	Cost	
Copper, brass, and bronze, total.	\$3,972,380	<i>Pounds</i> 13,971,325	\$3,870,174	\$102,206	Electrical equipment incorporated into products manufactured for sale, total	\$12,307,024		\$12,307,024	
California.....	138,864	365,660	100,560	29,294	California.....	185,479		185,479	
Connecticut.....	48,052	76,658	24,395	23,657	Connecticut.....	94,016		94,016	
Illinois.....	1,503,969	5,185,164	1,503,969		Illinois.....	2,920,915		2,920,915	
Indiana.....	13,910	30,273	13,910		Indiana.....	86,613		86,613	
Iowa.....	50,079	179,832	50,079		Iowa.....	1,837,709		1,837,709	
Maine.....	480	1,600	480		Maine.....	41,447		41,447	
Massachusetts.....	9,806	63,074	9,806		Massachusetts.....	44,721		44,721	
Michigan.....	306,712	1,198,048	306,712		Michigan.....	583,149		583,149	
Minnesota.....	15,105	68,020	13,930	1,175	Minnesota.....	54,495		54,495	
Missouri.....	40,612	138,438	40,612		Missouri.....	53,788		53,788	
New Jersey.....	107,951	311,651	96,452	11,499	New Jersey.....	18,137		18,137	
New York.....	120,309	322,810	120,309		New York.....	393,467		393,467	
Ohio.....	242,221	860,335	242,221		Ohio.....	2,909,178		2,909,178	
Oklahoma.....	480	2,000	480		Pennsylvania.....	1,445,665		1,445,665	
Pennsylvania.....	281,312	1,223,368	281,312		Washington.....	15,550		15,550	
Tennessee.....	98	1,400	98		Wisconsin.....	1,622,695		1,622,695	
Texas.....	280	1,000	280						
Washington.....	38,424	5,877	1,843	26,581					
West Virginia.....	4,133	56	4,133						
Wisconsin.....	1,049,593	3,936,131	1,049,593						

TABLE 7.—POWER EQUIPMENT OF FACTORIES AND CONSUMPTION OF PURCHASED ELECTRIC ENERGY—NUMBER AND RATED CAPACITY OF PRIME MOVERS AND ELECTRIC MOTORS, 1929, 1927, 1925, 1919, AND 1914, AND OF GENERATORS, 1929, 1927, AND 1925; QUANTITY OF ELECTRIC ENERGY PURCHASED, 1929

TYPE	1929		1927		1925		1919		1914		PER CENT DISTRIBUTION OF RATED HORSEPOWER CAPACITY	
	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	1929	1919
		<i>Horsepower</i>		<i>Horsepower</i>		<i>Horsepower</i>		<i>Horsepower</i>		<i>Horsepower</i>		
Prime movers and electric motors driven by purchased energy, aggregate.....	22,156	287,079	14,758	241,785	12,322	224,194	10,477	190,605	2,495	62,106	100.0	100.0
Prime movers, total.....	251	95,698	239	80,909	234	86,346	469	86,690	516	39,906	33.3	45.6
Steam, total.....	92	75,338	101	63,227	109	73,277	247	70,582	183	25,383	26.2	27.1
Engines.....	78	30,093	79	19,527	89	26,229	198	42,737	(1)	(1)	10.5	22.5
Turbines.....	14	45,245	22	43,700	20	47,048	49	27,845	(1)	(1)	15.7	14.6
Internal-combustion engines.....	155	20,164	134	17,527	119	12,819	216	15,773	316	13,835	7.0	8.3
Water wheels and water turbines.....	4	196	4	155	6	250	6	335	17	688	0.1	0.2
Electric motors driven by purchased energy.....	21,905	191,381	14,519	160,579	12,088	137,845	10,008	103,315	1,979	22,200	66.7	54.4
Electric motors, total.....	32,732	298,137	26,082	267,751	23,759	252,460	17,496	213,727	4,472	58,780	100.0	100.0
Driven by purchased energy.....	21,905	191,381	14,519	160,579	12,088	137,845	10,008	103,315	1,979	22,200	64.2	48.3
Driven by energy generated in establishments reporting.....	10,827	106,756	11,563	106,872	11,671	114,612	7,488	110,412	2,493	36,580	35.8	51.7
Electric generators.....	136	<i>Kilowatts</i> 39,456 <i>Kilowatt-hours</i>	145	<i>Kilowatts</i> 54,729	142	<i>Kilowatts</i> 60,345	(1)	(1)	(1)	(1)		
Electric energy purchased ¹		207,477,597		(1)		(1)		(1)		(1)		

¹ Not called for separately on schedule.

² Not called for on schedule.

³ This item covers the consumption of purchased electric energy for all purposes—power, heat, light, etc.

⁴ Data incomplete.

CENSUS OF MANUFACTURES: 1929

TABLE 8.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1929, 1925, 1919, AND 1914, AND BY STATES, 1929

[This table presents statistics for only those States for which figures can be given without disclosing data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures.]

STATE	Average number employed during year	NUMBER EMPLOYED ON 15TH DAY OF MONTH OR NEAREST REPRESENTATIVE DAY												Per cent minimum is of maximum	
		January	February	March	April	May	June	July	August	September	October	November	December		
United States:															
1929.....	61,148	59,600	62,466	64,125	66,448	66,109	65,552	63,347	57,931	<i>56,601</i>	57,646	57,262	56,096	85.2	
1925.....	51,099	<i>44,728</i>	48,432	51,283	53,009	53,183	51,955	51,760	52,369	52,793	50,937	51,198	51,687	84.1	
1919.....	77,617	90,102	85,232	83,076	74,983	70,193	70,452	72,749	73,265	74,811	76,852	78,240	81,449	77.9	
1914 ¹	29,657	30,183	30,885	31,343	32,033	31,643	30,886	30,114	30,010	28,024	26,946	<i>26,069</i>	27,148	83.3	
California.....	2,486	2,348	2,439	2,600	2,706	2,533	2,522	2,563	2,041	<i>2,321</i>	2,323	2,402	2,431	85.8	
Connecticut.....	1,676	1,559	1,614	1,676	1,686	1,763	1,813	1,852	1,894	1,597	1,569	1,557	1,567	81.2	
Illinois.....	13,419	<i>12,114</i>	12,686	13,163	13,917	13,901	13,537	13,743	13,206	13,419	13,711	13,880	13,745	87.0	
Indiana.....	830	1,047	1,124	1,143	1,054	1,051	979	671	537	<i>536</i>	566	624	624	46.9	
Maryland.....	13	<i>12</i>	<i>12</i>	<i>12</i>	<i>12</i>	<i>12</i>	<i>12</i>	13	13	13	13	13	13	92.3	
Massachusetts.....	221	<i>210</i>	<i>210</i>	211	219	221	220	214	211	213	227	241	259	81.1	
Michigan.....	8,051	9,827	10,483	10,295	11,126	10,562	9,944	8,962	8,315	7,636	6,984	6,649	6,623	69.5	
Minnesota.....	402	396	407	410	412	432	421	404	390	379	389	391	396	87.7	
Missouri.....	602	<i>461</i>	536	552	558	582	717	645	656	606	643	608	604	64.3	
New York.....	2,038	1,829	1,967	2,134	2,180	2,212	2,151	2,116	2,132	2,067	1,965	<i>1,784</i>	1,894	80.7	
Ohio.....	4,742	<i>4,389</i>	4,487	4,718	4,961	4,832	4,943	4,765	4,911	4,917	4,944	4,690	4,432	88.1	
Pennsylvania.....	6,631	6,999	7,175	7,161	7,068	7,099	7,144	7,252	<i>4,806</i>	4,991	6,597	6,729	6,559	66.3	
Wisconsin.....	12,519	11,815	12,498	12,822	13,249	13,490	13,569	13,165	12,635	11,880	12,005	11,924	<i>11,780</i>	86.4	

¹ No comparable figures available for years prior to 1914.

FOUNDRY AND MACHINE-SHOP PRODUCTS, NOT ELSEWHERE CLASSIFIED

Description of the industry.—This industry, as constituted for census purposes, embraces the manufacture of those products of boiler shops, foundries, and machine shops which are not assigned to special classifications. The foundry, as the term is ordinarily defined, is an establishment in which metal is cast into various shapes, and the machine shop is an establishment in which work is done by means of machine tools; that is, power-driven tools used in cutting and shaping metals. Some of the establishments which employ foundry and machine-shop processes, however, specialize in the manufacture of specific classes of products. In cases where a group of establishments thus specialize and manufacture all or the greater part of the total output of a certain commodity or class of commodities, such establishments are assigned, for census purposes, to a specific industry classification designated according to the use or the nature of the products. On the other hand, many foundries and machine shops manufacture a great variety of products. Moreover, while certain establishments employing foundry and machine-shop processes are engaged wholly or mainly in the manufacture of well-defined classes of commodities, large quantities of similar commodities are made by other establishments which also manufacture products wholly different in character. It has been necessary, therefore, in order to avoid excessive overlapping among the industries, to establish a very broad classification, "Foundry and machine-shop products, not elsewhere classified," which embraces, so far as practicable, those lines of manufacture which employ foundry and machine-shop processes but which can not be clearly segregated from one another. Nevertheless, despite its comprehensiveness, a great deal of overlapping occurs between this classification and a number of others.

The foundry and machine-shop departments of establishments engaged primarily in the manufacture of nonferrous-metal commodities are not classified in this industry, but are assigned to the "Nonferrous-metal alloys and products, not including aluminum products" industry or the "Aluminum manufactures" industry, as the case may be.

Comparison with earlier years.—As the scope of this industry classification has been changed somewhat from time to time within the periods covered by Tables 1 and 2, the statistics for the several years are not in all cases strictly comparable. This applies particularly to comparisons between 1914 and later years and between 1927 and 1929. Two sets of figures for 1927 are, therefore, presented in Tables 1 and 2—

one (in roman type) for comparison with 1925 and earlier years and the other (in italics) for comparison with 1929. The adjustment for comparison with 1929 is made because of the transfer of certain establishments to the newly created industry classification "Machine-tool accessories and small metal-working tools, not elsewhere classified." The figures for 1925 and 1927 in Table 1 and the United States totals for 1927 in Table 2 differ from those originally published in that they include data for establishments engaged primarily in the manufacture of metal-working machinery other than machine tools. Such establishments were separately classified in the reports for 1925 and 1927, but at the censuses for 1923 and earlier years and at that for 1929 they were assigned to the "Foundry and machine-shop products" industry.

Detailed statistics of products.—Table 3, page 15, shows separately, so far as is practicable from the returns received from the manufacturers, the values of the major classes of products manufactured in 1929. Industrial and other machinery is the principal product of the industry. The total output of the principal classes of machinery by all industries in which manufactured is given in the report entitled "Machinery." No data for machinery made for installation in the plants in which manufactured are included either in this report or in the "Machinery" report.

Contract and repair work.—Many establishments reported their entire product under "Amount received for products manufactured on contract and for machine-shop repair work" (the final item in Table 3). The contract work covers boiler-shop products, castings, machinery, and miscellaneous machine-shop products made on contract for the individual customer.

Classes of establishments in the industry.—The following statement shows, for 1929, 1927, and 1919, the numbers and classes of establishments engaged primarily in the manufacture of boiler-shop, foundry, and machine-shop products:

CLASS	1929	1927	1919 ¹
Total number of establishments.....	8,605	8,380	10,934
Boiler shops.....	1,521	1,306	1,525
Foundries (establishments reporting castings for sale).....	1,299	1,252	1,340
Machine shops:			
Establishments engaged primarily in the manufacture of machinery for sale.....	4,820	6,062	8,110
Establishments engaged primarily in contract and repair work.....	1,276		
Machine shops and foundries combined (establishments reporting both the production of castings for sale and the operation of machine shops).....	1,602	760	969

¹ Data for establishments with products under \$5,000 in value included for 1919 but not for later years.

² Includes 38 boiler shops with foundry departments.

³ Includes 110 establishments with boiler-shop departments.

CENSUS OF MANUFACTURES: 1929

TABLE 1.—SUMMARY FOR THE UNITED STATES: 1914 TO 1929

[Data for establishments with products under \$5,000 in value are included for 1919 and 1914 but not for 1921 and subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

YEAR OR PERIOD	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²	Horsepower
1929	8,605	454,441	\$697,508,589	\$1,038,066,092	\$2,791,461,964	\$1,753,395,872	1,804,886
1927 ³	8,095	398,672	590,924,020	878,771,144	2,268,653,217	1,380,882,073	1,550,240
1927 ⁴	8,380	403,939	601,022,908	883,651,734	2,291,543,110	1,407,891,370	1,561,894
1925 ⁴	8,203	403,832	600,021,745	894,406,446	2,284,375,979	1,369,969,533	1,446,438
1923 ⁴	8,531	448,777	642,431,394	936,231,003	2,337,072,775	1,400,841,772	1,224,326
1921	9,013	321,363	412,359,408	653,363,807	1,565,529,944	912,163,137	(⁵)
1919	10,984	482,767	622,571,129	948,069,381	2,289,250,859	1,341,181,478	1,040,285
1914 ⁶	10,640	302,471	244,146,380	358,121,781	866,544,677	508,422,890	763,821
PER CENT OF INCREASE OR DECREASE (-)							
1927-1929	6.3	14.0	18.0	18.1	23.0	26.2	16.4
1925-1927	2.2	(⁷)	0.2	-1.2	1.2	2.8	8.0
1923-1925	-3.8	-10.0	-6.6	-4.5	-3.1	-2.2	17.2
1921-1923	-5.3	39.6	55.8	43.3	49.3	53.0	-----
1919-1921	-17.6	-33.4	-33.8	-31.1	-31.6	-32.0	-----
1919-1929	-21.3	-5.9	12.0	9.6	21.9	30.7	73.5

¹ For 1929, manufacturers' sales (shipments or deliveries); for earlier years, production. See GENERAL EXPLANATIONS—Value of Products.
² Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.
³ Adjusted for comparison with 1929. See "Comparison with earlier years," p. 11.
⁴ Includes data for "Metal-working machinery" industry. See "Comparison with earlier years," p. 11.
⁵ Not called for on schedule.
⁶ Figures for 1914 not strictly comparable with those for later years. No comparable figures available for earlier years.
⁷ Less than one-tenth of 1 per cent.

TABLE 2.—GENERAL STATISTICS, BY STATES: 1929, 1927, AND 1919

[This table presents statistics separately for each State for which figures can be given without disclosing data for individual establishments. Data for establishments with products under \$5,000 in value are included for 1919 but not for subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

STATE	Census year	Number of establishments	Salaried officers and employees ¹	Wage earners (average for the year)	HORSEPOWER (RATED CAPACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products ²	Value added by manufacture ³
					Total	Prime movers	Motors run by purchased energy			Total	Materials	Fuel and purchased energy		
United States	1929	8,605	87,249	454,441	1,804,886	277,785	1,527,101	\$247,857,074	\$697,508,589	\$1,038,066,092	\$977,510,548	\$60,555,544	\$2,791,461,964	\$1,753,395,872
	1927 ⁴	8,095	81,238	398,672	1,550,240	311,190	1,239,120	213,248,076	590,924,020	878,771,144	353,338,424	44,032,720	2,268,653,217	1,380,882,073
	1927 ⁵	8,380	81,676	403,939	1,561,934	312,005	1,249,929	215,394,585	601,022,908	883,651,734	45,326,904	2,291,543,110	1,407,891,370	
	1919	10,984	86,878	482,767	1,040,265	380,228	660,037	181,775,328	622,571,129	948,069,381	899,703,679	48,366,702	2,289,250,859	1,341,181,478
Alabama	1929	60	307	2,783	11,810	1,093	10,717	840,969	3,260,193	6,085,124	4,780,911	304,213	13,767,589	8,682,465
	1927	56	317	2,974	10,864	1,527	9,337	714,299	3,606,900	6,275,233	6,275,233	28,207	13,740,983	7,405,760
	1919	90	372	2,732	5,326	1,783	3,543	836,853	3,199,515	5,372,163	5,121,582	250,581	11,631,480	6,159,317
Arizona	1929	9	12	140	440	-----	440	52,686	190,047	214,940	180,347	34,593	564,880	349,940
	1927	8	40	118	362	-----	362	48,413	151,676	153,485	125,278	28,207	467,554	304,099
	1919	10	11	92	214	6	208	19,843	129,031	106,892	92,443	14,449	278,530	171,644
Arkansas	1929	33	52	427	1,498	283	1,215	137,451	499,547	608,340	537,211	71,129	1,971,983	1,363,643
	1927	32	68	402	1,361	185	1,176	171,886	615,726	498,472	448,495	49,977	1,389,285	890,818
	1919	62	58	464	1,245	403	782	128,753	605,362	676,627	638,247	38,280	1,652,466	975,929
California	1929	679	3,387	17,186	67,906	2,164	65,744	9,291,740	28,978,483	47,799,001	45,832,367	1,967,534	121,312,594	73,512,683
	1927	568	2,845	13,016	55,727	2,834	52,893	7,671,018	21,048,181	31,491,437	30,292,267	1,199,170	81,147,093	49,655,650
	1919	595	1,891	9,827	23,974	2,081	21,893	3,647,639	13,635,263	22,638,884	21,598,700	1,045,184	61,336,530	28,697,646
Colorado	1929	76	369	1,760	13,766	624	13,142	613,458	2,406,156	3,802,049	3,542,081	269,668	10,694,478	6,892,429
	1927	68	410	1,439	6,608	511	6,097	686,455	1,979,850	2,016,974	2,449,991	166,983	8,100,546	5,492,572
	1919	120	448	2,189	9,615	984	8,631	1,026,201	2,803,041	4,880,683	4,493,507	387,176	11,199,721	6,319,668
Connecticut	1929	177	2,873	10,481	85,768	10,217	75,551	7,093,450	29,255,230	30,774,492	28,146,540	2,627,952	106,511,723	75,737,231
	1927	175	2,780	16,799	73,754	8,517	65,237	7,232,801	24,206,126	25,327,204	23,433,612	1,893,562	86,168,201	60,841,087
	1919	250	3,065	20,148	42,296	11,490	30,806	6,076,215	26,019,762	25,545,519	23,813,226	1,732,283	78,892,634	53,347,116
Delaware	1929	20	207	1,864	8,734	2,506	6,228	774,107	2,606,105	5,033,967	4,789,659	244,308	9,982,592	4,948,625
	1927	18	280	1,562	7,241	2,653	4,588	623,473	1,875,280	3,295,143	3,084,301	210,782	6,122,756	2,827,613
	1919	17	124	878	2,477	2,196	281	262,879	1,200,248	1,044,944	1,511,620	133,324	3,929,938	2,284,994
District of Columbia	1929	7	23	76	278	216	62	53,032	124,788	128,008	122,732	5,270	475,070	347,062
	1927	10	27	124	383	160	223	67,937	200,600	205,448	107,427	8,021	616,843	411,395
	1919	19	38	302	437	258	179	77,849	370,848	505,969	400,377	15,592	1,159,170	653,207
Florida	1929	37	83	372	1,676	155	1,521	226,925	430,231	919,199	887,964	31,235	2,405,519	1,486,320
	1927	41	115	550	2,357	98	2,289	322,295	821,868	1,063,869	1,016,192	47,677	2,873,240	1,809,377
	1919	64	124	872	1,622	324	1,298	240,200	1,025,013	1,522,114	1,465,368	66,740	3,507,648	1,985,634

See footnotes at end of table.

FOUNDRY AND MACHINE-SHOP PRODUCTS

1145

TABLE 2.—GENERAL STATISTICS, BY STATES: 1929, 1927, AND 1919—Continued

[See note at head of this table]

STATE	Census year	Number of establishments	Salaries of officers and employees ¹	Wage earners (average for the year)	HORSEPOWER (RATED CAPACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, FUEL AND PURCHASED ELECTRIC ENERGY			Value of products ²	Value added by manufacture ²
					Total	Prime movers	Motors run by purchased energy			Total	Materials	Fuel and purchased energy		
Georgia	1929	74	440	3,030	9,000	651	8,409	\$1,195,979	\$3,229,075	\$5,410,293	\$5,102,581	\$307,412	\$12,580,965	\$7,170,672
	1927	65	416	2,803	8,218	1,876	6,342	1,063,854	3,086,155	4,850,897	4,693,414	157,483	11,844,657	6,993,760
	1919	112	562	3,993	6,556	2,240	4,109	1,327,677	4,132,482	7,744,434	7,396,305	348,129	16,374,648	8,630,214
Idaho	1929	14	10	1,111	638	45	583	40,001	162,603	193,019	176,732	16,287	565,313	372,294
	1927	11	22	1,119	406	4	402	44,405	157,974	147,262	130,377	16,885	488,657	311,395
	1919	18	10	60	103	6	187	9,296	92,415	127,679	118,971	8,708	288,995	161,316
Illinois	1929	759	10,025	45,064	135,996	22,032	113,964	30,418,372	73,200,989	115,202,019	109,516,684	5,655,335	317,455,569	202,283,550
	1927	783	9,404	39,483	126,352	20,106	97,246	26,117,585	62,248,281	94,177,970	89,835,110	4,342,860	245,148,773	150,970,803
	1919	870	8,814	45,879	90,821	35,278	61,543	20,578,730	59,800,135	98,342,815	93,125,717	5,217,096	235,403,629	137,060,811
Indiana	1929	332	4,272	26,222	87,756	9,876	77,880	12,668,451	36,878,323	59,842,742	56,373,443	3,469,299	153,406,243	93,563,601
	1927	304	3,681	10,166	67,834	9,510	58,324	9,008,313	27,103,959	45,830,609	43,558,145	2,292,461	114,728,157	68,847,551
	1919	305	3,600	18,828	38,833	9,337	29,496	7,441,799	21,885,153	38,020,980	36,233,169	1,793,811	85,359,946	47,332,966
Iowa	1929	145	1,022	4,531	16,185	2,120	14,065	2,350,145	6,131,179	10,986,241	10,319,811	666,430	25,755,878	14,769,637
	1927	135	802	3,718	12,629	2,406	10,123	1,786,850	4,919,284	8,578,160	8,167,885	410,294	20,871,220	12,293,051
	1919	198	892	3,529	8,282	2,390	5,892	1,480,759	4,062,419	8,070,194	7,704,429	365,774	18,644,774	10,474,680
Kansas	1929	75	371	2,523	9,875	750	9,119	858,026	3,385,449	5,952,715	5,585,376	367,339	15,266,477	9,283,792
	1927	76	309	2,793	9,109	622	8,584	954,644	3,870,901	6,660,004	6,273,745	386,259	15,798,276	8,238,272
	1919	151	471	2,935	6,436	1,465	4,971	899,946	3,958,937	6,860,790	6,466,687	403,112	15,023,063	8,183,294
Kentucky	1929	61	581	2,776	13,741	4,676	9,065	1,504,202	3,635,590	6,500,418	6,209,398	291,020	16,029,316	9,527,898
	1927	52	453	2,120	6,013	2,273	4,340	1,115,105	2,656,589	4,098,638	4,934,117	164,521	11,144,392	6,045,754
	1919	87	566	2,554	7,440	4,862	2,578	905,269	2,829,460	5,397,819	5,188,239	209,580	11,661,522	6,263,706
Louisiana	1929	58	109	1,016	4,759	1,100	3,659	422,476	1,428,569	1,942,608	1,817,903	124,705	5,330,405	3,357,797
	1927	56	224	1,378	6,154	1,113	6,041	590,594	1,691,323	2,333,963	2,173,560	160,403	5,834,874	3,500,911
	1919	90	336	2,161	4,319	1,905	2,414	803,190	3,107,487	4,257,481	4,108,644	148,837	10,697,272	6,439,791
Maine	1929	36	135	1,146	4,498	215	4,283	336,069	1,335,264	1,088,555	986,889	101,666	3,788,048	2,449,498
	1927	31	156	1,048	3,982	217	3,765	362,001	1,363,925	1,520,206	1,434,312	85,897	4,272,325	2,722,116
	1919	73	230	2,171	4,866	679	4,187	601,314	2,760,648	3,851,708	3,646,558	205,147	9,735,762	5,884,057
Maryland	1929	121	995	4,735	19,317	1,204	18,113	2,779,238	6,464,776	10,548,199	10,069,405	478,794	26,615,394	15,967,195
	1927	97	905	3,657	18,269	1,218	17,041	2,432,420	4,735,793	11,041,684	10,685,540	356,144	23,680,927	12,494,393
	1919	133	789	4,081	10,613	2,371	8,242	1,382,630	4,901,223	8,559,822	8,187,667	372,225	15,720,079	10,161,047
Massachusetts	1929	465	4,536	21,243	70,036	18,191	51,845	13,894,897	32,969,609	36,893,982	34,627,613	2,266,369	114,955,036	78,071,074
	1927	496	3,959	19,898	65,892	21,635	44,247	10,817,932	30,069,274	30,759,703	28,942,070	1,817,633	94,146,409	63,389,706
	1919	674	5,084	27,712	46,310	15,999	30,611	9,500,539	36,612,749	59,210,038	57,118,580	2,091,458	111,852,729	72,642,910
Michigan	1929	468	5,070	42,492	139,285	12,377	126,908	16,097,659	66,191,477	79,061,037	71,857,076	7,203,961	216,312,128	137,251,091
	1927	513	5,539	35,736	112,401	12,296	100,105	14,876,625	53,961,123	63,755,134	58,168,909	5,586,225	178,048,547	114,283,323
	1919	523	5,820	39,430	84,776	13,948	70,828	12,032,247	52,416,677	68,800,144	64,642,116	4,158,028	169,462,465	100,662,401
Minnesota	1929	181	1,316	5,820	25,726	2,937	22,789	3,411,555	8,249,025	13,801,759	13,000,434	801,325	37,411,520	23,808,761
	1927	159	1,158	5,002	18,146	3,145	15,001	2,882,878	6,779,708	11,618,175	11,000,464	617,711	29,624,190	18,106,015
	1919	216	1,357	6,183	11,903	3,056	8,908	2,632,073	7,432,917	12,713,647	12,001,995	711,652	31,864,771	19,161,124
Mississippi	1929	27	78	304	1,082	182	900	195,198	402,155	284,149	257,100	27,049	1,193,624	609,475
	1927	23	58	292	800	131	757	136,532	361,737	341,351	316,207	25,144	1,099,707	694,356
	1919	43	68	469	1,240	553	687	138,879	890,743	850,136	801,689	48,447	1,785,569	935,433
Missouri	1929	251	2,070	8,607	32,159	2,477	29,682	5,552,724	12,435,990	21,019,559	20,005,798	1,013,761	53,028,519	32,008,960
	1927	248	1,905	7,558	24,252	2,988	21,264	4,748,903	10,730,533	18,263,238	17,827,808	735,430	44,328,592	26,005,354
	1919	301	2,124	9,530	17,951	6,023	11,928	4,412,212	11,789,039	19,982,082	19,017,023	965,059	49,070,974	29,486,892
Montana	1929	11	43	381	2,307	75	2,232	121,912	702,155	660,700	503,893	64,807	1,602,156	941,456
	1927	10	40	328	1,534	75	1,459	89,343	516,078	584,587	496,484	88,128	1,350,740	768,162
	1919	22	51	358	1,412	16	1,396	120,827	665,178	571,671	508,974	62,697	1,494,658	922,987
Nebraska	1929	39	157	530	2,166	220	1,946	379,436	815,023	1,750,722	1,701,214	49,508	4,473,579	2,722,837
	1927	30	214	776	3,666	82	3,584	429,348	1,089,655	2,049,919	1,982,684	67,055	4,862,688	2,812,769
	1919	67	309	713	2,490	433	2,056	415,468	891,524	2,400,795	2,339,043	61,752	6,164,424	2,763,629
New Hampshire	1929	43	409	1,973	9,587	2,899	6,688	948,645	2,919,404	3,176,883	2,956,137	220,740	10,502,621	7,325,738
	1927	41	336	1,855	5,163	2,307	2,856	730,842	2,692,187	2,717,180	2,680,270	136,901	9,778,307	7,061,127
	1919	53	362	2,291	4,797	2,770	2,027	641,003	2,573,218	3,282,465	3,159,333	123,132	8,795,111	5,512,646
New Jersey	1929	364	4,928	22,343	79,712	28,036	51,676	13,440,875	37,116,068	49,555,167	46,755,615	2,799,552	135,991,319	86,436,182
	1927	346	4,713	19,303	64,211	31,422	32,789	12,980,535	30,198,001	42,602,923	40,593,917	2,009,000	112,990,808	70,303,882
	1919	446	5,232	25,033	51,857	35,172	13,685	10,314,256	31,949,781	59,394,505	57,189,787	2,204,718	123,534,115	69,139,610
New York	1929	943	9,420	47,638	164,777	37,079	127,698	29,701,523	77,156,060	92,573,931	87,139,037	5,434,894	299,009,086	203,525,158
	1927	903	8,685	43,902	135,379	31,736	103,643	22,218,377	67,710,680	84,770,699	80,813,679	3,957,017	253,074,978	168,304,272
	1919	1,325	10,559	56,609	95,206	38,892	56,314	22,320,356	72,455,986	94,535,239	89,847,370	4,687,869	251,688,323	157,153,084
North Carolina	1929	65	165	907	2,527	324	2,203	421,892	1,139,943	1,203,794	1,140,647	63,147	3,706,091	2,502,297
	1927	56	175	1,049	2,690	315	2,254	410,279	1,298,437	1,478,731	1,423,703	55,023	4,023,940	2,545,216
	1919	128	262	1,664	3,169	1,387	1,782	474,159	1,747,067	2,526,592	2,415,383	111,209	6,036,077	3,509,485
North Dakota	1929	5	12											

CENSUS OF MANUFACTURES: 1929

TABLE 2.—GENERAL STATISTICS, BY STATES: 1929, 1927, AND 1919—Continued

[See note at head of this table]

STATE	Census year	Number of establishments	Salaried officers and employees ¹	Wage earners (average for the year)	HORSEPOWER (RATED CAPACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products ²	Value added by manufacture ³
					Total	Prime movers	Motors run by purchased energy			Total	Materials	Fuel and purchased energy		
Oregon	1929	120	507	1,981	8,908	60	8,848	\$1,219,473	\$3,059,257	\$4,525,093	\$4,309,742	\$215,321	\$13,277,502	\$8,762,490
	1927	87	337	1,536	8,681	803	7,878	803,187	2,402,839	3,706,851	3,547,782	159,069	8,273,290	4,500,448
	1919	121	362	3,265	7,636	3,234	4,402	808,962	6,210,532	8,723,116	8,389,694	333,422	21,136,153	12,413,037
Pennsylvania	1929	879	12,311	55,364	291,016	48,523	242,493	34,424,444	83,759,897	150,839,922	142,909,960	7,869,966	374,041,290	223,201,308
	1927	888	11,983	53,801	276,909	71,286	208,623	30,718,855	78,037,139	128,322,752	121,831,251	6,491,501	303,116,520	174,793,774
	1919	1,287	13,571	71,087	184,377	83,496	100,881	28,182,016	92,924,297	160,467,253	153,117,684	7,349,569	366,383,144	206,015,801
Rhode Island	1929	45	444	2,330	9,192	160	9,032	1,046,329	3,371,278	5,796,236	5,478,872	317,364	13,453,257	7,057,021
	1927	47	374	2,184	7,922	289	7,633	1,080,773	3,290,304	4,296,087	4,035,874	260,213	10,463,377	6,107,290
	1919	81	587	4,143	8,160	1,844	6,316	1,293,063	5,389,216	4,854,472	4,491,710	362,762	15,692,939	10,838,467
South Carolina	1929	19	31	241	829	235	594	65,231	259,166	163,353	143,524	19,829	649,265	485,912
	1927	20	44	237	584	594	594	80,697	263,343	247,287	233,035	14,252	672,721	425,484
	1919	36	86	391	603	170	433	150,454	448,238	391,329	357,122	34,207	1,122,981	731,662
South Dakota	1929	11	22	93	260	260	260	59,189	106,379	96,614	88,060	8,554	544,024	447,410
	1927	6	6	27	113	12	101	10,942	32,200	61,700	58,670	3,090	151,136	89,370
	1919	23	8	81	239	54	185	8,899	105,501	118,947	106,611	12,330	343,440	224,493
Tennessee	1929	62	598	3,415	17,238	571	16,667	1,347,229	3,858,091	7,544,563	7,134,537	410,026	17,308,033	9,763,470
	1927	60	525	2,671	12,629	773	11,856	944,021	2,971,206	4,785,577	4,526,870	258,707	11,299,591	6,514,014
	1919	126	704	4,721	10,101	2,974	7,127	1,470,499	4,936,716	8,720,680	8,330,434	390,226	19,693,670	10,912,916
Texas	1929	169	1,285	8,422	30,785	1,488	29,297	4,460,465	11,226,370	16,713,008	15,745,213	972,795	49,180,837	32,462,829
	1927	166	1,080	5,831	21,111	1,364	19,747	2,935,209	7,654,915	13,787,154	13,061,040	726,114	37,630,657	24,143,863
	1919	181	634	3,855	9,450	3,012	6,438	1,451,986	4,825,458	9,997,005	9,572,229	425,376	20,624,445	10,520,840
Utah	1929	17	73	389	1,550	40	1,510	105,302	538,018	1,039,566	900,762	73,804	2,294,230	1,254,673
	1927	14	47	225	1,612	40	1,612	102,494	319,569	375,830	343,896	31,984	656,630	380,630
	1919	29	93	490	2,529	40	2,489	189,792	590,335	782,612	711,102	71,410	1,940,825	1,158,313
Vermont	1929	29	132	877	2,844	1,325	1,519	329,988	1,311,176	1,291,201	1,199,039	92,162	3,650,066	2,367,805
	1927	24	125	704	2,439	950	1,483	276,635	1,081,411	1,011,772	901,678	50,094	3,119,054	2,107,292
	1919	30	143	1,012	2,896	1,493	1,403	250,579	1,242,754	1,399,036	1,309,291	89,745	3,343,590	1,944,500
Virginia	1929	62	207	1,069	3,680	60	3,620	514,550	1,369,960	1,989,510	1,851,702	137,808	5,145,451	3,155,941
	1927	69	224	1,245	4,334	340	3,994	487,110	1,414,395	2,050,043	1,951,131	98,912	5,008,860	2,958,807
	1919	89	229	1,709	3,157	571	2,586	621,092	2,473,366	2,093,957	1,976,475	117,482	6,351,877	4,257,920
Washington	1929	209	621	3,255	15,063	758	14,305	1,847,578	5,266,687	7,125,806	6,719,380	406,480	18,428,298	11,302,432
	1927	217	573	2,714	13,416	660	12,756	1,624,310	4,355,815	6,475,677	6,183,179	292,498	15,992,368	9,510,691
	1919	233	615	3,041	13,838	1,104	12,734	1,825,610	5,881,174	8,090,092	7,685,308	410,784	20,801,412	12,705,320
West Virginia	1929	66	298	1,747	9,699	1,180	8,519	946,685	2,377,351	5,022,123	4,827,650	194,473	9,930,173	4,908,060
	1927	60	290	1,493	9,243	1,709	7,534	838,813	1,932,873	4,153,825	3,993,135	140,691	9,491,660	5,360,824
	1919	89	378	1,911	5,019	2,275	2,744	804,069	2,309,267	6,874,444	6,605,009	179,435	14,666,387	7,790,943
Wisconsin	1929	294	5,520	24,207	73,276	23,981	49,295	14,404,925	36,607,057	60,942,160	57,645,541	3,296,619	149,053,715	88,116,555
	1927	324	4,352	21,081	53,253	21,531	31,722	11,550,187	31,898,882	53,438,109	51,194,609	2,293,410	127,357,554	73,809,445
	1919	429	3,492	18,635	37,948	19,621	18,327	6,945,874	21,841,014	36,107,434	33,735,409	2,371,965	86,692,644	50,635,210
Other States	1929	10	17	84	439	35	401	42,372	116,028	233,064	220,295	12,769	533,353	300,289
	1927	9	17	79	384	52	332	42,036	125,168	214,530	200,933	13,597	450,196	235,666
	1919	10	17	125	381	23	358	41,412	178,983	347,881	325,054	21,827	670,905	323,024

¹ Not including proprietors and firm members, as follows: For 1929, 3,687; 1927, 4,367; 1927, adjusted, 4,164; 1919, 7,662. The total numbers of persons engaged—proprietors and firm members, salaried officers and employees, and wage earners—as reported for the industry, are as follows: For 1929, 545,377; 1927, 490,285; 1927, adjusted, 484,064; 1919, 577,303.

² For 1929, sales (shipments or deliveries) by manufacturers; for earlier years, production. See GENERAL EXPLANATIONS—Value of Products.

³ Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

⁴ Adjusted for comparison with 1929. See "Comparison with earlier years," p. 11. State figures not adjusted.

⁵ Data for "Metal-working machinery" industry included in United States totals but not in State figures. See "Comparison with earlier years," p. 1143.

⁶ Data for purchased power other than electric (power transmitted into the plant by belt or shaft) are included in the State items for 1919 but not in the United States totals.

⁷ Nevada, 3 establishments; New Mexico, 3; and Wyoming, 4.

⁸ Nevada, 3 establishments; New Mexico, 1; and Wyoming, 5.

⁹ Nevada, 3 establishments; New Mexico, 4; and Wyoming, 3.

FOUNDRY AND MACHINE-SHOP PRODUCTS

1147

TABLE 3.—PRODUCTS, BY CLASS, QUANTITY, AND VALUE, FOR THE UNITED STATES: 1929

[These figures refer to sales (shipments or deliveries) by manufacturers. See GENERAL EXPLANATIONS—Value of Products]

CLASS	1929	CLASS	1929
1. Foundry machine-shop products industry, all products, total value.....	\$2,791,461,964	Foundry and machine-shop products, all industries—Contd.	
2. Foundry and machine-shop products, value.....	\$2,653,571,063	Miscellaneous machine-shop products—Continued.	
3. Other products (not normally belonging to the industry), value.....	\$137,890,901	Flexible metallic tubing and hose, value.....	\$4,165,484
4. Foundry and machine-shop products made as secondary products in other industries, value.....	\$316,270,186	Gears (except motor-vehicle), total value.....	\$30,325,542
Foundry and machine-shop products, all industries:		Quantity reported—	
Aggregate value (sum of 2 and 4).....	\$2,969,841,249	Tons.....	39,699
Boiler-shop products:		Value.....	\$16,170,314
Bollers (industrial), total value.....	\$34,722,032	Quantity not reported, value.....	\$14,155,228
Number reported—		Industrial oil burners, value.....	\$4,305,921
Number.....	29,477	Piston rings, for sale—	
Value.....	\$34,003,377	Number.....	231,539,500
Number not reported, value.....	\$718,655	Value.....	\$20,137,709
Smokestacks, total value.....	\$3,822,658	Flat-bright cold-rolled strip steel, total value.....	\$83,647,021
Number reported—		Widths 6 inches and narrower—	
Number.....	12,341	Tons.....	348,480
Value.....	\$3,793,977	Value.....	\$39,536,721
Number not reported, value.....	\$28,681	Wider than 6 inches but under 12 inches—	
Tanks (iron and steel), total value.....	\$70,785,445	Tons.....	220,729
Number reported—		Value.....	\$18,335,481
Number.....	444,423	Widths 12 inches and wider, not including motor-vehicle fender steel—	
Value.....	\$63,501,210	Tons.....	282,407
Number not reported, value.....	\$7,284,235	Value.....	\$18,807,612
Other boiler-shop products, value.....	\$47,812,443	Fender steel (for motor-vehicle fenders)—	
Castings:		Tons.....	101,196
Gray-iron, including semisteel ¹ —		Value.....	\$6,967,207
Tons.....	5,079,846	Quantity not reported, value.....	\$71,755,645
Value.....	\$375,508,194	Rounds, 2 inches in diameter and smaller, total value.....	\$35,913,667
Malleable-iron ² —		Quantity reported—	
Tons.....	735,225	Tons.....	371,854
Value.....	\$101,108,837	Value.....	\$31,170,912
Rolls for rolling mills—		Quantity not reported, value.....	\$4,742,755
Steel—		Rounds, larger than 2 inches in diameter, total value.....	\$10,974,245
Tons.....	46,752	Quantity reported—	
Value.....	\$6,832,598	Tons.....	119,579
Gray-iron—		Value.....	\$8,600,582
Tons.....	126,074	Quantity not reported, value.....	\$2,373,663
Value.....	\$14,533,031	Shapes (square, hexagon, and flat), total value.....	\$19,796,034
Machinery, total value ³	\$1,211,654,998	Quantity reported—	
Reported by specified classes, value.....	\$1,052,933,833	Tons.....	237,298
Not reported by specified classes, value.....	\$158,701,165	Value.....	\$18,515,402
Machine parts and attachments, value.....	\$69,579,655	Quantity not reported, value.....	\$1,280,632
Miscellaneous machine-shop products:		Cold-finished steel bars (rounds) not distributed as to size, value.....	\$5,071,699
Ball bearings and parts, value.....	\$66,880,624	Other machine-shop products, value ⁴	\$514,123,372
Roller bearings and parts, value.....	\$2,698,031	Amount received for products manufactured on contract and for machine-shop repair work.....	\$184,906,852

¹ For State figures, see Table 4.

² The difference between the malleable-iron castings item of 735,225 tons as given in this table and the total of 818,150 tons shown by the report entitled "Malleable castings" issued by this Bureau under date of March 20, 1930, is accounted for by the fact that the former amount refers to malleable-iron castings only, whereas the latter includes data for fittings, tools, hardware, etc., in addition to those for castings proper.

³ For total production of machinery, by classes, so far as separately reported, see report entitled "Machinery."

⁴ Machine-shop products not listed separately on schedule. Some of the principal items are air and vacuum brakes, jacks, carburetors, chlorine-control apparatus, dumb waiters, fabricated pipe and fittings, gage equipment, lubricators, railroad appliances, valves, fittings, and hydrants.

CENSUS OF MANUFACTURES: 1929

TABLE 4.—GRAY-IRON AND MALLEABLE-IRON CASTINGS—SALES (SHIPMENT OR DELIVERIES), BY QUANTITY AND VALUE, BY STATES: 1929, 1927, AND 1925

[The figures in this table refer only to gray-iron and malleable-iron castings sold as such by establishments classified in the "Foundry and machine-shop products" industry and by those in all other industries which reported the sale of iron castings. They do not, therefore, cover the large quantity of castings produced and consumed by establishments engaged in the manufacture of stoves, furnaces, machinery, and other finished products. Statistics are given for each State which can be shown separately without disclosing data for individual establishments. Certain of the States for which figures are given in combination with those for others, however, reported larger quantities and values of castings than some of the States for which separate figures are given.]

STATE	1929		1927		1925	
	Tons (2,000 pounds)	Value	Tons (2,000 pounds)	Value	Tons (2,000 pounds)	Value
GRAY-IRON CASTINGS						
United States.....	5,079,846	\$375,508,194		\$340,325,788	4,408,802	\$324,673,831
Quantity not reported.....				11,650,527		
Quantity reported.....	5,079,846	375,508,194	4,945,818	323,675,261	4,408,802	324,673,831
Alabama.....	58,131	2,894,286	83,794	4,003,815	65,429	3,682,588
Arizona.....	4,200	336,380	(¹)	(¹)	(¹)	(¹)
California.....	149,054	12,256,525	132,672	9,894,971	128,437	9,935,029
Colorado.....	84,673	2,076,577	87,860	2,987,332	94,633	3,730,164
Connecticut.....	77,514	9,349,271	68,932	7,960,000	65,263	8,678,026
Florida.....	2,005	174,276	(¹)	(¹)	(¹)	(¹)
Georgia.....	52,202	2,658,792	75,366	3,524,103	73,123	3,239,818
Illinois.....	504,352	36,073,448	597,084	34,841,323	542,602	38,161,539
Indiana.....	233,733	20,778,520	238,013	18,119,912	268,487	16,738,737
Iowa.....	97,932	8,287,503	55,819	3,813,519	60,700	4,501,447
Kansas.....	65,677	2,886,058	58,734	2,485,773	73,310	3,163,204
Kentucky.....	37,354	1,770,087	17,220	908,611	27,094	1,585,209
Louisiana.....	28,140	1,249,087	11,745	1,338,939	(¹)	(¹)
Maine.....	8,312	411,243	4,672	530,699	(¹)	(¹)
Maryland.....	59,681	3,535,991	73,232	4,091,822	79,175	4,429,861
Massachusetts.....	132,065	14,173,058	151,813	14,121,181	174,050	16,064,504
Michigan.....	769,487	63,270,354	637,748	44,317,792	377,360	34,370,340
Minnesota.....	84,490	4,529,638	77,698	3,832,904	84,822	4,414,597
Mississippi.....	1,716	125,923	(¹)	(¹)	(¹)	(¹)
Missouri.....	123,091	8,741,423	116,049	6,882,066	124,005	7,904,761
Montana.....	8,852	553,241	(¹)	(¹)	(¹)	(¹)
Nebraska.....	1,475	89,373	(¹)	(¹)	(¹)	(¹)
New Hampshire.....	6,750	695,737	5,123	579,819	(¹)	(¹)
New Jersey.....	155,646	15,320,632	181,553	14,766,262	161,827	15,787,849
New York.....	346,890	27,735,600	449,886	29,353,226	348,987	27,057,788
North Carolina.....	7,713	899,319	6,905	638,998	(¹)	(¹)
Ohio.....	739,305	59,501,765	608,262	47,395,439	578,742	48,394,607
Oklahoma.....	10,309	847,894	15,851	1,351,572	(¹)	(¹)
Oregon.....	9,696	1,059,912	11,437	1,046,533	(¹)	(¹)
Pennsylvania.....	824,283	41,779,083	761,313	40,741,826	614,153	44,378,981
Rhode Island.....	26,722	2,035,181	20,575	2,483,299	25,628	3,000,417
South Carolina.....	2,896	245,065	(¹)	(¹)	(¹)	(¹)
Tennessee.....	54,397	2,757,694	52,588	2,707,187	60,763	2,484,443
Texas.....	76,879	4,808,022	81,605	4,239,448	(¹)	(¹)
Utah.....	19,270	900,496	(¹)	(¹)	(¹)	(¹)
Virginia.....	42,180	1,078,580	59,774	2,532,015	53,237	2,261,727
Washington.....	40,568	2,787,013	40,734	2,665,108	42,407	3,002,669
West Virginia.....	19,330	1,269,646	15,408	1,108,232	19,047	1,812,514
Wisconsin.....	105,921	11,641,751	100,205	9,628,139	72,171	7,798,938
Other States (Ark., Del., D. C., Idaho, Nev., N. Mex., N. Dak., S. Dak., Vt., and Wyo.).....	31,068	2,654,344	41,240	3,192,306	184,460	12,997,215
MALLEABLE-IRON CASTINGS						
United States.....	735,225	101,108,837		87,339,516	727,614	103,448,143
Quantity not reported.....				874,451		
Quantity reported.....			613,638	80,465,065		
California.....	6,566	1,271,835	5,926	1,033,742	5,209	1,041,614
Connecticut.....	18,495	3,659,869	19,020	4,215,548	15,021	3,563,991
Illinois.....	119,051	16,529,603	88,655	12,003,975	130,346	16,799,609
Indiana.....	85,708	10,559,037	62,943	8,296,410	67,877	9,246,059
Michigan.....	138,231	15,893,596	123,673	14,450,523	122,460	16,232,457
New Jersey.....	9,900	1,952,564	7,973	1,855,539	8,609	1,895,317
New York.....	71,898	11,139,742	71,181	10,855,047	75,770	10,963,200
Ohio.....	115,964	14,408,533	80,032	11,020,268	115,256	16,279,900
Pennsylvania.....	50,408	9,140,734	46,333	8,592,278	56,080	10,232,288
Wisconsin.....	77,317	9,464,223	77,178	9,378,027	91,132	11,378,065
Alabama, Delaware, Maryland, North Carolina, Tennessee, and West Virginia.....	14,878	2,881,633				
Colorado, Oregon, and Washington.....	754	122,640				
Iowa, Minnesota, and Missouri.....	17,793	2,574,604	20,824	4,787,708	39,836	5,815,613
Maine, Massachusetts, and Rhode Island.....	8,172	1,510,134				

¹ Distributed by States as follows: Michigan, \$3,731,038; Ohio, \$2,193,521; Illinois, \$1,327,465; Indiana, \$1,206,023; certain other States (each reporting less than \$1,000,000), \$3,192,480. These amounts are not included in the State figures as given in the body of the table.

² Included in item for "Other States" to avoid disclosing output of individual establishments.

³ See footnote 2, Table 3.

⁴ Not included in State items.

FOUNDRY AND MACHINE-SHOP PRODUCTS

1149

TABLE 5.—PRINCIPAL MATERIALS CONSUMED IN THE INDUSTRY, BY KIND, QUANTITY, AND COST: 1929

(Quantities and costs of principal materials consumed were reported by only 6,163 of the 8,605 establishments in this industry. The combined value of products reported by these 6,163 establishments amounted to \$2,472,536,474, or 83.6 per cent of the aggregate value of products of all establishments in the industry. Another reason for the difference between the sum of the costs of the several kinds of materials shown in this table and the total cost of materials as given in Tables 1 and 2 is found in the fact that this table covers only certain specified materials, whereas the others cover all materials.)

KIND	Quantity	Cost	KIND	Quantity	Cost
Pig iron.....	<i>Tons (2,240 pounds)</i> 3,465,824	\$68,974,778	Cold-rolled steel.....	<i>Tons (2,000 pounds)</i> 524,471	\$35,442,250
Scrap iron and steel.....	2,834,505	40,240,358	Carbon and other steel.....	2,608,446	152,069,334
Gray-iron castings.....	<i>Tons (2,000 pounds)</i> 524,138	57,712,379	Braas and bronze.....	<i>Pounds</i> 114,303,912	27,309,886
Malleable-iron castings.....	129,752	17,695,590	Copper.....	26,557,259	7,550,812
Forgings.....	131,217	18,185,057	Lead.....	6,815,151	601,756
			Tin.....	3,167,749	1,372,669

TABLE 6.—PRIME MOVERS, MOTORS, GENERATORS, AND CONSUMPTION OF PURCHASED ELECTRIC ENERGY—NUMBER AND RATED CAPACITY OF PRIME MOVERS AND ELECTRIC MOTORS, 1929, 1927, 1925, 1919, AND 1914, AND OF GENERATORS, 1929, 1927, AND 1925; QUANTITY OF ELECTRIC ENERGY PURCHASED, 1929

TYPE	1929		1927 ¹		1925		1919		1914		PER CENT DISTRIBUTION OF RATED HORSEPOWER CAPACITY	
	Num-ber	Capacity	Num-ber	Capacity	Num-ber	Capacity	Num-ber	Capacity	Num-ber	Capacity	1929	1919
		<i>Horse-power</i>		<i>Horse-power</i>		<i>Horse-power</i>		<i>Horse-power</i>		<i>Horse-power</i>		
Prime movers and electric motors driven by purchased energy, aggregate.....	171,076	1,804,886	128,721	1,501,934	109,554	1,446,458	68,027	1,040,265	37,281	763,821	100.0	100.0
Prime movers, total.....	2,018	277,785	2,371	312,005	2,043	314,447	4,966	380,228	7,349	460,999	15.4	36.6
Steam, total.....	1,325	239,701	1,457	271,103	1,554	261,922	2,570	313,066	4,052	376,951	13.3	30.1
Engines.....	1,162	173,525	1,318	190,810	1,439	202,235	2,428	267,629	(?)	(?)	9.6	25.7
Turbines.....	163	60,176	130	80,295	115	59,687	142	45,437	(?)	(?)	3.7	4.4
Internal-combustion engines.....	519	29,878	685	31,223	805	40,599	2,158	53,717	2,995	68,076	1.7	5.2
Water wheels and water turbines.....	174	8,206	229	9,677	284	11,926	238	13,445	332	15,972	0.5	1.3
Electric motors driven by purchased energy.....	169,058	1,527,101	126,350	1,249,929	106,911	1,132,011	63,061	660,037	29,932	302,822	84.6	63.4
Electric motors, total.....	197,456	1,811,204	153,553	1,548,083	135,967	1,488,164	88,258	653,795	53,457	590,809	100.0	100.0
Driven by purchased energy.....	169,058	1,527,101	126,350	1,249,929	106,911	1,132,011	63,061	660,037	29,932	302,822	84.3	69.2
Driven by energy generated in establishments reporting.....	28,398	284,103	27,203	298,154	29,056	356,153	25,197	293,758	23,525	287,987	15.7	30.8
Electric generators.....	672	<i>Kilowatts</i> 149,630	770	<i>Kilowatts</i> 154,453	1,126	<i>Kilowatts</i> 471,234	(?)	(?)	(?)	(?)		
Electric energy purchased ⁴		<i>Kilowatt-hours</i> 1,233,857,657		(?)		(?)		(?)		(?)		

¹ The 1927 figures as given in this table are not strictly comparable with those for 1929. See "Comparison with earlier years p. 1143." See also adjusted horsepower item for 1927 as given in Table 1.

² Not called for separately on schedule.

³ Not called for on schedule.

⁴ This item covers the consumption of purchased electric energy for all purposes—power, heat, light, etc.

⁵ Data incomplete.

CENSUS OF MANUFACTURES: 1929

TABLE 7.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1929, 1925, 1919, AND 1914, AND BY STATES, 1929

[This table presents statistics for only those States for which figures can be given without disclosing data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures.]

STATE	Average number employed during year	NUMBER EMPLOYED ON 15TH DAY OF MONTH OR NEAREST REPRESENTATIVE DAY												Percent minimum is of maximum			
		January	February	March	April	May	June	July	August	September	October	November	December				
United States:																	
1929.....	454,441	436,416	448,884	460,393	468,172	472,217	470,203	467,098	464,773	459,008	451,701	432,205	<i>421,560</i>	418,876	418,876	418,876	89.3
1925.....	403,832	382,202	389,645	396,454	401,689	404,211	405,614	400,250	403,698	407,946	412,681	414,010	414,010	418,438	418,438	418,438	91.1
1919.....	482,767	491,403	470,634	462,983	459,435	<i>454,222</i>	456,529	471,149	482,050	491,802	503,700	518,850	530,438	530,438	530,438	530,438	85.6
1914.....	362,471	380,030	380,565	384,214	383,296	377,960	372,043	367,430	360,118	345,894	338,350	<i>328,974</i>	330,742	330,742	330,742	330,742	85.6
Alabama.....	2,783	2,763	2,744	2,807	2,721	2,846	2,908	2,860	2,921	2,837	2,684	2,600	<i>2,608</i>	2,608	2,608	2,608	87.5
Arizona.....	140	147	156	141	137	139	136	136	140	134	140	138	140	140	140	140	85.9
Arkansas.....	427	400	398	403	413	416	419	439	450	449	443	449	446	446	446	446	88.4
California.....	17,186	16,539	16,861	17,523	17,329	17,129	17,420	17,631	17,762	17,743	17,998	16,692	<i>15,604</i>	15,604	15,604	86.7	
Colorado.....	1,760	1,610	1,652	1,753	1,788	1,747	1,772	1,807	1,842	1,853	1,871	1,725	1,608	1,608	1,608	86.1	
Connecticut.....	10,481	18,735	19,546	19,895	19,910	19,952	20,024	19,820	20,021	19,942	19,503	18,549	<i>17,871</i>	17,871	17,871	89.2	
Delaware.....	1,804	1,660	1,652	1,703	1,796	1,855	1,848	1,865	1,929	1,907	2,019	2,049	2,034	2,034	2,034	80.5	
District of Columbia.....	76	68	73	71	71	70	72	77	82	82	80	86	86	86	86	79.1	
Florida.....	372	367	373	373	368	377	389	367	<i>359</i>	362	368	376	374	374	374	82.3	
Georgia.....	3,030	2,915	2,972	3,003	3,013	3,065	3,136	3,183	3,248	3,060	2,972	2,903	<i>2,891</i>	2,891	2,891	79.8	
Idaho.....	111	101	100	<i>99</i>	110	109	124	124	118	109	111	108	117	117	117	79.8	
Illinois.....	45,064	42,887	44,128	45,192	45,737	46,102	46,436	45,950	46,502	46,184	45,760	43,775	<i>42,116</i>	42,116	42,116	90.6	
Indiana.....	26,222	25,490	26,360	27,240	27,476	27,871	27,684	26,937	26,991	26,852	25,512	23,430	<i>22,846</i>	22,846	22,846	82.0	
Iowa.....	4,531	4,282	4,407	4,474	4,609	4,635	4,855	4,876	4,701	4,740	4,506	4,188	<i>4,085</i>	4,085	4,085	82.8	
Kansas.....	2,523	2,682	2,707	2,650	2,788	2,802	2,470	2,396	2,447	2,418	2,379	2,302	<i>2,288</i>	2,288	2,288	79.9	
Kentucky.....	2,776	<i>2,630</i>	2,801	2,763	2,807	2,829	2,816	2,791	2,873	2,883	2,812	<i>2,630</i>	2,679	2,679	2,679	91.2	
Louisiana.....	1,016	987	961	980	1,007	995	1,006	1,033	1,058	1,054	1,066	1,046	1,048	1,048	1,048	87.9	
Maine.....	1,145	1,061	<i>1,056</i>	1,096	1,070	1,101	1,180	1,185	1,269	1,218	1,180	1,182	1,187	1,187	1,187	83.8	
Maryland.....	4,735	<i>4,185</i>	4,554	4,600	4,753	4,820	4,887	4,882	5,055	4,957	4,821	4,665	4,639	4,639	4,639	82.8	
Massachusetts.....	21,243	<i>20,078</i>	20,336	20,606	21,067	21,550	21,635	21,737	21,828	21,855	21,742	21,328	20,837	20,837	20,837	91.6	
Michigan.....	42,492	41,778	44,137	46,590	49,046	50,090	47,729	44,219	42,161	39,958	37,119	34,055	<i>33,015</i>	33,015	33,015	65.9	
Minnesota.....	5,820	5,303	<i>5,282</i>	5,526	5,803	6,073	6,055	6,008	6,119	6,011	5,960	5,827	5,786	5,786	5,786	86.3	
Mississippi.....	304	<i>289</i>	293	295	293	297	307	311	322	317	314	307	305	305	305	89.8	
Missouri.....	8,607	7,906	8,201	8,383	8,775	8,986	9,178	9,133	9,085	8,919	8,581	8,178	<i>7,870</i>	7,870	7,870	85.8	
Montana.....	381	382	381	387	387	387	383	386	378	378	374	378	378	378	378	91.1	
Nebraska.....	530	<i>478</i>	484	503	548	546	548	537	528	569	552	536	535	535	535	84.9	
New Hampshire.....	1,973	<i>1,825</i>	1,833	1,890	1,900	1,948	2,005	2,018	1,981	2,042	2,069	2,098	2,085	2,085	2,085	87.0	
New Jersey.....	22,343	<i>23,287</i>	22,867	22,784	22,028	22,486	22,486	22,478	22,422	22,041	21,936	21,383	<i>21,304</i>	21,304	21,304	91.6	
New York.....	47,638	46,566	47,705	48,730	49,120	48,990	48,492	48,239	48,150	48,077	46,975	45,584	<i>45,028</i>	45,028	45,028	91.7	
North Carolina.....	907	877	904	901	909	913	907	931	913	905	902	908	905	905	905	94.2	
North Dakota.....	61	<i>47</i>	48	53	58	68	69	73	71	67	65	59	59	59	59	64.4	
Ohio.....	61,453	58,196	60,508	62,206	63,607	64,455	63,793	63,076	62,339	61,643	61,545	58,312	<i>56,860</i>	56,860	56,860	88.2	
Oklahoma.....	1,973	1,847	1,837	1,757	<i>1,745</i>	1,856	1,963	2,063	2,221	2,139	2,135	2,007	2,011	2,011	2,011	78.6	
Oregon.....	1,981	1,822	<i>1,728</i>	1,910	1,952	2,027	2,082	2,133	2,032	2,068	2,087	1,902	2,001	2,001	2,001	81.0	
Pennsylvania.....	55,364	<i>52,760</i>	53,784	54,871	55,626	55,737	56,168	56,502	56,837	56,382	56,446	55,344	53,915	53,915	53,915	82.8	
Rhode Island.....	2,330	<i>2,180</i>	2,224	2,311	2,354	2,337	2,334	2,365	2,406	2,434	2,417	2,365	2,238	2,238	2,238	80.6	
South Carolina.....	241	236	238	245	246	249	244	239	240	240	245	245	<i>234</i>	234	234	90.0	
South Dakota.....	93	<i>85</i>	87	90	103	89	98	97	96	96	92	95	91	91	91	82.6	
Tennessee.....	3,415	<i>3,173</i>	3,248	3,263	3,300	3,379	3,418	3,555	3,698	3,622	3,613	3,449	3,209	3,209	3,209	85.8	
Texas.....	8,422	<i>7,899</i>	7,658	7,838	8,012	8,348	8,467	8,825	8,929	9,061	9,000	8,914	8,711	8,711	8,711	80.6	
Utah.....	389	<i>325</i>	338	364	393	389	395	420	441	420	408	394	375	375	375	73.7	
Vermont.....	877	877	896	909	896	906	891	892	868	888	869	823	<i>807</i>	807	807	83.8	
Virginia.....	1,009	1,075	1,091	1,087	1,069	1,095	<i>1,038</i>	1,053	1,060	1,051	1,051	1,092	1,069	1,069	1,069	94.8	
Washington.....	3,255	3,118	3,249	3,359	3,364	3,381	3,375	3,428	3,311	3,229	3,145	3,060	<i>3,043</i>	3,043	3,043	88.8	
West Virginia.....	1,747	1,742	1,742	1,784	1,736	<i>1,690</i>	1,721	1,769	1,733	1,781	1,801	1,720	1,744	1,744	1,744	93.8	
Wisconsin.....	24,207	23,281	24,177	24,731	25,155	24,999	24,798	25,009	24,671	24,302	23,999	22,860	<i>22,608</i>	22,608	22,608	89.6	

1 Figures for 1914 not strictly comparable with those for later years.

GAS MACHINES, GAS METERS, AND WATER AND OTHER LIQUID METERS

Description of the industry.—This industry embraces establishments engaged primarily in the manufacture of gas meters, regulators, and governors; gas-making machines; acetylene and gasoline-gas generators; meters for the measurement of water and other liquids; and parts and appliances such as valves, stop-cocks, seals, swivels and caps, meter fittings, and indexes.

Detailed statistics of products.—A special schedule, calling specifically for data on the numbers and values of the several classes of products manufactured by establishments classified in this industry, was used for the first time at the census for 1929, the industry having been canvassed by means of the "general schedule" at prior censuses. For this reason it is impossible to give, in Table 3, the numbers of any of the items, except gas meters, for 1927 and 1925.

TABLE 1.—SUMMARY FOR THE UNITED STATES: 1899 TO 1929

[Data for establishments with products under \$5,000 in value included for 1919 and prior years but not for 1921 and subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

YEAR OR PERIOD	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy ¹	Value of products ²	Value added by manufacture ³	Horsepower
1929	72	6,101	\$8,931,625	\$15,187,488	\$40,623,344	\$25,435,856	11,029
1927	58	5,915	8,792,364	15,590,977	36,715,100	21,124,213	10,427
1925	61	5,514	7,428,842	13,038,272	34,292,060	21,253,787	7,375
1923	61	6,127	7,759,779	14,331,863	34,250,414	19,918,551	7,364
1921	65	4,280	5,211,931	9,000,272	21,956,424	12,956,152	(4)
1919	105	5,589	5,995,877	10,647,402	26,267,074	15,619,672	8,586
1914	123	4,972	3,309,631	6,118,471	15,183,916	9,065,445	5,681
1909	125	4,767	2,896,726	4,994,846	13,307,911	8,313,065	4,328
1904	89	2,674	1,532,247	2,612,907	5,630,975	3,018,068	1,540
1899	113	2,166	1,185,431	1,943,230	4,390,930	2,447,700	890
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929	(5)	3.1	1.6	-2.6	10.6	20.4	5.8
1925-1927	(5)	7.3	18.4	19.6	7.1	-0.6	41.4
1923-1925	(5)	-10.0	-4.2	-9.0	0.1	6.7	0.1
1921-1923	(5)	43.2	48.8	59.2	56.0	53.7	-----
1919-1921	-38.1	-23.4	-13.1	-15.5	-16.4	-17.1	-----
1919-1929	-31.4	9.2	49.0	42.6	54.7	62.8	28.5
1909-1919	-16.0	17.3	107.0	113.2	97.4	87.9	98.4
1899-1909	10.6	120.1	144.4	187.0	203.1	239.6	386.3

¹ The cost of mill supplies is included in the figures for 1927 and earlier years, but not in that for 1929. See GENERAL EXPLANATIONS—Comparableness with Preceding Years—Schedule Changes—Mill or Shop Supplies.

² The figures for 1929 refer to sales (shipments or deliveries) by manufacturers; those for earlier years represent production. See GENERAL EXPLANATIONS—Value of Products.

³ Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

⁴ Not called for on schedule.

⁵ Per cent not computed where base is less than 100.

CENSUS OF MANUFACTURES: 1929

TABLE 2.—GENERAL STATISTICS, BY STATES: 1929, 1927, AND 1919

[This table presents statistics separately for each State for which figures can be given without disclosing data for individual establishments, and for the remaining States in groups. Data for establishments with products under \$5,000 in value are included for 1919 but not for subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

STATE	Cen- sus year	Num- ber of estab- lish- ments	Salaried officers and em- ployees ¹	Wage earners (aver- age for the year)	HORSEPOWER (RATED CAPACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products ³	Value added by manufac- ture ⁴
					Total	Prime movers	Electric motors run by pur- chased energy			Total	Materials ⁵	Fuel and pur- chased energy		
United States.....	1929	72	1,367	6,101	11,020	900	10,129	\$3,864,617	\$3,931,625	\$15,187,488	\$14,757,480	\$430,008	\$40,623,344	\$25,435,856
	1927	58	1,206	5,015	10,427	1,125	9,302	3,226,073	8,792,364	15,590,977	15,253,186	332,791	36,715,190	21,124,213
	1919	105	1,463	5,589	8,586	2,289	6,297	2,766,353	5,995,877	10,647,402	10,362,091	285,311	26,267,074	15,019,672
Individual States:														
California.....	1929	6	78	193	582		582	181,922	285,281	459,005	447,928	11,167	1,308,437	849,342
	1927	(⁶)	(⁶)	(⁶)	(⁶)		(⁶)	(⁶)	(⁶)	(⁶)	(⁶)	(⁶)	(⁶)	(⁶)
	1919	3	3	4	31		31	3,225	8,601	11,390	11,245	151	34,949	23,553
Illinois.....	1929	8	45	194	232		232	259,028	325,562	539,056	523,614	15,442	1,708,125	1,229,069
	1927	(⁶)	(⁶)	(⁶)	(⁶)		(⁶)	(⁶)	(⁶)	(⁶)	(⁶)	(⁶)	(⁶)	(⁶)
	1919	21	280	665	454	158	296	478,218	714,142	1,519,116	1,497,785	21,331	2,863,147	1,444,081
Indiana.....	1929	4	27	108	176		176	67,500	120,102	262,055	257,494	4,504	707,225	445,167
	1927	4	21	71	134		134	58,886	76,247	189,101	185,163	3,938	444,994	255,893
	1919	7	124	325	1,531		1,531	209,049	371,676	542,103	523,176	18,932	1,451,088	903,980
New Jersey.....	1929	8	111	396	706		706	336,223	530,893	1,187,359	1,157,045	30,291	2,404,508	1,277,169
	1927	7	81	434	593		593	294,156	583,974	1,257,884	1,224,498	33,440	3,020,695	1,768,811
	1919	6	90	285	632	133	709	177,256	247,828	437,068	388,452	48,610	1,404,786	1,027,728
New York.....	1929	12	246	1,543	2,314		2,314	776,424	2,336,240	4,373,543	3,360,413	113,125	9,227,634	5,753,791
	1927	6	220	1,801	3,091	800	3,101	700,344	3,030,872	4,358,732	4,294,984	62,514	10,077,089	5,718,867
	1919	12	246	1,594	3,423	665	763	587,310	1,571,706	2,544,060	2,482,446	27,003	6,688,597	1,929,008
Ohio.....	1929	8	273	398	736		736	431,953	579,573	750,559	732,550	27,003	1,934,405	1,094,919
	1927	6	231	266	239		239	548,855	422,632	841,613	831,746	9,867	2,436,870	1,594,781
	1919	14	121	211	750	548	264	275,511	288,207	1,036,380	1,026,600	8,786	1,934,405	1,094,919
Pennsylvania.....	1929	10	307	1,789	2,950	825	2,125	763,172	2,731,506	5,265,314	5,152,768	112,548	12,614,762	7,349,438
	1927	11	251	1,547	2,432	245	2,187	608,355	2,180,163	4,343,646	4,234,478	108,768	10,045,378	5,701,729
	1919	13	241	1,196	1,449	685	864	414,561	1,307,834	1,923,094	1,874,655	48,439	5,731,811	3,808,717
Groups of States:														
Conn., 1 est.;	1929	4	103	581	562	75	487	356,328	748,939	1,374,849	1,332,701	42,148	3,732,927	2,358,078
Mass., 3														
Kan., 1 est.; Mich.,	1929	6	68	183	462		462	195,460	276,328	724,542	706,490	18,046	2,067,900	1,343,853
4; Wis., 1	1929	3	106	708	2,231		2,231	284,600	987,280	1,133,424	1,078,044	55,380	4,005,288	2,871,564
Md., 2 est.; R. I., 1														
Okla., 1 est.; Tex.,	1929	3	5	10	18		18	12,007	10,921	8,679	8,386	294	88,251	29,672
2														
States not shown separately	1927	21	392	1,796	3,038	80	2,958	1,018,477	2,448,476	4,600,001	4,510,977	83,024	10,684,084	6,084,063
	1919	29	358	1,359	2,006	202	1,804	610,623	1,485,793	2,634,274	2,557,732	76,542	8,218,271	3,583,997

¹ Not including proprietors and firm members. The total numbers of persons engaged and the numbers of proprietors and firm members, as reported for this industry, are as follows: For 1929, total, 7,475; proprietors and firm members, 7. For 1927, total, 7,125; proprietors and firm members, 4. For 1919, total, 7,076; proprietors and firm members, 24.
² The cost of mill supplies is included in the figures for 1927 and 1919, but not in that for 1929.
³ The figures for 1929 refer to sales (shipments or deliveries) by manufacturers; those for earlier years represent production. See GENERAL EXPLANATIONS—Value of Products.
⁴ Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.
⁵ Data for purchased power other than electric (power transmitted into the plant by belt or shaft) are included in the State items for 1919 but not in the United States totals.
⁶ Withheld from publication in order to avoid disclosing data for individual establishments.
⁷ California, 2 establishments; Connecticut, 1; Florida, 1; Illinois, 6; Kansas, 1; Kentucky, 1; Maryland, 2; Massachusetts, 3; Michigan, 1; Rhode Island, 1; Texas, 1; Wisconsin, 1.
⁸ Connecticut, 1 establishment; Iowa, 5; Kansas, 2; Kentucky, 1; Maryland, 4; Massachusetts, 3; Michigan, 3; Minnesota, 3; Missouri, 2; Oklahoma, 1; Oregon, 1; Rhode Island, 1; Tennessee, 1; Wisconsin, 1.

TABLE 3.—PRODUCTS, BY CLASS, NUMBER, AND VALUE: 1929, 1927, AND 1925

[The figures for 1929 refer to sales (shipments or deliveries) by manufacturers, those for earlier years represent production. See GENERAL EXPLANATIONS—Value of Products. Statistics for States are withheld from publication in order to avoid disclosing an approximation of data for individual establishments]

CLASS	1929	1927	1925	CLASS	1929	1927	1925
1. Gas machines, gas meters, and water and other liquid meters industry, all products, total value.....	\$40,623,344	\$36,715,190	\$34,292,059	Gas machines, etc., all industries—Contd.			
				Gas meters:			
				Number.....	1,310,574	1,081,263	940,209
				Value.....	\$12,402,071	\$12,497,432	\$9,462,122
2. Gas machines, gas meters, water and other liquid meters, gas regulators, and parts and accessories, value.....	\$38,000,936	\$31,297,089	\$30,347,324	Gas regulators and governors:			
3. Other products (not normally belonging to the industry), value, and receipts for repairing.....	\$2,622,408	\$5,418,101	\$3,944,735	Reported by number—			
4. Gas machines, etc., made as secondary products in other industries, value.....	\$5,041,442	\$3,875,222	\$4,536,656	Number.....	381,848	(¹)	(¹)
Gas machines, etc., all industries:				Value.....	\$2,813,493	(¹)	(¹)
Total value (sum of 2 and 4).....	\$43,042,378	\$35,172,311	\$34,883,980	Not reported by number, value.....	\$1,602,696	\$1,177,301	\$1,285,976
Gas machines:				Water meters:			
Reported by number—				Number.....	691,483	(¹)	(¹)
Number.....	4,006	(¹)	(¹)	Value.....	\$9,076,004	\$11,854,000	\$12,614,910
Value.....	\$1,000,586			Gas meters and water meters not separately reported by manufacturers, value.....	\$558,987	\$626,110	\$2,424,813
Not reported by number, value.....	\$4,407,260	\$5,081,837	\$6,241,888	Meters for liquids other than water:			
				Number.....	77,391	(¹)	(¹)
				Value.....	\$3,657,217	(¹)	(¹)
				Parts and accessories, value.....	\$7,524,004	\$3,935,631	\$2,854,271

¹ No data. See "Detailed statistics of products," p. 1151.

GAS MACHINES AND METERS

1153

TABLE 4.—PRIME MOVERS, MOTORS, GENERATORS, AND CONSUMPTION OF PURCHASED ELECTRIC ENERGY—NUMBER AND RATED CAPACITY OF PRIME MOVERS AND ELECTRIC MOTORS, 1929, 1927, 1925, 1919, AND 1914, AND OF GENERATORS, 1929, 1927, AND 1925; QUANTITY OF ELECTRIC ENERGY PURCHASED, 1929

TYPE	1929		1927		1925		1919		1914		PER CRNT DISTRIBUTION OF RATED HORSEPOWER CAPACITY	
	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	1929	1919
		<i>Horse-power</i>		<i>Horse-power</i>		<i>Horse-power</i>		<i>Horse-power</i>		<i>Horse-power</i>		
Prime movers and electric motors driven by purchased energy, aggregate.....	1,560	11,029	1,322	10,427	988	7,375	740	8,586	375	5,681	100.0	100.0
Prime movers, total.....	4	960	9	1,125	12	863	40	2,269	56	3,179	8.2	26.7
Steam, total.....	3	875	4	300	6	540	7	575	30	1,829	7.9	6.7
Engines.....	3	875	4	300	6	540	6	515	(1)	(1)	7.9	6.9
Turbines.....							1	60	(1)	(1)		0.7
Internal-combustion engines.....	1	25	5	825	6	323	33	1,714	26	1,350	0.3	20.0
Electric motors driven by purchased energy.....	1,565	10,129	1,313	9,302	976	6,512	700	6,297	319	2,502	91.8	73.3
Electric motors, total.....	1,662	10,632	1,340	9,462	1,135	7,201	855	7,471	454	3,973	100.0	100.0
Driven by purchased energy.....	1,565	10,129	1,313	9,302	976	6,512	700	6,297	319	2,502	95.3	84.3
Driven by energy generated in establishments reporting.....	97	503	27	160	159	689	155	1,174	135	1,471	4.7	15.7
Electric generators.....	2	<i>Kilowatts</i> 448	2	<i>Kilowatts</i> 617	7	<i>Kilowatts</i> 856	(2)	(2)	(2)	(2)		
Electric energy purchased ¹		10,826,498		(3)		(3)		(3)		(3)		

¹ Not called for separately on schedule.
² Not called for on schedule.
³ This item covers the consumption of purchased electric energy for all purposes—power, heat, light, etc.
⁴ Data incomplete.

TABLE 5.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1929, 1925, 1919, AND 1914, AND BY STATES, 1929

[This table presents statistics for only those States for which figures can be given without disclosing data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures]

STATE	Average number employed during year	NUMBER EMPLOYED ON 15TH DAY OF MONTH OR NEAREST REPRESENTATIVE DAY												Per cent minimum is of maximum
		January	February	March	April	May	June	July	August	September	October	November	December	
United States:														
1929.....	6,101	<i>5,697</i>	5,832	5,907	5,925	6,051	6,175	6,173	6,211	6,279	6,294	6,353	6,314	89.7
1925.....	5,514	5,520	5,604	5,692	5,564	5,447	<i>5,411</i>	5,478	5,464	5,443	5,471	5,513	5,556	95.7
1919.....	5,589	5,973	5,439	5,262	5,133	<i>5,051</i>	5,606	5,718	5,809	5,737	5,688	5,747	5,906	84.6
1914.....	4,972	4,682	5,069	5,154	5,125	5,111	5,208	5,153	5,161	4,959	4,687	<i>4,662</i>	4,693	89.5
California.....	193	177	181	180	<i>185</i>	176	180	192	203	220	216	208	216	75.0
Illinois.....	194	<i>189</i>	191	190	190	193	191	195	195	198	196	201	194	94.0
Indiana.....	108	107	103	102	104	108	121	113	111	115	119	102	<i>99</i>	79.3
New Jersey.....	396	<i>354</i>	367	352	400	396	400	404	413	396	418	425	401	83.3
New York.....	1,543	<i>1,397</i>	1,442	1,463	1,479	1,520	1,569	1,581	1,597	1,622	1,625	1,619	1,600	86.0
Ohio.....	396	387	385	394	415	414	401	426	428	401	<i>363</i>	365	374	84.8
Pennsylvania.....	1,789	<i>1,642</i>	1,686	1,692	1,712	1,759	1,801	1,786	1,809	1,828	1,841	1,930	1,978	83.8

MACHINE-TOOL ACCESSORIES AND SMALL METAL-WORKING TOOLS, NOT ELSEWHERE CLASSIFIED

Description of the industry.—This industry, as defined for census purposes, embraces establishments whose principal products are twist-drills, reamers, milling cutters, taps, dies, etc., and those specializing in the building of dies, jigs, fixtures, and special tools. Some of the establishments engaged in the manufacture of these classes of products were assigned at

former censuses to the "Tools, not including edge tools, machine tools, files, or saws" industry, others to the "Machine tools" industry, and still others to the "Foundry and machine-shop products, not elsewhere classified" industry. Because of these changes in classification, no comparable data for years prior to 1929 are available.

TABLE 1.—GENERAL STATISTICS, BY STATES: 1929¹

[This table presents statistics separately for each State for which figures can be given without disclosing data for individual establishments. Certain of the "Other States," however, reported larger values of products than some of the States shown separately.]

STATE	Number of establishments	Salaried officers and employees ²	Wage earners (average for the year)	HORSEPOWER (RATED CAPACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products ³	Value added by manufacture ⁴
				Total	Prime movers	Motors run by purchased energy			Total	Materials	Fuel and purchased energy		
United States.....	722	3,885	26,682	64,398	3,206	61,192	\$12,825,679	\$51,034,540	\$28,992,631	\$24,807,438	\$2,185,193	\$144,410,800	\$117,418,259
California.....	25	40	236	614	-----	614	111,631	398,779	218,365	208,642	9,723	1,058,550	840,185
Connecticut.....	39	296	1,676	3,556	566	2,989	895,929	2,506,702	1,227,795	1,084,983	142,812	7,690,056	6,768,261
Illinois.....	88	434	2,234	3,951	24	3,927	1,418,257	4,094,277	2,413,804	2,239,238	174,566	12,283,823	9,870,019
Indiana.....	23	61	335	479	-----	479	133,065	595,470	211,033	190,685	20,348	1,315,872	1,104,839
Iowa.....	5	11	39	112	-----	112	19,805	61,793	29,201	25,682	3,519	145,866	116,665
Massachusetts.....	44	411	3,239	8,123	1,668	6,455	936,485	4,402,607	2,602,907	2,282,299	320,608	14,491,970	11,889,053
Michigan.....	133	1,114	9,010	21,051	-----	21,051	4,556,703	21,240,943	10,749,387	10,026,395	722,992	57,704,438	46,955,051
Minnesota.....	6	13	142	229	-----	229	51,704	200,460	80,268	72,378	7,890	436,174	355,906
Missouri.....	13	49	164	314	-----	314	95,588	281,290	143,187	127,087	15,500	793,867	650,680
New Jersey.....	43	130	936	1,217	-----	1,217	441,384	1,757,978	662,285	606,680	55,705	4,060,236	3,397,951
New York.....	82	193	1,235	2,095	85	2,010	676,975	2,239,950	756,241	670,953	76,288	5,302,993	4,540,752
Ohio.....	127	781	5,313	15,079	522	14,557	2,407,400	9,986,018	5,997,104	5,553,403	443,761	29,483,753	23,486,589
Pennsylvania.....	36	143	897	2,773	81	2,692	506,129	1,374,516	999,927	909,750	90,177	3,943,723	2,943,796
Rhode Island.....	10	95	593	2,989	-----	2,989	221,731	967,305	440,070	395,215	44,855	2,367,025	1,926,955
Vermont.....	3	30	141	644	200	444	50,096	149,036	98,692	84,820	13,872	602,080	503,383
Washington.....	4	2	18	39	-----	39	4,800	23,654	11,131	10,726	405	55,823	44,597
Wisconsin.....	31	71	364	937	-----	937	244,155	687,103	287,477	251,481	35,996	1,842,565	1,555,088
Other States ⁵	10	11	105	197	60	137	53,842	126,659	63,697	57,521	6,176	526,071	462,374

¹ No comparable data for prior years are available. See "Description of the industry," above.

² Not including 406 proprietors and firm members. The total number of persons engaged—proprietors and firm members, salaried officers and employees, and wage earners—as reported for this industry, was 30,973.

³ The figures refer to production, not sales. See GENERAL EXPLANATIONS—Value of Products.

⁴ Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

⁵ Kansas, 1 establishment; Kentucky, 2; Louisiana, 1; Maryland, 1; New Hampshire, 1; Oregon, 2; Texas, 2.

MACHINE-TOOL ACCESSORIES, ETC.

1155

TABLE 2.—PRODUCTS, BY CLASS AND VALUE, FOR THE UNITED STATES: 1929¹

[The figures refer to production, not sales. See GENERAL EXPLANATIONS—Value of Products]

CLASS	Value	CLASS	Value
1. "Machine-tool accessories and small metal-working tools, not elsewhere classified" industry, all products, total value.....	\$144,410,890	Machine-tool accessories and small metal-working tools, all industries—Continued.	
2. Machine-tool accessories and small metal-working tools.....	134,565,862	Small tools, total value.....	\$85,287,601
3. Other products (not normally belonging to the industry).....	7,539,777	Arbors and collars.....	364,716
4. Receipts for contract and repair work.....	2,305,251	Collets.....	345,523
5. Machine-tool accessories and small metal-working tools made as secondary products in other industries.....	48,865,701	Counterbores.....	1,116,719
Machine-tool accessories and small metal-working tools, all industries, total value (sum of 2 and 5).....	183,431,563	Countersinks.....	65,222
Attachments and fixtures, total value.....	98,143,962	Drills—	
General equipment:		Carbon.....	4,096,029
Centering devices.....	6,916	High speed.....	9,911,434
Chucks—		Hobbing cutters (high speed).....	2,078,916
Lathe.....	2,725,483	Lathe tools—	
Drill.....	1,311,792	Carbon.....	457,177
Magnetic.....	360,495	High speed.....	683,466
Jaws (face plate).....	85,512	Milling cutters—	
Die heads (threading).....	718,600	Carbon.....	558,463
Dividing heads.....	20,265	High speed.....	10,146,063
Drilling heads, universal.....	275,837	Reamers—	
Vises (machine).....	182,232	Carbon.....	3,114,356
Other general equipment, including tool-post grinders.....	235,063	High speed.....	5,642,556
Special equipment:		Saw blades (principally high-speed steel).....	292,615
Jigs and fixtures.....	20,014,120	Threading tools:	
Punch-press equipment—		Taps and dies, not pipe-threading—	
Subpresses, punches, dies, etc.....	46,510,752	Taps—	
Die-casting and drop-forging dies.....	1,270,754	Carbon.....	3,526,272
Tools for screw and automatic machines (box tools, hollow mills, work and tool holders, etc.).....	4,056,307	High speed.....	3,069,694
Special designed tools.....	5,637,978	Dies—	
Special machinery.....	5,066,984	Carbon.....	1,337,119
Attachments and fixtures not reported separately.....	4,629,382	High speed.....	1,362,676
Other attachments and fixtures.....	5,012,490	Chasers.....	3,251,469
		Pipe threading—	
		Taps.....	300,435
		Dies.....	1,346,867
		Pipe stocks complete with dies.....	2,338,528
		Small tools made to order and those not reported separately.....	11,996,063
		Other small tools, gauges, etc.....	18,485,193

¹ No data available for prior years. See "Description of the industry," p. 1154.
² Principally "Machine tools" and "Stamped ware, enameled ware, and metal stamping, enameling, japanning, and lacquering."

TABLE 3.—PRINCIPAL MATERIALS CONSUMED, BY KIND, QUANTITY, AND COST, FOR THE UNITED STATES: 1929

[Quantities and costs of the principal materials consumed were reported by only 542 of the 722 establishments in this industry. The combined value of products reported by these 542 establishments amounted to \$121,436,700, or 84.1 per cent of the aggregate value of products of the 722 establishments in the industry. Another reason for the difference between the sum of the costs of the several kinds of materials shown in this table and the total cost of materials as given in Table 1 is found in the fact that this table covers only certain specified materials, whereas Table 1 covers all materials]

KIND ¹	Total cost	QUANTITY REPORTED		Cost—Quantity not reported	KIND ¹	Total cost	QUANTITY REPORTED		Cost—Quantity not reported
		Quantity	Cost				Quantity	Cost	
Scrap iron and steel, purchased as such.....	\$545,244	<i>Tons</i>			Brass and bronze.....	\$271,524	<i>Pounds</i>		
Gray-iron castings, purchased as such.....	2,169,473	1,030	\$13,176	\$532,068	Copper.....	106,280	556,784	\$226,713	\$44,811
Malleable-iron castings, purchased as such.....	305,544	21,867	1,926,258	243,215	Lead.....	12,141	47,460	14,086	92,194
Cold-rolled steel, purchased as such.....	1,980,831	1,452	230,022	75,522	Tin.....	5,700	139,142	11,560	581
Carbon and other steel.....	9,791,731	16,089	1,551,382	409,449			6,514	2,010	3,690
		18,871	9,130,291	661,440					

¹ Data on consumption of pig iron were collected, but the figures for this material are withheld from publication in order to avoid disclosing an approximation of the consumption reported by individual establishments.

TABLE 4.—PRIME MOVERS, MOTORS, GENERATORS, AND CONSUMPTION OF PURCHASED ELECTRIC ENERGY: 1929

TYPE	1929 ¹		TYPE	1929 ¹	
	Number	Capacity		Number	Capacity
Prime movers and electric motors driven by purchased energy, aggregate.....	10,182	<i>Horsepower</i> 64,398	Electric motors, total.....	10,220	<i>Horsepower</i> 61,822
Prime movers, total.....	42	3,206	Driven by purchased energy.....	10,140	61,102
Steam, total.....	22	2,424	Driven by energy generated in establishments reporting.....	80	630
Engines.....	16	1,197	Electric generators.....	17	<i>Kilowatts</i> 1,646
Turbines.....	6	1,227	Electric energy purchased ²		<i>Kilowatt-hours</i> 64,935,562
Internal-combustion engines.....	12	324			
Water wheels and water turbines.....	8	458			
Electric motors driven by purchased energy.....	10,140	61,192			

¹ No comparable data for prior years. See "Description of the industry," p. 1154.
² This item covers the consumption of purchased electric energy for all purposes—power, heat, light, etc.

CENSUS OF MANUFACTURES: 1929

TABLE 5.—WAGE EARNERS, BY MONTHS, BY STATES:1929¹

[This table presents statistics for only those States for which figures can be given without disclosing data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by BOLD-FACED figures and that of minimum employment by *italic* figures]

STATE	Average number employed during year	NUMBER EMPLOYED ON 15TH DAY OF MONTH OR NEAREST REPRESENTATIVE DAY												Per cent minimum is of maximum
		January	February	March	April	May	June	July	August	September	October	November	December	
United States.....	26,682	24,432	25,349	27,035	28,311	28,079	28,411	27,381	27,086	27,089	27,527	25,084	22,902	79.0
California.....	236	224	226	241	252	253	256	238	234	230	231	232	219	85.5
Connecticut.....	1,676	1,521	1,588	1,634	1,665	1,703	1,710	1,684	1,712	1,706	1,740	1,735	1,703	87.4
Illinois.....	2,234	1,857	2,015	2,176	2,296	2,230	2,304	2,293	2,299	2,337	2,421	2,327	2,190	80.8
Indiana.....	335	235	294	297	302	337	357	390	368	355	352	348	325	75.4
Iowa.....	39	35	40	42	46	47	40	38	37	38	37	36	38	74.5
Massachusetts.....	3,230	2,893	3,078	3,206	3,351	3,359	3,349	3,344	3,206	3,283	3,264	3,235	3,130	89.1
Michigan.....	9,010	8,425	8,740	9,623	10,454	10,886	10,168	9,252	8,900	8,644	9,048	7,929	6,049	55.6
Minnesota.....	142	61	57	165	169	168	189	168	151	146	151	143	147	31.7
Missouri.....	164	145	155	168	173	176	171	159	168	171	164	157	157	82.4
New Jersey.....	936	878	901	930	916	924	903	955	992	957	976	971	930	88.3
New York.....	1,235	1,065	1,119	1,408	1,203	1,240	1,275	1,245	1,282	1,330	1,339	1,306	1,243	79.5
Ohio.....	5,313	4,876	5,083	5,242	5,434	5,480	5,477	5,457	5,585	5,899	5,613	5,121	4,670	82.1
Pennsylvania.....	897	820	848	881	916	928	952	939	920	912	914	872	852	86.1
Rhode Island.....	598	521	568	602	581	615	637	590	523	603	642	656	645	79.4
Vermont.....	141	150	143	143	147	144	136	139	136	143	145	144	141	88.4
Washington.....	18	19	19	19	17	17	17	18	19	19	19	17	17	89.5
Wisconsin.....	364	352	357	366	364	363	378	364	375	365	372	362	343	92.1

¹ No comparable data available for prior years. See "Description of the industry," p. 1154.

MACHINE TOOLS

Description of the industry.—This industry classification embraces establishments engaged primarily in the manufacture of power-driven machines generally covered by the designation "Machine tools." The classification conforms closely to the definition given in the tariff act approved September 21, 1922, paragraph 372, page 32, namely, "any machine operating other than by hand power which employs a tool for work on metal," but covers bending machines also. Certain types of machines designed for working metal, especially can-making machinery, welding machines, wire-drawing machines, and wireworking machines, do not come within the terms of this definition and consequently are classified elsewhere.

engaged primarily in the manufacture of machine-tool accessories and small metal-working tools were assigned to this industry, others to the "Foundry and machine-shop products, not elsewhere classified" industry, and still others to the "Tools, not including edge tools, machine tools, files, or saws" industry, but all such establishments are now classified separately. (See report on "Machine-tool accessories and small metal-working tools" industry.) The figures for 1927 as given in Table 1 have been adjusted for comparison with 1929 (see figures in italics) and are also presented (in roman type) as published in the report for 1927, for comparison with those for earlier years. The adjusted figures only are given in Tables 2, 3, and 6.

At former censuses certain of the establishments

TABLE 1.—SUMMARY FOR THE UNITED STATES: 1919 TO 1929

[Data for establishments with products under \$5,000 in value included for 1919 but not for 1921 and subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

YEAR OR PERIOD	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²	Horsepower
1929	280	47,391	\$76,410,237	\$84,284,022	\$244,578,088	\$180,294,066	141,778
<i>1927</i> ³	<i>268</i>	<i>52,383</i>	<i>47,408,335</i>	<i>43,151,422</i>	<i>145,854,921</i>	<i>102,705,499</i>	<i>125,426</i>
1927	355	35,269	52,395,602	46,114,849	159,513,125	113,398,276	131,670
1925	329	30,831	46,711,302	43,826,151	144,202,483	100,376,332	118,819
1923	350	33,373	47,336,800	40,977,024	137,206,098	96,229,074	104,196
1921	348	21,307	25,251,735	23,978,248	67,729,362	43,751,114	(⁴)
1919	403	53,111	66,178,969	59,034,308	212,400,158	153,865,850	100,294
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929	-2.8	40.3	61.2	49.0	67.7	75.5	13.0
1925-1927	7.9	14.4	12.1	5.2	10.6	13.0	10.8
1923-1925	-6.0	-7.6	-1.3	7.0	5.1	4.3	8.8
1921-1923	0.6	56.6	87.5	70.9	102.6	119.9	-----
1919-1921	-13.6	-59.9	-61.8	-59.4	-68.1	-71.5	-----
1919-1929	-30.5	-10.8	15.5	8.9	15.1	17.6	41.4

¹ The figures for all census years refer to production, not sales. See GENERAL EXPLANATIONS—Value of Products.

² Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

³ The figures in italics have been adjusted for comparison with 1929; those in roman type are comparable with the figures for earlier years. (See "Description of the Industry," above.)

⁴ Not called for on schedule.

⁵ No comparable figures available for years prior to 1919.

CENSUS OF MANUFACTURES: 1929

TABLE 2.—GENERAL STATISTICS, BY STATES: 1929 AND 1927

[This table presents statistics separately for each State for which figures can be given without disclosing data for individual establishments, and for the remaining States in groups. See GENERAL EXPLANATIONS—Establishments Covered—Size]

STATE	Cen- sus year	Num- ber of estab- lish- ments	Salar- ied officers and em- ploy- ees ¹	Wage earn- ers (aver- age for the year)	HORSEPOWER (RATED CA- PACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products ²	Value added by manu- facture ³
					Total	Prime movers	Motors run by pur- chased energy			Total	Materials	Fuel and purchased energy		
United States	1929	280	8,565	47,391	141,778	23,966	117,812	\$24,493,039	\$76,410,237	\$64,284,022	\$60,898,045	\$3,385,377	\$244,578,088	\$180,294,066
	1927	288	6,686	32,383	125,426	23,984	101,442	18,274,620	47,403,335	43,151,422	40,717,013	2,433,800	145,854,921	102,703,499
Individual States:														
Connecticut	1929	22	1,044	6,402	17,108	2,400	14,708	2,892,273	10,775,354	5,581,163	5,071,566	509,597	27,929,755	22,348,592
	1927	24	736	4,562	17,223	2,455	14,768	1,908,423	6,548,594	4,970,403	4,630,999	348,404	16,411,420	11,432,017
Illinois	1929	30	709	3,653	12,316	970	11,346	2,422,379	5,925,514	5,940,000	5,647,554	301,452	22,639,928	16,090,922
	1927	27	445	2,192	10,098	1,185	8,913	1,392,946	3,411,815	3,497,340	3,320,181	177,159	12,721,066	9,224,326
Indiana	1929	14	469	1,245	4,321	-----	4,321	994,083	1,935,605	2,345,014	2,239,730	105,284	7,614,344	5,269,330
	1927	12	235	904	3,473	-----	3,473	648,829	1,115,336	1,181,094	1,102,067	79,027	3,901,785	2,720,691
Iowa	1929	6	115	473	1,195	-----	1,195	343,148	771,425	794,753	759,088	35,665	3,113,959	2,319,206
Massachusetts	1929	26	881	3,361	13,293	570	12,723	2,168,423	5,563,580	4,890,900	4,640,021	250,879	20,106,620	15,215,729
	1927	25	496	2,124	8,969	630	8,339	1,454,546	3,264,143	3,327,831	3,147,784	180,047	10,701,814	7,873,983
Michigan	1929	22	277	1,554	5,683	650	5,033	904,433	2,737,798	2,430,763	2,278,950	151,813	8,126,982	5,696,219
	1927	19	237	1,094	4,227	250	3,977	567,065	1,894,896	2,111,270	2,002,116	109,164	6,365,178	4,263,908
New Jersey	1929	6	164	662	1,923	1,058	865	413,618	1,097,685	1,476,994	1,435,327	41,667	3,933,755	2,456,761
	1927	8	157	543	2,200	1,805	395	468,832	775,926	648,173	605,275	43,898	2,209,259	1,560,086
New York	1929	20	690	2,730	7,485	1,250	6,235	1,703,673	4,561,730	3,253,669	3,058,706	194,963	16,506,366	13,252,697
	1927	23	531	1,925	7,481	1,410	6,071	1,455,652	3,152,396	2,047,579	1,911,399	130,180	8,664,279	6,616,700
Ohio	1929	66	2,038	11,857	36,785	6,488	30,297	5,828,233	20,397,277	20,242,744	19,397,624	845,120	67,558,553	47,315,809
	1927	75	1,835	8,696	30,199	4,900	25,293	5,084,332	12,753,363	11,220,465	10,592,117	667,348	40,018,674	28,789,209
Pennsylvania	1929	22	525	2,982	10,186	4,705	5,481	1,284,399	4,037,015	4,203,602	3,990,439	213,163	15,610,883	11,407,281
	1927	25	599	2,435	13,731	5,102	8,629	1,386,873	3,418,348	4,195,685	3,950,388	245,297	13,328,067	9,132,382
Vermont	1929	5	413	2,610	9,030	1,015	8,015	1,450,742	4,192,872	2,935,506	2,737,867	197,639	13,971,445	11,035,939
	1927	5	333	1,377	8,186	1,015	7,171	914,388	1,996,770	2,468,536	2,373,747	94,789	7,239,627	4,771,091
Wisconsin	1929	18	522	2,330	6,576	2,785	3,791	1,539,452	3,724,851	3,247,999	3,071,698	176,301	12,002,918	8,754,919
	1927	18	376	1,677	5,230	3,151	2,079	1,166,810	2,536,812	2,138,001	2,022,250	115,751	7,389,973	5,251,972
Groups of States:														
Ky., 3 est.; Mo., 2	1929	5	51	280	883	-----	883	187,426	432,605	382,413	365,286	17,127	1,487,919	1,105,506
Md., 1 est.; N. H.,	1929	13	876	7,142	14,690	2,075	12,615	2,257,150	10,099,073	6,158,579	5,822,635	335,944	22,790,941	16,632,362
3; R. I., 4														
Other States (Calif.,	1929	5	30	110	304	-----	304	103,607	166,923	390,917	382,154	8,763	1,183,711	792,794
2 est.; Minn., 2;														
Wash., 1)														
States not shown sepa- rately	1927	27	706	4,864	14,409	2,075	12,334	1,835,930	6,624,966	5,326,045	5,089,290	236,755	16,903,170	11,577,134

¹ Not including proprietors and firm members, as follows: For 1929, 42; 1927, 55. The total numbers of persons engaged—proprietors and firm members, salaried officers and employees, and wage earners—as reported for the industry, are as follows: For 1929, 56,298; 1927, 39,124.

² The figures for both census years refer to production, not sales. See GENERAL EXPLANATIONS—Value of Products.

³ Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

⁴ Adjusted for comparison with 1929. (See "Description of the industry," p. 1157.)

⁵ California, 3 establishments; Delaware, 1; Iowa, 2; Kentucky, 2; Maryland, 1; Minnesota, 2; Missouri, 3; Nebraska, 1; New Hampshire, 3; Rhode Island, 8; Washington, 1.

MACHINE TOOLS

1159

TABLE 3.—MACHINE TOOLS—PRODUCTION, BY CLASS, NUMBER, AND VALUE, FOR THE UNITED STATES: 1929 AND 1927

[The figures for both census years refer to production, not sales. See GENERAL EXPLANATIONS—Value of Products]

CLASS	1929		1927		CLASS	1929		1927	
	Number	Value	Number	Value		Number	Value	Number	Value
1. Machine-tool industry, all products, total value.....		\$214, 578, 088		\$145, 854, 921	Machine tools, all industries—				
2. Machine tools.....	176, 113, 449		196, 514, 274		Machine tools, all industries—Contd.				
3. Replacement and repair parts.....	17, 150, 306		18, 715, 891		Lathes—Continued.				
4. Other products (not normally belonging to the industry).....	45, 900, 637		123, 970, 679		Engine—				
5. Receipts for contract and repair work.....	5, 413, 096		6, 651, 077		General-utility—				
6. Machine tools made as secondary products in other industries, value.....	9, 947, 500		9, 040, 639		Capacity 18" swing and under.....	6, 357	\$5, 462, 609		
Machine tools, all industries: Total value (sum of 2 and 6).....	186, 060, 949		105, 554, 913		Capacity over 16" swing but not over 22".....	1, 535	3, 203, 905	6 600	\$6, 407, 401
Bending machines.....	2, 680	1, 583, 794	2, 114	1, 085, 103	Capacity over 22" but not over 36".....	681	2, 374, 637		
Boring machines—					Heavily-duty, over 36" swing.....	90	778, 299		
Horizontal.....	159	932, 237			Other, including gap.....	1, 033	3, 262, 354		
Vertical.....	257	1, 363, 881			Polishing, buffing, and grinding.....	4, 911	1, 167, 357	(?)	(?)
Special types—					Turret—				
Combination boring-drilling-milling machines.....	144	1, 467, 786	598	3, 352, 394	Screw machines, hand.....	1, 091	2, 705, 865	1, 776	5, 148, 423
Boring and turning mills.....	120	1, 341, 240			Horizontal and vertical.....	2, 287	8, 821, 845		
Other.....	(?)	1, 820, 107			Milling machines—				
Broaching machines.....	259	396, 726	255	371, 827	Hand-feed.....	312	129, 803	252	77, 482
Cutting-off machines—					Power-feed—				
Band-saw.....	324	194, 093	(?)	(?)	Plain.....	1, 112	2, 759, 194	945	2, 214, 037
Cold-saw.....	181	368, 617	132	259, 727	Universal.....	2, 270	5, 840, 142	713	1, 675, 165
Hack-saw.....	2, 680	642, 475	1, 924	342, 707	Vertical.....	499	1, 428, 516	319	779, 047
Drilling machines—					Lincoln type.....	826	2, 546, 504	421	1, 063, 713
Bench.....	2, 596	304, 626	(?)	(?)	Planer type.....	78	1, 670, 386		
Horizontal—					Special.....	600	2, 482, 024	328	2, 735, 131
Single-spindle.....	89	32, 788	(?)	(?)	Planers—				
Multiple-spindle.....	185	723, 209	1, 078	3, 281, 236	Standard—				
Vertical—					36" and under.....	62	368, 537		
Multiple-spindle.....	1, 003	4, 149, 614	1, 771	1, 449, 295	Over 36".....	57	807, 635	196	1, 867, 449
Standard.....	3, 315	2, 022, 870	3, 533	1, 518, 823	Open side.....	89	873, 105		
Sensitive.....	2, 977	919, 734	509	1, 495, 437	Special.....	60	467, 764		
Multiple-spindle.....	2, 404	2, 453, 444			Pipe cutting and threading machines.....	2, 933	1, 756, 564	2, 281	1, 344, 145
Radial—					Presses—				
Plain.....	1, 300	4, 683, 870			Hand.....	227	12, 188		
Universal.....	17	59, 440			Forming, including hydraulic.....	609	1, 756, 371		
Combined vertical and horizontal, vertical with universal head, and drilling machines not reported by kind.....	(?)	2, 044, 925	(?)	(?)	Stamping, power.....	4, 352	6, 611, 169	(?)	1 8, 053, 536
Honing machines, for servicing and manufacturing.....	639	681, 603	(?)	(?)	Punch.....	1, 638	1, 004, 324		
Forging machines—					Other, including arbor and foot-power stamping.....	(?)	408, 139		
Bolt, nut, and rivet.....	843	2, 220, 616	663	1, 829, 707	Punching machines, not portable.....	330	1, 111, 993	638	862, 118
Bulldozers.....	60	181, 798	75	651, 650	Riveting machines, not portable.....	800	191, 644	1, 368	673, 307
Other.....	47	664, 336			Shapers—				
Gear-cutting machines—					Vertical.....	136	372, 862		
Generating, including hobbing and other types.....	2, 087	8, 472, 322	1, 139	4, 047, 914	Horizontal—				
Formed rotary-cutter type—					2 1/2" stroke and under.....	1, 044	1, 441, 239	986	1, 628, 775
Spur.....	78	283, 967	128	368, 742	Over 2 1/2" stroke but not over 2 3/4".....	442	855, 672		
Bevel.....	66	223, 619			Over 2 3/4" stroke.....	191	508, 694		
Grinding machines—					Shears, hand.....	797	22, 686	(?)	(?)
Cutter, drill, knife.....	2, 187	1, 574, 066	1, 723	908, 473	Shears, power.....				
External-cylindrical—					Combination punch and shear.....	488	501, 808		
Plain.....	1, 362	6, 206, 709	1, 017	2, 942, 504	Rotary.....	550	193, 591		
Universal.....	603	1, 173, 912	408	715, 070	Straight.....	753	961, 496	1, 771	1, 308, 169
Internal-cylindrical.....	620	4, 323, 439	932	2, 893, 307	Other, including alligator.....	(?)	431, 800		
Surface.....	1, 790	3, 567, 658	786	1, 550, 857	Slotters.....	156	409, 336	36	182, 154
Emery-wheel.....	11, 909	364, 652	(?)	(?)	Threading machines, except for pipe—				
Other, including disk grinders.....	(?)	6, 343, 144	(?)	3, 239, 990	Die type.....	758	1, 300, 679	538	546, 209
Hammers, not portable—					Milling type.....	150	690, 432	113	482, 177
Drop.....	98	444, 370	324	560, 459	Rolling type.....	103	207, 487	(?)	(?)
Power (belt or motor driven).....	620	938, 627			Tapping machines—				
Steam and other power.....	(?)	212, 101			Number reported.....	666	519, 650	484	584, 730
Keyseaters.....	(?)	94, 999	(?)	(?)	Number not reported.....		83, 500		
Lathes—					Other machine tools, except portable.....	(?)	14, 884, 684	(?)	7, 398, 504
Automatic—					Portable tools—				
Bar.....	3, 339	12, 353, 441	3, 226	12, 160, 589	Drills—				
Chucking.....	1, 398	6, 602, 597			Electric.....	114, 306	4, 686, 469	82, 903	3, 291, 896
Other.....	391	3, 099, 905			Pneumatic.....	19, 063	2, 448, 608	11, 627	450, 747
Bench—					Grinders—				
Number reported.....	1, 326	352, 944	1, 215	244, 035	Electric.....	46, 360	2, 395, 270	34, 211	1, 951, 035
Number not reported.....		28, 299			Pneumatic.....	10, 484	1, 151, 348	(?)	781, 568
					Hammers (chipping, riveting, calking, etc.)—				
					Electric.....	3, 739	648, 671	(?)	(?)
					Pneumatic.....	51, 391	2, 900, 224	30, 513	1 1, 920, 747
					Other types, including those using flexible shaft and those not distributed as to class.....	(?)	1, 370, 199	(?)	5, 750, 063

1 Revised on account of change in classification. (See "Description of the industry," p. 1157.)
 2 Data incomplete.
 3 Not called for separately on schedule.
 4 No comparable data.
 5 None reported.
 6 Figures for 1927 not strictly comparable with those for 1929, because data were called for in more detail for 1929.
 7 Number not reported.

TABLE 4.—MACHINE TOOLS—PRODUCTION, BY CLASS, NUMBER, AND VALUE, BY STATES: 1929

[These figures refer to production, not sales. See GENERAL EXPLANATIONS—Value of Products. Statistics are given for each State which can be shown separately without disclosing data for individual establishments, and for the remaining States in groups. In some cases, however, certain of the States for which figures are given in combination with those for others reported larger numbers and values of the specified products than some of the States shown separately]

CLASS AND STATE	Number	Value	CLASS AND STATE	Number	Value
Machine tools:			Machine tools—Continued.		
Aggregate value.....		\$186,060,949	Gear-cutting machines, total.....	2,216	\$8,070,908
Connecticut.....		18,315,601	Generating, including hobbing and other types, total.....	2,087	8,472,322
Illinois.....		16,288,217	Ill., N. J., and R. I.....	566	1,090,166
Indiana.....		6,413,072	N. Y., Ohio, Pa., and Vt.....	1,521	6,776,156
Iowa.....		2,634,403	Formed rotary-cutter type—		
Massachusetts.....		14,765,242	Spur (Mass., Mo., N. J., and R. I.).....	73	283,967
Michigan.....		6,796,685	Bevel (Conn., N. J., and R. I.).....	56	223,619
New Jersey.....		3,058,538	Grinding machines, total.....		23,554,380
New York.....		12,580,776	Cutter, drill, knife, total.....	2,187	1,574,066
Ohio.....		56,324,613	Ohio.....	936	380,410
Pennsylvania.....		11,650,543	Conn., Mass., and N. J.....	110	75,267
Vermont.....		10,327,046	Ill. and Mich.....	605	496,467
Wisconsin.....		10,098,105	N. Y., Pa., and R. I.....	536	622,822
Calif. and Wash.....		314,991	External-cylindrical—		
Del., Me., Md., N. H., and R. I.....		13,984,694	Plain (Ill., Mass., Ohio, Pa., and R. I.).....	1,362	6,206,709
Ky., La., Minn., Mo., and S. Dak.....		2,508,423	Universal, total.....	603	1,173,912
Bending machines, total.....	2,680	1,583,794	Mass. and Pa.....	200	373,437
Illinois.....	2,236	742,302	Ohio, R. I., and Wis.....	403	800,476
Ind., Mich., Ohio, Pa., and Wis.....	348	734,603	Internal-cylindrical (Ill., Iowa, Mass., Pa., and Vt.).....	920	4,323,430
Mass., N. J., and N. Y.....	97	106,989	Surface, total.....	1,790	3,567,058
Boring machines, total.....	689	6,925,251	Connecticut.....	102	388,819
Horizontal (Mass., Ohio, and Pa.).....	159	932,237	Massachusetts.....	577	1,047,392
Vertical (Conn., Ill., Ohio, Pa., and Wis.).....	257	1,363,881	Ill., Mich., N. Y., Ohio, and R. I.....	1,111	1,231,447
Special types—			Emery-wheel, total.....	11,999	364,652
Combination boring-drilling-milling machines (Mich., N. Y., Ohio, Pa., and Wis.).....	144	1,467,786	Conn., Iowa, Mass., and Mich.....	1,288	58,649
Combination boring and turning mills (Mass., N. Y., Ohio, and Pa.).....	129	1,341,240	Ind., Pa., and Wis.....	10,711	306,003
Other boring machines.....	(1)	1,820,107	Other, including disk grinders.....	(1)	6,843,144
Broaching machines (Mass., Mich., Ohio, and Wis.).....	250	396,726	Hammers, not portable, total.....	(1)	1,594,998
Cutting-off machines, total.....	3,185	1,205,190	Drop (Ohio, Pa., and R. I.).....	96	444,370
Band-saw (Ill., Ky., N. Y., and Wis.).....	324	194,098	Power (belt or motor driven) (Ill., Minn., N. Y., Ohio, Pa., and R. I.).....	620	938,527
Cold-saw (Conn., Ill., N. Y., Pa., and Wis.).....	181	368,617	Steam and other power (Mass., Ohio, and Pa.).....	(1)	212,101
Hack-saw (Ill., Pa., and Wis.).....	2,680	642,475	Keyseaters (Ill., Mich., N. Y., and Ohio).....	(1)	94,969
Drilling machines, total.....	(1)	17,294,520	Lathes, total.....	(1)	49,553,774
Bench, total.....	2,596	804,626	Automatic—		
Ill., Ind., Ky., and Ohio.....	2,259	230,769	Bar (Conn., N. Y., Ohio, R. I., and Vt.).....	3,330	12,353,441
Mich., N. Y., Pa., and R. I.....	337	73,827	Chucking, total.....	1,398	6,002,597
Horizontal—			Conn., R. I., and Vt.....	775	3,602,793
Single-spindle (Ill., Ind., Mich., Ohio, and R. I.).....	89	32,788	Ill., Ind., Ohio, and Wis.....	623	2,899,804
Multiple-spindle (Ind., Ky., Mass., Mich., and Wis.).....	185	723,200	Other.....	391	3,089,606
Vertical—			Bench, total.....	(1)	381,240
Multiple-spindle, total.....	1,003	4,149,614	Massachusetts.....	(1)	262,230
Conn., Mass., N. Y., and R. I.....	144	674,948	Conn., Ill., N. Y., and Ohio.....	(1)	119,010
Ill., Mich., and Wis.....	279	958,508	Engine—		
Ind. and Ohio.....	580	2,516,258	General utility—		
Standard, total.....	3,315	2,022,870	Capacity 16" swing and under, total.....	6,387	5,402,569
Illinois.....	2,363	824,079	Ohio.....	1,429	2,078,858
Ind., N. Y., Ohio, and Wis.....	952	1,198,791	Ill., Ky., and N. Y.....	473	330,654
Sensitive—			Conn., Ind., Mass., N. H., and N. Y.....	4,485	2,984,667
Single-spindle, total.....	2,977	919,734	Capacity over 16" swing but not over 22", total.....	1,535	3,203,965
Ill., Ky., Mich., and Ohio.....	1,689	457,846	Ohio.....	1,023	2,103,917
Mass., N. Y., Pa., and R. I.....	1,288	461,888	Conn., Mass., Mich., and N. H.....	300	888,749
Multiple-spindle, total.....	2,404	2,453,444	Ind., Ky., and Mo.....	212	211,329
Conn., Mass., and N. Y.....	1,308	1,646,435	Capacity over 22" swing but not over 36", total.....	681	2,374,637
Ill., Ky., Mich., Ohio, and R. I.....	1,096	807,009	Ohio.....	452	1,836,399
Radial—			Conn. and Mass.....	17	52,166
Plain, total.....	1,300	4,583,870	Ind., Mich., Mo., and N. H.....	212	486,072
Ohio.....	1,145	4,274,722	Heavy-duty, over 36" swing, total.....	90	778,269
Ill., Mass., Mich., and N. Y.....	155	309,148	Ohio.....	32	337,254
Universal (Ohio).....	17	50,440	Mass., Mich., and N. Y.....	58	441,016
Other special.....	(1)	2,044,925	Other, including gap.....	1,033	3,262,354
Honing machines, for servicing and manufacturing, total.....	639	661,603			
Ill. and Ohio.....	76	370,511			
Mich., Minn., and Pa.....	563	311,092			
Forging machines, total.....	959	3,066,650			
Bolt, nut, and rivet (Conn. and Ohio).....	843	2,220,516			
Bulldozers (Ill., Ind., Ohio, and Wis.).....	60	181,798			
Other.....	47	664,336			

(1) Data incomplete.

MACHINE TOOLS

1161

TABLE 4.—MACHINE TOOLS—PRODUCTION, BY CLASS, NUMBER, AND VALUE, BY STATES: 1929—Continued

[See note at head of this table]

CLASS AND STATE	Number	Value	CLASS AND STATE	Number	Value
Machine tools—Continued.			Machine tools—Continued.		
Lathes—Continued.			Shapers, total.....	1,813	\$3,176,967
Polishing, buffing, and grinding, total.....	4,911	\$1,167,357	Vertical (Conn., Ohio, and Pa.).....	136	372,862
Conn., Mass., and R. I.....	1,121	490,055	Horizontal, total.....	1,677	2,804,105
Ill., Ind., Mich., Ohio, and Pa.....	3,790	677,302	20-inch stroke and under, total.....	1,044	1,441,239
Turret—			Massachusetts.....	65	69,797
Screw machines, hand—			Ohio.....	495	761,252
Ind., Ohio, R. I., and Wis.....	1,091	2,705,865	Conn., Ill., Mich., N. J., and R. I.....	484	610,190
Horizontal and vertical—			Over 20-inch stroke but not over 28-inch,		
Conn., Ill., Ohio, Vt., and Wis.....	2,287	8,821,845	total.....	442	855,872
Milling machines, total.....	5,667	16,856,569	Ohio.....	320	561,222
Hand-feed (Conn., Ill., Ohio, and R. I.).....	312	129,803	Conn., Ill., Mich., N. J., and R. I.....	122	294,650
Power-feed, total.....	5,355	16,726,766	Over 28-inch stroke (Conn., Mich., N. J.,		
Plain, total.....	1,112	2,759,194	and Ohio).....	191	506,994
Conn., R. I., and Wis.....	1,053	2,619,849	Shears, total.....	(1)	2,141,391
Ill., Mich., N. Y., and Ohio.....	59	139,345	Hand (Ill., Ind., N. J., and Wis.).....	797	22,696
Universal, total.....	2,270	5,840,142	Power, total.....	(1)	2,118,695
Conn., Ill., and Mass.....	307	638,828	Combination punch and shear (Conn.,		
Ohio, R. I., and Wis.....	1,963	5,201,314	Ill., Mass., N. Y., Ohio, and Wis.).....	488	501,808
Vertical, total.....	469	1,428,510	Rotary (Iowa, N. Y., and Ohio).....	550	193,591
Conn., Mass., and R. I.....	205	767,217	Straight, total.....	753	991,496
Iowa, Mo., N. Y., Ohio, and Wis.....	204	661,299	Ill., N. J., and N. Y.....	644	716,397
Lincoln type—			Ind. and Ohio.....	109	275,099
Ill., Ohio, R. I., and Wis.....	826	2,546,504	Other, including alligator.....	(1)	431,500
Planer and special types, total.....	678	4,152,410	Slotters (Conn., Mich., N. Y., Ohio, and Pa.).....	156	409,335
Connecticut.....	63	357,618	Threading machines, except for pipe, total.....	(1)	2,791,778
Massachusetts.....	67	66,261	Die type (Conn., Mass., Ohio, and Pa.).....	758	1,300,679
Ohio.....	216	379,082	Milling type (Conn., Mass., Mich., Ohio, and		
Ill., Mich., N. Y., Pa., R. I., and Wis.....	332	3,349,440	Pa.).....	150	680,432
Planers, total.....	265	2,517,241	Rolling type, Connecticut.....	103	207,487
Standard, total.....	208	2,049,477	Tapping machines (Conn., Ky., Mich., Ohio,		
36-inch and under (Mass. and Ohio).....	62	308,637	Pa., and Wis.), total.....	(1)	603,180
Over 36-inch (Ohio and Pa.).....	57	807,835	Number reported.....	666	519,680
Open side (Conn., Mass., and Ohio).....	89	873,105	Number not reported.....	(1)	83,500
Special, total.....	60	467,764	Other machine tools, except portable.....	(1)	14,884,684
Ohio.....	10	164,016	Portable tools, total.....	(1)	15,498,798
Conn., Ill., Mass., Mich., and N. Y.....	50	303,748	Drills, total.....	133,399	7,033,077
Pipe cutting and threading machines, total.....	2,933	1,756,564	Electric, total.....	114,306	4,586,469
Ohio.....	1,964	531,049	Ohio.....	37,610	1,081,997
Conn., Mass., and N. Y.....	141	163,181	Calif., Ill., Ky., Md., Mo., Pa., and		
Ill., Pa., and Wis.....	828	1,061,434	Wis.....	76,696	2,904,472
Presses, total.....	(1)	9,792,191	Pneumatic, total.....	19,063	2,446,608
Hand (Ill., Mass., and R. I.).....	227	12,188	Ohio.....	6,267	830,210
Forming, including hydraulic (Conn., Ill., N. J.,			Ill., Mich., and Pa.....	12,796	1,616,398
Ohio, Pa., and Wis.).....	609	1,756,371	Grinders, total.....	56,844	3,546,027
Stamping, power (Conn., Ill., Ind., Mass.,			Electric, total.....	46,360	2,395,279
N. J., N. Y., Ohio, and R. I.).....	4,352	6,611,169	Ohio.....	19,113	757,791
Punch (Ill., Ind., Iowa, Mass., N. J., N. Y.,			Calif., Ill., and Ky.....	1,761	149,077
and Pa.).....	1,638	1,004,324	Md., Mich., and Wis.....	25,486	1,483,411
Other, including arbor and foot-power stamping.	(1)	408,189	Pneumatic (Ill., Mich., Ohio, and Pa.).....	10,484	1,151,348
Punching machines, not portable, total.....	330	1,111,993	Hammers, total.....	55,130	3,548,895
Conn., Ind., and Ohio.....	258	934,476	Electric (Ill., Md., Mich., and Pa.).....	3,739	648,071
Ill., N. Y., and Wis.....	72	177,517	Pneumatic (Ill., Mich., N. Y., Ohio, and		
Riveting machines, not portable (Conn., Ill., Ind.,			Pa.).....	51,391	2,900,224
N. Y., and Ohio).....	800	191,644	Other types.....	(1)	1,370,199

¹ Data incomplete.

CENSUS OF MANUFACTURES: 1929

TABLE 5.—PRINCIPAL MATERIALS CONSUMED IN THE INDUSTRY, BY KIND, QUANTITY, AND COST, BY STATES: 1929

[Quantities and costs of the principal materials consumed were reported by only 223 of the 280 establishments in this industry. The combined value of products reported by these 223 establishments amounted to \$215,804,550, or 88.2 per cent of the aggregate value of products of the 280 establishments in the industry. Another reason for the difference between the sum of the costs of the several kinds of materials shown in this table and the total cost of materials as given in Tables 1 and 2 is found in the fact that this table covers only certain specified materials, whereas the others cover all materials. Statistics are presented for each State for which separate figures can be given without disclosing data for individual establishments, and for the remaining States in groups. In some cases, however, certain States for which figures are given in combination with those for others reported larger quantities or costs than some of the States shown separately.]

KIND	Total cost	QUANTITY REPORTED		Cost—quantity not reported	KIND	Total cost	QUANTITY REPORTED		Cost—quantity not reported
		Quantity	Cost				Quantity	Cost	
PIG IRON					COLD-ROLLED STEEL—contd.				
Total	\$1,351,046	Tons 63,962	\$1,326,884	\$24,762	New York	\$84,473	Tons 998	\$82,473	\$2,000
Connecticut	265,830	11,254	265,830		Ohio	982,910	9,036	961,184	21,726
Illinois	118,330	5,675	118,330		Pennsylvania	96,919	1,075	96,127	792
New York	57,199	2,833	57,199		Vermont	131,791	435	33,746	98,045
Ohio	452,756	23,967	436,380	16,376	Wisconsin	141,024	1,342	138,690	2,334
Pennsylvania	136,126	5,302	136,126		Conn., N. H., N. J., R. I.	708,491	3,517	678,548	24,943
Iowa, Mich., Minn., Wis.	71,936	3,419	71,936		Other States (Calif., Ky., Minn., Mo., Wash.)	57,087	340	51,888	5,799
Other States (Ind., Mass., N. H., N. J., R. I.)	249,469	11,452	241,083	8,386	CARBON AND OTHER STEEL				
SCRAP IRON AND STEEL					Total				
Total	654,263	39,302	637,711	16,552	Connecticut	4,955,266	37,171	4,810,514	135,762
Connecticut	144,758	9,027	144,758		Illinois	303,609	1,376	297,691	35,918
Illinois	54,099	3,796	54,099		Indiana	938,589	9,094	937,013	976
Ohio	150,605	8,545	140,165	10,440	Iowa	109,106	712	109,106	
Pennsylvania	45,932	2,408	45,932		Massachusetts	32,218	538	32,218	
Ind., Iowa, Mich., Minn., Wis.	41,965	2,606	41,965		Michigan	266,615	1,273	238,078	28,537
Mass., N. H., N. J., N. Y., R. I.	216,004	12,920	209,892	6,112	New Jersey	110,526	436	110,443	83
GRAY-IRON CASTINGS					Total				
Total	14,659,953	126,064	13,573,889	1,086,064	Ohio	75,880	567	64,380	11,560
Connecticut	213,169	1,505	203,545	9,624	New York	197,157	619	193,004	4,153
Illinois	1,194,149	9,949	1,129,444	64,705	Ohio	753,440	8,622	714,174	30,266
Indiana	852,224	7,766	801,040	51,184	Pennsylvania	674,322	8,222	671,498	2,824
Massachusetts	1,340,553	7,978	1,163,886	176,667	Wisconsin	170,186	1,734	170,186	
Michigan	237,186	2,281	237,186		R. I., Vt.	995,390	4,313	990,390	
New Jersey	472,575	2,776	322,744	149,831	Other States (Ky., Minn., Mo., N. H.)	27,228	75	14,783	12,445
New York	487,193	4,447	484,067	3,126	BRASS AND BRONZE				
Ohio	6,852,450	67,292	6,615,872	236,578	Total				
Pennsylvania	501,645	5,385	438,551	63,094	Connecticut	1,012,633	Pounds 5,253,052	1,709,832	202,801
Rhode Island	245,256	1,627	228,538	16,718	Illinois	100,112	807,345	100,112	
Vermont	1,181,558	6,888	970,083	211,475	Indiana	123,786	391,833	121,533	2,253
Wisconsin	755,170	5,594	685,170	70,000	Indiana	149,679	161,802	38,809	110,870
Other States (Calif., Iowa, Ky., Minn., Mo., N. H.)	326,795	2,276	293,758	33,037	Massachusetts	153,892	477,833	148,032	5,800
MALLEABLE-IRON CASTINGS					Total				
Total	882,881	4,211	699,470	183,411	Michigan	29,397	82,076	28,387	
Illinois	19,008	66	18,116	892	New Jersey	35,087	95,491	35,687	
Massachusetts	6,175	13	4,412	1,763	New York	104,027	323,469	103,027	1,000
Ohio	364,221	2,721	364,221		Ohio	625,321	1,851,959	603,071	22,250
Wisconsin	24,042	188	24,042		Pennsylvania	119,083	388,227	119,083	
Conn., N. H., R. I., Vt.	322,935	623	145,879	177,056	Wisconsin	83,221	250,836	74,521	8,700
N. J., N. Y., Pa.	107,965	335	107,465	500	Calif., Wash.	1,174	2,260	481	693
Other States (Ind., Mich., Mo., Wash.)	38,535	265	35,835	2,700	N. H., R. I., Vt.	322,436	775,492	274,536	47,900
COLD-ROLLED STEEL					Total				
Total	2,804,304	21,314	2,586,589	217,715	Other States (Iowa, Ky., Minn., Mo.)	64,818	143,840	61,483	3,335
Illinois	187,406	1,764	181,682	5,724	COPPER				
Indiana	125,938	1,159	123,895	2,043	Total				
Iowa	14,228	164	14,228		Total	115,562	428,824	105,154	10,408
Massachusetts	95,188	406	42,070	53,118	LEAD				
Michigan	183,249	1,072	182,558	691	Total				
					Total				
					Ohio				
					Conn., Ill., Iowa, Mass., R. I.				
					N. Y., Pa.				
					Other States (Ky., Mich., Wis.)				
					TIN				
					Total				

MACHINE TOOLS

1163

TABLE 6.—PRIME MOVERS, MOTORS, GENERATORS, AND CONSUMPTION OF PURCHASED ELECTRIC ENERGY—NUMBER AND RATED CAPACITY OF PRIME MOVERS, ELECTRIC MOTORS, AND GENERATORS, 1929 AND 1927; QUANTITY OF ELECTRIC ENERGY PURCHASED, 1929

TYPE	1929		1927 ¹		TYPE	1929		1927 ¹	
	Number	Capacity	Number	Capacity		Number	Capacity	Number	Capacity
Prime movers and electric motors driven by purchased energy, aggregate.....	15,023	<i>Horse-power</i> 141,778	10,786	<i>Horse-power</i> 125,426	Electric motors, total.....	19,691	<i>Horse-power</i> 153,921	14,513	<i>Horse-power</i> 136,853
Prime movers, total.....	126	23,966	149	23,984	Driven by purchased energy.....	14,897	117,812	10,637	101,442
Steam, total.....	105	21,746	116	22,582	Driven by energy generated in establishments reporting.....	4,794	36,109	3,876	35,411
Engines.....	86	18,527	99	19,177	Electric generators.....	89	<i>Kilowatts</i> 15,903	81	<i>Kilowatts</i> 15,660
Turbines.....	19	3,219	17	3,405	Electric energy purchased ²		<i>Kilowatt-hours</i> 99,005,374		(³)
Internal-combustion engines.....	16	1,690	20	787					
Water wheels and water turbines.....	5	530	13	615					
Electric motors driven by purchased energy.....	14,897	117,812	10,637	101,442					

¹ Adjusted for comparison with 1929. No comparable statistics are available for years prior to 1927. (See "Description of the industry," p. 1157.)
² This item covers consumption of purchased electric energy for all purposes—power, heat, light, etc.
³ Data incomplete.

TABLE 7.—WAGE EARNERS, BY MONTHS, BY STATES: 1929¹

[This table presents statistics for only those States for which figures can be given without disclosing data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures]

STATE	Average number employed during year	NUMBER EMPLOYED ON 15TH DAY OF MONTH OR NEAREST REPRESENTATIVE DAY												Per cent minimum is of maximum
		January	February	March	April	May	June	July	August	September	October	November	December	
United States.....	47,391	43,709	45,382	46,350	46,963	47,279	47,857	48,593	48,798	49,162	49,542	48,595	46,369	88.4
Connecticut.....	6,402	<i>5,922</i>	6,083	6,206	6,323	6,379	6,463	6,548	6,518	6,652	6,740	6,688	6,298	87.9
Illinois.....	3,653	<i>3,443</i>	3,540	3,600	3,636	3,651	3,700	3,805	3,790	3,765	3,730	3,616	3,543	90.5
Indiana.....	1,245	<i>1,145</i>	1,160	1,192	1,221	1,205	1,244	1,249	1,321	1,316	1,328	1,300	1,252	86.2
Iowa.....	473	<i>463</i>	468	459	456	450	463	486	502	530	472	471	468	85.5
Massachusetts.....	3,361	<i>3,083</i>	3,234	3,319	3,416	3,462	3,435	3,425	3,411	3,444	3,467	3,407	3,234	88.9
Michigan.....	1,554	<i>1,589</i>	1,452	1,488	1,580	1,599	1,624	1,655	1,689	1,651	1,674	1,523	1,437	83.8
New Jersey.....	662	<i>639</i>	656	663	666	665	664	685	667	678	705	646	615	87.2
New York.....	2,730	<i>2,699</i>	2,782	2,838	2,813	2,799	2,743	2,757	2,768	2,779	2,696	2,651	2,437	85.9
Ohio.....	11,857	<i>10,958</i>	11,313	11,555	11,677	11,849	11,849	11,980	12,076	12,285	12,631	12,396	11,712	86.8
Pennsylvania.....	2,982	<i>2,705</i>	2,740	2,823	2,893	2,966	3,004	3,104	3,137	3,104	3,103	3,105	3,090	86.2
Vermont.....	2,610	<i>2,552</i>	2,539	2,606	2,655	2,662	2,680	2,637	2,719	2,750	2,746	2,670	2,404	85.5
Wisconsin.....	2,330	<i>2,207</i>	2,266	2,358	2,357	2,376	2,397	2,405	2,411	2,385	2,382	2,246	2,172	90.1

¹ No comparable data available for prior year

PUMPS AND PUMPING EQUIPMENT

Description of the industry.—This industry embraces establishments engaged primarily in the manufacture of hand and power pumps of all kinds, such as water pumps, gasoline pumps, air pumps (except compressors), oil pumps, hydraulic rams, spraying outfits (complete units), spray pumps, and domestic water systems; and of pump jacks, pump cylinders, and other pumping equipment.

TABLE 1.—SUMMARY FOR THE UNITED STATES: 1914 TO 1929

[Data for establishments with products under \$5,000 in value included for 1919 and 1914 but not for 1921 and subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

YEAR OR PERIOD	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²	Horsepower
1929	322	23,106	\$34,920,261	\$66,802,372	\$164,009,397	\$97,207,025	82,403
1927	278	18,671	27,118,924	52,765,023	130,591,191	77,826,168	64,763
1925	253	17,935	25,278,060	50,328,435	120,148,157	69,819,722	56,470
1923	229	14,550	19,960,603	34,464,720	92,930,056	58,465,336	38,286
1921	221	12,186	13,969,531	26,803,969	69,962,413	43,158,444	(³) 32,441
1919	239	16,072	19,731,647	36,009,781	85,401,940	49,332,169	32,441
1914	183	8,322	5,555,203	9,458,744	24,214,722	14,755,978	17,141
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929	15.8	23.8	28.8	26.0	25.6	24.0	27.2
1925-1927	9.9	4.1	7.3	4.8	8.7	11.5	14.7
1923-1925	10.5	23.3	26.4	46.0	29.3	19.4	47.5
1921-1923	3.6	19.4	43.1	28.6	32.8	35.5	-----
1919-1921	-7.5	-24.2	-29.2	-25.7	-18.1	-12.5	-----
1919-1929	34.7	43.8	77.0	85.2	92.0	97.0	154.0

¹ For 1929, manufacturers' sales (shipments or deliveries); for earlier years, production. See GENERAL EXPLANATIONS—Value of Products.

² Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

³ Not called for on schedule.

⁴ No comparable figures for earlier years.

PUMPS AND PUMPING EQUIPMENT

1165

TABLE 2.—GENERAL STATISTICS, BY STATES: 1929, 1927, AND 1919

[This table presents statistics separately for each State for which figures can be given without disclosing data for individual establishments, and for the remaining States in groups. Data for establishments with products under \$5,000 in value are included for 1919 but not for subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

STATE	Cen- sus year	Num- ber of estab- lish- ments	Sala- ried officers and em- ploy- ees ¹	Wage earn- ers (aver- age for the year)	HORSEPOWER (RATED CAPACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, FUEL, AND PUR- CHASED ELECTRIC ENERGY			Value of products ²	Value added by manufac- ture ³
					Total	Prime movers	Motors run by pur- chased energy			Total	Materials	Fuel and purchased energy		
United States-----	1929	322	6,921	23,106	82,403	20,251	62,152	\$16,665,750	\$34,920,261	\$66,802,372	\$64,633,270	\$2,169,102	\$164,009,397	\$27,207,025
	1927	278	5,809	18,671	64,763	21,231	45,532	14,222,792	27,118,924	52,765,023	51,252,734	1,512,289	130,591,191	77,826,168
	1919	239	4,720	16,072	43,241	13,856	18,585	9,096,225	19,731,647	36,069,781	34,976,680	1,093,101	85,401,940	49,332,159
Individual States:														
California-----	1929	57	707	1,988	7,443	1,85	7,258	1,684,912	3,237,377	6,962,898	6,810,694	152,204	17,178,076	10,215,178
	1927	43	549	1,611	4,464	177	4,287	1,492,078	2,398,361	5,511,304	5,441,576	69,728	13,237,860	7,726,556
	1919	21	172	470	1,690	35	1,555	406,787	689,373	1,731,964	1,713,411	18,553	3,866,064	2,124,100
Illinois-----	1929	28	517	1,829	10,544	285	10,259	1,219,349	2,356,618	5,082,872	4,949,409	133,463	12,188,854	7,105,982
	1927	31	404	1,280	3,195	825	2,370	1,052,512	1,769,193	3,440,448	3,377,067	69,381	8,959,048	5,518,690
	1919	29	218	930	1,731	580	1,151	458,818	1,081,830	1,435,334	1,384,085	51,249	4,076,158	2,640,824
Indiana-----	1929	20	785	2,275	10,555	1,255	9,300	2,022,068	3,050,884	6,517,222	6,331,840	185,382	16,538,387	10,021,165
	1927	17	836	2,176	9,165	1,255	7,910	1,880,214	2,905,983	6,283,641	6,099,638	189,108	18,226,969	11,946,058
	1919	15	1,428	1,931	4,977	854	4,123	2,688,134	2,375,229	3,596,971	3,431,750	165,221	13,453,051	9,856,000
Iowa-----	1929	8	87	436	1,417	150	1,267	200,344	556,756	886,405	842,586	43,819	2,738,743	1,852,338
	1927	8	127	539	1,513	150	1,363	285,014	683,682	1,133,572	1,088,130	45,442	2,511,521	1,377,949
Kansas-----	1929	4	24	72	190		190	46,120	101,057	166,317	160,920	5,397	416,102	247,785
Massachusetts-----	1929	17	834	2,558	7,472	2,643	4,829	2,000,069	4,174,474	7,189,594	6,935,081	254,513	17,636,805	10,447,211
	1927	15	692	1,893	7,869	2,643	5,226	1,831,363	2,992,157	5,848,263	5,666,189	182,074	12,608,670	6,780,407
Michigan-----	1929	22	458	2,350	9,165	2,650	6,515	1,102,827	4,018,822	7,907,550	7,694,747	272,803	15,802,643	7,835,053
	1927	17	341	1,905	8,084	2,470	5,614	657,225	2,385,842	4,914,835	4,714,324	200,511	11,023,992	6,109,197
Minnesota-----	1929	6	45	266	462	80	382	112,161	234,238	566,752	552,611	14,141	1,560,476	993,724
	1927	8	43	286	473	12	461	92,451	318,532	586,183	572,105	14,078	1,398,304	812,121
Missouri-----	1929	9	44	222	563	100	463	112,280	303,070	586,935	567,269	19,666	1,284,600	647,565
	1927	10	32	212	637	100	537	105,938	287,874	593,348	577,706	15,843	1,165,744	572,596
New Jersey-----	1929	12	685	2,238	7,815	6,720	1,095	1,793,058	3,803,904	5,853,361	5,633,422	219,939	17,401,718	11,608,357
	1927	11	661	1,769	8,048	7,570	478	1,651,602	3,281,441	4,447,802	4,286,272	161,530	13,178,062	8,730,280
New York-----	1929	35	680	1,750	6,101	2,375	3,726	1,516,532	2,598,133	3,898,740	3,749,931	148,809	10,882,568	6,983,828
	1927	30	574	1,597	5,073	2,060	3,013	1,223,069	2,275,206	3,468,257	3,235,261	133,056	8,941,153	5,472,882
	1919	45	612	2,282	3,790	1,807	1,923	1,125,691	2,636,262	4,401,433	4,326,286	135,147	10,480,469	6,019,036
Ohio-----	1929	30	1,023	3,841	7,967	1,148	6,824	2,219,909	5,229,284	10,034,921	9,688,516	346,405	25,691,623	15,656,702
	1927	34	573	2,778	5,799	1,284	4,476	1,369,361	3,803,686	7,369,446	7,172,806	196,640	18,280,718	10,911,272
	1919	31	445	1,876	2,874	1,834	1,040	950,283	2,062,407	4,454,667	4,327,343	127,324	10,793,840	6,339,173
Oklahoma-----	1929	4	18	62	227		227	61,393	104,180	444,082	437,371	6,711	840,427	390,345
Pennsylvania-----	1929	24	508	1,841	6,713	2,340	4,373	1,353,277	3,055,712	6,507,269	6,293,800	213,469	13,229,854	6,722,585
	1927	20	560	1,453	7,043	2,670	4,373	1,629,802	2,146,192	5,310,528	5,145,273	165,255	11,523,312	6,212,784
	1919	12	149	607	2,402	619	1,783	325,808	816,413	1,509,815	1,447,510	62,306	3,785,730	2,226,916
Washington-----	1929	5	9	35	69		69	20,084	48,940	94,921	93,302	1,619	216,351	121,430
Wisconsin-----	1929	5	103	342	863		863	227,287	492,786	740,030	703,398	36,632	1,922,180	1,182,150
	1927	4	115	347	815		815	289,140	523,625	795,588	768,713	26,875	2,049,734	1,254,146
Groups of States:														
Colo., 2 est., Nebr., 3; Oreg., 3-----	1929	8	25	79	398	160	238	76,682	100,239	178,648	171,720	6,928	559,273	380,625
Conn., 3 est., and Vt., 2-----	1929	5	277	514	2,583		2,583	627,064	869,087	2,063,216	2,023,831	39,385	5,402,824	3,389,608
Ky., 1 est.; Md., 1; and Tenn., 4-----	1929	6	35	112	1,067	15	1,052	126,014	129,836	376,761	368,882	12,879	859,054	482,293
Ark., 2 est.; La., 2; and Tex., 3-----	1929	7	62	270	732	150	582	109,148	320,411	654,999	600,744	54,255	1,556,476	901,477
Va., 2 est.; N. C., 1; and S. C., 1-----	1929	4	5	20	57		57	4,312	25,944	28,579	28,196	683	92,463	63,584
States not shown sepa- rately-----	1927	30	312	820	2,624	15	2,609	662,423	1,287,550	3,062,408	3,007,435	54,973	7,483,088	4,420,680
	1919	86	1,696	7,881	15,137	8,067	7,070	3,140,704	10,050,113	18,879,597	18,346,295	533,302	39,006,648	20,127,051

¹ Not including proprietors and firm members, as follows: For 1929, 101; 1927, 129; 1919, 114. The total numbers of persons engaged—proprietors and firm members, salaried officers and employees, and wage earners—as reported for the industry, are as follows: For 1929, 30,128; 1927, 24,699; 1919, 20,806.

² For 1929, manufacturers' sales (shipments or deliveries); for earlier years, production. See GENERAL EXPLANATIONS—Value of Products.

³ Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

⁴ Data for purchased power other than electric (power transmitted into the plant by belt or shaft) are included in the State items for 1919 but not in the United States totals.

⁵ Colorado, 2 establishments; Connecticut, 2; Kansas, 3; Kentucky, 1; Louisiana, 2; Maryland, 2; Nebraska, 1; North Carolina, 1; Oklahoma, 3; Oregon, 2; South Carolina, 1; Tennessee, 2; Texas, 3; Vermont, 1; Virginia, 1; Washington, 3.

⁶ Arkansas, 2 establishments; Colorado, 1; Connecticut, 6; Iowa, 8; Kansas, 2; Kentucky, 1; Louisiana, 2; Maryland, 2; Massachusetts, 11; Michigan, 11; Minnesota, 1; Missouri, 6; Nebraska, 2; New Hampshire, 1; New Jersey, 7; North Carolina, 3; Oklahoma, 2; Oregon, 1; South Carolina, 1; Tennessee, 2; Utah, 1; Vermont, 2; Virginia, 1; Washington, 3; West Virginia, 1; Wisconsin, 8.

CENSUS OF MANUFACTURES: 1929

TABLE 3.—PRODUCTS, BY CLASS, NUMBER, AND VALUE: 1929, 1927, AND 1925

[The figures for 1929 refer to sales (shipments or deliveries) by manufacturers; those for earlier years represent production. See GENERAL EXPLANATIONS—Value of Products]

CLASS	1929		1927		1925	
	Number	Value	Number	Value	Number	Value
1. Pumps and pumping-equipment industry, all products, total value.....		\$164,009,397		\$130,591,191		\$120,148,157
2. Pumps and pumping equipment, including parts and attachments.....		128,160,522		¹ 100,970,908		¹ 90,282,815
3. Amount received for repair work.....		8,046,409		6,133,312		1,428,047
4. Other products (not normally belonging to the industry).....		27,802,466		¹ 23,486,971		¹ 19,437,795
5. Pumps and pumping equipment made as secondary products in other industries, value.....		16,786,620		19,260,848		15,103,661
Pumps and pumping equipment, all industries:						
Aggregate value (sum of 2 and 5).....		144,947,148		¹ 120,231,756		¹ 114,385,976
Hand pumps, not including gasoline-filling-station pumps, oil pumps, nor spray pumps—						
Air pumps (fire and other).....	4,119,424	1,342,519	3,902,100	1,795,665	5,682,504	2,335,887
Water pumps—						
Pitcher-spout.....	297,568	467,036	334,704	504,003	308,603	470,341
Other hand water pumps.....	288,765	1,768,097	218,735	1,755,698	380,099	2,131,137
Hand pumps, kind and class not specified, value.....		624,974		1,198,843		2,258,537
Windmill pumps.....	91,997	668,552	101,467	787,662	169,568	1,043,899
Power pumps, not including gasoline-filling-station pumps, spray pumps, nor pumps for domestic water systems—						
Air pumps, except compressors.....	(²)	1,955,312	(²)	1,777,787	(²)	1,156,611
Oil-well pumps.....	(²)	5,157,838	(²)	3,396,171	(²)	2,402,681
Centrifugal pumps other than turbine.....	79,490	22,320,064	(²)	19,566,667	(²)	17,550,765
Rotary pumps, total value.....		5,782,684		2,808,066		3,264,677
Number reported.....	84,421	4,422,818	37,414	2,180,486	(²)	3,264,677
Number not reported.....		1,359,866		627,580		
Turbine pumps, total value.....		5,123,171		1,427,747		
Number reported.....	12,578	3,678,222	(²)	1,427,747	(²)	(²)
Number not reported.....		1,444,949				
Steam pumps, reciprocating types, total value.....		7,747,794		7,384,030		7,640,085
Number reported.....	21,398	6,627,845	(²)	7,384,030	(²)	7,640,085
Number not reported.....		1,119,949				
Other power pumps.....	(²)	18,335,856	(²)	10,234,079	(²)	13,713,287
Hydraulic rams.....	(²)	125,623	(²)	(²)	(²)	(²)
Spraying outfits, complete ⁴—						
Power, total value.....		6,002,833		7,515,469		
Number reported.....	25,040	3,580,760	13,699	2,535,982	(²)	(²)
Number not reported.....		2,422,073		4,979,487		
Hand (with tank, barrel, knapsack, etc.).....	373,149	1,259,823	325,870	1,280,014	247,764	1,410,753
Spray pumps (not included above)—						
Power.....	3,017	227,679	3,383	335,350	3,840	261,963
Hand.....	699,491	326,075	741,621	478,203	(²)	(²)
Gasoline-filling-station pumps (hand and power)—						
Pumps complete with tanks.....	29,035	4,481,910	14,564	2,757,274	(²)	35,100,413
Pumps without tanks.....	314,435	22,876,061	234,135	24,587,459		
Oil pumps, hand.....	(²)	8,190,395	(²)	6,701,183		
Domestic water systems, pneumatic (including domestic-water-system pumps for sale separately), total.....	188,769	10,178,398	104,705	8,278,052	103,777	9,818,090
Deep-well—						
3 horsepower and smaller.....	20,328	1,738,515	14,602	1,614,938	(²)	(²)
Over 3 horsepower.....	1,691	1,544,961	800	486,432	(²)	(²)
Shallow-well—						
Under 250 gallons per hour.....	80,325	3,915,575	67,701	4,351,304	(²)	(²)
250-499 gallons per hour.....	38,204	2,245,785	18,604	1,473,981	(²)	(²)
500 gallons or more per hour.....	6,347	733,662	2,998	351,397	(²)	(²)
Pump jacks.....	41,874	493,024	38,048	548,043	58,129	487,229
Cylinders for sale separately, total value.....		783,273		644,913	(²)	(²)
Number reported.....	208,906	698,093	174,056	644,913	(²)	(²)
Number not reported.....		85,180				
Pumps, class, kind, and number not specified.....		3,536,565		4,496,143		
Spray guns ⁷.....	(²)	3,213,991	(²)	(²)	(²)	(²)
Parts and attachments.....		11,950,801		⁸ 9,973,245		⁸ 13,339,621

¹ Revised on account of change in classification.

² Data incomplete.

³ Not called for on schedule.

⁴ No comparable data available. Value included with that of "Parts and attachments."

⁵ Includes paint-spraying outfits.

⁶ Not reported separately.

⁷ Includes paint-spray guns.

⁸ Includes value of hydraulic rams.

⁹ Includes value of spraying outfits and spray pumps.

PUMPS AND PUMPING EQUIPMENT

1167

TABLE 4.—PRODUCTS, BY CLASS AND VALUE, BY STATES: 1929

[The figures refer to sales (shipments or deliveries) by manufacturers. See GENERAL EXPLANATIONS—Value of Products. Figures are given for each State which can be shown separately without disclosing data for individual establishments, and for the remaining States in groups]

CLASS AND STATE	Value	CLASS AND STATE	Value	CLASS AND STATE	Value
Hand pumps, not including gasoline-filling-station pumps, oil pumps, nor spray pumps:		Power pumps, not including gasoline-filling-station pumps, spray pumps, nor pumps for domestic water systems—		Oil pumps, hand	\$8,196,395
Air pumps, tire and other (Conn., Ind., Mo., Nebr., N. Y., Ohio, Oreg., and Tenn.) ¹	\$1,342,510	Continued.		Calif. and Wash.	82,658
Water pumps—		Steam pumps, reciprocating type	\$7,747,704	Mich., Ohio, and Pa.	6,250,942
Pitcher-spout	407,036	Michigan	1,170,071	Other States (Colo., Conn., Ill., Ind., Kans., Mass., Minn., Nebr., and N. Y.)	1,832,795
Ohio and N. Y.	272,927	Ohio	311,736	Domestic water systems, pneumatic (including domestic-water-system pumps, whether sold separately or as part of complete system):	
Ill., Ind., and Mich.	104,147	N. J., N. Y., and Pa.	3,808,897	Deep well—	
Iowa, Nebr., and Wis.	89,962	Other States (Calif., Ill., Ind., Ky., Mass., and Okla.)	2,457,090	3 horsepower and smaller	1,738,515
Other hand water pumps	1,768,097	Other power pumps	18,335,856	California	24,629
Illinois	255,280	California	489,211	Illinois	128,556
Iowa	95,008	Illinois	2,422,300	Ohio	997,521
Ohio	566,285	Indiana	405,470	Ind., Mich., and Wis.	369,110
Wisconsin	0,384	Michigan	1,848,756	Iowa, Minn., and Nebr.	37,197
Ind. and Mich.	72,984	Missouri	95,548	Mass., N. Y., and Pa.	181,502
Md., N. Y., and Pa.	650,968	New Jersey	888,360	Over 3 horsepower (Calif., Ill., Mich., and Ohio) ¹	1,544,961
Other States (Calif., Mass., Mo., and Nebr.)	128,182	New York	1,504,749	Shallow well—	
Hand pumps, kind and class not specified	624,974	Ohio	1,053,825	Under 250 gallons per hour	3,915,575
Mass., N. Y., and Vt.	87,190	Pennsylvania	1,747,328	Ohio	1,516,172
Ohio and Pa.	58,753	Wisconsin	1,851,632	Ill. and Mich.	1,535,823
Other States (Ill., Iowa, Kans., Mich., and S. C.)	470,031	Colo., Kans., Nebr., and Okla.	563,344	Iowa, Minn., and Wis.	55,347
Windmill pumps	668,552	Other States (Conn., Iowa, La., Mass., Minn., Tenn., Vt., and Va.)	5,465,353	N. Y. and Pa.	265,692
Illinois	96,191	Hydraulic rams	125,523	Other States (Calif., Ind., and Mass.)	542,541
Iowa	140,806	Conn., Mass., and N. Y.	45,181	250-499 gallons per hour	2,245,785
Wisconsin	79,832	Ill., Ind., Mo., and Ohio	30,083	Illinois	243,402
Ind. and Nebr.	141,068	Other States (Calif., N. J., N. C., Oreg., Tex., and Wash.)	50,259	Mass., N. Y., and Pa.	248,579
N. Y. and Ohio	209,755	Spraying outfits, complete: ²		Mich. and Ohio	1,642,478
Power pumps, not including gasoline-filling-station pumps, spray pumps, nor pumps for domestic water systems:		Power	6,002,833	Other States (Iowa, Minn., and Wis.)	111,326
Air pumps, except compressors (Calif., Conn., Mass., N. J., N. Y., N. C., and Ohio) ¹	1,955,312	California	395,522	500 gallons per hour and over	793,562
Oil-well pumps	5,157,838	Michigan	1,615,708	California	41,742
California	2,428,745	New Jersey	389,737	Illinois	125,057
Other States (Ill., Mich., Mo., Okla., Pa., and Tex.)	2,729,093	New York	640,381	Ind., Iowa, Minn., and Wis.	107,881
Centrifugal pumps other than turbine	22,320,004	Ohio	1,254,515	N. Y., Ohio, and Pa.	458,882
California	2,284,295	Ill., Ind., and Wis.	1,931,969	Pump jacks	493,924
Illinois	3,768,430	Iowa, Minn., and Mo.	74,626	Iowa	47,467
Indiana	1,100,342	Other States (Ga., Mass., Pa., and Tenn.)	300,315	Wisconsin	71,141
Michigan	1,637,233	Hand (with tank, barrel, knapsack, etc.)	1,259,823	Ill., Ind., and Ohio	128,908
New Jersey	7,351,663	California	33,704	Kans., Nebr., Okla., and Tex.	171,276
New York	2,249,537	Michigan	54,517	Other States (Mich., Minn., and N. Y.)	75,132
Ohio	226,068	N. Y. and Ohio	795,221	Cylinders, for sale separately	783,273
Pennsylvania	641,114	Other States (Ill., Minn., Pa., and Tenn.)	376,381	Illinois	112,827
Ark., Mo., Nebr., and Tenn.	500,199	Spray pumps (not included in above):		Iowa	190,497
Conn. and Mass.	750,643	Power	227,679	Wisconsin	54,205
Other States (Colo., Md., Oreg., Wash., and Wis.)	1,759,500	Calif., N. Y., and Ohio	126,941	Ind., Ohio, and Pa.	240,998
Rotary pumps	5,782,684	Ill. and Mich.	109,738	Minn., Mo., and Nebr.	130,917
Illinois	351,719	Hand	326,075	Other States (Calif., N. Y., and Tex.)	53,829
Minnesota	471,247	New York	28,012	Pumps, class and kind not specified	3,536,565
New York	1,085,138	Ohio and W. Va.	138,954	Massachusetts	23,242
Washington	136,747	Other States (Ill., Ky. and Mich.)	159,109	Ohio	989,447
Ind., Mich., and Wis.	936,970	Gasoline-filling-station pumps (hand and power):		Pennsylvania	315,024
Ohio and Pa.	363,660	Gasoline pumps complete with tanks	4,481,910	Wisconsin	555,366
Other States (Calif., Iowa, Mass., N. J., and R. I.)	2,437,203	Iowa, Kans., and Mo.	84,120	Ill., Ind., and Mich.	1,389,380
Turbine pumps	5,123,171	Other States (Calif., Ill., Ind., Mass., N. Y., and Ohio)	4,397,790	Other States (Ark., Calif., Del., Ga., Nebr., Oreg., and W. Va.)	264,109
California	4,332,631	Gasoline pumps without tanks	22,876,061	Spray guns ³	3,215,991
Other States (Ill., Ind., Iowa, and N. J.)	790,540	California	99,481	Mass., N. J., and N. Y.	332,632
		Illinois	74,537	Other States (Calif., Colo., Ill., Iowa, Mich., Minn., Ohio, and Tenn.)	2,881,359
		Indiana	8,286,634		
		Ohio	2,301,669		
		Kans. and Mo.	451,669		
		Mass., N. Y., and Pa.	10,408,832		
		Other States (Mich., Tex., and Wis.)	1,253,405		

¹ No production reported from other States.
² Includes paint-spraying outfits.
³ Includes paint-spray guns.

CENSUS OF MANUFACTURES: 1929

TABLE 5.—PRINCIPAL MATERIALS CONSUMED IN THE INDUSTRY, BY KIND, QUANTITY, AND COST, BY STATES: 1929

[Costs, and in most cases quantities, of the principal materials consumed were reported by 225 of the 322 establishments in the industry. The combined value of products reported by these 225 establishments amounted to \$146,181,311, or 89.1 per cent of the aggregate value of products of the industry. Another reason for the difference between the sum of the costs of the several kinds of materials shown in this table and the total cost of materials as given in Tables 1 and 2 is found in the fact that this table covers only certain specified materials, whereas the others cover all materials.]

KIND AND STATE	Total cost	QUANTITY REPORTED		Quantity not reported, cost	KIND AND STATE	Total cost	QUANTITY REPORTED		Quantity not reported, cost
		Quantity	Cost				Quantity	Cost	
Pig iron, total.....	\$1,318,915	Ton, 2,000 lbs 64,606	\$1,318,915		Steel forgings purchased as such— Continued.		Ton, 2,000 lbs.		
California.....	89,595	4,424	89,595		New York.....	\$50,670	45	\$3,993	\$40,677
Illinois.....	50,456	2,364	50,456		Ohio.....	14,910	48	14,910	
Indiana.....	49,641	2,390	49,641		Pennsylvania.....	354,716	765	130,498	224,218
Iowa.....	57,603	2,670	57,603		Tennessee.....	8,882	43	8,882	
Louisiana.....	17,732	907	17,732		Iron and steel, all other forms, total.....	6,830,437	43,804	3,365,216	3,474,221
Massachusetts.....	148,729	7,279	148,729		Arkansas.....	2,500	20	2,500	
Michigan.....	164,167	8,544	164,167		California.....	1,741,791	12,842	1,315,831	425,960
New Jersey.....	145,742	6,950	145,742		Colorado.....	1,000	13	1,000	
New York.....	180,860	8,743	180,860		Connecticut.....	53,600	536	53,600	
Ohio.....	257,620	12,870	257,620		Illinois.....	1,344,080	480	85,501	1,258,579
Pennsylvania.....	139,281	6,687	139,281		Indiana.....	780,886	2,886	195,224	581,662
Tennessee.....	10,327	456	10,327		Iowa.....	4,460	42	4,460	
Virginia.....	190	10	190		Kansas.....	7,195	31	7,195	
Wisconsin.....	6,972	332	6,972		Massachusetts.....	158,637	745	82,241	76,396
Scrap iron, and steel, purchased as such, total.....	464,975	29,270	464,975		Michigan.....	476,247	938	35,890	440,357
California.....	27,343	1,935	27,343		Minnesota.....	66,912	629	53,080	13,832
Illinois.....	8,474	606	8,474		Missouri.....	161,817	7,331	161,817	200
Indiana.....	26,587	1,597	26,587		New Jersey.....	154,624	881	154,624	
Iowa.....	5,295	397	5,295		New York.....	280,844	2,117	190,910	89,934
Kansas.....	6,108	382	6,108		Ohio.....	522,188	4,414	326,113	196,075
Louisiana.....	39,017	2,281	39,017		Oregon.....	235	2	235	
Massachusetts.....	108,727	7,039	108,727		Pennsylvania.....	645,659	3,819	264,433	381,226
Michigan.....	42,685	2,624	42,685		Tennessee.....	155,378	1,652	155,378	
New Jersey.....	91,937	5,966	91,937		Texas.....	266,464	4,402	266,464	
New York.....	28,946	1,491	28,946		Vermont.....	3,600	40	3,600	
Ohio.....	50,793	3,083	50,793		Washington.....	794	8	794	
Pennsylvania.....	1,150	19,673	1,150		Wisconsin.....	4,526	76	4,526	
Tennessee.....	3,143	220	3,143		Brass and bronze purchased as such, total.....	4,316,472	13,154	3,031,328	1,285,144
Virginia.....	800	80	800		Arkansas.....	300	1	300	
Wisconsin.....	5,447	419	5,447		California.....	405,809	1,738	818,121	87,688
Iron and steel castings purchased as such, total.....	6,569,977	47,008	4,970,593	\$1,599,384	Colorado.....	20,000		20,000	
Arkansas.....	1,000	10	1,000		Connecticut.....	288,109		288,109	
California.....	1,137,683	12,794	1,033,972	103,711	Illinois.....	304,816	335	226,962	137,854
Connecticut.....	15,988	145	15,988		Indiana.....	275,169	326	125,031	150,138
Illinois.....	498,657	2,927	378,326	120,331	Iowa.....	28,308	127	28,308	
Indiana.....	849,317	4,896	472,685	376,632	Kansas.....	800	2	800	
Iowa.....	52,285	419	52,285		Massachusetts.....	424,197	698	325,677	98,520
Kansas.....	1,200	11	1,200		Michigan.....	212,031	358	145,271	66,760
Kentucky.....	5,671	146	499,779	29,069	Minnesota.....	54,636			54,636
Massachusetts.....	498,848	3,005	146,672	269,914	Missouri.....	11,313	21	11,313	
Michigan.....	446,586	1,566			New Jersey.....	866,408	1,964	835,591	30,817
Minnesota.....	30,952	32	3,881	27,071	New York.....	498,372	331	191,902	306,470
Missouri.....	42,213	335	41,013	1,200	Ohio.....	555,392	6,337	555,392	
New Jersey.....	579,587	4,429	551,251	28,336	Oklahoma.....	17,404	29	17,404	
New York.....	307,330	1,544	307,330		Oregon.....	1,490	3	1,490	
Ohio.....	1,117,151	7,207	945,181	171,970	Pennsylvania.....	247,273	661	203,121	44,152
Oklahoma.....	138,555	2,297	129,055	9,500	Tennessee.....	24,637	67	24,637	
Oregon.....	3,733	20	3,733		Texas.....	150	1	150	
Pennsylvania.....	790,726	3,366	362,632	427,794	Virginia.....	498	2	498	
Texas.....	13,450	1,577	13,450		Washington.....	5,771	10	5,771	
Vermont.....	7,191	52	7,191		Wisconsin.....	13,580	143	13,580	
Washington.....	4,696	5	840	3,856	Copper, total.....	256,598	682	256,598	
Wisconsin.....	27,158	225	27,158		California.....	3,374	6	3,374	
Steel forgings purchased as such, total.....	1,335,973	4,159	553,806	782,167	Illinois.....	1,307	6	1,307	
California.....	29,295	98	20,023	9,272	Indiana.....	33,482	90	33,482	
Connecticut.....	495,326	3	5,326	490,000	Massachusetts.....	8,153	21	8,153	
Illinois.....	14,741	45	14,741		Michigan.....	5,465	13	5,465	
Indiana.....	1,837	14	1,837		Missouri.....	400	1	400	
Massachusetts.....	110,017	1,140	110,017		New Jersey.....	42,131	125	42,131	
Michigan.....	28,181	971	16,181	12,000	New York.....	34,026	106	34,026	
Minnesota.....	4,200	35	4,200		Ohio.....	47,577	104	47,577	
Nebraska.....	22,400	240	22,400		Pennsylvania.....	80,436	209	80,436	
New Jersey.....	200,798	672	200,798		Tennessee.....	247	1	247	

PUMPS AND PUMPING EQUIPMENT

1169

TABLE 6.—PRIME MOVERS, MOTORS, GENERATORS, AND CONSUMPTION OF PURCHASED ELECTRIC ENERGY—NUMBER AND RATED CAPACITY OF PRIME MOVERS AND ELECTRIC MOTORS, 1929, 1927, 1925, 1919, AND 1914, AND OF GENERATORS, 1929, 1927, AND 1925; QUANTITY OF ELECTRIC ENERGY PURCHASED, 1929

TYPE	1929		1927		1925		1919		1914		PER CENT DISTRIBUTION OF RATED HORSEPOWER CAPACITY	
	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	1929	1919
Prime movers and electric motors driven by purchased energy, aggregate	7,820	Horsepower 82,403	5,799	Horsepower 64,763	4,503	Horsepower 56,470	2,169	Horsepower 32,441	734	Horsepower 17,141	100.0	100.0
Prime movers, total	94	20,251	102	21,231	105	20,764	124	13,556	139	11,182	24.6	42.7
Steam, total	70	18,103	76	18,941	78	18,258	79	12,078	82	9,543	22.0	37.2
Engines	49	8,973	55	9,395	57	8,762	74	8,778	(1)	(1)	10.9	27.0
Turbines	21	9,140	21	9,546	21	9,496	5	3,300	(1)	(1)	11.1	10.2
Internal-combustion engines	18	1,038	17	1,165	20	1,396	38	1,479	46	1,153	1.3	4.6
Water wheels and water turbines	6	1,110	9	1,125	7	1,110	7	299	11	496	1.3	0.9
Electric motors driven by purchased energy	7,726	62,162	5,697	43,532	4,398	35,706	2,045	18,565	595	5,959	75.4	57.3
Electric motors, total	10,908	93,609	8,202	70,536	9,251	61,985	2,440	23,420	1,560	15,676	100.0	100.0
Driven by purchased energy	7,726	62,162	5,697	43,532	4,398	35,706	2,045	18,565	595	5,959	66.4	79.4
Driven by energy generated in establishments reporting	3,182	31,457	2,505	27,004	4,853	26,279	395	4,855	965	9,717	33.6	20.6
Electric generators	62	Kilowatts 13,005	64	Kilowatts 13,874	83	Kilowatts 14,218	(1)	(1)	(1)	(1)		
Electric energy purchased ¹		Kilowatt-hours 45,049,569		(1)		(1)		(1)		(1)		

¹ Not called for separately on schedule.
² Not called for on schedule.
³ This item covers the consumption of purchased electric energy for all purposes—power, heat, light, etc.
⁴ Data incomplete.

TABLE 7.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1929, 1925, 1919, AND 1914, AND BY STATES, 1929

[This table presents statistics for only those States for which figures can be given without disclosing data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by italic figures]

STATE	Average number employed during year	NUMBER EMPLOYED ON 15TH DAY OF MONTH OR NEAREST REPRESENTATIVE DAY												Percent minimum is of maximum
		January	February	March	April	May	June	July	August	September	October	November	December	
United States:														
1929	23,106	<i>21,070</i>	22,162	22,611	23,234	23,686	23,978	23,954	24,044	23,672	23,551	22,639	22,460	87.6
1925	17,935	<i>16,585</i>	16,995	17,198	17,805	18,708	18,892	18,925	18,531	18,429	17,983	17,615	17,572	87.6
1919	16,072	<i>16,560</i>	16,466	16,512	16,297	16,039	<i>15,025</i>	15,356	15,713	15,896	15,810	16,291	16,899	88.9
1914	8,322	<i>8,885</i>	8,871	8,882	8,797	8,643	8,559	8,498	8,269	8,024	7,672	7,552	7,412	82.7
California	1,988	<i>1,809</i>	1,963	2,016	2,147	2,105	2,105	2,071	1,981	1,930	1,905	1,903	1,921	84.3
Illinois	1,829	<i>1,751</i>	1,760	1,773	1,779	1,823	1,854	1,860	1,882	1,889	1,894	1,887	1,790	92.4
Indiana	2,275	<i>1,759</i>	1,939	2,118	2,314	2,420	2,538	2,558	2,578	2,441	2,329	2,183	2,130	68.2
Iowa	436	<i>411</i>	438	446	418	395	418	410	457	460	467	472	447	83.7
Kansas	72	<i>59</i>	58	61	78	76	75	80	78	72	77	76	71	72.5
Massachusetts	2,558	<i>2,016</i>	2,278	2,349	2,445	2,557	2,656	2,764	2,788	2,760	2,768	2,663	2,633	72.2
Michigan	2,350	<i>2,155</i>	2,290	2,390	2,473	2,440	2,470	2,462	2,425	2,325	2,268	2,264	2,236	87.1
Minnesota	266	<i>269</i>	259	272	288	284	290	289	272	255	240	236	255	81.0
Missouri	222	<i>199</i>	198	209	212	252	245	241	230	239	217	205	210	78.6
New Jersey	2,238	<i>2,200</i>	2,277	2,279	2,289	2,281	2,217	<i>2,169</i>	2,217	2,244	2,247	2,223	2,211	94.8
New York	1,756	<i>1,671</i>	1,689	1,708	1,740	1,750	1,748	1,768	1,768	1,734	1,804	1,808	1,826	91.5
Ohio	3,841	<i>3,671</i>	3,868	3,848	3,804	3,907	3,948	3,897	4,002	4,019	3,944	3,662	3,532	87.9
Oklahoma	62	<i>63</i>	63	62	60	62	64	65	64	63	65	60	54	83.1
Pennsylvania	1,841	<i>1,721</i>	1,745	1,782	1,895	1,989	1,989	1,970	1,925	1,834	1,831	1,755	1,739	87.4
Washington	35	<i>31</i>	33	36	35	35	36	36	35	34	37	37	32	83.8
Wisconsin	342	<i>337</i>	339	338	341	349	349	343	340	342	345	345	343	96.3

¹ No comparable data for years prior to 1914.

REFRIGERATORS, MECHANICAL

Description of the industry.—This industry classification covers establishments engaged primarily in the manufacture of mechanical refrigerators. (The term "mechanical refrigerators" is used to designate not only the motor-driven type but also those which use heat to actuate the cooling medium; consequently the term covers all types which do not use ice as the refrigerating agent.) The principal products are domestic refrigerators, with or without cabinets, and

commercial refrigerating machines of not more than 500 pounds ice-melting capacity in 24 hours, such as water coolers, ice-cream cabinets, etc. The manufacture of mechanical refrigerators was first treated as a separate industry at the census for 1927, but the information obtained for that year was limited and consequently comparative product figures can not be given in as much detail for 1927 as for 1929.

TABLE 1.—SUMMARY FOR THE UNITED STATES: 1929 AND 1927¹

YEAR OR PERIOD	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products ²	Value added by manufacture ³	Horsepower
1929	34	16,883	\$26,196,076	\$72,413,047	\$161,565,676	\$89,152,629	44,958
1927	22	11,285	17,712,006	42,651,262	96,513,640	53,862,387	32,551
PER CENT OF INCREASE							
1927-1929	54.5	49.6	47.9	69.8	67.4	65.5	38.1

¹ For censuses prior to 1927 figures on the manufacture of mechanical refrigerators were included in the reports for the "Electrical machinery, apparatus, and supplies." and "Foundry and machine-shop products, not elsewhere classified" industries.
² The figures for 1929 refer to sales (shipments or deliveries) by manufacturers; those for 1927 represent production. See GENERAL EXPLANATIONS—Value of Products.
³ Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.
⁴ Revised.

TABLE 2.—GENERAL STATISTICS, BY STATES: 1929

[This table presents statistics separately for Michigan, the only State for which figures can be given without disclosing data for individual establishments, and for the remaining States in groups. See GENERAL EXPLANATIONS—Establishments Covered—Size]

STATE	Number of establishments	Salaried officers and employees ¹	Wage earners (average for the year)	HORSEPOWER (RATED CAPACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products ²	Value added by manufacture ³
				Total	Prime movers	Motors run by purchased energy			Total	Materials	Fuel and purchased energy		
<i>United States</i>													
1929	34	2,493	16,883	44,953	500	44,453	\$7,024,046	\$26,196,076	\$72,413,047	\$70,930,577	\$1,482,470	\$161,565,676	\$89,152,629
1927	22	2,086	11,285	32,551	4,450	31,101	6,106,278	17,712,006	42,651,262	42,105,673	545,589	96,513,640	53,862,387
Michigan	6	622	1,431	4,994	-----	4,994	1,934,291	2,522,230	11,231,081	11,112,435	118,646	23,108,080	11,877,008
Groups of States:													
Calif., 3 est.; Oreg., 1;													
Wash., 2													
6	34	118	96	-----	96	73,104	173,872	388,577	382,682	5,895	762,774	374,197	
Iowa, 1 est.; Mo., 1;													
Nebr., 1													
3	10	10	55	-----	55	13,759	12,742	37,337	35,628	1,709	70,360	33,023	
Ind., 3 est.; N. Y., 1;													
Ohio, 5													
9	1,670	14,462	34,669	500	34,169	4,666,212	22,341,502	58,063,379	56,823,487	1,239,892	132,065,733	74,902,354	
Ill., 3 est.; Mass., 3;													
Md., 1; N. J., 1;													
Pa., 2													
10	157	862	5,199	-----	5,199	336,680	1,145,721	2,692,673	2,576,345	116,328	4,658,720	1,966,047	

¹ Not including proprietors and firm members. The total numbers of persons engaged and the numbers of proprietors and firm members, as reported for this industry are as follows: For 1929, total, 19,380; proprietors and firm members, 4. For 1927, total, 13,371; proprietors and firm members, none.
² The figures for 1929 refer to sales (shipments or deliveries) by manufacturers; those for 1927 represent production. See GENERAL EXPLANATIONS—Value of Products.
³ Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.
⁴ Revised.

REFRIGERATORS, MECHANICAL

1171

TABLE 3.—PRODUCTS, BY CLASS, NUMBER, AND VALUE: 1929 AND 1927

[The figures for 1929 refer to sales (shipments or deliveries) by manufacturers; those for 1927 represent production. See GENERAL EXPLANATIONS—Value of Products]

CLASS	1929	1927	CLASS	1929	1927
1. Mechanical-refrigerator industry, all products, total value.....	\$161,565,676	\$96,513,649	Mechanical refrigerators, etc.—Continued. Domestic electric refrigerators—Continued. Evaporators and compressors without cabinets, value.....	\$10,246,962	
2. Mechanical refrigerators, domestic and commercial, and refrigerator units without cabinets, of not over 500 lbs. ice-melting capacity, etc., replacement parts, and receipts for repair work.....	\$147,111,046	\$90,272,754	Commercial refrigerating machines of not over 500 lbs. ice-melting capacity in 24 hours: Water coolers— Complete— Number.....	26,074	
3. Other products (not normally belonging to the industry).....	\$14,454,630	\$6,240,895	Value.....	\$2,789,411	
4. Mechanical refrigerators, etc., made as secondary products in other industries, value.....	\$3,228,365	\$1,425,849	Units only, ¹ value.....	\$567,982	
Mechanical refrigerators, etc., all industries, aggregate value (sum of 2 and 4).....	\$150,339,411	\$91,698,603	Ice-cream cabinets— Complete— Number.....	50,930	
Domestic electric refrigerators: Units complete with cabinets— Number.....	597,520	1 397,673	Value.....	\$8,413,353	
Value.....	\$102,255,594	1 \$71,715,251	Units only, ² value.....	\$406,612	
Number not reported, value.....	\$829,448	1 \$634,801	Other, value.....	\$1,941,900	
Units complete without cabinets— Number.....	67,908	1 58,633	Absorption-type refrigeration systems, ³ replacement parts for all types, and receipts for repair work.....	\$14,268,701	\$10,074,493
Value.....	\$8,589,478	1 \$8,774,058			

¹ Revised.
² Data in regard to number incomplete.
³ Not shown separately to avoid disclosing output of individual establishments.

TABLE 4.—PRIME MOVERS, MOTORS, GENERATORS, AND CONSUMPTION OF PURCHASED ELECTRIC ENERGY—NUMBER AND RATED CAPACITY OF PRIME MOVERS, ELECTRIC MOTORS, AND GENERATORS, 1929 AND 1927; QUANTITY OF ELECTRIC ENERGY PURCHASED, 1929

TYPE	1929		1927		PER CENT DISTRIBUTION OF RATED HORSE-POWER CAPACITY	TYPE	1929		1927		PER CENT DISTRIBUTION OF RATED HORSE-POWER CAPACITY
	Number	Capacity	Number	Capacity			Number	Capacity	Number	Capacity	
Prime movers and electric motors driven by purchased energy, aggregate.....	7,447	Horse-power 44,953	14,772	Horse-power 32,551	100.0	Electric motors, total.....	7,782	Horse-power 50,157	6,393	Horse-power 43,523	100.0
Prime movers, total.....	1	500	14	1,450	1.1	Driven by purchased energy.....	7,446	44,453	4,768	31,101	88.6
Steam, total.....	1	500	14	1,450	1.1	Driven by energy generated in establishments reporting.....	336	5,704	1,625	12,422	11.4
Engines.....	1	500	4	1,450	1.1	Electric generators.....	1	Kilowatts 373	14	Kilowatts 1,138	
Turbines.....						Electric energy purchased ²		Kilowatt-hours 94,801,503		(1)	
Internal-combustion engines. Water wheels and water turbines.....											
Electric motors driven by purchased energy.....	7,446	44,453	4,768	31,101	98.9						

¹ Revised.
² This item covers the consumption of purchased electric energy for all purposes—power, heat, light, etc.
³ Data incomplete.

TABLE 5.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, AND FOR MICHIGAN: 1929

[This table presents statistics for the United States and for Michigan separately, and combined figures for 3 important States, Indiana, New York, and Ohio, figures for which can not be given separately without disclosing data for individual establishments. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures]

STATE	Average number employed during year	NUMBER EMPLOYED ON 15TH DAY OF MONTH OR NEAREST REPRESENTATIVE DAY												Per cent minimum is of maximum
		January	February	March	April	May	June	July	August	September	October	November	December	
United States.....	16,883	13,719	15,436	16,564	20,023	19,914	20,233	19,523	17,182	18,756	14,492	13,581	<i>13,176</i>	65.1
Michigan.....	1,431	1,357	1,878	1,837	1,738	1,523	1,520	1,813	1,265	1,155	1,144	1,064	878	40.8
Indiana, New York, and Ohio.....	14,462	11,446	12,607	13,744	17,269	17,297	17,612	16,646	14,853	16,611	12,446	11,635	11,381	64.6

SCALES AND BALANCES

Description of the industry.—This industry embraces establishments engaged primarily in the manufacture of scales and balances of all descriptions—stationary and portable, light and heavy, spring and beam, counter and platform—and weighing machinery.

Many of the scales and weighing machines have automatic computing devices. Coin-operated mechanisms for weighing, laboratory scales and weights, and scale parts are also made by establishments covered by this classification.

TABLE 1.—SUMMARY FOR THE UNITED STATES: 1899 TO 1929

[Data for establishments with products under \$5,000 in value included for 1919 and prior years but not for 1921 and subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

YEAR OR PERIOD	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy ¹	Value of products ²	Value added by manufacture ³	Horsepower
1929	59	4, 118	\$5, 995, 475	\$7, 438, 190	\$30, 381, 424	\$22, 043, 234	9, 788
1927	80	3, 906	5, 490, 742	7, 453, 927	24, 655, 442	17, 201, 515	8, 766
1925	71	4, 292	5, 782, 070	7, 345, 704	27, 237, 181	19, 838, 477	9, 771
1923	65	4, 245	5, 500, 035	6, 594, 493	24, 155, 632	17, 562, 490	9, 615
1921	65	3, 729	4, 427, 986	4, 716, 313	15, 884, 770	11, 168, 457	(⁴)
1919	79	5, 432	6, 533, 978	6, 969, 632	20, 041, 038	13, 647, 356	7, 441
1914	83	4, 407	2, 933, 696	3, 174, 487	9, 733, 721	6, 559, 254	6, 187
1909	87	3, 559	2, 183, 220	2, 703, 907	8, 785, 642	6, 081, 045	5, 010
1904	85	3, 133	1, 754, 789	1, 633, 150	6, 002, 638	4, 369, 488	3, 178
1899	86	2, 775	1, 436, 839	1, 533, 379	5, 239, 788	3, 706, 409	2, 357
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929	(⁵)	5.4	9.8	-0.2	23.2	33.4	11.1
1925-1927	(⁵)	-9.0	-5.6	1.4	-9.5	-13.5	-10.3
1923-1925	(⁵)	1.1	5.1	11.4	12.8	13.2	1.6
1921-1923	(⁵)	14.1	24.2	39.8	52.1	57.3	-----
1919-1921	(⁵)	-31.5	-32.2	-32.6	-23.0	-18.2	-----
1919-1929	(⁵)	-24.2	-8.2	6.4	47.2	68.1	30.0
1909-1919	(⁵)	52.0	198.9	158.6	134.9	124.4	25.9
1899-1909	(⁵)	28.3	52.2	70.3	67.7	64.1	150.7

¹ The cost of mill supplies is included in the figures for 1927 and earlier years, but not in that for 1929. See GENERAL EXPLANATIONS—Comparableness with Preceding years—Schedule Changes—Mill or Shop Supplies.

² The figures for 1929 refer to sales (shipments or deliveries) by manufacturers; those for earlier years represent production. See GENERAL EXPLANATIONS—Value of Products.

³ Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

⁴ Not called for on schedule.

⁵ Per cent not computed where base is less than 100.

SCALES AND BALANCES

1173

TABLE 2.—GENERAL STATISTICS, BY STATES: 1929, 1927, AND 1919

[This table presents statistics separately for each State for which figures can be given without disclosing data for individual establishments, and for the remaining States in groups. Data for establishments with products under \$5,000 in value are included for 1919 but not for subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

STATE	Census year	Number of establishments	Salaried officers and employes ¹	Wage earners (average for the year)	HORSEPOWER (RATED CAPACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products ³	Value added by manufacture ⁴
					Total	Prime movers	Electric motors run by purchased energy			Total	Materials ²	Fuel and purchased energy		
United States	1929	59	1,065	4,118	9,738	990	8,748	\$2,849,331	\$5,995,475	\$7,438,190	\$7,090,905	\$347,285	\$30,381,424	\$22,943,234
	1927	60	1,082	3,906	8,766	744	8,022	2,430,583	5,400,742	7,453,927	7,163,072	290,855	24,655,442	17,201,515
	1919	79	1,351	5,432	7,441	961	6,480	2,265,970	6,533,978	6,993,682	6,729,098	264,584	20,641,038	13,647,356
Individual States:														
Illinois	1929	13	127	569	707	240	557	357,007	893,626	1,213,644	1,172,474	41,170	3,590,834	2,377,190
	1927	11	97	428	673	240	433	236,476	630,634	812,774	784,510	28,264	2,758,417	1,945,643
	1919	16	130	699	1,170		1,170	241,560	914,443	1,273,275	1,238,545	34,730	3,206,509	1,933,634
New Jersey	1929	8	59	266	373		373	202,033	415,443	337,220	321,183	16,037	1,464,649	1,127,429
	1927	8	63	267	287		287	154,142	357,806	385,982	368,747	17,235	1,352,156	960,174
	1919	9	161	426	351	277	74	280,224	462,521	461,925	445,881	16,044	1,427,844	965,919
New York	1929	9	128	525	654		654	454,546	780,069	919,102	886,714	32,388	2,785,043	1,865,941
	1927	12	135	472	548		548	355,309	594,266	705,908	678,726	27,182	2,151,993	1,446,085
	1919	13	121	518	279		279	255,895	558,117	872,061	853,343	18,718	2,170,589	1,298,528
Pennsylvania	1929	6	83	186	604	26	578	177,181	263,893	248,261	236,795	11,466	784,350	536,089
	1927	4	31	180	283	25	258	65,154	272,648	200,382	187,910	12,472	700,361	499,979
Groups of States:														
Calif., 1 est.; Colo., 1; Utah, 1	1929	3	3	6	19		19	1,303	9,504	25,600	24,581	1,019	50,567	24,967
Ind., 2 est.; Minn., 1; Mo., 3; Wis., 1	1929	7	34	138	271	38	233	81,631	174,222	224,387	212,407	11,980	779,641	555,254
Ky., 2 est.; Ohio, 4; Mass., 2 est.; Mich., 3; Vt., 2	1929	6	455	705	1,577	250	1,327	1,014,647	1,202,284	2,151,091	2,087,802	63,289	13,434,348	11,283,257
States not shown separately	1927	25	750	2,559	6,975	479	6,496	1,619,442	3,605,388	5,348,881	5,143,179	205,702	17,692,615	12,343,634
	1919	41	930	3,789	5,661	684	4,967	1,488,282	4,598,877	4,386,421	4,191,329	195,092	13,835,696	9,449,275

¹ Not including proprietors and firm members. The total numbers of persons engaged and the numbers of proprietors and firm members, as reported for this industry, are as follows: For 1929, total, 5,214; proprietors and firm members, 31. For 1927, total, 5,020; proprietors and firm members, 32. For 1919, total, 6,821; proprietors and firm members, 38.

² The cost of mill supplies is included in the figures for 1927 and 1919, but not in that for 1929. See GENERAL EXPLANATIONS—Comparableness with preceding years—Schedule Changes—Mill or Shop Supplies.

³ The figures for 1929 refer to sales (shipments or deliveries) by manufacturers; those for earlier years represent production. See GENERAL EXPLANATIONS—Value of Products.

⁴ Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

⁵ Data for purchased power other than electric (power transmitted into the plant by belt or shaft) are included in the State items for 1919 but not in the United States totals.

⁶ Colorado, 1 establishment; Indiana, 3; Iowa, 1; Kentucky, 2; Massachusetts, 4; Michigan, 3; Minnesota, 1; Mississippi, 1; Missouri, 2; Ohio, 4; Vermont, 2; Wisconsin, 1; California, 1 establishment; Colorado, 2; Indiana, 5; Iowa, 1; Kansas, 1; Kentucky, 2; Massachusetts, 1; Michigan, 3; Mississippi, 1; Missouri, 6; North Carolina, 1; Ohio, 5; Pennsylvania, 5; Texas, 1; Utah, 2; Vermont, 3; Wisconsin, 2.

TABLE 3.—PRODUCTS, BY CLASS, NUMBER, AND VALUE: 1929 AND 1927

[The figures for 1929 refer to sales (shipments or deliveries) by manufacturers; those for 1927 represent production. See GENERAL EXPLANATIONS—Value of Products. No corresponding data for earlier years are available. Statistics for States are withheld from publication in order to avoid disclosing an approximation of data for individual establishments]

CLASS	1929	1927	CLASS	1929	1927
1. Scales and balances industry, all products, total value	\$30,381,424	\$24,655,442	Scales and balances, all industries—Continued.		
2. Scales and balances, parts, and attachments	\$24,700,522	\$21,565,756	Scales—Continued.		
3. Other products (not normally belonging to the industry), value, and receipts for repairing	\$5,680,902	\$3,149,686	Beam, including steelyards—		
4. Scales and balances made as secondary products in other industries, value	\$1,384,325	\$768,774	Number	155,241	161,489
Scales and balances, all industries:			Value	\$5,084,361	\$4,464,048
Total value (sum of 2 and 4)	\$26,084,847	\$22,274,530	Spring, other than computing—		
Scales:			Number	620,061	(¹)
Automatic industrial—			Value	\$2,184,099	\$1,660,021
Number	21,161	60,736	Coin-operated—		
Value	\$4,589,733	\$10,905,179	Number	8,637	(¹)
Calculating and computing—			Value	\$1,447,419	\$1,266,340
Number	53,006		Balances:		
Value	\$9,070,021		Precision—		
			Number	18,115	
			Value	\$1,102,740	48,000
			Other—		
			Number	23,870	\$1,277,544
			Value	\$174,375	
			Other weighing devices and scales and balances not reported as to type, value	\$1,731,938	\$2,093,166
			Parts and attachments, value	\$699,661	\$108,232

¹ No data.

CENSUS OF MANUFACTURES: 1929

TABLE 4.—PRIME MOVERS, MOTORS, GENERATORS, AND CONSUMPTION OF PURCHASED ELECTRIC ENERGY—NUMBER AND RATED CAPACITY OF PRIME MOVERS AND ELECTRIC MOTORS, 1929, 1927, 1925, 1919, AND 1914, AND OF GENERATORS, 1929, 1927, AND 1925; QUANTITY OF ELECTRIC ENERGY PURCHASED, 1929

TYPE	1929		1927		1925		1919		1914		PER CENT DISTRIBUTION OF RATED HORSEPOWER CAPACITY	
	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	1929	1919
Prime movers and electric motors driven by purchased energy, aggregate.....	1,630	Horse-power 9,738	1,304	Horse-power 8,766	1,180	Horse-power 9,771	793	Horse-power 7,441	568	Horse-power 6,187	100.0	100.0
Prime movers, total.....	11	990	10	744	17	1,055	21	961	42	2,445	10.2	12.9
Steam, total.....	5	462	4	216	7	665	6	620	21	2,160	4.7	8.3
Engines.....	5	462	4	216	6	565	5	595	(1)	(1)	4.7	8.0
Turbines.....					1	100	1	25	(1)	(1)		0.3
Internal-combustion engines.....	2	240	2	240	8	345	13	301	19	248	2.5	4.0
Water wheels and water turbines.....	4	288	4	288	2	45	2	40	2	37	3.0	0.5
Electric motors driven by purchased energy.....	1,610	8,748	1,294	8,022	1,163	8,716	772	6,480	526	3,742	89.8	87.1
Electric motors, total.....	1,671	9,252	1,325	8,513	1,195	9,120	774	6,488	580	4,325	100.0	100.0
Driven by purchased energy.....	1,619	8,748	1,294	8,022	1,163	8,716	772	6,480	526	3,742	94.6	99.9
Driven by energy generated in establishments reporting.....	52	504	31	491	32	404	2	8	63	583	5.4	0.1
Electric generators.....	4	Kilowatts 433	3	Kilowatts 347	2	Kilowatts 319	(?)	(?)	(?)	(?)		
Electric energy purchased ¹		Kilowatt-hours 7,735,331		(1)		(1)		(2)		(2)		

¹ Not called for separately on schedule.

² Not called for on schedule.

³ This item covers the consumption of purchased electric energy for all purposes—power, heat, light, etc.

⁴ Data incomplete.

TABLE 5.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1929, 1925, 1919, 1914, AND 1909, AND BY STATES, 1929

This table presents statistics for only those States for which figures can be given without disclosing data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures.

STATE	Average number employed during year	NUMBER EMPLOYED ON 15TH DAY OF MONTH OR NEAREST REPRESENTATIVE DAY												Per cent minimum is of maximum
		January	February	March	April	May	June	July	August	September	October	November	December	
United States:														
1929.....	4,118	3,801	4,011	4,145	4,063	4,061	4,121	4,157	4,206	4,257	4,259	4,165	4,067	91.6
1925.....	4,292	4,034	4,118	4,170	4,233	4,317	4,316	4,312	4,382	4,397	4,421	4,302	4,405	91.2
1919.....	5,432	4,887	5,003	4,994	5,135	5,239	5,268	5,498	5,720	5,755	5,852	5,887	5,946	82.2
1914.....	4,467	4,659	4,867	4,885	4,774	4,704	4,711	4,616	4,460	4,118	4,005	3,941	3,884	79.1
1909.....	3,559	3,260	3,387	3,479	3,538	3,552	3,568	3,503	3,667	3,704	3,715	3,636	3,691	88.0
Illinois.....	569	525	551	578	550	522	541	538	619	687	642	596	478	69.6
New Jersey.....	260	256	255	<i>252</i>	255	260	264	271	273	278	276	280	276	90.0
New York.....	525	498	511	520	527	521	506	518	525	532	577	536	528	86.3
Pennsylvania.....	186	184	183	183	183	178	181	182	188	193	195	192	192	91.3

SEWING MACHINES AND ATTACHMENTS

Description of the industry.—This industry embraces establishments engaged primarily in the manufacture of sewing machines (hand, foot, and power) for home and factory use, including those designed for sewing leather.

Establishments engaged primarily in the manufacture of sewing-machine cases, cabinets, and tables, which were formerly treated as belonging to this industry, were assigned at the census for 1929 to the "Furniture, including store and office fixtures" industry. The figures for "Sewing machines and attach-

ments" for 1927 have been adjusted by omission of the data for establishments manufacturing sewing-machine cases, cabinets, and tables, but those for prior years can not be so adjusted and consequently are not included in this report.

Detailed statistics of products.—A special schedule, calling for separate data on the several types of sewing machines, was used for the first time at the census for 1927, and for this reason detailed product statistics comparable with those for 1929 can not be given for years prior to 1927.

TABLE 1.—SUMMARY FOR THE UNITED STATES: 1929 AND 1927¹

YEAR OR PERIOD	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products ²	Value added by manufacture ³	Horsepower
1929	39	10,467	\$14,976,182	\$10,458,425	\$45,094,600	\$28,636,175	29,659
1927	35	9,997	13,748,151	14,072,579	39,723,822	25,651,243	31,286
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929	(4)	4.7	8.9	17.0	13.5	11.6	-5.2

¹ No comparable data for years prior to 1927. (See second paragraph of text, above.)

² The figures for 1929 refer to sales (shipments or deliveries) by manufacturers; those for 1927 represent production. See GENERAL EXPLANATIONS—Value of Products.

³ Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

⁴ Per cent not computed where base is less than 100.

TABLE 2.—GENERAL STATISTICS, BY STATES: 1929

[This table presents statistics separately for each State for which figures can be given without disclosing data for individual establishments. Certain of the "Other States," however, reported larger values of products than some of the States shown separately]

STATE	Census year	Number of establishments	Salaried officers and employees ¹	Wage earners (average for the year)	HORSEPOWER (RATED CAPACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products ²	Value added by manufacture ³
					Total	Prime movers	Motors run by purchased energy			Total	Materials	Fuel and purchased energy		
United States	1929	39	1,703	10,467	29,059	16,067	13,592	\$3,610,659	\$14,976,182	\$10,458,425	\$15,855,848	\$602,577	\$45,094,600	\$28,636,175
	1927	35	1,767	9,997	31,286	19,080	12,206	3,692,875	13,748,151	14,072,579	13,427,987	644,592	39,723,822	25,651,243
Illinois	1929	4	328	1,444	2,699	1,225	1,474	\$47,667	1,855,237	3,051,125	2,958,401	92,724	8,783,941	5,732,916
Massachusetts	1929	7	103	586	1,096	1,065	31	232,197	805,564	948,108	920,568	27,538	2,341,851	1,393,745
New York	1929	15	43	145	149	72	77	120,151	232,465	162,868	156,943	5,925	1,024,959	862,091
Other States (Conn., 3; Md., 1; Mo., 2; N. J., 2; Ohio, 3; and Pa., 2)	1929	13	1,229	8,292	25,715	13,705	12,010	2,410,844	12,082,916	12,296,326	11,819,936	476,390	32,943,840	20,647,523

¹ Not including proprietors and firm members. The total numbers of persons engaged and the numbers of proprietors and firm members, as reported for this industry, are as follows: For 1929, total, 12,189; proprietors and firm members, 19. For 1927, total, 11,776; proprietors and firm members, 12.

² The figures for 1929 refer to sales (shipments or deliveries) by manufacturers; those for earlier years represent production. See GENERAL EXPLANATIONS—Value of Products.

³ Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

⁴ The United States figures for 1927 have been revised by deducting the data for sewing-machine cases and cabinets (see "Description of the industry") in order to make them comparable with those for 1929. It would be impossible, however, to publish revised State figures without disclosing data for individual establishments.

CENSUS OF MANUFACTURES: 1929

TABLE 3.—PRODUCTS, BY CLASS, NUMBER, AND VALUE, FOR THE UNITED STATES: 1929 AND 1927¹

[The figures for 1929 refer to sales (shipments or deliveries) by manufacturers; those for 1927 represent production. See GENERAL EXPLANATIONS—Value of Products. No figures for States can be shown without disclosing data for individual establishments]

CLASS	1929	1927	CLASS	1929	1927
1. "Sewing machines and attachments" industry, all products, total value.....	\$45,094,600	\$39,723,822	Sewing machines, parts, and attachments—Continued.		
2. Sewing machines, parts, and attachments.....	40,465,659	34,139,045	Sewing machines—Continued.		
3. Other products (not normally belonging to the industry), value, and amount received for repair work.....	4,628,941	5,584,777	Household types—Continued.		
4. Sewing machines made as secondary products in other industries, value.....	404,443	786,100	Foot and hand—		
Sewing machines, parts, and attachments, all industries: Aggregate value (sum of 2 and 4).....	\$40,960,102	\$34,925,145	Number.....	345,553	453,990
Sewing machines—			Value.....	\$8,613,185	\$9,066,731
Total number.....	793,748	880,715	Industrial types—		
Total value.....	\$37,378,210	\$32,934,450	Total number.....	122,641	102,758
Household types—			Total value.....	\$12,001,736	\$10,407,733
Total number.....	669,027	763,059	Electric—		
Total value.....	\$25,095,008	\$21,794,174	Number.....	113,890	97,543
Electric—			Value.....	\$11,144,719	\$9,606,504
Number.....	323,474	309,969	Other—		
Value.....	\$16,481,823	\$12,700,443	Number.....	8,751	5,215
			Value.....	\$857,017	\$801,229
			Sewing machines not reported in detail as to type—		
			Number.....	2,080	13,008
			Value.....	\$281,466	\$732,543
			Parts and attachments, value.....	\$3,581,892	\$1,990,095

¹ No comparable data for years prior to 1927. (See "Detailed statistics of products," p. 1175.)
² Revised. (See "Description of the industry," second par., p. 1175.)

TABLE 4.—PRIME MOVERS, MOTORS, GENERATORS, AND CONSUMPTION OF PURCHASED ELECTRIC ENERGY—NUMBER AND RATED CAPACITY OF PRIME MOVERS, ELECTRIC MOTORS, AND GENERATORS, 1929 AND 1927; QUANTITY OF ELECTRIC ENERGY PURCHASED, 1929

TYPE	1929		1927 ¹		PER CENT DISTRIBUTION OF RATED HORSE-POWER CAPACITY	1929	1929		1927 ¹		PER CENT DISTRIBUTION OF RATED HORSE-POWER CAPACITY	1929
	Number	Capacity	Number	Capacity			Number	Capacity	Number	Capacity		
Prime movers and electric motors driven by purchased energy, aggregate.....	1,907	Horse-power 29,659	1,483	Horse-power 31,286	100.0	Electric motors, total.....	2,847	Horse-power 24,486	2,480	Horse-power 22,311	100.0	
Prime movers, total.....	24	16,067	30	19,080	54.2	Driven by purchased energy.....	1,883	13,592	1,453	12,206	55.5	
Steam, total.....	18	15,827	24	18,698	53.4	Driven by energy generated in establishments reporting.....	964	10,894	1,027	10,105	44.5	
Engines.....	15	3,147	19	4,728	10.6	Electric generators.....	16	Kilowatts 9,690	21	Kilowatts 13,525		
Turbines.....	3	12,680	5	13,970	42.8	Electric energy purchased ²		Kilowatt-hours 15,855,508		(³)		
Water wheels and water turbines.....	6	240	6	382	0.8							
Electric motors driven by purchased energy.....	1,883	13,592	1,453	12,206	45.8							

¹ Revised.
² This item covers the consumption of purchased electric energy for all purposes—power, heat, light, etc. No comparable data available for years prior to 1929.
³ Data incomplete.

TABLE 5.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, AND BY STATES: 1929

[This table presents statistics for only those States for which figures can be given without disclosing data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures]

STATE	Average number employed during year	NUMBER EMPLOYED ON 15TH DAY OF MONTH OR NEAREST REPRESENTATIVE DAY												Per cent minimum is of maximum
		January	February	March	April	May	June	July	August	September	October	November	December	
United States.....	10,467	10,227	10,342	10,381	10,450	10,455	10,534	10,501	10,589	10,531	10,676	10,571	10,451	96.5
Illinois.....	1,444	1,488	1,481	1,492	1,491	1,492	1,469	1,454	1,435	1,423	1,406	1,373	<i>1,390</i>	89.1
Massachusetts.....	586	590	600	596	610	612	605	591	588	581	575	581	<i>499</i>	81.0
New York.....	145	144	145	<i>141</i>	144	147	142	149	143	142	142	149	149	94.6

TEXTILE MACHINERY AND PARTS

Description of the industry.—This industry embraces 376 establishments, of which 160 manufacture primarily complete machines of the following classes: (1) Fiber-to-fabric machinery—that is, machinery for working raw stock, and all textile-mill machinery used in subsequent processes in the preparation of yarn for weaving, knitting, etc., (2) fabric machinery—looms, knitting machines, etc., (3) machinery for bleaching, dyeing, printing, mercerizing, finishing, etc., (4) miscellaneous textile machinery not included in any of the foregoing classes. Of the remainder, 175 manufacture extra parts, attachments, and accessories for textile machinery and 41 produce and cover rolls.

Extra parts, attachments, etc.—The relatively large value of "Extra parts, attachments, and accessories for textile machinery," as shown in Table 3—more than

one-third of the total value of products for the industry—is accounted for by the fact that some manufacturers ship a considerable proportion of their output, especially that destined for export, in the form of "knocked-down" or partly assembled machines. The records of these manufacturers do not in all cases show the numbers of complete machines represented by such shipments, and accordingly they are necessarily reported as parts.

Cost of materials consumed.—Of the 160 establishments engaged in the manufacture of complete textile machines in 1929, 24 did not report in detail the materials consumed. Of the 216 establishments engaged in the manufacture of parts, attachments, and accessories, 12 did not report materials consumed in detail and 126 did not report the consumption of any of the materials specified on the schedule.

TABLE 1.—SUMMARY FOR THE UNITED STATES: 1919 TO 1929

[Data for establishments with products under \$5,000 in value included for 1919 but not for 1921 and subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

YEAR OR PERIOD	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy ¹	Value of products ²	Value added by manufacture ³	Horsepower
1929	376	27,019	\$37,836,406	\$30,556,299	\$122,438,514	\$85,882,215	66,539
1927	307	20,154	36,481,196	36,180,689	116,921,130	80,740,441	64,532
1925	379	27,809	37,403,681	39,086,868	121,653,324	82,616,456	61,738
1923	428	35,672	46,022,645	49,705,554	140,661,358	90,955,804	50,295
1921	421	31,025	38,830,660	44,903,788	128,934,896	84,031,108	(4) 41,744
1919 ⁵	432	31,823	36,528,729	45,636,628	122,089,264	76,452,630	41,744
PER CENT OF INCREASE OR DECREASE (-)							
1927-1929	2.5	3.3	-3.7	1.0	4.7	6.4	3.1
1925-1927	-8.2	-6.2	-2.6	-7.3	-3.9	-2.3	4.5
1923-1925	-11.4	-21.9	-18.6	-21.5	-13.5	-9.2	9.7
1921-1923	1.7	15.0	18.5	10.7	9.1	8.2	-----
1919-1921	-2.5	-2.5	6.3	-1.6	5.6	9.9	-----
1919-1929	-13.0	-15.1	3.6	-19.9	0.3	12.3	59.4

¹ The cost of mill supplies is included in the figure for 1927 and earlier years, but not in those for 1929. See GENERAL EXPLANATIONS—Comparableness with preceding years—Schedule Changes—Mill or Shop Supplies.

² The figures for 1929 refer to sales (shipments or deliveries) by manufacturers; those for earlier years represent production. See GENERAL EXPLANATIONS—Value of Products.

³ Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

⁴ Not called for on schedule.

⁵ No data available for years prior to 1919.

CENSUS OF MANUFACTURES: 1929

TABLE 2.—GENERAL STATISTICS, BY STATES: 1929, 1927, AND 1919

[This table presents statistics separately for each State for which figures can be given without disclosing data for individual establishments, and for the remaining States in groups. Data for establishments with products under \$5,000 in value are included for 1919 but not for subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

STATE	Census year	Number of establishments	Salaried officers and employees ¹	Wage earners (average for the year)	HORSEPOWER (RATED CAPACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products ³	Value added by manufacture ⁴
					Total	Prime movers	Motors run by purchased energy			Total	Materials ⁵	Fuel and purchased energy		
United States.....	1929	376	4,244	27,019	66,539	19,491	47,048	\$12,660,745	\$37,636,406	\$36,556,269	\$34,825,992	\$1,730,307	\$122,438,514	\$85,882,215
	1927	367	4,066	26,154	64,532	19,430	45,102	10,917,207	36,481,196	36,180,689	34,583,354	1,597,935	110,021,130	80,740,441
	1919	432	3,949	31,823	41,744	23,704	18,040	8,068,770	36,528,729	45,636,028	44,094,714	1,541,914	122,089,264	76,482,036
Individual States:														
Georgia.....	1929	16	39	237	609	235	374	116,625	246,738	362,282	346,349	15,933	979,929	617,647
	1927	12	41	215	192	192	192	116,509	211,012	379,931	306,157	13,774	924,861	644,930
	1919	9	22	94	78	60	28	30,813	92,552	189,187	186,751	2,406	377,889	188,432
Massachusetts.....	1929	111	1,445	10,597	28,334	9,742	18,592	4,304,701	14,233,661	12,467,673	11,748,270	719,403	41,202,070	28,735,297
	1927	119	1,529	12,009	29,009	9,146	19,863	3,958,841	16,242,957	15,008,418	14,314,883	693,895	46,865,937	31,857,519
	1919	116	1,894	17,413	22,402	15,430	8,972	3,755,192	20,712,227	23,477,372	22,638,100	844,263	65,901,370	42,428,968
New Hampshire.....	1929	11	200	1,108	4,329	1,229	3,100	592,295	1,390,517	1,400,482	1,304,382	96,100	6,743,280	5,242,807
	1927	9	194	1,053	3,815	1,058	2,757	609,496	1,370,285	1,642,257	1,683,318	108,939	7,324,082	5,631,825
	1919	11	79	1,109	1,313	690	823	231,461	1,164,246	2,469,392	2,422,224	47,168	6,222,552	3,753,160
New Jersey.....	1929	43	293	1,107	2,271	760	1,511	681,765	1,690,995	2,258,335	2,183,213	75,122	5,787,973	3,529,638
	1927	49	225	1,265	2,701	1,041	1,690	653,807	1,778,204	2,151,281	2,074,995	76,280	6,009,187	3,857,608
	1919	56	177	1,672	1,715	800	555	396,013	1,569,560	1,831,007	1,760,087	70,920	5,002,932	3,171,925
New York.....	1929	18	46	245	592	502	602	144,907	334,362	249,182	267,367	18,185	1,082,511	815,144
	1927	15	45	245	532	552	552	171,605	340,870	204,439	275,144	19,295	1,153,261	858,812
	1919	30	145	706	754	13	741	350,857	941,879	1,074,969	1,042,703	32,266	2,938,308	1,868,839
North Carolina.....	1929	23	64	335	753	35	723	221,724	408,686	574,705	556,386	18,319	1,680,374	1,114,669
	1927	20	61	349	592	35	557	188,425	425,455	680,216	662,181	18,035	2,230,337	1,550,121
	1919	14	51	305	504	210	294	102,045	245,443	570,853	559,437	11,416	1,169,277	688,424
Pennsylvania.....	1929	61	1,075	6,038	9,810	2,157	7,653	3,412,462	9,873,647	9,961,133	9,624,607	336,526	31,066,975	21,105,842
	1927	62	821	4,830	10,706	2,800	7,906	2,359,303	7,761,833	8,679,117	8,373,205	305,912	25,641,628	16,982,511
	1919	64	553	3,705	4,855	2,659	2,196	1,260,755	4,367,609	5,750,566	5,551,390	199,176	14,364,763	8,604,187
Rhode Island.....	1929	43	651	3,711	7,605	1,447	6,158	1,612,237	4,785,953	4,639,362	4,400,339	239,023	18,009,718	13,370,356
	1927	41	612	3,425	7,242	1,907	5,335	1,544,205	4,705,669	4,497,291	4,311,961	185,330	15,390,008	10,892,717
	1919	60	766	3,776	4,751	1,065	3,686	1,298,841	4,189,840	5,074,575	5,074,575	217,340	14,842,170	9,167,604
South Carolina.....	1929	9	35	255	1,089	1,089	1,089	96,265	256,718	406,585	382,094	24,491	997,101	590,516
	1927	4	40	94	225	35	190	60,572	101,522	125,030	117,988	7,042	378,810	253,780
	1919	6	16	134	287	64	223	36,880	101,461	283,432	274,659	8,773	614,758	331,326
Tennessee.....	1929	4	4	22	170	100	70	4,749	29,450	53,705	52,856	900	109,210	55,445
	1927	(⁶)	(⁶)	(⁶)	(⁶)	(⁶)	(⁶)	(⁶)	(⁶)	(⁶)	(⁶)	(⁶)	(⁶)	(⁶)
	1919	4	6	16	29	29	29	5,995	15,296	49,793	47,920	1,873	88,112	38,319
Groups of States:														
Conn., 16 est.; Me., 3; Vt., 4.....	1929	23	241	2,274	7,185	536	6,649	657,360	3,002,126	3,178,989	3,050,609	128,380	9,725,434	6,546,445
Other States (Ala., 2 est.; Del., 2; Ill., 4; Iowa, 2; Ky., 1; Md., 1; Mich., 1; Ohio, 1).....	1929	14	241	1,090	3,787	3,250	537	725,755	1,613,553	985,621	927,705	57,916	5,044,030	4,058,409
States not shown separately.....	1927	36	498	2,669	9,498	3,438	6,060	1,284,354	3,684,219	2,672,709	2,503,822	168,887	11,003,029	8,330,820
	1919	62	240	2,893	5,309	2,063	2,646	620,918	3,128,816	4,265,512	4,159,199	106,313	10,592,434	6,326,922

¹ Not including proprietors and firm members. The total numbers of persons engaged and the numbers of proprietors and firm members, as reported for this industry, are as follows: For 1929, total, 31,494; proprietors and firm members, 231. For 1927, total, 30,435; proprietors and firm members, 218. For 1919, total, 30,126; proprietors and firm members, 354.

² The cost of mill supplies is included in the figures for 1927 and earlier years, but not in those for 1929. See GENERAL EXPLANATIONS—Comparableness with preceding years—Schedule Changes—Mill or Shop Supplies.

³ The figures for 1929 refer to sales (shipments or deliveries) by manufacturers; those for earlier years represent production. See GENERAL EXPLANATIONS—Value of Products.

⁴ Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

⁵ Data for purchased power other than electric (power transmitted into the plant by belt or shaft) are included in the State items for 1919 but not in the United States totals.

⁶ Can not be shown without disclosing data for individual establishments. Included in figures for "States not shown separately."

⁷ Alabama, 1 establishment; Connecticut, 13; Delaware, 2; Illinois, 4; Iowa, 2; Kentucky, 1; Maine, 3; Maryland, 2; Michigan, 1; Ohio, 1; Tennessee, 2; Vermont, 4.
⁸ Alabama, 4 establishments; Connecticut, 23; Delaware, 1; Illinois, 1; Indiana, 2; Iowa, 1; Kentucky, 2; Maine, 10; Maryland, 1; Michigan, 1; Vermont, 14; Virginia, 1; Wisconsin, 1.

TEXTILE MACHINERY AND PARTS

1179

TABLE 3.—PRODUCTS, BY CLASS, NUMBER, AND VALUE, FOR THE UNITED STATES: 1923 TO 1929

[The figures for 1929 refer to sales (shipments or deliveries) by manufacturers; those for earlier years represent production. See GENERAL EXPLANATIONS—Value of Products]

CLASS	1929		1927		1925		1923	
	Number	Value	Number	Value	Number	Value	Number	Value
1. Textile-machinery and parts industry, all products, total value.....		\$122,438,514		\$116,921,130		\$121,653,324		\$140,001,358
2. Textile machinery and parts.....	112,851,238		100,922,791		108,078,182		126,168,669	
3. Amount received for repair and contract work.....	6,977,862		6,912,347		7,796,596		9,678,965	
4. Other products (not normally belonging to the industry).....	2,609,414		9,085,992		5,778,546		4,813,724	
5. Textile machinery and parts made as secondary products in other industries, value.....	2,673,885		1,277,069		1,275,944		1,237,679	
Textile machinery and parts, all industries: Aggregate value (sum of 2 and 5).....	115,525,123		102,199,860		109,354,126		127,406,348	
Fiber-to-fabric machinery, total.....	23,106,002		22,015,037		19,879,797		33,684,071	
Picker machines.....	1,741	1,903,446	2,555	2,307,454	2,467	2,221,673	2,950	3,714,926
Carding machines.....	3,290	2,847,993		3,615,213	1,163	1,762,630	3,076	4,345,638
Combing machines and drawing frames.....	3,572	827,723	2,937	750,805	3,376	895,399	5,091	1,743,668
Roving machines.....	656	994,940	1,051	1,570,815	1,119	1,592,351	2,649	4,670,147
Spinning machines.....	5,419	4,858,799	3,093	3,453,461	3,271	3,737,986	6,045	9,492,941
Doubling and twisting frames.....	2,350	4,150,465	1,644	2,263,775	1,523	2,418,873	1,570	3,295,381
Winders—skein, spool, bobbin, quill, cone, etc.....	111,333	4,824,962		5,979,613		5,620,511		5,289,093
Beaming, warping, and slashing machines.....	944	2,637,674		2,074,511		1,580,364		1,222,277
Fabric machinery, total.....	20,942,030		26,730,440		31,063,595		30,402,137	
Looms for weaving, other than carpet and rug.....	18,772	9,027,422	27,729	11,469,788	28,264	15,173,457	33,530	14,141,305
Looms for weaving, carpet and rug.....	641	617,142	384	135,134	1,355	542,879	1,259	1,948,787
Knitting machines.....		19,060,540		14,266,883		14,344,031		13,241,732
Braiding machines.....	6,547	941,904	5,638	768,950	3,512	815,587	7,375	988,287
Other fabric machines, including lace and net, embroidery, and cordage and rope machines.....		295,022		89,685		187,641		82,026
Machinery for bleaching, dyeing, printing, mercerizing, finishing, etc., stock, yarn, and cloth.....		9,331,864		7,643,731		7,809,379		10,276,621
Other textile machinery.....		9,302,284		5,819,664		8,569,690		11,355,549
Extra parts, attachments, and accessories for textile machinery ¹		43,842,943		39,990,988		42,040,665		41,687,970

¹ See "Extra parts, attachments, etc.," p. 1177.

TABLE 4.—PRODUCTS, BY CLASS, NUMBER, AND VALUE, BY STATES: 1929

[The figures refer to sales (shipments or deliveries) by manufacturers. See GENERAL EXPLANATIONS—Value of Products. Figures are given for each State which can be shown separately without disclosing data for individual establishments, and for the remaining States in groups]

CLASS AND STATE	Number	Value	CLASS AND STATE	Number	Value
Textile machinery and parts, total value.....		\$115,525,123	Textile machinery and parts—Continued.		
Georgia.....		686,837	Fabric machinery—Continued.		
Massachusetts.....	38,323,003		Braiding machines (Pa. and R. I.) ¹	6,547	\$941,004
New Hampshire.....	6,485,633		Other fabric machines, including lace and net, embroidery, and cordage and rope machines (Mass., N. Y., and Pa.) ¹		295,022
New Jersey.....	5,594,343		Machinery for bleaching, dyeing, printing, mercerizing, finishing, etc., stock, yarn, and cloth, total value.....		9,331,864
New York.....	1,436,161		New Jersey.....	1,190	2,390,205
North Carolina.....	1,295,778		Massachusetts—		
Pennsylvania.....	29,007,879		Number reported.....	933	1,249,447
Rhode Island.....	17,444,936		Number not reported.....		1,071,483
South Carolina.....	981,266		Ga., Mich., and Tenn.....	127	162,045
Tennessee.....	77,481		Pa. and R. I.....	2,693	3,918,756
Conn. and Vt.....	4,381,928		Other States (N. H., N. Y., N. C., and Vt.).....	1,195	539,928
Other States (Ala., Del., Ill., Iowa, Ky., Me., Md., Mich., and Ohio).....	9,829,778		Other textile machinery, total value.....		9,302,284
Fiber-to-fabric machinery, total value.....	23,106,002		Connecticut.....		165,097
Picker machines (Mass., Pa., and R. I.) ¹	1,741	1,903,446	Massachusetts.....		975,972
Carding machines (Mass., Pa., and R. I.) ¹	3,290	2,847,993	New Jersey.....		462,029
Combing machines and drawing frames (Mass. and R. I.) ¹	3,572	827,723	New York.....		198,838
Roving machines (Me., Mass., and R. I.) ¹	656	994,940	Pennsylvania.....		4,349,434
Spinning machines—			Rhode Island.....		1,125,071
Conn., Me., and Mass.....	4,943	4,525,183	Ga. and S. C.....		37,635
Other States (N. J., N. Y., Pa., and R. I.).....	476	333,616	Other States (Del., Ill., Ky., and N. C.).....		1,988,208
Doubling and twisting frames (Conn., Me., Mass., N. J., N. Y., Pa., and R. I.) ¹	2,350	4,150,465	Extra parts, attachments, and accessories for textile machinery, total value.....		43,842,943
Winders—skein, spool, quill, cone, bobbin, etc. (Conn., Me., Md., Mass., N. H., N. J., Pa., and R. I.) ¹	111,333	4,824,962	Massachusetts.....		17,205,697
Beaming, warping, and slashing machines—			New Hampshire.....		3,355,231
Pennsylvania.....	388	44,889	New Jersey.....		2,333,381
Other States (Conn., Ill., Mass., N. J., and N. C.).....	556	2,652,785	New York.....		888,412
Fabric machinery, total value.....	20,942,030		North Carolina.....		545,459
Looms for weaving, other than carpet and rug (Mass., N. J., Pa., R. I., and S. C.) ¹	18,772	9,027,422	Pennsylvania.....		6,987,146
Looms for weaving, carpet and rug (Iowa, Mass., N. Y., and Pa.) ¹	641	617,142	Rhode Island.....		8,080,248
Knitting machines—			South Carolina.....		953,148
New York.....		220,569	Ala. and Ga.....		641,985
Mass., N. H., Pa., and Vt.....		16,961,579	Conn., Del., and Md.....		1,578,858
Other States (Del., Ill., Ky., and R. I.) ¹		1,878,392	Me. and Vt.....		631,762
			Other States (Ill., Iowa, Ky., Ohio, and Tenn.).....		641,616

¹ No production reported from other States.

CENSUS OF MANUFACTURES: 1929

TABLE 5.—PRINCIPAL MATERIALS CONSUMED IN THE TEXTILE-MACHINERY AND PARTS INDUSTRY, BY KIND, QUANTITY, AND COST, BY STATES: 1929

[Quantities and costs of the principal materials consumed were reported by only 215 of the 376 establishments in this industry. The combined value of products reported by these 215 establishments amounted to \$103,847,267, or 88.9 per cent of the aggregate value of products of the 376 establishments in the industry. Another reason for the difference between the sum of the costs of the several kinds of materials shown in this table and the total cost of materials, as given in Tables 1 and 2, is found in the fact that this table covers only certain specified materials whereas the others cover all materials]

KIND AND STATE	Total cost	QUANTITY AND COST REPORTED		Cost only reported	KIND AND STATE	Total cost	QUANTITY AND COST REPORTED		Cost only reported
		Quantity	Cost				Quantity	Cost	
PRINCIPAL MATERIALS					PRINCIPAL MATERIALS—CON.				
Aggregate cost.....	\$11,783,153	<i>Tons</i>	\$3,436,618	\$3,346,535	Iron and steel, all other forms, total.....	\$6,154,885	<i>Tons</i>	\$3,656,535	\$2,498,350
Pig iron, total.....	1,437,631	66,404	1,437,631		Massachusetts.....	1,894,429	28,060	1,111,179	783,250
Massachusetts.....	744,586	34,683	744,586		New Hampshire.....	170,441	124	23,802	141,579
Pennsylvania.....	309,187	13,811	309,187		New Jersey.....	635,675	3,944	537,179	98,396
Rhode Island.....	212,249	9,820	212,249		New York.....	81,172	56	18,858	62,319
Other States (Conn., Ga., Me., N. J., N. C., and S. C.).....	171,609	8,090	171,609		North Carolina.....	45,842	50	19,300	35,642
Scrap iron and steel, total.....	287,665	20,739	287,665		Pennsylvania.....	1,755,064	6,795	792,714	962,350
Massachusetts.....	173,072	12,335	173,072		Rhode Island.....	816,856	3,093	704,616	112,240
Rhode Island.....	62,777	4,026	62,777		Other States (Conn., Del., Ill., Ky., Me., Md., Mich., Ohio, S. C., and Vt.).....	755,506	6,126	452,832	302,674
Other States (Ga., Me., N. J., N. C., Pa., and S. C.).....	61,816	4,378	61,816		Brass and bronze, total.....	652,258	<i>Pounds</i>	2,012,950	508,547
Iron and steel castings, total.....	2,654,549	13,407	2,147,994	506,555	Massachusetts.....	128,890	390,145	105,022	23,868
Massachusetts.....	589,649	3,114	566,462	23,187	New Hampshire.....	36,559	152,060	30,556	6,003
New Hampshire.....	76,421	74	13,598	62,913	New Jersey.....	89,106	78,149	49,762	39,344
New Jersey.....	285,691	760	235,850	49,841	New York.....	4,553	9,167	2,270	2,283
New York.....	43,267	147	16,857	26,410	Pennsylvania.....	171,275	819,045	171,275	
Pennsylvania.....	529,525	3,643	468,699	60,826	Rhode Island.....	123,521	320,009	95,741	27,780
Rhode Island.....	575,429	3,233	550,046	25,383	Other States (Conn., Del., Ga., Ill., Ky., Me., Mich., N. C., S. C., and Vt.).....	98,354	249,375	53,921	44,433
Other States (Conn., Del., Ill., Iowa, Ky., Me., Md., Mich., N. C., S. C., and Vt.).....	554,567	2,436	296,572	257,995	Copper, total.....	181,639	785,693	181,639	
Steel forgings, total.....	414,526	1,476	216,607	197,919	Massachusetts.....	46,181	211,150	46,181	
New York.....	8,043	37	8,043		New Jersey.....	19,229	62,110	19,229	
Pennsylvania.....	95,525	696	95,525		Pennsylvania.....	80,442	376,500	80,442	
Rhode Island.....	118,707	247	45,224	73,483	Other States (Mich., N. C., R. I., and Vt.).....	35,787	135,933	35,787	
Other States (Del., Ga., Ky., Mass., Mich., N. H., N. J., and Vt.).....	192,246	496	67,810	124,436					

TABLE 6.—PRIME MOVERS, MOTORS, GENERATORS, AND CONSUMPTION OF PURCHASED ELECTRIC ENERGY—NUMBER AND RATED CAPACITY OF PRIME MOVERS AND ELECTRIC MOTORS, 1929, 1927, 1925, AND 1919, AND OF GENERATORS 1929, 1927, AND 1925; QUANTITY OF ELECTRIC ENERGY PURCHASED, 1929

TYPE	1929		1927		1925		1919		PER CENT DISTRIBUTION OF RATED HORSEPOWER CAPACITY	
	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	1929	1919
		<i>Horsepower</i>		<i>Horsepower</i>		<i>Horsepower</i>		<i>Horsepower</i>		
Prime movers and electric motors driven by purchased energy, aggregate.....	7,281	66,539	6,602	64,532	6,148	61,738	2,104	41,744	100.0	100.0
Prime movers, total.....	111	19,491	126	19,430	140	20,321	230	23,704	29.3	56.8
Steam, total.....	82	17,219	88	16,471	88	17,246	139	20,247	25.9	48.5
Engines.....	74	12,054	79	11,561	80	12,516	134	17,765	18.1	42.5
Turbines.....	8	5,165	9	4,910	8	4,730	5	2,492	7.8	6.0
Internal-combustion engines.....	8	448	10	415	25	818	50	862	0.7	2.1
Water wheels and water turbines.....	21	1,824	28	2,544	27	2,257	41	2,595	2.7	6.2
Electric motors driven by purchased energy.....	7,170	47,048	6,476	45,102	6,008	41,417	1,874	18,040	70.7	43.2
Electric motors, total.....	8,932	64,205	8,568	64,793	7,869	58,553	2,630	27,338	100.0	100.0
Driven by purchased energy.....	7,170	47,048	6,476	45,102	6,008	41,417	1,874	18,040	73.3	66.0
Driven by energy generated in establishments reporting.....	1,762	17,157	2,092	19,691	1,861	17,136	756	9,298	26.7	34.0
Electric generators.....	48	<i>Kilowatts</i> 16,855	50	<i>Kilowatts</i> 9,771	58	<i>Kilowatts</i> 9,328	(1)	(1)		
Electric energy purchased ¹		<i>Kilowatt-hours</i> 45,525,862		(1)		(1)		(1)		

¹ Not called for on schedule.

² This item covers the consumption of purchased electric energy for all purposes—power, heat, light, etc.

³ Data incomplete.

TEXTILE MACHINERY AND PARTS

1181

TABLE 7.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1929, 1925, AND 1919, AND BY STATES, 1929

[This table presents statistics for only those States for which figures can be given without disclosing data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures]

STATE	Average number employed during year	NUMBER EMPLOYED ON THE 15TH DAY OF MONTH OR NEAREST REPRESENTATIVE DAY												Per cent minimum is of maximum	
		January	February	March	April	May	June	July	August	September	October	November	December		
United States:															
1929.....	27, 019	<i>25, 780</i>	26, 368	26, 838	27, 054	27, 365	27, 687	27, 812	27, 662	27, 363	27, 251	26, 737	26, 336	92. 6	
1925.....	27, 869	27, 737	28, 379	28, 112	28, 024	28, 177	27, 727	27, 610	27, 428	27, 431	27, 513	27, 833	28, 458	96. 4	
1919.....	31, 823	30, 296	29, 630	29, 138	<i>28, 888</i>	29, 503	30, 706	32, 456	32, 904	33, 981	34, 361	34, 577	35, 496	81. 6	
Georgia.....	237	246	234	232	223	221	222	<i>210</i>	250	246	252	247	244	79. 5	
Massachusetts.....	10, 697	10, 538	10, 548	10, 822	10, 767	10, 656	10, 665	10, 640	10, 616	10, 607	10, 519	10, 526	10, 407	96. 0	
New Hampshire.....	1, 108	1, 082	1, 119	1, 138	1, 118	1, 141	1, 153	1, 143	1, 094	1, 084	1, 105	1, 066	1, 061	91. 6	
New Jersey.....	1, 107	1, 090	1, 105	1, 122	1, 114	1, 133	1, 121	1, 121	1, 136	1, 160	1, 141	1, 061	991	86. 2	
New York.....	245	252	254	248	246	241	243	244	248	243	241	242	243	94. 9	
North Carolina.....	335	319	329	341	339	334	333	340	339	339	340	341	321	93. 5	
Pennsylvania.....	6, 038	5, 876	5, 706	5, 762	5, 826	6, 099	6, 141	6, 222	6, 172	6, 187	6, 277	6, 251	6, 245	88. 8	
Rhode Island.....	3, 711	3, 877	3, 641	3, 623	3, 662	3, 630	3, 764	3, 876	3, 848	3, 794	3, 779	3, 729	3, 608	92. 3	
South Carolina.....	255	259	250	255	266	263	260	263	264	257	259	246	244	89. 8	
Tennessee.....	22	14	14	14	14	14	14	14	33	33	34	34	36	40. 0	

TYPEWRITERS AND PARTS

Description of the industry.—This industry embraces establishments engaged primarily in the manufacture and rebuilding of typewriters and the manufacture of typewriter parts and attachments.

Comparison with earlier years.—Establishments engaged primarily in the manufacture of typewriter supplies, such as carbon paper and inked ribbons, formerly assigned to this industry, were given a separate classification at the census for 1929, namely, "Carbon paper and inked ribbons." The figures for the "Typewriters and parts" industry for 1927 have

been adjusted by omitting the data for establishments reporting carbon paper and inked ribbons as their principal products, but those for earlier years can not be thus adjusted.

Values of typewriters, 1927.—The 1927 figures for values are not strictly comparable with those for 1929, for the reason that some of the manufacturers reporting for the earlier year based their figures on list prices rather than on f. o. b. factory prices. The decrease in average unit values indicated by the figures are, therefore, apparent rather than real.

TABLE 1.—SUMMARY FOR THE UNITED STATES: 1929 AND 1927

[No comparable figures are available for earlier years. (See "Comparison with earlier years," above.)]

YEAR OR PERIOD	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy ¹	Value of products ²	Value added by manufacture ³	Horsepower
1929	26	16,945	\$22,319,327	\$7,248,601	\$61,857,615	\$54,609,014	23,383
1927	26	15,603	19,397,911	9,936,079	55,318,804	45,382,785	14,653
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929	(4)	8.6	15.1	-27.0	11.8	20.8	59.6

¹ The cost of mill supplies is included in the figure for 1927 but not in that for 1929. See GENERAL EXPLANATIONS—Comparableness with preceding years—Schedule Changes—Mill or Shop Supplies.

² The figure for 1929 refers to sales (shipments or deliveries) by manufacturers; that for 1927 represents production. See GENERAL EXPLANATIONS—Value of Products.

³ Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

⁴ Per cent not computed where base is less than 100.

TABLE 2.—GENERAL STATISTICS, BY STATES: 1929

[This table presents statistics separately for the only States for which figures can be given without disclosing data for individual establishments. Certain of the "Other States," however, reported larger values of products than Illinois. No comparable figures are available for earlier years. (See "Comparison with earlier years," above.)]

STATE	Census year	Number of establishments	Salaried officers and employees ¹	Wage earners (average for the year)	HORSEPOWER (RATED CAPACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products ²	Value added by manufacture ³
					Total	Prime movers	Electric motors run by purchased energy			Total	Materials ⁴	Fuel and purchased energy		
United States	1929	26	1,404	16,945	23,383	5,788	17,595	\$3,330,503	\$22,319,327	\$7,248,601	\$6,717,461	\$531,140	\$61,857,615	\$54,609,014
	1927	26	1,619	15,603	14,653	7,183	7,470	2,939,184	19,397,911	9,936,079	9,461,469	474,020	55,318,804	45,382,785
Connecticut	1929	5	541	8,809	8,524	2,220	6,304	1,291,195	11,735,383	3,566,784	3,342,075	224,709	25,400,263	21,839,419
Illinois	1929	3	61	604	537	435	102	145,242	824,697	602,003	583,353	18,645	1,982,774	1,380,771
Other States ⁵	1929	18	862	7,472	14,322	3,133	11,189	1,900,060	9,759,247	3,079,814	2,792,028	287,786	34,468,038	31,388,824

¹ Not including proprietors and firm members. The total numbers of persons engaged and the numbers of proprietors and firm members, as reported for this industry, are as follows: For 1929, total 18,410; proprietors and firm members, 1. For 1927, total, 17,224; proprietors and firm members, 2.

² The cost of mill supplies is included in the figure for 1927 but not in that for 1929. See GENERAL EXPLANATIONS—Comparableness with preceding years—Schedule Changes—Mill or Shop Supplies.

³ The figures for 1929 refer to sales (shipments or deliveries) by manufacturers; that for 1927 represents production. See GENERAL EXPLANATIONS—Value of Products.

⁴ Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

⁵ Michigan, 1 establishment; New Jersey, 3; New York, 11; Pennsylvania, 2; and Washington, 1.

TYPEWRITERS AND PARTS

1183

TABLE 3.—PRODUCTS, BY CLASS, NUMBER, AND VALUE: 1929 AND 1927

[The figures for 1929 refer to sales (shipments or deliveries) by manufacturers; those for 1927 represent production. See GENERAL EXPLANATIONS—Value of Products. Statistics for States are withheld from publication in order to avoid disclosing data for individual establishments]

CLASS	1929	1927	CLASS	1929	1927
1. Typewriters and parts industry, total value.....	\$61,857,615	\$55,318,864	Typewriters and parts, all industries—Continued.		
2. Typewriters, parts, and attachments.....	\$69,195,220	\$54,670,675	Typewriters, new—Continued.		
3. Other products (not normally belonging to the industry), value, and receipts for repairing.....	\$1,662,395	\$648,189	Standard, including long-carriage types:		
4. Typewriters and parts made as secondary products in other industries, value.....	\$1,337,434	\$8,275	Number.....	587,509	555,021
Typewriters and parts, all industries:			Value.....	\$31,300,830	\$31,770,405
Aggregate value (sum of 2 and 4).....	\$61,532,654	\$54,678,950	Portable and bookkeeping-billing types:		
Typewriters, new:			Number.....	374,638	307,005
Total number.....	962,147	882,026	Value.....	\$21,483,204	\$18,016,352
Total value.....	\$52,784,084	\$50,386,757	Rebuilt typewriters, value.....	\$2,273,057	\$1,555,162
			Parts and attachments, value.....	\$6,475,563	\$2,737,031

1 See "Values of typewriters, 1927," p. 1182.

2 Revised.

TABLE 4.—PRIME MOVERS, MOTORS, GENERATORS, AND CONSUMPTION OF PURCHASED ELECTRIC ENERGY—NUMBER AND RATED CAPACITY OF PRIME MOVERS, ELECTRIC MOTORS, AND GENERATORS, 1929 AND 1927; QUANTITY OF ELECTRIC ENERGY PURCHASED, 1929

TYPE	1929		1927		PER CENT DISTRIBUTION OF RATED HORSE-POWER CAPACITY	TYPE	1929		1927		PER CENT DISTRIBUTION OF RATED HORSE-POWER CAPACITY		
	Number	Capacity	Number	Capacity			1929	Number	Capacity	Number		Capacity	1929
Prime movers and electric motors driven by purchased energy, aggregate.....	1,504	23,363	838	14,653	100.0	Electric motors, total.....	1,931	21,279	1,236	12,522	100.0		
Prime movers, total.....	15	5,788	19	7,183	24.8	Driven by purchased energy.....	1,489	17,595	819	7,470	82.7		
Steam, total.....	13	5,428	17	6,823	23.2	Driven by energy generated in establishments reporting.....	442	3,684	417	5,052	17.3		
Engines.....	0	2,560	12	3,420	11.0	Electric generators.....	17	4,268	13	3,781			
Turbines.....	4	2,862	5	3,397	12.2	Electric energy purchased ¹		14,829,244		(?)			
Internal-combustion engines.....	2	360	2	360	1.6								
Electric motors driven by purchased energy.....	1,489	17,595	819	7,470	75.2								

¹ This item covers the consumption of purchased electric energy for all purposes—power, heat, light, etc.

² Data incomplete.

TABLE 5.—WAGE EARNERS, BY MONTHS, BY STATES: 1929

[This table presents statistics for only those States for which figures can be given without disclosing data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures]

State	Average number employed during year	NUMBER EMPLOYED ON 15TH DAY OF MONTH OR NEAREST REPRESENTATIVE DAY												Per cent minimum is of maximum
		January	February	March	April	May	June	July	August	September	October	November	December	
United States.....	16,945	<i>16,012</i>	16,412	16,620	16,776	16,844	16,940	17,280	17,325	17,453	17,504	17,375	16,801	91.5
Connecticut.....	8,869	<i>8,644</i>	8,623	8,708	8,734	8,746	8,751	8,896	8,990	9,185	9,307	9,149	8,783	91.8
Illinois.....	604	<i>557</i>	560	556	555	550	583	606	618	652	679	677	654	81.0

WASHING MACHINES, WRINGERS, DRIERS, AND IRONING MACHINES, FOR HOUSEHOLD USE

Description of the industry.—This industry embraces establishments engaged primarily in the manufacture of washing machines, wringers, driers, and ironing machines, other than those used in commercial laundries, whether operated by hand power or by mechanical power.

Detailed statistics of products.—A special schedule, calling for data on the several classes of products manufactured by establishments classified in this industry, was used for the first time at the census for 1927. For this reason detailed product statistics can not be given for years prior to 1927.

TABLE 1.—SUMMARY FOR THE UNITED STATES: 1899 TO 1929

[Data for establishments with products under \$5,000 in value included for 1919 and prior years but not for 1921 and subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

YEAR OR PERIOD	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²	Horsepower
1929	65	8,189	\$12,071,916	\$40,707,373	\$82,329,924	\$41,622,551	26,732
1927	75	7,789	10,950,046	34,523,335	70,244,407	35,716,072	20,697
1925	82	7,077	9,989,875	32,748,312	69,568,206	36,810,894	18,028
1923	85	6,144	7,839,171	25,741,775	50,372,516	24,030,741	11,415
1921	96	4,147	4,898,188	16,621,634	30,198,566	13,576,932	(³)
1919	105	5,956	6,431,378	23,388,925	40,771,285	17,382,360	8,816
1914	111	2,302	1,220,882	4,148,481	7,590,802	3,451,321	4,896
1909	100	1,835	903,789	2,837,361	5,824,889	2,987,628	3,302
1904	92	1,622	684,252	2,213,390	3,838,624	1,625,234	3,499
1899	118	1,509	548,707	2,174,762	3,735,243	1,560,481	2,554
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929	(⁴)	5.1	10.2	17.0	17.2	16.5	29.2
1925-1927	(⁴)	10.1	9.6	5.4	1.0	-3.0	14.8
1923-1925	(⁴)	15.2	27.4	27.2	33.1	49.5	57.9
1921-1923	(⁴)	48.2	60.0	54.9	66.8	81.4	-----
1919-1921	-8.6	-30.4	-23.8	-23.9	-25.9	-21.9	-----
1919-1929	-38.1	37.5	87.7	74.0	101.9	139.5	203.2
1909-1919	5.0	224.6	611.6	724.3	599.9	481.8	167.0
1899-1909	-15.3	21.6	64.7	30.5	55.9	91.4	29.3

¹ The figures for 1929 refer to sales (shipments or deliveries) by manufacturers; those for earlier years represent production. See GENERAL EXPLANATIONS—Value of Products.

² Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

³ Revised.

⁴ Not called for on schedule.

⁵ Per cent not computed where base is less than 100.

WASHING MACHINES, WRINGERS, DRIERS, ETC.

1185

TABLE 2.—GENERAL STATISTICS, BY STATES: 1929, 1927, AND 1919

This table presents statistics separately for each State for which figures can be given without disclosing data for individual establishments, and for the remaining States in groups. Data for establishments with products under \$5,000 in value are included for 1919 but not for subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size

STATE	Cen- sus year	Number of estab- lish- ments	Sala- ried officers and em- ploy- ees ¹	Wage earn- ers (aver- age for the year)	HORSEPOWER (RATED CAPACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products ²	Value added by manufac- ture ³
					Total	Prime movers	Motors run by pur- chased energy			Total	Materials	Fuel and purchased energy		
United States.....	1929	65	1,713	8,189	26,732	2,435	24,297	\$4,722,829	\$12,071,916	\$40,707,373	\$40,011,095	\$696,278	\$82,329,924	\$41,022,551
	1927	75	1,635	7,780	20,697	2,837	17,860	3,756,639	10,950,946	34,528,335	33,971,585	556,750	70,244,407	35,716,072
	1919	105	1,559	5,956	8,816	3,259	5,557	2,762,083	6,431,378	23,388,925	23,167,861	221,064	40,771,285	17,382,300
Individual States:														
California.....	1929	5	19	64	109	-----	160	36,115	111,613	147,569	144,766	2,803	313,722	166,153
	1929	12	548	1,725	4,092	-----	4,092	1,614,406	2,379,098	9,728,614	9,597,007	131,607	19,310,486	9,581,872
	1927	13	471	1,085	2,954	25	2,929	1,283,099	2,055,088	8,198,088	8,089,981	108,107	13,924,627	5,729,539
	1919	21	695	1,747	1,230	26	1,204	837,780	2,138,651	8,574,089	8,515,647	58,442	14,435,533	5,891,444
Iowa.....	1929	9	357	2,438	6,999	-----	6,999	1,071,832	4,336,527	13,881,241	13,604,547	276,694	29,738,317	15,857,076
	1927	10	328	2,326	6,710	180	6,530	916,178	4,040,713	11,901,536	11,724,970	176,566	27,208,293	15,306,702
	1919	14	421	1,063	1,418	274	1,144	943,359	1,212,683	4,628,506	4,572,127	56,379	8,514,948	4,186,440
Ohio.....	1929	10	126	1,188	7,770	225	7,545	414,692	1,509,539	4,500,848	4,435,024	65,824	8,552,936	4,052,088
	1927	14	206	880	2,030	225	1,805	385,154	1,026,577	2,969,180	2,908,296	50,884	6,043,914	3,084,734
	1919	15	81	477	767	410	357	147,912	511,439	2,033,136	2,014,770	18,366	2,945,734	912,568
Groups of States:														
Conn., 1 est.; N. Y., 7; R. I., 1.....	1929	9	404	1,420	4,436	900	3,476	948,860	2,084,756	5,998,637	5,899,743	98,894	13,401,791	7,403,154
Ind., 2 est.; Pa., 4; W. Va., 1.....	1929	7	128	728	2,212	1,210	1,002	282,277	875,845	2,361,454	2,286,825	74,629	4,729,497	2,368,043
Mich. 4 est.; Wis., 4.....	1929	8	83	481	847	40	807	229,332	624,330	3,483,572	3,447,790	35,782	5,229,688	1,746,116
Minn. 1 est.; Mo., 3; Nebr., 1.....	1929	5	48	150	207	-----	207	125,415	150,208	605,438	595,393	10,045	1,053,487	448,049
States not shown sepa- rately.....	1927	38	630	2,898	9,003	2,407	6,590	1,172,208	3,827,668	11,469,531	11,248,338	221,193	23,067,628	11,598,097
	1919	55	362	2,609	5,421	2,549	2,872	823,032	2,568,005	8,153,194	8,065,317	87,877	14,575,072	6,421,878

¹ Not including proprietors and firm members. The total numbers of persons engaged and the numbers of proprietors and firm members, as reported for this industry, are as follows: For 1929, total 9,911; proprietors and firm members, 9. For 1927, total 9,453; proprietors and firm members, 29. For 1919, total 7,555; proprietors and firm members, 40.

² The figures for 1929 refer to sales (shipments or deliveries) by manufacturers; those for earlier years represent production. See GENERAL EXPLANATIONS—Value of Products.

³ Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

⁴ Revised.

⁵ Data for purchased power other than electric (power transmitted into the plant by belt or shaft) are included in the State items for 1919 but not in the United States totals.

⁶ California, 2 establishments; Connecticut, 1; Indiana, 3; Michigan, 6; Minnesota, 1; Missouri, 5; Nebraska, 1; New York, 8; Pennsylvania, 7; Rhode Island, 1; Wisconsin, 3.

⁷ California, 3 establishments; Connecticut, 1; Indiana, 3; Kansas, 3; Kentucky, 1; Maryland, 1; Massachusetts, 1; Michigan, 4; Minnesota, 1; Missouri, 8; Nebraska, 2; New Jersey, 2; New York, 8; Oklahoma, 1; Pennsylvania, 8; Rhode Island, 1; Texas, 2; Wisconsin, 5.

TABLE 3.—PRODUCTS, BY CLASS, NUMBER, AND VALUE: 1929, 1927, AND 1925

The figures for 1929 refer to sales (shipments or deliveries) by manufacturers; those for earlier years represent production. See GENERAL EXPLANATIONS—Value of Products

CLASS	1929	1927	1925	CLASS	1929	1927	1925
1. "Washing machines, wringers, driers, and ironing machines, for household use" industry, all products, total value.....	\$82,329,924	\$70,244,407	\$69,568,206	Washing machines, driers, etc.—Contd. Washing machines for household use— Continued.			
2. Washing machines, etc., and parts and accessories, value.....	\$77,965,445	\$67,015,573	\$66,835,377	Electric power—			
3. Other products (not normally belonging to the industry) and receipts for repair work, value.....	\$4,364,479	\$3,228,834	\$2,732,829	Number.....	956,062	1,759,834	(1)
4. Washing machines, etc., made as secondary products in other industries, value.....	\$3,047,439	\$2,936,612	\$3,925,863	Value.....	\$59,930,902	\$55,574,397	(2)
Washing machines, driers, etc., and parts and accessories, all industries:				Internal-combustion engine driven—			
Aggregate value (sum of 2 and 4).....	\$81,012,884	\$69,952,185	\$70,761,240	Number.....	127,832		
Washing machines for household use—				Value.....	\$10,663,135		
Number reported.....	1,133,800	1,911,576	(3)	Other (including hand and water power)—			
Value.....	\$71,145,672	\$63,244,251	\$61,861,881	Number reported.....	49,966	151,742	(1)
Number not reported, value.....	\$242,672	-----	-----	Value.....	\$51,535	\$7,069,854	(2)
				Number not reported, value.....	\$242,572		
				Ironing machines, ¹ value.....	\$4,015,222	\$2,999,897	\$3,747,426
				Driers and extractors for household use, value.....	\$484,772	\$565,214	
				Wringers (electric, hand, and other power), value.....	\$3,122,685	\$2,330,356	\$5,151,933
				Parts and accessories, value.....	\$2,002,061	\$812,467	

¹ Revised.

² No comparable data.

³ Both gas-heated and electrically-heated ironers.

CENSUS OF MANUFACTURES: 1929

TABLE 4.—PRIME MOVERS, MOTORS, GENERATORS, AND CONSUMPTION OF PURCHASED ELECTRIC ENERGY—NUMBER AND RATED CAPACITY OF PRIME MOVERS AND ELECTRIC MOTORS, 1929, 1927, 1925, 1919, AND 1914, AND OF GENERATORS, 1929, 1927, AND 1925; QUANTITY OF ELECTRIC ENERGY PURCHASED, 1929

TYPE	1929		1927		1925		1919		1914		PER CENT DISTRIBUTION OF RATED HORSEPOWER CAPACITY	
	Number	Capacity Horse-power	Number	Capacity Horse-power	Number	Capacity Horse-power	Number	Capacity Horse-power	Number	Capacity Horse-power	1929	1919
Prime movers and electric motors driven by purchased energy, aggregate.....	3,205	26,732	2,632	20,697	2,118	18,028	660	8,816	266	4,898	100.0	100.0
Prime movers, total.....	11	2,435	18	2,837	19	3,051	35	3,269	57	3,892	9.1	37.0
Steam, total.....	10	2,410	14	2,750	15	2,946	16	2,929	26	3,516	9.0	33.2
Engines.....	10	2,410	14	2,750	15	2,946	16	2,929	(1)	(1)	9.0	33.2
Turbines.....									(1)	(1)		
Internal-combustion engines.....	1	25	4	87	3	85	15	248	31	376	0.1	2.8
Water wheels and water turbines.....					1	20	4	82				1.0
Electric motors driven by purchased energy.....	3,194	24,297	2,614	17,860	2,099	14,977	625	5,557	209	1,006	90.9	63.0
Electric motors, total.....	3,354	26,637	2,766	19,540	2,323	16,832	701	6,161	290	2,730	100.0	100.0
Driven by purchased energy.....	3,194	24,297	2,614	17,860	2,099	14,977	625	5,557	209	1,006	91.2	90.2
Driven by energy generated in establishments reporting.....	160	2,340	152	1,680	224	1,855	76	604	81	1,724	8.8	9.8
Electric generators.....	7	1,106 Kilowatts	6	1,315 Kilowatts	9	1,328 Kilowatts	(?)	(?)	(?)	(?)		
Electric energy purchased ¹		17,792,620 Kilowatt-hours		(?)		(?)		(?)		(?)		

¹ Not called for separately on schedule.

² This item covers the consumption of purchased electric energy for all purposes—power, heat, light, etc.

³ Not called for on schedule.

⁴ Data incomplete.

TABLE 5.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1929, 1925, 1919, 1914, AND 1909, AND BY STATES, 1929

[This table presents statistics for only those States for which figures can be given without disclosing data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures.]

STATE	Average number employed during year	NUMBER EMPLOYED ON 15TH DAY OF MONTH OR NEAREST REPRESENTATIVE DAY												Percent minimum is of maximum	
		January	February	March	April	May	June	July	August	September	October	November	December		
United States:															
1929.....	8,189	7,626	7,888	8,228	8,462	8,440	8,440	8,359	8,533	8,596	8,368	7,968	7,363	85.7	
1925.....	7,077	6,549	6,538	6,629	6,805	6,919	7,174	7,203	7,316	7,533	7,746	7,439	7,235	82.0	
1919.....	5,956	4,731	4,947	5,196	5,112	5,333	5,793	6,201	6,423	6,700	6,962	6,984	7,085	66.8	
1914.....	2,302	2,371	2,461	2,512	2,503	2,321	2,316	2,182	2,191	2,173	2,046	2,080	79.9		
1909.....	1,835	1,729	1,784	1,862	1,873	1,874	1,867	1,865	1,828	1,883	1,904	1,865	1,879	87.4	
California.....	64	61	51	48	95	53	50	58	53	97	65	65	62	49.5	
Illinois.....	1,725	1,456	1,572	1,777	1,964	1,945	1,955	1,833	1,820	1,838	1,652	1,476	1,408	71.6	
Iowa.....	2,433	2,266	2,348	2,391	2,417	2,455	2,502	2,511	2,510	2,518	2,495	2,411	2,376	90.0	
Ohio.....	1,188	1,260	1,280	1,301	1,246	1,146	1,060	1,078	1,114	1,151	1,215	1,233	1,180	80.7	

WINDMILLS AND WINDMILL TOWERS

Description of the industry.—The establishments classified in this industry are those whose principal products are windmills, accessories, parts, and windmill towers. Some of these establishments manufacture water tanks as secondary products.

TABLE 1.—SUMMARY FOR THE UNITED STATES: 1899 TO 1929

[Data for establishments with products under \$5,000 in value included for 1919 and prior years but not for 1921 and subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

YEAR OR PERIOD	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²	Horsepower
1929	15	1,554	\$2,144,582	\$3,571,539	\$8,640,265	\$5,068,726	4,491
1927	16	1,355	1,881,520	3,233,593	7,514,149	4,280,556	3,008
1925	15	1,361	1,830,232	3,375,582	7,984,005	4,808,423	3,378
1923	16	1,101	1,430,971	2,592,015	6,811,083	3,719,023	2,732
1921	24	1,383	1,530,838	3,459,495	6,520,604	3,070,109	(³)
1919	31	1,932	2,145,301	4,960,428	9,932,585	4,972,159	4,686
1914	31	1,955	1,252,330	2,555,121	5,496,591	2,941,470	3,997
1909	34	2,337	1,403,147	3,331,363	6,070,569	3,345,226	3,801
1904	53	1,929	968,850	2,307,579	4,795,045	2,457,499	3,594
1899	68	2,045	940,474	2,172,068	4,354,312	2,182,214	2,169
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929	(⁴)	14.7	14.0	10.5	15.0	18.4	24.5
1925-1927	(⁴)	-2.0	2.3	-4.2	-5.9	-7.1	6.8
1923-1925	(⁴)	26.3	27.9	30.2	26.5	23.9	23.6
1921-1923	(⁴)	-20.4	-9.5	-25.1	-3.3	21.1	-----
1919-1921	(⁴)	-23.4	-20.3	-30.3	-34.3	-38.3	-----
1919-1929	(⁴)	-10.6	(⁵)	-28.0	-13.0	1.9	-4.2
1909-1919	(⁴)	-17.3	52.9	48.9	48.8	48.6	42.0
1899-1909	(⁴)	14.3	49.2	53.4	53.3	53.3	52.2

¹ For 1929, manufacturers' sales (shipments or deliveries); for earlier years, production. See GENERAL EXPLANATIONS—Value of Products.
² Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.
³ Not called for on schedule.
⁴ Per cent not computed where base is less than 100.
⁵ Less than one-tenth of 1 per cent decrease.

TABLE 2.—GENERAL STATISTICS FOR THE UNITED STATES, 1929, 1927, AND 1919, AND BY STATES, 1929 AND 1927

[Wisconsin is the only State for which separate statistics can be given without disclosing data for individual establishments. Certain of the States for which figures are given in combination with those for others, however, reported larger values of products than Wisconsin. Data for establishments with products under \$5,000 in value are included for 1919 but not for subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

STATE	Census year	Number of establishments	Salaried officers and employees ¹	Wage earners (average for the year)	HORSEPOWER (RATED CAPACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products ²	Value added by manufacture ³
					Total	Prime movers	Motors run by purchased energy			Total	Materials	Fuel and purchased energy		
United States	1929	15	233	1,554	4,491	2,896	1,595	\$834,349	\$2,144,582	\$3,571,539	\$3,459,104	\$112,435	\$8,640,265	\$5,068,726
	1927	16	281	1,355	3,008	2,684	724	689,842	1,881,520	3,233,593	3,141,437	92,156	7,514,149	4,280,556
	1919	31	441	1,932	4,686	4,223	463	794,330	2,145,301	4,960,428	4,813,861	146,565	9,932,585	4,972,159
Wisconsin	1929	3	20	196	950	571	379	49,582	312,064	317,901	306,486	11,415	804,959	487,068
	1927	4	21	193	953	577	376	53,575	299,553	301,837	289,526	12,311	721,731	419,894
Groups of States: Ill., 4 est.; Ind., 2; Ohio, 1	1929	7	180	995	2,576	2,090	486	645,839	1,397,731	2,351,955	2,279,392	72,563	5,517,911	3,165,956
	1929	5	88	363	965	235	730	138,928	434,187	901,683	873,226	28,457	2,317,395	1,415,712
States not shown separately	1927	12	260	1,162	2,655	2,307	348	635,967	1,581,967	2,931,756	2,851,911	79,845	6,792,418	3,800,662

¹ Not including proprietors and firm members, as follows: For 1929, 3; 1927, 5; 1919, 10. The total numbers of persons engaged—proprietors and firm members, salaried officers and employees, and wage earners—as reported for the industry, are as follows: For 1929, 1,845; 1927, 1,641; 1919, 2,383.
² For 1929, manufacturers' sales (shipments or deliveries); for earlier years, production. See GENERAL EXPLANATIONS—Value of Products.
³ Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.
⁴ Illinois, 8 establishments; Indiana, 4; Iowa, 1; Kansas, 3; Michigan, 2; Nebraska, 4; New Jersey, 1; North Dakota, 1; Ohio, 1; Texas, 1; Wisconsin, 5.
⁵ Illinois, 4 establishments; Indiana, 2; Kansas, 1; Nebraska, 4; Ohio, 1.

CENSUS OF MANUFACTURES: 1929

TABLE 3.—PRIME MOVERS, MOTORS, GENERATORS, AND CONSUMPTION OF PURCHASED ELECTRIC ENERGY—NUMBER AND RATED CAPACITY OF PRIME MOVERS AND ELECTRIC MOTORS, 1929, 1927, 1925, 1919, AND 1914, AND OF GENERATORS, 1929, 1927, AND 1925; QUANTITY OF ELECTRIC ENERGY PURCHASED, 1929

TYPE	1929		1927		1925		1919		1914		PER CENT DISTRIBUTION OF RATED HORSEPOWER CAPACITY	
	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	1929	1919
Prime movers and electric motors driven by purchased energy, aggregate.....	260	Horse-power 4,491	150	Horse-power 3,608	132	Horse-power 3,378	119	Horse-power 4,686	87	Horse-power 3,997	100.0	100.0
Prime movers, total.....	20	2,896	22	2,884	17	2,640	39	4,223	41	3,633	64.5	90.1
Steam, total.....	14	2,471	15	2,551	12	2,325	21	2,860	18	2,960	55.0	61.0
Engines.....	14	2,471	14	2,451	11	2,225	21	2,860	(1)	(1)	55.0	61.0
Turbines.....			1	100	1	100			(1)	(1)		
Internal-combustion engines.....	2	15	3	23	4	9	10	203	14	223	0.3	4.3
Water wheels and water turbines.....	4	410	4	310	4	306	8	1,160	9	450	9.1	24.8
Electric motors driven by purchased energy.....	240	1,595	128	724	115	738	80	463	46	364	35.5	9.9
Electric motors, total.....	366	2,944	323	2,484	333	2,815	225	2,089	239	2,585	100.0	100.0
Driven by purchased energy.....	240	1,595	128	724	115	738	80	463	46	364	54.2	22.2
Driven by energy generated in establishments reporting.....	126	1,349	195	1,760	218	2,077	145	1,626	193	2,221	45.8	77.8
Electric generators.....	12	Kilowatts 1,735 Kilowatt-hours 993,931	12	Kilowatts 1,740	13	Kilowatts 1,805	(?)	(?)	(?)	(?)		
Electric energy purchased ¹				(?)		(?)		(?)		(?)		

¹ Not called for separately on schedule.

² Not called for on schedule.

³ This item covers the consumption of purchased electric energy for all purposes—power, heat, light, etc.

⁴ Data incomplete.

TABLE 4.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1929, 1925, 1919, 1914, AND 1909, AND FOR WISCONSIN, 1929

[Wisconsin is the only State for which figures can be given without disclosing data for individual establishments. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures]

STATE	Average number employed during year	NUMBER EMPLOYED ON 15TH DAY OF MONTH OR NEAREST REPRESENTATIVE DAY												Per cent minimum is of maximum	
		January	February	March	April	May	June	July	August	September	October	November	December		
United States:															
1929.....	1,554	1,523	1,558	1,577	1,589	1,603	1,574	1,571	1,535	1,544	1,546	1,535	<i>1,489</i>	1,489	92.9
1925.....	1,391	1,266	1,350	1,400	1,445	1,466	1,425	1,453	1,423	1,386	1,363	1,371	<i>1,349</i>	1,349	86.4
1919.....	1,932	2,001	2,017	1,979	1,946	1,869	1,588	1,596	1,990	2,013	2,045	2,063	<i>2,077</i>	2,077	76.5
1914.....	1,955	2,051	2,064	2,102	2,077	1,992	2,006	1,980	1,949	1,903	1,770	<i>1,739</i>	1,827	1,827	82.7
1909.....	2,337	1,681	2,193	2,296	2,362	2,384	2,476	2,459	2,493	2,502	2,386	2,270	<i>2,226</i>	2,226	79.2
Wisconsin.....	196	196	201	201	196	192	189	<i>185</i>	191	200	201	200	<i>202</i>	202	91.6

Group 14.—TRANSPORTATION EQUIPMENT, AIR, LAND, AND WATER

THE GROUP AS A WHOLE

This group embraces those industries which are engaged primarily in the manufacture of aircraft, vehicles for land transportation, locomotives, and water craft. The several classes of products are airplanes and seaplanes; automobiles, motor trucks, motor busses, and motor cycles; bicycles; carriages, wagons, sleighs, and sleds; baby carriages and other vehicles for children; wheelbarrows; locomotives, steam and electric; railway cars, steam and electric; and all types of ships and boats.

The repair shops of steam and electric railroads manufacture some cars and locomotives, but the greater part of their work consists in the repairing of cars and locomotives, and some of it has no connection with rolling stock. For these reasons, and because of the fact that the method of valuing their production

differs from the methods employed in most other industries, railroad repair shops have been classified as separate industries, in Group 15.

The combined value of products for Groups 14 and 15 for 1929 amounts to \$7,317,126,229, which represents the manufacture of all classes of transportation equipment and the repair of all railroad rolling stock. The corresponding figures for earlier years are: 1927, \$5,983,666,764; 1925, \$6,784,432,512; 1923, \$6,853,572,126; 1921, \$4,285,496,880; 1919, \$6,981,709,084; 1914, \$1,690,040,724.

The following table presents summary statistics for the group as a whole and for each industry separately; and detailed reports for the several industries, all of which have been published previously in pamphlet form, are given on pages 1191 to 1241.

SUMMARY FOR GROUP 14.—TRANSPORTATION EQUIPMENT, AIR, LAND, AND WATER: 1914 TO 1929

[Data for establishments with products under \$5,000 in value included for 1919 and 1914 but not for subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

INDUSTRY	Census year	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products	Value added by manufacture ¹	Horsepower
Total for the group.....	1929	2,550	583,355	\$943,221,905	\$3,683,148,078	\$6,047,209,390	\$2,364,061,312	2,271,192
	1927	2,537	494,905	803,297,556	2,907,949,399	4,693,971,606	1,786,022,207	2,027,686
	1925	2,778	559,578	908,487,563	3,389,101,383	5,451,753,433	2,062,652,050	1,888,961
	1923	3,873	606,328	963,939,377	3,394,504,710	5,333,479,375	1,988,974,665	1,624,408
	1921	4,273	405,773	591,333,775	1,803,011,413	3,018,154,321	1,215,142,908	(²)
	1919	6,768	858,683	1,259,014,020	3,200,602,252	5,627,262,990	2,426,600,738	1,463,804
	1914	7,818	312,662	230,614,798	639,793,313	1,137,422,934	497,626,621	602,459
Aircraft and parts.....	1929	132	14,710	21,923,844	27,368,103	71,152,924	43,784,821	16,505
	1927	70	4,422	6,857,014	7,517,183	21,161,853	13,644,670	6,031
	1925	44	2,701	4,222,151	2,860,967	12,524,710	9,654,762	3,735
	1923	38	2,901	4,521,949	3,829,574	12,945,203	9,115,089	5,443
	1921	21	1,395	2,202,307	2,407,395	6,641,988	4,234,593	(²)
	1919	31	3,543	4,906,740	7,126,965	14,372,643	7,245,678	12,512
	1914	16	168	134,827	133,939	789,872	655,933	195
Carriage, wagon, sleigh, and sled materials.....	1929	45	681	564,635	1,481,988	2,792,228	1,310,240	4,760
	1927	44	764	664,515	1,554,554	3,040,948	1,486,394	5,213
	1925	51	1,589	1,215,794	2,658,631	5,117,616	2,458,985	8,689
	1923	109	1,983	1,890,599	4,004,295	7,313,148	3,308,763	10,647
	1921	141	2,747	2,555,236	6,134,955	10,787,177	4,652,222	(²)
	1919	288	6,509	5,686,771	14,734,673	26,765,316	12,030,643	23,672
	1914	456	11,087	6,059,218	13,546,273	24,849,500	11,303,287	38,195
Carriages and sleds, children's.....	1929	79	7,102	8,313,356	13,514,787	28,817,860	15,303,073	10,895
	1927	89	7,030	7,813,648	13,895,089	28,668,145	14,778,059	10,309
	1925	85	6,926	7,923,304	13,553,184	30,173,501	16,620,317	9,853
	1923	100	8,324	8,856,198	15,985,678	34,172,976	18,287,298	9,376
	1921	89	5,460	5,577,906	9,517,303	21,716,839	12,199,536	(²)
	1919	103	6,686	6,229,038	11,700,158	24,506,596	12,806,438	6,071
	1914	92	5,900	3,180,705	5,682,489	11,751,623	6,069,134	5,652
Carriages, wagons, sleighs, and sleds ¹	1929	88	2,873	3,417,963	8,458,294	16,449,879	7,691,585	14,899
	1927	117	3,387	4,211,610	10,648,271	19,422,235	8,773,964	18,207
	1925	152	4,833	5,791,729	12,859,798	24,934,814	12,075,021	20,449
	1923	396	8,109	9,318,763	18,682,274	37,372,825	18,690,551	26,509
	1921	518	6,294	(³)	(³)	25,886,890	(³)	(³)
	1919	837	8,025	9,903,327	16,883,611	33,113,372	16,229,761	(³)
	1914	2,297	18,464	19,604,837	49,333,552	93,142,763	43,809,211	41,081
1914	4,622	41,627	26,697,287	52,602,002	107,639,809	55,037,307	75,439	
Cars, electric and steam railroad, not built in railroad repair shops.	1929	147	40,015	63,387,382	223,889,397	328,220,204	104,330,607	238,455
	1927	135	38,031	60,624,856	209,112,561	312,508,598	103,396,037	238,415
	1925	141	50,393	77,246,992	266,053,504	390,771,210	124,717,795	243,934
	1923	139	80,590	129,176,010	413,600,102	604,350,341	180,690,239	250,102
	1921	118	48,033	70,944,834	211,938,365	340,559,225	128,567,570	(³)
	1919	106	55,218	82,416,737	308,143,487	556,864,807	188,621,820	167,180
	1914	117	58,128	48,890,606	138,549,938	265,270,622	66,720,684	135,898

See footnotes at end of summary.

CENSUS OF MANUFACTURES: 1929

SUMMARY FOR GROUP 14.—TRANSPORTATION EQUIPMENT, AIR, LAND, AND WATER: 1914 TO 1929—Continued.

[See note at head of this table]

INDUSTRY	Cen- sus year	Number of estab- lish- ments	Wage earn- ers (average for the year)	Wages	Cost of materials, fuel, and pur- chased electric energy	Value of products	Value added by manu- facture ¹	Horsepower
Locomotives, not made in railroad repair shops.....	1929	16	11,045	17,994,078	52,893,092	83,858,258	31,050,166	98,482
	1927	17	12,961	17,645,206	45,688,450	76,719,408	31,030,963	148,071
	1925	18	12,809	18,218,843	41,717,142	65,389,134	33,671,992	114,209
	1923	19	30,672	51,866,978	124,261,628	215,392,651	61,131,423	91,214
	1921	22	16,583	20,472,715	55,411,656	102,028,358	46,611,702	(2)
	1919	17	26,715	38,795,641	72,375,950	156,289,730	83,893,780	90,504
	1914	19	17,391	11,085,375	11,085,375	23,546,118	43,374,141	19,828,023
Motor-vehicle bodies and motor-vehicle parts.....	1929	1,154	221,332	366,503,385	856,985,637	1,537,929,793	680,944,166	824,705
	1927	1,213	181,489	291,290,968	641,306,562	1,151,426,365	510,119,803	551,639
	1925	1,358	228,382	372,720,933	862,721,451	1,523,279,923	660,558,472	662,265
	1923	2,120	163,580	253,147,058	564,107,225	1,013,112,410	449,005,185	425,088
	1921	1,974	69,119	96,779,079	213,964,817	408,016,532	194,051,715	(2)
	1919	2,516	132,556	178,955,503	362,027,302	692,170,692	330,143,390	256,770
	1914	971	47,785	34,992,515	63,610,365	129,001,337	65,990,972	67,912
Motor vehicles, not including motor cycles.....	1929	244	226,116	366,579,233	2,401,511,763	3,722,793,274	1,321,281,511	713,012
	1927	284	187,910	321,664,093	1,689,426,249	2,848,442,843	959,016,594	725,674
	1925	297	197,728	341,210,401	2,108,191,812	3,198,122,633	1,089,930,821	509,758
	1923	351	241,356	406,730,278	2,147,463,352	3,163,327,874	1,015,864,522	435,545
	1921	385	143,658	221,973,586	1,107,062,085	1,671,386,976	564,324,891	282,322
	1919	315	210,589	312,165,870	1,678,651,574	2,387,903,287	809,261,713	164,963
	1914	300	79,307	60,934,359	292,597,565	603,230,137	209,632,572	8,718
Motor cycles, bicycles, and parts.....	1929	21	4,392	6,263,876	11,281,327	23,894,805	12,613,478	11,124
	1927	29	3,897	5,441,602	10,174,092	21,454,149	11,280,057	10,763
	1925	36	4,193	5,662,397	12,176,935	24,257,923	12,080,988	12,609
	1923	89	6,576	8,010,021	18,002,907	32,259,205	14,256,298	14,840
	1921	46	4,308	4,981,295	10,322,811	23,097,749	12,774,938	(2)
	1919	51	10,886	12,763,235	25,985,915	53,105,895	27,110,980	14,420
	1914	78	6,080	4,738,750	10,927,654	22,234,262	11,306,608	8,718
Ship and boat building, steel and wooden, including repair work.	1929	624	55,089	88,274,153	85,848,690	231,300,165	145,451,475	337,455
	1927	559	55,014	87,081,444	78,626,391	211,127,987	132,500,676	314,474
	1925	565	50,224	74,275,019	66,299,904	177,181,960	110,882,996	303,470
	1923	567	62,237	90,719,625	84,557,676	213,232,882	128,674,707	317,712
	1921	640	106,445	155,043,490	169,368,425	400,834,105	231,465,080	(2)
	1919	1,075	387,446	597,446,648	710,522,676	1,622,361,201	911,838,585	553,271
	1914	1,147	44,489	32,931,153	38,596,970	88,682,071	80,085,101	116,114

¹ Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.² Not called for on schedule.³ Repairing included for 1921 and earlier years. Items in italics for 1921 have been adjusted for comparison with those for later years.⁴ Not available.⁵ Revised; revision not carried into group total.

AIRCRAFT

Description of the industry.—The establishments in this industry are engaged primarily in the manufacture of complete aircraft or of aircraft parts other than engines and tires, or in the repair of aircraft. Establishments operated by the Federal Government are not included. Establishments engaged primarily in the manufacture of aircraft engines for sale as such are classified in the "Engines, turbines, tractors, and water wheels" industry, and therefore no data for such establishments are included in this report. (The engines for which data are given in Table 3 were made as secondary products by manufacturers of complete aircraft.)

Comparison with previous years.—As will be seen by reference to Table 1, the number of establishments in this industry has increased from census to census

since 1921. The loss of 10 establishments between 1919 and 1921 was due in some measure to the fact that the production in 1919 included the completion of contracts for the construction of aircraft intended for use in the World War, and was therefore abnormal. A remarkable growth took place in the aircraft industry between 1923 and 1929, the combined production of airplanes, seaplanes, and amphibians having increased by 1,030 per cent—from 587 in the earlier year to 6,631 in the later.

Detailed production statistics for the several census years from 1923 to 1929 are presented in Table 3. The figures for all years except 1926 were compiled from data collected at the regular biennial censuses of manufactures; those for 1926, from the returns made at a special census of aircraft production.

TABLE 1.—SUMMARY FOR THE UNITED STATES: 1914 TO 1929

[Data for establishments with products under \$5,000 in value included for 1919 and 1914 but not for 1921 and subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size. No comparable data are available for years prior to 1914]

YEAR OR PERIOD	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²	Horsepower ³
1929	132	14,710	\$21,923,844	\$27,368,103	\$71,152,924	\$43,784,821	16,505
1927	70	4,422	6,857,014	7,517,183	21,161,853	13,644,670	6,081
1925	44	2,701	4,222,151	2,869,967	12,624,719	9,654,752	3,735
1923	33	2,901	4,521,949	3,829,874	12,945,263	9,115,689	5,443
1921	21	1,395	2,202,307	2,407,395	6,641,988	4,224,593	(⁴)
1919	31	3,543	4,906,740	7,126,965	14,372,643	7,245,678	12,512
1914	16	168	134,827	133,939	789,872	655,983	195
PERCENT OF INCREASE OR DECREASE (—)							
1927-1929	(⁵)	232.7	219.7	264.1	236.2	220.9	173.7
1925-1927	(⁵)	63.7	62.4	161.9	68.0	41.3	61.6
1923-1925	(⁵)	-6.9	-6.6	-25.1	-3.2	5.9	-31.4
1921-1923	(⁵)	108.0	105.3	59.1	94.9	115.3	-----
1919-1921	(⁵)	-60.6	-55.1	-66.2	-53.8	-41.6	-----
1914-1929	(⁵)	315.2	346.8	284.0	395.1	504.3	31.9

¹ The figures for all census years refer to production, not sales. See GENERAL EXPLANATIONS—Value of Products.

² Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

³ Horsepower of prime movers in aircraft factories, not horsepower of engines in aircraft manufactured. (See Table 4.)

⁴ Not called for on schedule.

⁵ Per cent not computed where base is less than 100.

TABLE 2.—GENERAL STATISTICS, BY STATES: 1929, 1927, AND 1919

[This table presents statistics separately for each State for which figures can be given without disclosing data for individual establishments, and for the remaining States in groups. Data for establishments with products under \$5,000 in value are included for 1919 but not for subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

STATE	Census year	Number of establishments	Salaried officers and employees ¹	Wage earners (average for the year)	HORSEPOWER (RATED CAPACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products ²	Value added by manufacture ³
					Total	Prime movers	Motors run by purchased energy			Total	Materials	Fuel and purchased energy		
United States	1929	132	3,910	14,710	16,505	312	18,193	\$9,524,258	\$21,923,844	\$27,368,103	\$26,761,105	\$606,998	\$71,152,924	\$43,784,821
	1927	70	1,064	4,422	6,031	280	5,771	2,289,054	6,857,014	7,517,183	7,343,650	173,533	21,161,853	13,644,670
	1919	31	645	3,543	12,512	325	12,187	2,000,690	4,906,740	7,126,965	6,858,271	268,694	14,372,643	7,245,678
Individual States:														
California	1929	21	310	1,277	862	2	860	647,126	1,972,250	2,169,815	2,139,771	30,044	4,987,899	2,818,084
	1927	12	85	389	184	-----	184	148,360	613,914	463,804	455,689	8,115	1,631,253	1,167,449
Illinois	1929	7	48	194	460	50	410	134,717	285,643	634,063	618,156	16,507	1,129,920	495,257
	1927	5	11	65	102	50	52	17,411	65,406	96,955	93,249	3,706	230,776	133,821
Kansas	1929	11	203	913	801	-----	801	493,786	1,044,739	3,100,666	3,072,558	28,108	6,170,991	3,070,325
Maryland	1929	5	299	468	1,902	-----	1,902	555,072	517,462	481,217	458,147	23,070	1,705,361	1,224,144
Michigan	1929	12	139	1,610	2,187	-----	2,187	470,481	2,538,920	3,311,036	3,239,615	71,421	8,723,716	5,412,680
	1927	9	64	341	386	-----	386	176,450	588,057	619,991	592,657	27,334	1,470,255	850,264
Missouri	1929	6	91	496	878	-----	878	209,067	561,747	1,676,730	1,659,800	16,930	3,091,396	1,414,666
	1927	4	20	60	30	-----	30	21,174	55,658	111,112	107,790	3,322	234,030	122,918

See footnotes at end of table.

CENSUS OF MANUFACTURES: 1929

TABLE 2.—GENERAL STATISTICS, BY STATES: 1929, 1927, AND 1919—Continued

[See note at head of this table]

STATE	CENSUS YEAR	Number of establishments	Salaried officers and employees	Wage earners (average for the year)	HORSEPOWER (RATED CAPACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products ²	Value added by manufacture ³
					Total	Prime movers	Motors run by purchased energy			Total	Materials	Fuel and purchased energy		
Individual States—Contd.														
New Jersey	1929	5	232	912	1,402		1,402	\$621,094	\$1,414,452	\$1,390,609	\$1,353,460	\$43,149	\$3,414,439	\$2,017,830
New York	1929	22	954	4,192	3,374	260	3,114	2,918,070	6,136,052	4,976,911	4,804,752	172,159	17,225,764	12,248,858
	1927	16	388	1,427	1,980	185	1,795	851,368	2,340,991	2,739,771	2,680,045	59,726	7,187,475	4,447,704
	1919	10	324	2,073	1,506	200	1,306	1,020,667	3,026,136	5,213,717	5,071,787	141,920	10,814,338	5,100,621
Ohio	1929	10	394	966	989		989	958,859	1,559,897	2,104,812	2,112,074	52,738	5,737,873	3,573,066
	1927	5	156	694	722		722	321,171	1,050,994	1,136,355	1,107,370	28,485	3,820,108	2,683,753
	1919	5	104	761	1,088		1,088	484,025	1,298,237	1,054,671	1,012,775	41,896	3,708,396	2,053,725
Pennsylvania	1927	3	77	391	704		704	235,228	670,576	523,065	512,582	11,403	1,769,084	1,245,119
Groups of States:														
Ark., 1 est.; Colo., 1; Okla., 2	1929	4	177	374	400		400	289,380	518,379	1,176,557	1,160,012	16,545	2,037,870	861,313
Conn., 2 est.; Del., 1; Mass., 2; R. I., 1	1929	6	477	803	540		540	789,478	1,315,487	1,836,829	1,809,646	27,183	4,888,785	3,031,956
Ind., 1 est.; Wis., 1	1929	5	47	257	489		489	136,478	371,773	579,751	564,825	14,926	1,468,888	889,137
Iowa, 1 est.; Minn., 1; Nebr., 3	1929	5	36	141	64		64	112,491	205,581	240,024	234,877	12,047	500,301	262,377
Other States (Ala., 1 est.; D. C., 1; Ga., 1; Oreg., 3; Wash., 1; W. Va., 1)	1929	8	339	1,443	1,069		1,069	703,534	2,163,225	2,500,912	2,520,637	40,275	6,352,320	3,791,408
States not shown separately	1927	16	263	1,055	1,923	25	1,898	517,886	1,471,418	1,825,230	1,793,788	31,442	4,818,872	2,993,642
	1919	21	321	1,470	11,006	125	10,881	980,023	1,880,604	1,913,248	1,786,474	120,774	4,058,305	2,145,057

¹ Not including proprietors and firm members. The total numbers of persons engaged and the numbers of proprietors and firm members, as reported for this industry, are as follows: For 1929, total, 18,635; proprietors and firm members, 15. For 1927, total, 5,499; proprietors and firm members, 13. For 1919, total, 4,202; proprietors and firm members, 14.

² The figures for all census years refer to production, not sales. See GENERAL EXPLANATIONS—Value of Products.

³ Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

⁴ Colorado, 1 establishment; Iowa, 1; Kansas, 4; Maryland, 2; Nebraska, 2; New Jersey, 3; Virginia, 1; Washington, 1; Wisconsin, 1.

⁵ California, 2 establishments; Connecticut, 1; Illinois, 1; Indiana, 1; Louisiana, 1; Maryland, 1; Massachusetts, 2; Missouri, 2; Nebraska, 1; New Jersey, 1; Ohio, 4; Pennsylvania, 1; Rhode Island, 1; Washington, 1; West Virginia, 1.

TABLE 3.—AIRCRAFT AND PARTS—PRODUCTION, BY CLASS, NUMBER, AND VALUE, FOR THE UNITED STATES: 1923 TO 1929

[The figures for all census years refer to production, not sales. See GENERAL EXPLANATIONS—Value of Products]

CLASS	1929	1927	1926	1925	1923
1. The aircraft industry, all products, total value	\$71,152,924	\$21,161,553	\$17,670,405	\$12,524,719	\$12,945,263
2. Aircraft, engines, parts, and repair and experimental work	69,468,401	20,497,912	17,521,314	12,375,499	(¹)
3. Other products (not normally belonging to the industry)	1,684,523	663,641	149,091	149,220	(²)
4. Aircraft, parts, etc., made as secondary products in other industries, value	\$65,706	452,535	\$24,500	\$250,462	\$197,101
Aircraft, parts, etc., all industries: Total value (sum of 2 and 4, except for 1923)	70,334,107	20,950,447	17,545,814	12,625,961	13,142,364
Aircraft heavier than air (with engines), completed within the year:					
Airplanes, total—					
Number	\$6,522	\$1,888	\$1,125	711	505
Value	\$46,847,691	\$12,224,979	\$7,448,679	\$5,908,335	\$6,106,218
One, two, and three place open cockpit:					
Number	4,277				
Value	\$21,863,507				
Small transport, mail, and express, open cockpit:					
Number	206				
Value	\$2,780,145				
Cabin, single-engine:		(³)	(³)	(³)	(³)
Number	1,350				
Value	\$9,185,791				
Cabin, multimotored:					
Number	\$251				
Value	\$12,240,394				
Rebuilt and reassembled:					
Number	438				
Value	\$777,654				
Seaplanes and amphibians:					
Number	\$109	\$107	\$61	75	82
Value	\$4,660,429	\$2,280,020	\$1,422,345	\$765,324	\$1,570,851
Aircraft under construction at close of the year—					
Number	(¹⁰)	(¹⁰)	508	259	281
Value of work done during year	(¹⁰)	(¹⁰)	\$2,377,769	\$1,428,447	\$1,339,737
Parachutes:					
Number	6,158				
Value	\$1,437,602				
Propellers:					
Number	14,964	\$1,407,929	\$242,045	\$728,970	\$4,065,558
Value	\$2,000,834				
Other aeronautical products, value ¹¹	\$615,797				
Parts and engines ¹² for sale as such, value	\$10,960,553				
Value of experimental and repair work	\$3,685,201	\$6,037,519	\$6,054,973	\$3,794,885	

¹ The special census of the aircraft industry for 1926 covered aircraft production only.

² Not reported separately.

³ Parts only.

⁴ Value of aircraft made by establishments engaged primarily in manufacture of engines.

⁵ Includes data for 438 rebuilt and reassembled airplanes.

⁶ Includes data for 103 rebuilt and reassembled airplanes and 37 without engines.

⁷ Includes data for 171 rebuilt and reassembled airplanes.

⁸ Includes data for 35 airplanes reported as "bombers."

⁹ For 1929, 79 amphibians, 30 seaplanes (4 rebuilt); 1927, 45 amphibians and 10 seaplanes; 1926, 54 amphibians and 24 seaplanes.

¹⁰ Not called for on schedule.

¹¹ Airships, balloons, kites, etc.

¹² Only engines made as secondary products by manufacturers of complete aircraft.

AIRCRAFT

1193

TABLE 4.—PRIME MOVERS, MOTORS, GENERATORS, AND CONSUMPTION OF PURCHASED ELECTRIC ENERGY—NUMBER AND RATED CAPACITY OF PRIME MOVERS AND ELECTRIC MOTORS, 1929, 1927, 1925, 1919, AND 1914, AND OF GENERATORS, 1929, 1927, AND 1925; QUANTITY OF ELECTRIC ENERGY PURCHASED, 1929

TYPE	1929		1927		1925		1919		1914		PER CENT DISTRIBUTION OF RATED HORSEPOWER CAPACITY	
	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	1929	1919
		<i>Horse-power</i>		<i>Horse-power</i>		<i>Horse-power</i>		<i>Horse-power</i>		<i>Horse-power</i>		
Prime movers and electric motors driven by purchased energy, aggregate	4,543	16,505	1,292	6,031	655	3,735	685	12,512	24	195	100.0	100.0
Prime movers, total	4	312	4	260	42	334	3	325	6	94	1.9	2.6
Steam, total	2	260	2	185	1	35	3	325	2	65	1.6	2.6
Engines	1	60	1	35	1	35	2	125	(1)	(1)	0.4	1.0
Turbines	1	200	1	150			1	200	(1)	(1)	1.2	1.6
Internal-combustion engines	2	52	2	75	41	299			4	29	0.3	
Water wheels and water turbines												
Electric motors driven by purchased energy	4,539	16,193	1,288	5,771	613	3,401	682	12,187	18	101	98.1	97.4
Electric motors, total	4,547	16,205	1,290	5,783	626	3,424	788	12,787	18	101	100.0	100.0
Driven by purchased energy	4,539	16,193	1,288	5,771	613	3,401	682	12,187	18	101	99.9	95.3
Driven by energy generated in establishments reporting	8	12	8	12	13	23	106	600			0.1	4.7
Electric generators ¹	2	<i>Kilowatts</i> 175	1	<i>Kilowatts</i> 25	2	<i>Kilowatts</i> 10						
Electric energy purchased ²		12,550,248										

¹ Not called for separately on schedule.

² Data for electric generators not called for on schedule prior to 1925.

³ This item covers consumption of purchased electric energy for all purposes—power, heat, light, etc. No data are available for years prior to 1929.

TABLE 5.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1929, 1925, 1919, AND 1914, AND BY STATES, 1929

[This table presents statistics for only those States for which figures can be given without disclosing data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures]

STATE	Average number employed during year	NUMBER EMPLOYED ON 15TH DAY OF MONTH OR NEAREST REPRESENTATIVE DAY												Per cent minimum is of maximum	
		January	February	March	April	May	June	July	August	September	October	November	December		
United States:															
1929	14,710	<i>11,198</i>	12,400	13,592	15,012	16,101	17,484	18,381	18,124	15,870	14,256	12,480	11,687	60.5	
1925	2,701	<i>2,403</i>	2,340	2,486	2,519	2,715	2,777	2,641	3,045	2,923	2,820	2,811	2,929	72.3	
1919	3,543	<i>5,493</i>	4,729	4,161	3,939	3,397	3,168	3,109	2,944	2,840	<i>2,789</i>	2,971	2,966	51.0	
1914	168	<i>162</i>	157	152	147	151	<i>141</i>	154	154	180	194	211	210	68.2	
California	1,277	910	989	1,129	1,257	1,416	1,586	1,636	1,565	1,516	1,333	1,104	880	53.8	
Illinois	194	<i>108</i>	170	198	287	226	295	232	289	248	145	110	109	37.4	
Kansas	913	633	732	909	1,137	1,168	1,215	1,132	1,122	917	819	673	606	41.6	
Maryland	468	<i>180</i>	247	254	297	380	503	643	686	648	648	559	588	23.3	
Michigan	1,510	<i>1,628</i>	1,785	1,888	1,999	2,080	2,296	2,339	1,904	727	520	478	471	20.1	
Missouri	496	<i>258</i>	288	301	430	463	623	693	779	782	662	333	280	33.0	
New Jersey	912	522	820	824	962	1,020	1,185	1,196	1,178	1,162	944	687	481	40.2	
New York	4,192	<i>5,198</i>	3,872	3,687	3,933	4,204	4,592	4,870	5,188	4,808	4,867	4,033	4,059	62.4	
Ohio	966	<i>496</i>	675	668	774	1,174	1,312	1,468	1,338	966	984	942	943	33.8	
Pennsylvania	764	<i>634</i>	683	663	684	714	783	812	816	823	854	870	830	72.9	

CARRIAGES AND SLEDS, CHILDREN'S, AND TOYS, GAMES, AND PLAYGROUND EQUIPMENT

[THIS REPORT COVERS TWO INDUSTRIES IN DIFFERENT GROUPS; NAMELY, "CARRIAGES AND SLEDS, CHILDREN'S," GROUP 14, AND "TOYS, GAMES, AND PLAYGROUND EQUIPMENT," GROUP 16]

Because of the considerable amount of overlapping between the "Carriages and sleds, children's" and "Toys (not including children's wheel goods or sleds), games, and playground equipment" industries, the statistics for the two industries have been combined in Tables 1 and 3, for products.

Description of the "Carriages and sleds, children's" industry.—The establishments in this industry are engaged primarily in the manufacture of children's carriages and certain other classes of children's wheel goods, and children's sleds.

Description of the "Toys (not including children's wheel goods or sleds), games, and playground equipment" industry.—This industry embraces establishments engaged in the manufacture of apparatus for games, both for adults and for children, except that classified under "Sporting and athletic goods, not including firearms or ammunition" and ordinary playing cards; playground equipment and lawn swings; toys of all kinds, such as dolls, doll parts, and doll clothes; toy furniture and utensils; mechanical toys and toy building blocks; toy drums; hobbyhorses and rockinghorses; kites; conjuring apparatus, tricks, and puzzles; masks; marbles; educational boards; toy pistols, air rifles, etc.

Comparableness of the statistics for earlier years.—At the censuses for 1925 and earlier years, establishments engaged primarily in manufacturing rubber toy balloons and other rubber toys were classified in the "Toys, games, and playground equipment" industry, but at the censuses for 1927 and 1929 such establishments were classified in the "Rubber goods, not elsewhere classified" industry. The statistics for 1925

shown in Table 1, below, have been adjusted accordingly, but the statistics for earlier years could not be adjusted because separate data for establishments engaged in manufacturing toy balloons are not available for those years.

Detailed statistics of products.—The differences between the values of the several classes of products as given in the table entitled "Production, by class, number, and value, for the United States" (Table 3), and the corresponding figures in Tables 1 and 2 of each of the industry reports, are due to the fact that the detailed product statistics cover the entire output of the items, regardless of the industries reporting them, whereas the statistics in Tables 1 and 2 relate, respectively, to the establishments whose principal products are those from which the industries derive their titles. To illustrate: The total value of children's carriages and sleds given in the product table, \$29,506,112, is made up of \$24,157,746, representing the value of carriages and sleds made in the children's carriages and sleds industry, and \$5,348,366, representing the value of children's carriages and sleds made as secondary products in the toys, games, and playground-equipment and other industries; whereas the value of the products of the children's carriages and sleds industry, \$28,817,860 (Tables 1 and 3), is made up of the value of children's carriages and sleds made in the industry, \$24,157,746, the value of receipts for repair work (normally belonging to the children's carriages and sleds industry), \$35,532, and the value of secondary products normally belonging to other industries, \$4,624,582.

CHILDREN'S CARRIAGES AND SLEDS, AND TOYS AND GAMES

1195

TABLE 1.—COMBINED SUMMARY FOR CHILDREN'S CARRIAGES AND SLEDS, AND TOYS AND GAMES, AND SUMMARIES FOR THE SEPARATE INDUSTRIES, FOR THE UNITED STATES: 1899 TO 1929

[Data for establishments with products under \$5,000 in value included for 1919 and prior years but not for 1921 and subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

YEAR OR PERIOD	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, containers for products, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²	Horsepower
THE GROUP AS A WHOLE							
1929	555	23,762	\$25,974,029	\$43,496,314	\$103,646,841	\$60,150,527	36,537
1927	486	21,768	23,357,631	39,700,504	92,623,851	52,923,347	29,337
1925	438	20,483	21,708,352	35,732,656	85,907,267	50,174,611	28,891
1923	511	22,808	22,756,746	39,765,007	90,239,408	50,474,491	25,487
1921	451	14,908	14,530,940	24,065,820	57,208,184	33,122,364	(³)
1919	644	20,887	18,076,315	31,541,656	70,103,309	38,621,743	20,494
1914	382	13,787	6,079,571	11,461,983	25,608,371	14,046,888	12,371
1909	310	10,605	4,444,273	7,683,112	17,009,294	9,386,152	10,531
1904	239	8,333	3,397,690	5,129,901	11,948,694	6,818,703	8,281
1899	246	6,042	2,209,549	3,661,519	8,299,694	4,638,175	5,516
Per cent of increase or decrease (—):							
1927-1929	14.2	9.2	11.2	9.6	11.9	13.7	24.5
1925-1927	11.0	6.3	7.6	11.1	7.8	5.5	1.5
1923-1925	-14.3	-10.2	-4.6	-10.1	-4.8	-0.6	13.4
1921-1923	13.3	63.0	56.8	65.1	57.7	52.4	-----
1919-1921	-30.0	-28.6	-19.6	-23.6	-18.5	-14.2	-----
1919-1929	-13.8	13.8	43.7	37.9	47.7	55.7	78.1
1909-1919	107.7	97.0	306.7	310.5	311.1	311.5	94.9
1899-1909	26.0	75.5	101.1	109.8	105.7	102.4	90.9
CARRIAGES AND SLEDS, CHILDREN'S							
1929	79	7,102	\$8,313,356	\$13,514,787	\$28,817,860	\$15,303,073	10,895
1927	89	7,030	7,813,648	13,895,086	28,668,145	14,773,059	10,309
1925	86	6,926	7,923,304	13,553,184	30,173,501	16,620,317	9,853
1923	100	8,324	8,856,198	15,935,678	34,172,976	18,237,298	9,376
1921	89	5,460	5,577,906	9,517,303	21,716,839	12,199,536	(³)
1919	103	6,686	6,229,038	11,700,158	24,506,596	12,806,438	6,071
1914	92	5,900	3,180,705	5,682,489	11,751,623	6,069,134	5,652
1909	84	5,300	2,216,861	4,128,874	8,805,129	4,676,255	5,275
1904	78	4,003	1,782,984	2,840,462	6,370,911	3,530,449	3,601
1899	77	2,726	1,060,296	1,996,070	4,289,695	2,293,625	2,462
Per cent of increase or decrease (—):							
1927-1929	(⁴)	1.0	6.4	-2.7	0.5	-3.6	5.7
1925-1927	(⁴)	1.5	-1.4	2.5	-5.0	-11.1	4.6
1923-1925	-14.0	-16.8	-10.5	-15.0	-11.7	-8.9	5.1
1921-1923	(⁴)	52.5	58.8	67.4	57.4	49.5	-----
1919-1921	-13.6	-18.3	-10.5	-18.7	-11.4	-4.7	-----
1919-1929	-23.3	6.2	33.5	15.5	17.6	19.5	79.5
1909-1919	(⁴)	26.2	181.0	183.4	178.3	173.9	15.1
1899-1909	(⁴)	94.4	103.3	106.9	105.3	103.9	114.3
TOYS (NOT INCLUDING CHILDREN'S WHEEL GOODS OR SLEDS), GAMES, AND PLAY-GROUND EQUIPMENT							
1929	476	16,660	\$17,660,673	\$29,981,527	\$74,828,981	\$44,847,454	25,642
1927	397	14,738	15,543,393	25,805,418	63,955,706	38,150,288	19,028
1925	352	13,557	13,785,048	22,179,472	55,733,766	33,554,294	18,088
1923	411	14,484	13,900,548	23,829,329	56,006,432	32,237,103	16,111
1921	362	9,448	8,953,034	14,568,517	35,491,345	20,922,828	(³)
1919	541	14,201	11,847,277	19,841,498	45,656,803	25,815,305	14,423
1914	290	7,887	3,495,866	5,779,494	13,766,748	7,977,254	6,719
1909	226	5,305	2,227,412	3,564,238	8,264,135	4,709,897	5,256
1904	161	4,330	1,614,706	2,289,439	5,577,693	3,288,254	4,680
1899	169	3,316	1,119,253	1,665,449	4,006,999	2,344,550	3,054
Per cent of increase or decrease (—):							
1927-1929	19.9	13.0	13.6	16.2	17.0	17.6	34.8
1925-1927	12.8	8.7	12.8	16.3	13.7	13.7	-0.1
1923-1925	-14.4	-6.4	-0.8	-6.9	-0.6	4.1	18.2
1921-1923	13.5	53.3	55.3	63.6	58.0	54.1	-----
1919-1921	-33.1	-33.5	-24.4	-20.6	-22.3	-19.0	-----
1919-1929	-12.0	17.3	49.1	51.1	63.9	73.7	77.3
1909-1919	139.4	167.7	431.9	458.2	452.5	448.1	174.4
1899-1909	33.7	60.0	99.0	113.4	106.1	100.9	72.1

¹ The figures given for 1929 refer to sales (shipments or deliveries) by manufacturers; those for earlier years represent production. See GENERAL EXPLANATIONS—Value of Products.

² Value of products less cost of materials, containers for products, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

³ Not called for on schedule.

⁴ Per cent not computed where base is less than 100.

⁵ Revised. See "Comparableness of the statistics for earlier years", p. 1194.

CENSUS OF MANUFACTURES: 1929

TABLE 2.—GENERAL STATISTICS, BY STATES: 1929, 1927, AND 1919

[This table presents statistics separately for each State for which figures can be given without disclosing data for individual establishments, and for the remaining States in groups. Data for establishments with products under \$5,000 in value are included for 1919 but not for subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

STATE	Census year	Number of establishments	Salaried officers and employees	Wage earners (average for the year)	HORSEPOWER (RATED CAPACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, CONTAINERS FOR PRODUCTS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products ¹	Value added by manufacture ²
					Total	Prime movers	Motors run by purchased energy			Total	Materials and containers	Fuel and purchased energy		
CARRIAGES AND SLEDS, CHILDREN'S														
United States.....	1929	79	792	7,102	10,895	3,295	7,600	\$1,060,574	\$8,313,359	\$13,514,787	\$13,146,973	\$367,814	\$28,817,800	\$15,303,073
	1927	89	768	7,030	10,309	3,430	6,879	1,757,595	7,813,648	13,895,086	13,518,452	376,634	28,068,145	14,773,059
	1919	103	762	6,686	6,071	2,915	3,126	1,744,085	6,229,038	11,700,158	11,492,554	207,604	24,506,590	12,806,438
Illinois.....	1929	6	46	269	291	-----	291	150,145	323,222	776,452	761,391	15,061	1,386,206	609,844
	1927	5	18	115	59	-----	59	38,043	144,116	317,100	311,103	5,997	575,475	258,375
	1919	8	13	176	85	85	85	51,402	163,192	189,164	181,773	7,391	500,189	311,025
Indiana.....	1929	6	51	424	1,306	300	1,006	125,796	440,400	826,219	791,456	34,763	1,620,689	794,470
	1927	7	62	564	811	109	711	169,484	618,710	1,441,718	1,401,549	40,169	2,812,585	1,370,867
	1919	8	130	918	855	140	715	295,769	826,160	1,716,138	1,080,259	35,879	3,650,335	1,934,197
Massachusetts.....	1929	10	132	1,436	1,300	340	960	334,340	1,653,125	2,931,548	2,893,720	37,828	6,404,295	3,472,747
	1927	11	184	1,450	1,271	415	856	400,442	1,650,641	2,842,733	2,789,790	52,943	6,125,526	3,282,793
	1919	13	186	1,449	1,353	1,050	308	423,975	1,414,180	2,560,287	2,510,194	40,093	5,253,729	2,703,442
New York.....	1929	18	54	387	1,055	150	905	136,938	494,686	1,078,269	1,049,893	28,401	2,114,570	1,036,301
	1927	17	53	387	1,368	455	913	1,023,566	497,228	1,023,566	992,912	30,654	2,091,544	1,067,978
	1919	28	80	622	1,063	290	773	1,67,670	671,345	1,416,139	1,394,623	21,516	2,749,022	1,332,883
Ohio.....	1929	6	191	2,083	2,479	590	1,889	506,119	2,707,535	3,789,072	3,667,240	121,832	8,365,249	4,576,177
	1927	9	194	2,042	2,003	150	1,853	434,339	2,370,044	4,257,701	4,118,104	139,667	8,374,140	4,116,379
Pennsylvania.....	1929	10	95	527	697	275	422	211,282	609,622	986,921	957,122	29,799	2,054,885	1,067,964
	1927	11	80	667	1,152	275	877	210,815	694,449	1,117,657	1,087,615	30,042	2,495,389	1,377,732
	1919	12	64	656	418	317	101	133,709	566,658	1,043,272	1,027,505	15,767	2,365,983	1,322,711
Wisconsin.....	1929	7	53	587	850	575	275	153,950	621,899	911,745	893,666	18,079	1,976,843	1,065,098
	1927	7	60	713	1,018	740	278	102,831	694,246	1,088,149	1,067,012	21,137	2,292,678	1,204,529
	1919	4	33	452	565	560	5	98,187	400,290	721,133	714,167	6,966	1,355,558	634,425
Other States (Ala., 1 est.; Calif., 1; Conn., 3; Iowa, 1; Md., 1; Mich., 3; Minn., 1; Mo., 1; N. H., 1; N. J., 2; Vt., 1).....	1929	16	170	1,389	2,917	1,065	1,852	342,004	1,462,867	2,214,561	2,132,510	82,051	4,895,033	2,680,472
States not shown separately.....	1927	22	157	1,092	2,627	1,295	1,332	290,870	1,143,314	1,806,402	1,750,367	56,035	3,900,808	2,094,406
	1919	30	306	2,413	1,727	603	1,224	553,373	2,187,213	4,064,025	3,984,033	79,992	8,631,780	4,567,755
TOYS (NOT INCLUDING CHILDREN'S WHEEL GOODS OR SLEDS), GAMES AND PLAYGROUND EQUIPMENT.														
United States.....	1929	476	2,490	16,660	25,642	8,352	17,290	\$6,775,783	\$17,680,673	\$29,981,627	\$29,140,140	\$841,387	\$74,828,981	\$44,847,454
	1927	397	2,060	14,738	19,028	6,530	12,498	5,307,402	15,543,383	25,805,418	25,176,652	628,866	63,965,700	38,150,288
	1919	541	1,813	14,201	14,423	6,903	7,520	3,562,480	11,847,277	19,841,498	19,308,200	473,298	45,656,803	25,816,305
California.....	1929	16	32	147	190	-----	190	66,202	150,254	224,629	219,647	4,982	661,094	437,365
	1927	8	14	67	123	-----	123	28,921	70,983	109,262	106,770	2,492	328,761	219,490
	1919	13	2	93	61	-----	61	3,300	84,841	85,069	83,128	1,941	210,399	131,330
Connecticut.....	1929	20	168	1,359	1,811	370	1,441	521,573	1,399,261	1,972,583	1,913,086	59,497	5,449,310	3,476,977
	1927	14	128	957	1,455	145	310	330,462	971,841	1,293,832	1,250,491	43,941	3,824,745	2,630,132
	1919	21	155	971	681	148	533	215,900	793,777	1,329,605	1,295,701	33,904	3,081,425	1,751,820
Illinois.....	1929	31	295	1,699	2,242	750	1,492	716,869	1,825,526	2,818,892	2,238,256	80,636	7,231,068	4,912,176
	1927	27	219	1,244	1,463	-----	1,463	549,918	1,340,122	1,841,208	1,789,133	52,075	5,456,317	3,615,159
	1919	36	108	611	475	8	467	88,311	489,958	1,029,428	1,010,181	19,247	2,130,968	1,101,540
Indiana.....	1929	18	93	747	1,213	900	313	216,527	688,539	1,247,137	1,219,677	27,460	2,633,138	1,386,001
	1927	8	31	441	1,148	950	198	81,168	440,170	833,292	817,705	15,587	1,658,884	826,592
	1919	9	33	457	437	265	172	44,086	285,559	371,758	367,134	4,624	860,509	488,751
Iowa.....	1929	5	15	93	124	-----	124	36,056	78,366	111,218	105,981	5,237	237,591	126,373
	1927	3	11	69	118	-----	118	22,090	57,105	115,708	112,819	2,889	262,435	146,727
	1919	6	8	80	16	-----	16	4,313	29,280	15,041	14,235	806	77,699	62,658
Kansas.....	1929	4	8	87	81	-----	81	12,160	71,288	129,669	123,767	5,932	279,581	149,882
	1927	3	8	41	72	-----	72	18,945	34,075	40,854	39,295	1,559	117,836	76,982
Maine.....	1929	7	59	455	2,362	1,600	762	146,604	417,201	511,664	486,615	25,079	1,312,316	800,622
	1927	4	34	344	1,560	1,350	210	108,310	269,154	383,561	372,061	11,500	1,090,424	706,863
Maryland.....	1929	5	36	186	138	60	76	108,469	164,068	359,468	355,175	4,293	794,238	434,770
	1927	7	28	174	130	30	100	73,457	148,541	333,382	326,892	6,490	749,381	415,969
	1919	10	50	395	209	65	144	77,593	208,330	451,467	442,345	9,122	652,939	601,472
Massachusetts.....	1929	30	256	1,714	3,747	1,756	1,991	876,457	1,651,987	3,520,316	3,449,279	77,037	8,001,798	4,475,482
	1927	27	288	1,761	2,975	1,120	1,855	690,180	1,739,977	2,924,030	2,866,739	57,291	7,717,832	4,793,802
	1919	30	202	1,642	1,716	795	921	398,538	1,100,781	1,893,075	1,841,605	51,470	4,704,200	2,811,185
Michigan.....	1929	12	92	510	1,762	600	1,102	238,291	604,794	736,369	698,821	37,548	2,263,632	1,517,263
	1927	12	90	507	1,463	660	803	234,182	618,353	925,952	891,463	34,489	2,315,071	1,389,119
	1919	12	30	361	632	475	157	64,492	361,958	393,144	384,756	8,388	1,009,784	610,640

See footnotes at end of table.

CHILDREN'S CARRIAGES AND SLEDS AND TOYS AND GAMES

1197

TABLE 2.—GENERAL STATISTICS, BY STATES: 1929, 1927, AND 1919—Continued

[See note at head of this table]

STATE	Cen- sus year	Number of estab- lish- ments	Salaried officers and em- ployees ¹	Wage earners (average for the year)	HORSEPOWER (RATED CAPACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, CONTAINERS FOR PRODUCTS, FUEL, AND PUR- CHASED ELECTRIC ENERGY			Value of products ²	Value added by manufac- ture ³
					Total	Prime movers	Motors run by pur- chased energy			Total	Materials and con- tainers	Fuel and pur- chased energy		
TOYS (NOT INCLUDING CHILDREN'S WHEEL GOODS OR SLEDS), GAMES, AND PLAYGROUND EQUIPMENT—continued														
Minnesota	1929	7	18	120	268		268	\$86,559	\$163,784	\$194,361	\$186,820	\$7,571	\$754,825	\$560,434
	1927	(?)	(?)	(?)	(?)		(?)	(?)	(?)	(?)	(?)	(?)	(?)	(?)
	1919	4	10	51	27		27	12,715	33,954	29,630	28,593	1,037	121,020	91,390
Missouri	1929	6	45	158	138		138	67,934	185,188	433,317	425,140	8,177	908,698	475,381
	1927	(?)	(?)	(?)	(?)		(?)	(?)	(?)	(?)	(?)	(?)	(?)	(?)
	1919	12	19	148	86	8	78	26,296	91,812	164,883	161,028	3,855	437,210	272,327
New Hampshire	1929	6	22	159	518	257	261	63,697	134,881	191,516	183,803	7,713	581,741	390,225
	1927	3	13	163	367	227	140	30,090	148,154	177,857	171,742	6,115	507,840	339,963
	1919	10	18	208	528	366	102	15,370	154,459	173,433	168,090	5,343	516,840	343,413
New Jersey	1929	24	188	1,471	865		865	555,993	1,698,146	2,569,061	2,507,002	62,059	6,858,240	4,289,179
	1927	23	180	1,306	1,555	20	1,535	590,232	1,365,898	1,801,912	1,757,996	49,916	5,239,365	3,437,453
	1919	27	115	1,186	883	423	460	309,068	1,112,301	1,522,063	1,461,334	60,749	3,580,851	2,064,788
New York	1929	180	650	4,032	4,024	705	3,319	1,745,175	5,102,793	10,211,820	9,984,841	226,979	23,223,068	13,011,248
	1927	146	576	3,633	2,297	605	1,692	1,452,987	4,709,521	9,813,473	9,620,314	184,159	20,753,082	10,939,609
	1919	192	498	3,626	1,791	427	1,364	1,027,638	3,720,854	6,824,039	6,712,654	111,385	14,084,814	7,860,775
Ohio	1929	41	175	1,105	1,618	155	1,463	496,269	1,132,574	1,637,796	1,577,735	60,061	4,375,778	2,737,962
	1927	38	175	1,222	1,539	138	1,401	596,964	1,157,234	1,693,497	1,634,277	59,220	4,860,747	3,167,250
	1919	59	218	1,525	2,246	1,178	1,068	262,527	1,224,877	1,917,995	1,849,681	68,314	4,715,614	2,797,619
Pennsylvania	1929	33	201	1,823	2,518	374	2,144	531,167	1,695,695	2,705,746	2,622,250	83,496	6,521,709	3,815,963
	1927	34	144	1,587	1,941	417	1,524	364,673	1,471,171	2,287,257	2,225,171	62,086	5,839,398	3,552,141
	1919	53	231	1,560	1,387	489	898	577,323	1,108,399	2,042,781	1,991,080	51,701	4,854,285	2,811,454
Rhode Island	1929	7	6	53	34		34	11,540	46,766	66,695	65,682	1,013	181,531	114,836
	1927	(?)	(?)	(?)	(?)		(?)	(?)	(?)	(?)	(?)	(?)	(?)	(?)
	1919	4	9	62	23		23	28,350	47,282	91,462	90,419	1,043	226,169	134,707
Vermont	1929	4	10	179	1,202	665	537	22,360	179,676	161,509	151,162	10,347	430,195	298,686
	1927	5	17	314	1,263	868	395	32,903	329,479	227,999	207,194	20,805	692,176	464,177
	1919	6	25	423	1,700	1,172	528	100,402	415,861	598,461	577,472	20,989	1,350,876	752,415
Washington	1929	3	4	32	47		47	7,700	22,760	28,461	27,518	943	73,784	45,323
	1927	4	2	26	63		63	3,300	16,316	26,887	26,519	368	55,521	28,634
	1919	6	5	26	62		62	5,040	22,241	29,725	28,379	1,349	71,773	42,045
Wisconsin	1929	9	66	179	442	100	342	122,529	168,257	317,126	304,545	12,581	818,284	501,158
	1927	9	32	123	240		240	71,426	118,074	234,033	224,818	9,215	529,812	295,779
	1919	10	40	286	370	165	205	66,266	194,114	332,248	320,914	11,334	725,542	393,294
Other States (Colo., 3 est.; Fla., 1; Ga., 1; Ky., 1; Nebr., 1; N. C., 1; Okla., 2; Oreg., 1; Tex., 1; W. Va., 1)	1929	13	45	283	300		300	125,647	217,969	326,064	293,338	32,746	1,246,462	920,378
States not shown separately	1927	19	58	759	256		256	157,204	507,306	741,422	726,153	15,269	1,806,079	1,154,657
	1919	22	39	491	1,119	919	360	184,937	398,609	546,168	539,471	6,097	1,331,870	785,702

¹ Not including proprietors and firm members. The total numbers of persons engaged and the numbers of proprietors and firm members, as reported, are as follows: Carriages and sleds, children's—For 1929, total, 7,909; proprietors and firm members, 15. For 1927, total, 7,812; proprietors and firm members, 24. For 1919, total, 7,513; proprietors and firm members, 65. Toys (not including children's wheel goods or sleds), games, and playground equipment—For 1929, total, 19,433; proprietors and firm members, 283. For 1927, total, 17,020; proprietors and firm members, 222. For 1919, total, 16,483; proprietors and firm members, 469.

² The figures given for 1929 refer to sales (shipments or deliveries) by manufacturers; those for earlier years represent production. See GENERAL EXPLANATIONS—Value of Products.

³ Value of products less cost of materials, containers for products, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

⁴ Alabama, 1 establishment; Connecticut, 3; Iowa, 1; Maryland, 2; Michigan, 8; Minnesota, 2; Missouri, 1; New Hampshire, 1; New Jersey, 1; Vermont, 1; Washington, 1.

⁵ California, 1 establishment; Connecticut, 1; Kansas, 1; Maryland, 3; Michigan, 10; Minnesota, 2; New Jersey, 6; Ohio, 5; Washington, 1.

⁶ Data for purchased power other than electric (power transmitted into the plant by belt or shaft) are included in the State items for 1919 but not in the United States totals.

⁷ No figures for this State can be given for 1927, without disclosing data for individual establishments.

⁸ Colorado, 3 establishments; Georgia, 1; Kentucky, 2; Minnesota, 4; Missouri, 2; North Carolina, 1; Oklahoma, 1; Oregon, 1; Rhode Island, 2; Texas, 2.

⁹ Alabama, 1 establishment; Colorado, 2; District of Columbia, 1; Florida, 1; Georgia, 1; Idaho, 1; Kansas, 1; Kentucky, 2; Maine, 4; Nebraska, 2; Oregon, 2; South Dakota, 1; Tennessee, 1; Texas, 1; West Virginia, 1.

CENSUS OF MANUFACTURES: 1929

TABLE 3.—CHILDREN'S CARRIAGES AND SLEDS, AND TOYS, GAMES, AND PLAYGROUND EQUIPMENT—PRODUCTION, BY CLASS, NUMBER, AND VALUE, FOR THE UNITED STATES: 1929, 1927, AND 1925

[The figures given for 1929 refer to sales (shipments or deliveries) by manufacturers; those for earlier years represent production. See GENERAL EXPLANATIONS—Value of Products]

CLASS	1929	1927	1925	CLASS	1929	1927	1925
1. "Children's carriages and sleds" and "Toys, games, and playground equipment" industries, all products, total value.....	\$103,646,841	\$92,623,851	\$85,907,267	Children's carriages, etc.—Continued. Children's wagons (coaster, etc.)—Con. Value.....	\$3,842,124	\$3,337,224	\$4,054,109
2. Children's wheel goods and toys, games, and playground equipment.....	93,536,335	81,879,605	75,854,251	Number not reported, value.....	\$166,071		
3. Repair work ¹	236,221	1,429,349	1,572,215	Scooters— Number.....	470,917	1,302,161	1,281,063
4. Other products (not normally belonging to the industries).....	9,874,285	9,314,897	8,490,801	Value.....	\$686,423	\$3,275,485	\$3,445,918
5. Children's carriages and sleds, and toys, games, and playground equipment, made as secondary products in other industries.....	19,084,794	15,952,060	12,217,134	Three-wheel play cars (with or without pedals)— Number.....	580,374	482,430	666,698
Children's carriages and sleds, and toys, games, and playground equipment, all industries: Aggregate value (sum of 2 and 5).....	112,621,129	97,831,665	88,071,385	Value.....	\$960,241	\$723,277	\$1,277,417
Children's carriages and other wheel goods and children's sleds, total value.....	\$20,506,112	\$27,796,869	\$28,041,997	Baby walkers and tenders— Number.....	331,526	275,816	237,187
Baby carriages— Number reported.....	286,760	321,788	237,014	Value.....	\$788,061	\$799,301	\$743,719
Value.....	\$4,809,670	\$5,099,276	\$5,006,121	Sleds— Number.....	628,866	1,248,726	878,523
Number not reported, value.....	\$1,879,329	\$1,276,592	\$990,949	Value.....	\$617,096	\$1,744,751	\$918,878
Gocarts, strollers, and sulkies— Number.....	309,441	275,943	359,396	Number, not reported, value.....	\$254,519	(?)	(?)
Value.....	\$2,362,307	\$2,360,148	\$3,053,325	Parts of children's wheel goods, value.....	\$935,692	(?)	(?)
Doll carriages and doll carts— Number.....	1,307,546	1,089,160	1,209,571	Wheel goods not specified by kind, value.....	\$2,111,754	\$983,248	\$1,208,384
Value.....	\$3,504,088	\$2,966,274	\$2,815,283	Toys, games, and playground equipment, total value.....	\$83,115,017	\$70,034,796	\$60,020,388
Number not reported, value.....	\$166,368			Dolls, other than pyroxylin— Number.....	15,151,801	(?)	(?)
Velocipedes and tricycles— Number.....	905,050	640,702	506,507	Value.....	\$12,397,935	\$13,440,758	\$12,117,437
Value.....	\$4,696,021	\$3,539,041	\$2,762,087	Doll parts, value.....	\$2,912,462	\$1,671,911	\$1,498,407
Sidewalk cycles— Number.....	80,278	56,934	(?)	Doll clothes, value.....	\$670,244	\$451,775	
Value.....	\$729,628	\$523,079	(?)	Mechanical toys (not including toy trains), value.....	\$3,580,152	\$7,593,435	
Children's automobiles— Number.....	205,352	144,380	216,400	Toy trains, value.....	\$4,309,241		
Value.....	\$1,020,740	\$1,169,173	\$1,765,797	Metal toys (other than mechanical toys and toy trains), value.....	\$13,641,472	\$9,393,614	
Children's wagons (coaster, express, and play)— Number.....	1,807,439	1,410,916	(?)	Wooden toys, value.....	\$6,575,040	\$5,819,064	
				China, clay, and composition toys, value.....	\$699,143	\$801,099	\$36,041,569
				Stuffed animals, value.....	\$1,882,692	(?)	
				Play furniture, value.....	\$3,485,139	\$2,388,312	
				Rubber toys, other than toy balloons, value.....	\$3,936,301	\$3,087,107	
				Toys not specified above (including paper toys) and games, value.....	\$15,167,597	\$18,847,554	
				Playground equipment, value.....	\$6,821,502	\$2,661,550	\$1,440,226
				Rubber toy balloons, value.....	\$3,090,807	\$3,877,657	(?)
				Products not distributed by kind, value.....	\$3,544,711		\$8,924,749
				Parts of toys and games, value.....	\$370,589	(?)	(?)

¹ For 1929, "Repair work" only; for 1927 and 1925, "Parts and repair work."² Not reported separately; included in item "3".³ The production of toy balloons was reported solely, and that of other rubber toys mainly, by establishments classified in the "Rubber products" group of industries, which embraces all industries using crude rubber as their principal material.

CHILDREN'S CARRIAGES AND SLEDS AND TOYS AND GAMES

1199

TABLE 4.—PRIME MOVERS, MOTORS, GENERATORS, AND CONSUMPTION OF PURCHASED ELECTRIC ENERGY—NUMBER AND RATED CAPACITY OF PRIME MOVERS AND ELECTRIC MOTORS, 1929, 1927, 1925, 1919, AND 1914, AND OF GENERATORS, 1929, 1927, AND 1925; QUANTITY OF ELECTRIC ENERGY PURCHASED, 1929

TYPE	1929		1927		1925		1919		1914		PER CENT DISTRIBUTION OF RATED HORSEPOWER CAPACITY	
	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	1929	1919
CARRIAGES AND SLEDS, CHILDREN'S												
Prime movers and electric motors driven by purchased energy, aggregate.....	1,400	Horse-power 10,895	1,289	Horse-power 10,309	1,129	Horse-power 9,833	466	Horse-power 6,071	273	Horse-power 5,652	100.0	100.0
Prime movers, total.....	27	3,295	30	3,430	34	3,598	37	2,945	46	4,028	30.2	48.5
Steam, total.....	24	3,085	21	2,981	22	2,929	21	2,421	28	3,242	28.3	39.8
Engines.....	23	2,885	20	2,315	21	2,263	20	2,371	(1)	(1)	25.5	39.0
Turbines.....	1	200	1	666	1	665	1	50	(1)	(1)	1.8	0.8
Internal-combustion engines.....	2	50	2	29	6	279	7	119	9	218	0.4	2.0
Water wheels and water turbines.....	1	160	7	420	6	390	9	405	9	560	1.5	6.7
Electric motors driven by purchased energy.....	1,373	7,600	1,259	6,879	1,095	6,255	429	3,126	227	1,632	69.8	51.5
Electric motors, total.....	1,640	9,344	1,548	8,269	1,372	7,793	458	3,300	300	2,199	100.0	100.0
Driven by purchased energy.....	1,373	7,600	1,259	6,879	1,095	6,255	429	3,126	227	1,632	81.3	94.7
Driven by energy generated in establishments reporting.....	267	1,744	289	1,390	277	1,538	29	174	73	567	18.7	5.3
Electric generators ²	13	Kilowatts 1,620 Kilowatt-hours 6,265,993	14	Kilowatts 1,116	17	Kilowatts 1,675						
Electric energy purchased ³												
TOYS (NOT INCLUDING CHILDREN'S WHEEL GOODS OR SLEDS), GAMES, AND PLAYGROUND EQUIPMENT												
Prime movers and electric motors driven by purchased energy, aggregate.....	5,002	Horse-power 25,642	3,241	Horse-power 19,028	2,946	Horse-power 19,038	1,811	Horse-power 14,423	602	Horse-power 6,719	100.0	100.0
Prime movers, total.....	63	8,352	57	6,530	75	6,771	116	6,903	97	4,610	32.6	47.0
Steam, total.....	36	6,142	34	5,183	41	5,340	44	5,520	40	3,464	28.9	38.3
Engines.....	36	6,142	33	5,158	40	5,315	42	4,680	(1)	(1)	28.9	32.5
Turbines.....			1	25	1	25	2	840	(1)	(1)		5.8
Internal-combustion engines.....	8	662	12	715	15	308	45	691	44	596	2.6	4.8
Water wheels and water turbines.....	19	1,548	11	632	19	1,123	27	692	13	550	6.0	4.8
Electric motors driven by purchased energy.....	4,639	17,200	3,184	12,408	2,871	12,267	1,605	7,520	505	2,109	67.4	52.1
Electric motors, total.....	5,473	20,032	3,712	14,800	3,154	13,770	1,869	8,908	613	2,898	100.0	100.0
Driven by purchased energy.....	4,939	17,290	3,184	12,498	2,871	12,267	1,695	7,520	505	2,109	86.3	84.4
Driven by energy generated in establishments reporting.....	534	2,742	528	2,302	283	1,503	174	1,388	108	789	13.7	15.6
Electric generators ²	20	Kilowatts 2,302 Kilowatt-hours 15,782,648	13	Kilowatts 1,314	16	Kilowatts 1,592						
Electric energy purchased ³												

¹ Not called for on schedule.

² Data for electric generators not called for on schedule prior to 1925.

³ This item covers consumption of purchased electric energy for all purposes—power, heat, light, etc. No available data for years prior to 1929.

CENSUS OF MANUFACTURES: 1929

TABLE 5.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1929, 1925, 1919, 1914, AND 1909, AND BY STATES, 1929

[This table presents statistics for only those States for which figures can be given without disclosing data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures]

STATE	Average number employed during year	NUMBER EMPLOYED ON 15TH DAY OF MONTH OR NEAREST REPRESENTATIVE DAY												Percent minimum is of maximum
		January	February	March	April	May	June	July	August	September	October	November	December	
CARRIAGES AND SLEDS, CHILDREN'S														
United States:														
1929	7,102	<i>5,850</i>	6,618	6,965	7,288	7,329	6,885	6,927	7,350	7,949	8,340	7,733	5,985	70.1
1925	6,926	<i>6,400</i>	6,650	6,914	6,866	6,618	6,527	6,439	6,580	7,274	7,918	7,865	7,066	80.8
1919	6,686	<i>5,899</i>	6,213	6,486	6,522	6,684	6,378	6,644	6,348	6,838	6,946	6,995	7,179	85.6
1914	5,900	<i>6,198</i>	6,211	6,150	6,066	5,892	5,637	5,562	<i>5,422</i>	5,767	5,970	6,052	5,893	87.3
1909	5,300	<i>5,637</i>	5,971	5,683	5,540	5,309	4,836	<i>4,568</i>	4,627	5,006	5,258	5,306	5,750	76.3
Illinois	269	321	293	276	262	287	273	244	230	243	286	290	<i>255</i>	70.1
Indiana	424	<i>271</i>	325	314	358	358	363	402	514	573	634	633	348	42.7
Massachusetts	1,436	1,363	1,479	1,518	1,537	1,416	1,388	1,374	<i>1,350</i>	1,404	1,523	1,514	1,367	87.8
New York	387	<i>370</i>	379	408	418	415	371	359	363	385	395	411	370	86.3
Ohio	2,083	1,358	1,722	1,957	2,067	2,149	2,220	2,336	2,504	2,704	2,718	2,042	1,218	44.8
Pennsylvania	527	<i>574</i>	450	471	465	477	498	497	503	667	642	655	558	56.1
Wisconsin	687	<i>626</i>	647	628	658	604	<i>295</i>	314	448	580	751	772	655	38.2
TOYS (NOT INCLUDING CHILDREN'S WHEEL GOODS OR SLEDS), GAMES, AND PLAYGROUND EQUIPMENT														
United States:														
1929	16,660	<i>12,859</i>	13,748	14,913	15,304	15,860	16,188	16,683	17,807	18,881	20,287	20,144	17,183	63.5
1925	13,557	<i>10,357</i>	11,238	11,919	12,464	12,870	13,391	14,042	14,420	15,003	16,104	16,253	14,607	63.7
1919	14,201	<i>10,141</i>	11,080	12,028	12,706	13,564	14,348	15,674	15,942	16,283	16,471	16,701	15,674	60.7
1914	7,887	<i>5,745</i>	6,438	6,853	7,165	7,501	7,861	8,299	8,712	9,818	10,185	9,086	7,931	56.7
1909	5,305	<i>3,716</i>	4,194	4,443	4,847	5,114	5,354	5,580	5,984	6,205	6,505	6,376	5,328	57.1
California	147	<i>71</i>	87	108	124	148	120	128	105	183	260	232	113	27.3
Connecticut	1,339	<i>1,242</i>	1,314	1,374	1,365	1,386	1,360	1,379	1,345	1,400	1,431	1,420	1,297	88.8
Illinois	1,699	1,606	<i>1,689</i>	1,642	1,653	1,621	1,616	1,569	1,653	1,804	1,916	1,998	1,693	70.6
Indiana	747	<i>533</i>	622	684	715	726	766	749	809	830	872	845	761	66.9
Iowa	83	<i>69</i>	71	99	88	87	88	82	98	110	119	122	85	56.6
Kansas	87	<i>65</i>	83	86	88	73	73	76	90	105	108	102	102	50.9
Maine	455	430	<i>428</i>	433	444	445	436	449	461	486	477	506	466	83.6
Maryland	186	<i>94</i>	98	112	126	140	213	224	235	256	262	254	222	35.9
Massachusetts	1,714	<i>1,358</i>	1,498	1,647	1,587	1,651	1,696	1,660	1,799	1,899	2,013	2,007	1,763	87.2
Michigan	510	<i>489</i>	520	529	538	528	499	483	524	538	518	530	477	77.5
Minnesota	129	<i>100</i>	110	138	145	149	160	134	118	109	132	130	122	62.5
Missouri	153	<i>89</i>	102	111	144	132	120	154	200	247	301	179	121	28.6
New Hampshire	169	<i>141</i>	143	148	155	157	154	165	164	162	173	174	165	78.8
New Jersey	1,471	<i>838</i>	1,032	1,129	1,208	1,287	1,324	1,626	1,687	1,817	1,959	2,082	1,728	43.1
New York	4,032	<i>2,752</i>	3,018	3,392	3,627	3,795	3,888	4,176	4,461	4,812	5,041	5,057	4,369	54.4
Ohio	1,165	<i>918</i>	967	1,059	1,104	1,143	1,183	1,197	1,173	1,256	1,398	1,448	1,186	68.6
Pennsylvania	1,823	<i>1,389</i>	1,483	1,640	1,700	1,808	1,818	1,810	1,911	1,834	2,215	2,233	2,032	62.2
Rhode Island	53	<i>38</i>	38	38	41	53	47	49	59	68	72	72	72	72
Vermont	179	<i>183</i>	182	172	172	162	104	158	169	210	206	195	160	75.2
Washington	32	<i>13</i>	3	20	29	35	33	48	43	33	39	35	36	5.7
Wisconsin	179	<i>161</i>	150	160	158	172	203	200	211	217	226	169	116	61.3

¹ Revised. See "Comparableness of the statistics for earlier years," p. 1194.

CARRIAGES, WAGONS, SLEIGHS, AND SLEDS, AND MATERIALS

The manufacture of horse-drawn vehicles, wheelbarrows, and handcarts and the manufacture of materials and parts for such vehicles are treated for census purposes as separate industries. A combined summary for these industries is presented in the table below.

Duplication in cost of materials and value of products.—The combined statistics for cost of materials and for value of products include considerable amounts of duplication arising from the fact that in large

measure the products of the "Carriage, wagon, sleigh, and sled materials" industry are used as materials in the "Carriages, wagons, sleighs, and sleds" industry, so that the combined cost of materials exceeds the cost of raw and partly manufactured materials produced outside the industries, and the combined value of products is in excess of the total factory value of the finished products in the form in which they reach the final purchaser.

COMBINED SUMMARY FOR THE CARRIAGE AND WAGON INDUSTRIES, FOR THE UNITED STATES: 1899 TO 1929

[Data for establishments with products under \$5,000 in value included for 1919 and prior years but not for 1921 and subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

YEAR OR PERIOD	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy ¹	Value of products ¹	Value added by manufacture ²	Horsepower
1920	133	3,554	\$3,982,598	\$9,940,282	\$19,242,107	\$9,301,825	19,659
1927	161	4,151	4,876,125	12,202,825	22,463,183	10,260,368	23,420
1925	233	6,222	7,007,523	15,518,424	30,052,430	14,534,006	29,138
1923	595	10,022	10,909,362	22,686,669	44,685,973	21,999,304	37,156
1921	<i>637</i>	<i>9,041</i>	<i>(b)</i>	<i>(c)</i>	<i>56,674,107</i>	<i>(d)</i>	<i>(e)</i>
1921	978	10,772	12,458,563	23,018,566	43,900,549	20,881,983	<i>(f)</i>
1919	2,555	24,973	25,331,608	64,008,225	119,908,079	55,839,854	64,753
1914	5,073	82,714	32,766,595	60,148,275	132,488,809	69,340,594	113,634
1909	5,516	70,592	37,871,141	82,666,165	161,513,025	78,851,990	127,170
1904	5,614	73,466	38,653,638	78,022,224	157,946,629	79,024,405	106,202
1899	0,807	74,133	33,692,711	66,951,955	138,716,204	71,764,249	83,068
PER CENT OF INCREASE OR DECREASE (—)							
1927-1920	-17.4	-14.4	-18.3	-18.5	-14.3	-9.3	-16.1
1925-1927	-30.0	-33.3	-30.4	-21.4	-25.3	-20.4	-19.6
1923-1925	-53.9	-38.3	-35.8	-31.6	-32.7	-33.9	-21.0
1921-1923	-23.1	11.6	-----	-----	22.0	-----	-----
1919-1921	-61.7	-56.9	-50.8	-64.1	-63.4	-62.0	-----
1909-1919	-53.7	-64.6	-33.1	-22.5	-25.8	-29.2	-40.1
1899-1909	-19.0	-4.8	12.4	23.5	16.4	9.9	53.0

¹ See "Duplication in cost of materials and value of products," above.

² For 1929, manufacturers' sales (shipments or deliveries); for earlier years, production. See GENERAL EXPLANATIONS—Value of Products. See also "Duplication in cost of materials and value of products," above.

³ Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

⁴ Figures in roman type for 1921 are comparable with those for earlier years. Items in italics are comparable with those for later years. See "Repair shops," p. 1202.

⁵ Not available. See "Repair shops," p. 1202.

⁶ Not called for on schedule.

CARRIAGES, WAGONS, SLEIGHS, AND SLEDS

Description of the industry.—The primary products of establishments in this industry are complete horse-drawn vehicles (including sleighs and sleds) of all classes, handcars, pushcarts, and wheelbarrows. Some establishments manufacture, in addition to complete vehicles, parts and materials for sale as such, but those engaged exclusively or principally in the production of parts and materials are classified separately in the "Carriage, wagon, sleigh, and sled materials" industry.

Repair shops.—At censuses prior to that for 1923 carriage and wagon repair shops (shops engaged solely or principally in the repair of carriages and wagons) were classified in this industry. The canvass for 1923 did not, in general, cover repair shops, although data for a small number were included in the statistics; and no such shops were canvassed at subsequent censuses. Two sets of figures for 1921 are, therefore, given on the table of the preceding page and in the

table, below. Those in italics have been adjusted for comparison with the figures for later years by subtracting the data for the number of repair shops, the number of wage earners employed therein, and the value of work done. (No data for the other items are available.) The figures in roman type include data for repair shops, and are therefore comparable with those for earlier years.

Duplication in cost of materials and value of products.—To the extent to which materials and parts are made by establishments in this industry and sold to other establishments which use them in the manufacture of complete vehicles, the statistics for cost of materials and value of products include duplication. The value of materials and parts made for sale as such is shown under "Repair work and parts (normally belonging to the industry)," Table 3. Materials and parts are, of course, sold for replacement purposes as well as for installation in new vehicles.

TABLE 1.—SUMMARY FOR THE UNITED STATES: 1899 TO 1929

[Data for establishments with products under \$5,000 in value included for 1919 and prior years but not for 1921 and subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

YEAR OR PERIOD	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²	Horsepower
1920.....	88	2,873	\$3,417,963	\$8,458,294	\$16,449,879	\$7,991,585	14,899
1927.....	117	3,387	4,211,010	10,648,271	19,422,235	8,778,964	18,207
1925.....	152	4,833	5,791,729	12,859,793	24,934,814	12,076,021	20,449
1923.....	396	8,109	9,318,793	18,682,274	37,372,825	18,690,551	26,599
1921 ³	<i>616</i>	<i>6,394</i>	<i>(4)</i>	<i>(4)</i>	<i>25,826,950</i>	<i>(4)</i>	<i>(4)</i>
1921 ⁴	837	8,025	9,003,327	16,883,611	33,113,372	16,229,761	(5)
1919.....	2,297	18,464	19,664,837	49,333,552	93,142,763	48,809,211	41,081
1914.....	4,622	41,627	26,697,287	52,602,002	107,639,399	55,037,307	75,439
1909.....	4,894	33,204	28,942,370	64,605,290	126,092,390	62,387,091	80,271
1904.....	4,982	61,306	31,174,188	61,709,541	126,510,756	64,801,215	69,571
1899.....	6,219	58,746	27,705,444	53,903,347	113,689,031	50,785,684	51,749
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929.....	-24.8	-15.2	-18.8	-20.6	-15.3	-8.9	-18.2
1925-1927.....	-23.0	-29.9	-27.3	-17.2	-22.1	-27.3	-11.0
1923-1925.....	-61.6	-46.4	-37.8	-31.2	-33.3	-35.4	-22.9
1921-1923.....	-23.3	28.8	—	—	44.7	—	—
1919-1921.....	-63.6	-56.5	-49.0	-65.8	-64.4	-63.0	—
1909-1919.....	-53.1	-65.3	-34.3	-23.6	-26.7	-29.8	-48.8
1899-1909.....	-21.3	-9.4	8.1	19.9	11.7	4.4	55.1

¹ For 1929, manufacturers' sales (shipments or deliveries); for earlier years, production. See GENERAL EXPLANATIONS—Value of Products.

² Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

³ Figures in roman type for 1921 are comparable with those for earlier years. Items in italics are comparable with those for later years. See "Repair shops" above.

⁴ Not available. See "Repair shops" above.

⁵ Not called for on schedule.

CARRIAGES, WAGONS, SLEIGHS, AND SLEDS

1203

TABLE 2.—GENERAL STATISTICS, BY STATES: 1929 AND 1927

[This table presents statistics for each State for which figures can be given without disclosing data for individual establishments and for the remaining States in groups. Certain of the States for which figures are given in combination with those for others, however, reported larger values of products than some of the States shown separately]

STATE	Census year	Number of establishments	Salaried officers and employees ¹	Wage earners (average for the year)	HORSEPOWER (RATED CAPACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products ²	Value added by manufacture ³
					Total	Prime movers	Motors run by purchased energy			Total	Materials	Fuel and purchased energy		
United States.....	1929	88	570	2,873	14,899	7,332	7,567	\$1,417,687	\$3,417,993	\$8,458,294	\$8,196,081	\$262,213	\$16,449,879	\$7,991,885
	1927	117	639	3,387	18,207	11,066	7,141	1,562,142	4,211,610	10,648,271	10,308,416	339,855	19,422,235	8,773,964
Individual States:														
Georgia.....	1929	3	6	53	318	250	68	14,689	34,887	50,788	47,763	3,035	114,615	63,817
	1927	5	15	75	507	375	132	25,266	82,055	113,831	111,423	4,409	244,904	129,073
Illinois.....	1929	7	140	696	5,869	3,051	2,818	298,758	868,835	2,371,050	2,288,424	82,626	4,107,878	1,736,928
	1927	9	122	692	8,378	3,204	2,174	270,041	878,944	2,660,883	2,574,690	92,193	4,086,689	1,369,750
Indiana.....	1929	7	36	252	784	475	309	78,847	270,870	720,140	710,126	10,014	1,305,143	585,003
	1927	10	51	292	1,383	975	408	129,893	945,582	837,693	813,277	24,316	1,574,665	737,072
Iowa.....	1929	5	14	65	280	100	180	38,502	65,164	141,321	132,801	8,520	288,760	147,439
	1927	5	11	42	207	100	107	10,962	47,940	117,678	113,022	4,556	266,810	149,232
Kentucky.....	1929	4	21	131	856	800	56	39,854	127,869	274,365	235,291	19,074	568,719	232,354
	1927	5	70	330	2,163	2,006	163	127,023	344,177	608,169	566,408	41,701	1,331,914	723,805
Minnesota.....	1929	5	29	207	765	200	565	86,425	288,338	601,735	577,000	24,735	1,080,139	478,404
	1927	5	25	185	1,009	250	759	63,478	216,720	514,436	494,990	19,440	951,851	437,415
Missouri.....	1929	6	36	162	615	526	89	88,526	174,681	367,253	297,236	10,017	772,252	464,999
	1927	9	27	157	660	516	144	62,263	187,648	239,994	230,291	9,703	672,656	432,662
New York.....	1929	11	52	163	616	175	441	114,530	274,792	668,337	649,194	14,143	1,169,722	506,385
	1927	16	72	330	971	389	582	167,582	665,189	2,031,770	1,999,355	32,415	2,845,457	813,687
North Carolina.....	1929	4	30	142	884	409	494	64,125	139,056	299,804	263,412	6,392	566,430	356,626
	1927	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)
Ohio.....	1929	6	26	114	524	250	274	70,316	152,035	417,220	406,644	10,576	825,208	407,988
	1927	7	29	130	671	220	451	76,649	185,029	468,251	393,624	15,727	854,198	444,942
Pennsylvania.....	1929	6	31	214	1,022	275	747	94,200	242,525	533,102	508,909	24,193	1,034,954	501,852
	1927	7	30	219	1,019	687	332	99,771	270,739	471,431	444,859	26,572	1,015,739	544,299
Tennessee.....	1929	4	18	93	335	165	170	30,528	72,012	177,580	169,463	8,117	365,879	188,299
	1927	4	16	106	520	423	95	34,647	82,195	220,600	210,925	9,674	429,284	208,684
Groups of States:														
Alabama, 1 establishment; Mississippi, 3.....	1929	4	21	96	527	185	342	41,283	84,157	170,954	171,793	8,161	459,017	279,003
Arkansas, 1 establishment; Louisiana, 2.....	1929	3	4	27	188	-----	188	4,562	24,532	55,966	52,970	2,996	104,568	48,562
Other States (Maryland, 1 establishment; Massachusetts, 2; New Jersey, 2; Texas, 1; Virginia, 3; Wisconsin, 4).....	1929	13	106	458	1,316	480	836	353,543	648,271	1,754,669	1,725,075	29,614	3,688,595	1,933,830
States not shown separately.....	1927	35	171	829	3,710	1,925	1,794	487,667	955,422	2,414,795	2,355,651	59,144	5,198,132	2,783,337

¹ Not including proprietors and firm members, as follows: For 1929, 22; 1927, 48. The total number of persons engaged—proprietors and firm members, salaried officers and employees, and wage earners—as reported for the industry, are as follows: For 1929, 3,463; 1927, 4,074.
² For 1929, manufacturers' sales (shipments or deliveries); for earlier years, production. See GENERAL EXPLANATIONS—Value of Products.
³ Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.
⁴ Withheld from publication in order to avoid disclosing data for individual establishments.
⁵ Alabama, 1 establishment; Arkansas, 1; Delaware, 1; Louisiana, 2; Maryland, 2; Massachusetts, 6; Mississippi, 3; New Jersey, 1; North Carolina, 6; Texas, 1; Vermont, 1; Virginia, 4; West Virginia, 1; Wisconsin, 6.

CENSUS OF MANUFACTURES: 1929

TABLE 3.—PRODUCTS, BY CLASS, NUMBER, AND VALUE: 1923 TO 1929

[The figures for 1929 represent manufacturers' sales (shipments or deliveries); those for earlier years, production. See GENERAL EXPLANATIONS—Value of Products]

CLASS	1929	1927	1925	1923
1. "Wagons, carriages, sleighs, and sleds" industry, all products, total value.....	\$16,449,879	\$10,422,235	\$24,934,814	\$37,372,825
2. Wagons, carriages, sleighs, and sleds, and wheelbarrows.....	11,043,594	12,187,919	19,165,634	24,795,543
3. Repair work and parts (normally belonging to the industry).....	3,812,200	3,666,046	2,982,980	9,333,064
4. Other products (not normally belonging to the industry).....	1,594,085	3,567,670	2,806,200	3,244,228
5. Wagons, carriages, sleighs, and sleds, and wheelbarrows made as secondary products in other industries, value.....	3,599,656	3,225,432	4,648,419	3,867,468
Wagons, carriages, sleighs and sleds, and wheelbarrows, all industries: Aggregate value (sum of 2 and 5).....	14,633,250	15,413,351	23,814,053	28,663,011
Horse-drawn vehicles:				
Number reported—	110,489	129,694	223,457	287,713
Value.....	\$10,373,797	\$11,963,454	\$20,310,296	\$20,062,289
Number not reported, value.....	\$430,089			
Farm wagons—				
Number.....	40,687	50,810		
Value.....	\$3,789,496	\$4,427,309	171,783	196,275
Farm trucks—			\$13,114,435	\$15,099,071
Number.....	60,969	48,278		
Value.....	\$2,518,180	\$1,926,431		
Business wagons, including mail carriers' wagons, lunch wagons, and public conveyances—				
Number reported—	4,122	13,192	24,245	27,990
Value.....	\$3,465,133	\$4,592,634	\$4,960,025	\$5,171,722
Number not reported, value.....	\$413,949			
Carriages, buggies, and sulkies—				
Number.....	3,597	7,633	21,545	59,090
Value.....	\$346,661	\$687,399	\$1,981,276	\$4,738,723
2-wheeled carts—				
Number.....	3,322	4,310	3,204	
Value.....	\$145,033	\$146,933	\$165,308	
Sleighs and sleds (including bobsleds)—				
Number reported—	3,702	5,471	2,680	4,388
Value.....	\$109,294	\$182,748	\$80,192	\$152,773
Number not reported, value.....	\$10,740			
Wheelbarrows, value.....	\$3,590,367	\$3,314,588	\$3,382,721	\$2,499,228
Handcarts and pushcarts:				
Number.....	14,132	9,640	12,651	
Value.....	\$268,397	\$135,309	\$121,036	\$101,496

* Combined to avoid disclosing data for individual establishments.

CARRIAGES, WAGONS, SLEIGHS, AND SLEDS

1205

TABLE 4.—PRIME MOVERS, MOTORS, GENERATORS, AND CONSUMPTION OF PURCHASED ELECTRIC ENERGY—NUMBER AND RATED CAPACITY OF PRIME MOVERS, ELECTRIC MOTORS, AND GENERATORS, 1929, 1927, AND 1925; QUANTITY OF ELECTRIC ENERGY PURCHASED, 1929

TYPE	1929		1927		1925		Per cent distribution of rated horse power capacity, 1929
	Number	Capacity	Number	Capacity	Number	Capacity	
Prime movers and electric motors driven by purchased energy, aggregate.....	1, 118	<i>Horsepower</i> 14, 899	1, 062	<i>Horsepower</i> 18, 207	1, 165	<i>Horsepower</i> 20, 449	109. 0
Prime movers, total.....	50	7, 332	72	11, 066	87	13, 190	49. 2
Steam, total.....	44	7, 058	57	10, 588	73	12, 784	47. 4
Engines.....	41	4, 983	51	8, 253	73	12, 784	33. 4
Turbines.....	3	2, 075	6	2, 335	—	—	13. 9
Internal-combustion engines.....	4	72	12	309	11	234	0. 5
Water wheels and water turbines.....	2	202	3	172	3	172	1. 4
Electric motors driven by purchased energy.....	1, 068	7, 567	990	7, 141	1, 078	7, 259	50. 8
Electric motors, total.....	1, 561	12, 384	1, 461	13, 956	1, 756	14, 680	100. 0
Driven by purchased energy.....	1, 068	7, 567	990	7, 141	1, 078	7, 259	61. 1
Driven by energy generated in establishments reporting.....	493	4, 817	471	6, 815	678	7, 421	38. 9
Electric generators.....	21	<i>Kilowatts</i> 3, 996	40	<i>Kilowatts</i> 4, 955	38	<i>Kilowatts</i> 5, 724	—
Electric energy purchased ¹	—	<i>Kilowatt-hours</i> 4, 001, 904	—	(?)	—	(?)	—

¹ This item covers the consumption of purchased electric energy for all purposes—power, heat, light, etc.
² Data incomplete.

TABLE 5.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1929 AND 1925, AND BY STATES, 1929

[This table presents statistics for only those States for which figures can be given without disclosing data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures]

STATE	Average number employed during year	NUMBER EMPLOYED ON 15TH DAY OF MONTH OR NEAREST REPRESENTATIVE DAY												Per cent minimum is of maximum
		January	February	March	April	May	June	July	August	September	October	November	December	
United States:														
1929.....	2, 873	2, 744	2, 826	2, 834	2, 866	2, 882	2, 875	2, 970	3, 019	3, 009	2, 940	2, 819	2, 690	89. 1
1925.....	4, 833	4, 880	4, 618	4, 718	4, 782	4, 637	4, 642	4, 763	5, 159	5, 261	5, 219	5, 053	4, 765	83. 3
Georgia.....	53	58	54	44	58	58	73	67	58	62	54	46	40	52. 1
Illinois.....	698	682	694	691	657	659	684	766	773	753	724	660	610	78. 9
Indiana.....	252	260	253	251	259	242	235	228	248	250	267	271	264	84. 1
Iowa.....	65	<i>62</i>	65	64	63	<i>62</i>	66	69	68	66	65	65	66	86. 9
Kentucky.....	131	134	136	137	132	129	131	131	130	129	129	128	131	93. 4
Minnesota.....	207	211	209	208	226	207	201	209	211	202	197	202	198	87. 2
Missouri.....	162	<i>174</i>	130	152	159	168	160	189	189	178	170	177	150	57. 3
New York.....	163	184	184	183	218	199	199	175	121	119	115	107	114	45. 5
North Carolina.....	142	142	142	149	151	151	157	157	138	138	138	138	138	90. 7
Ohio.....	114	108	117	119	122	121	122	116	123	103	108	106	109	83. 7
Pennsylvania.....	214	209	218	217	223	219	224	220	219	206	204	205	203	90. 6
Tennessee.....	93	<i>63</i>	105	81	73	60	66	71	95	120	131	135	124	39. 3

CARRIAGE, WAGON, SLEIGH, AND SLED MATERIALS

Description of the industry.—This industry classification covers establishments whose principal products are materials and parts, except springs (the manufacture of which is separately classified) for horse-drawn vehicles, wheelbarrows, and handcarts. These prod-

ucts, which are sold in part for use in the manufacture of new vehicles and in part for replacement purposes, include among others, bodies, tops, hubs, felloes, spokes, wheels, whiffletrees, carriage boots and aprons, axles, dashboards, neck yokes, and whip sockets.

TABLE 1.—SUMMARY FOR THE UNITED STATES: 1899 TO 1929

[Data for establishments with products under \$5,000 in value included for 1919 and prior years but not for 1921 and subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

YEAR OR PERIOD	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²	Horsepower
1929.....	45	681	\$564,635	\$1,481,988	\$2,702,228	\$1,310,240	4,760
1927.....	44	764	604,515	1,654,554	3,040,048	1,486,304	5,213
1925.....	81	1,389	1,215,794	2,658,031	5,117,616	2,458,985	8,689
1923.....	109	1,983	1,590,599	4,004,305	7,313,148	3,308,753	10,647
1921.....	141	2,747	2,555,230	6,134,955	10,787,177	4,652,222	(3)
1919.....	258	6,509	5,056,771	14,734,673	26,765,316	12,030,643	23,672
1914.....	456	11,087	6,059,218	13,546,273	24,849,560	11,303,287	38,195
1909.....	622	17,888	7,973,771	18,060,868	34,525,635	16,464,769	47,247
1904.....	632	17,160	7,484,450	16,312,683	30,535,873	14,223,190	42,581
1899.....	588	15,387	5,987,267	13,048,608	25,027,173	11,978,565	31,349
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929.....	(4)	-10.9	-15.0	-4.7	-8.2	-11.9	-3.7
1925-1927.....	(4)	-45.0	-45.3	-41.5	-40.6	-39.6	-40.0
1923-1925.....	-25.7	-30.0	-23.6	-33.6	-30.0	-25.7	-13.4
1921-1923.....	-22.7	-27.8	-37.8	-34.7	-32.2	-28.9	-----
1919-1921.....	-45.3	-57.8	-54.9	-58.4	-59.7	-61.3	-----
1919-1929.....	-82.6	-89.5	-90.0	-89.9	-89.6	-89.1	-79.9
1909-1919.....	-58.5	-62.6	-28.9	-18.4	-22.5	-26.9	-49.9
1899-1909.....	5.8	13.0	33.2	38.4	33.0	37.5	50.7

¹ For 1929, manufacturers' sales (shipments or deliveries); for earlier years, production. See GENERAL EXPLANATIONS—Value of Products.
² Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.
³ Not called for on schedule.
⁴ Per cent not computed where base is less than 100.

CARRIAGE, WAGON, SLEIGH, AND SLED MATERIALS

1207

TABLE 2.—GENERAL STATISTICS, BY STATES: 1929, 1927, AND 1919

[This table presents statistics separately for each State for which figures can be given without disclosing data for individual establishments, and for the remaining States in groups. Certain of the States for which figures are given in combination with those for others, however, reported larger values of products than some of the States shown separately. Data for establishments with products under \$5,000 in value are included for 1919 but not for subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

STATE	Census year	Number of establishments	Salaried officers and employees ¹	Wage earners (average for the year)	HORSEPOWER (RATED CAPACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products ²	Value added by manufacture ³
					Total	Prime movers	Motors run by purchased energy			Total	Materials	Fuel and purchased energy		
United States.....	1929	45	121	681	4,760	2,404	2,356	\$238,968	\$504,635	\$1,481,988	\$1,431,784	\$50,204	\$2,792,228	\$1,310,240
	1927	44	113	764	5,213	3,344	1,869	215,059	664,515	1,554,554	1,504,777	49,777	3,040,948	1,486,394
	1919	253	708	6,509	23,672	18,711	4,961	1,305,544	5,666,771	14,734,673	14,437,114	297,559	26,765,316	12,030,643
Individual States:														
Arkansas.....	1929	7	32	257	1,224	899	325	62,960	181,184	597,072	589,950	7,122	1,016,441	418,369
	1927	6	29	184	997	769	228	57,966	140,046	598,921	581,845	8,075	964,059	374,138
	1919	15	44	669	1,961	1,875	86	71,386	406,297	942,309	935,333	6,976	1,837,497	865,188
Indiana.....	1929	4	6	48	627	390	297	18,300	37,818	47,210	42,953	4,257	150,665	103,455
	1927	4	5	55	595	390	265	16,500	43,240	55,260	52,440	2,850	160,513	105,223
	1919	21	89	782	3,583	1,952	1,631	167,332	711,529	2,072,412	1,999,382	73,030	3,516,457	1,444,045
Kentucky.....	1929	4	4	54	500	495	5	8,160	30,468	65,123	63,835	1,288	139,746	74,623
	1927	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)
	1919	19	57	521	1,989	1,623	366	68,787	441,931	749,749	731,963	17,886	1,758,650	1,008,931
Pennsylvania.....	1929	7	14	85	768	60	708	26,707	88,305	150,400	138,708	11,692	297,927	147,527
	1927	8	18	144	740	110	630	34,803	132,677	219,821	206,405	13,416	461,699	241,878
	1919	19	20	176	577	413	164	28,036	149,600	430,369	417,385	12,984	703,678	273,309
Groups of States:														
Illinois, 2 establishments; Iowa, 3.....	1929	5	32	106	615	100	515	64,710	101,926	405,540	393,644	11,896	741,171	336,681
Massachusetts, 2 establishments; New Hampshire, 1; Missouri, 1 establishment; Tennessee, 2.....	1929	3	7	20	241	-----	241	17,606	24,746	22,970	17,626	5,344	54,382	31,412
Other States (California, 1 establishment; Louisiana, 1; Maryland, 2; Michigan, 1; Minnesota, 1; New York, 2; Ohio, 2; Texas, 1; Wisconsin, 1).....	1929	12	18	66	525	260	265	29,165	73,697	119,049	110,771	8,278	263,928	144,869
States not shown separately.....	1927	26	61	381	2,881	2,135	746	105,550	348,552	689,522	664,086	25,436	1,454,677	765,155
	1919	184	498	4,361	15,562	12,848	2,714	970,003	3,957,354	10,539,834	10,353,151	186,683	18,979,004	8,439,170

¹ Not including proprietors and firm members, as follows: For 1929, 30; 1927, 32; 1919, 212. The total numbers of persons engaged—proprietors and firm members, salaried officers and employees, and wage earners—as reported for the industry, are as follows: For 1929, 832; 1927, 909; 1919, 7,429.

² For 1929, manufacturers' sales (shipments or deliveries); for earlier years, production. See GENERAL EXPLANATIONS—Value of Products.

³ Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

⁴ Data for purchased power other than electric (power transmitted into the plant by belt or shaft) are included in the State items for 1919 but not in the United States totals.

⁵ Withheld from publication in order to avoid disclosing data for individual establishments.

⁶ Alabama, 2 establishments; California, 1; Illinois, 2; Iowa, 1; Kentucky, 2; Louisiana, 1; Maryland, 1; Massachusetts, 1; Michigan, 1; Missouri, 1; New Hampshire, 1; New York, 1; Ohio, 4; Tennessee, 4; Texas, 1; Washington, 1; Wisconsin, 1.

⁷ Alabama, 4 establishments; California, 3; Colorado, 1; Connecticut, 7; Georgia, 5; Illinois, 8; Iowa, 9; Kansas, 2; Louisiana, 3; Maine, 2; Maryland, 1; Massachusetts, 7; Michigan, 7; Minnesota, 3; Mississippi, 5; Missouri, 6; Nebraska, 1; New Hampshire, 3; New Jersey, 4; New York, 18; North Carolina, 8; North Dakota, 1; Ohio, 35; Oklahoma, 1; Rhode Island, 3; South Dakota, 1; Tennessee, 19; Texas, 3; Virginia, 3; Washington, 1; West Virginia, 3; Wisconsin, 6; Wyoming, 1.

CENSUS OF MANUFACTURES: 1929

TABLE 3.—PRIME MOVERS, MOTORS, GENERATORS, AND CONSUMPTION OF PURCHASED ELECTRIC ENERGY—NUMBER AND RATED CAPACITY OF PRIME MOVERS AND ELECTRIC MOTORS, 1929, 1927, 1925, 1919, AND 1914, AND OF GENERATORS, 1929, 1927, AND 1925: QUANTITY OF ELECTRIC ENERGY PURCHASED, 1929

TYPE	1929		1927		1925		1919		1914		PER CENT DISTRIBUTION OF RATED HORSEPOWER CAPACITY	
	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	1929	1919
Prime movers and electric motors driven by purchased energy, aggregate.....	283	Horse-power 4,760	267	Horse-power 5,213	432	Horse-power 8,689	880	Horse-power 23,072	1,144	Horse-power 38,195	100.0	100.0
Prime movers, total.....	31	2,404	41	3,344	82	5,446	228	18,711	426	33,048	60.5	79.0
Steam, total.....	31	2,404	41	3,344	72	5,171	183	17,698	341	31,138	60.5	74.7
Engines.....	31	2,404	41	3,344	71	5,022	180	17,563	(1)	(1)	60.5	74.2
Turbines.....					1	149	3	135	(1)	(1)		
Internal-combustion engines.....					8	235	34	468	68	1,300		5
Water wheels and water turbines.....					2	40	11	545	17	610		2.0
Electric motors driven by purchased energy.....	252	2,356	226	1,869	350	3,243	661	4,961	718	5,147	49.5	21.0
Electric motors, total.....	252	2,356	226	1,869	370	3,400	826	7,845	954	7,295	100.0	100.0
Driven by purchased energy.....	252	3,356	226	1,869	350	3,243	661	4,961	718	5,147	100.0	63.2
Driven by energy generated in establishments reporting.....					20	163	165	2,884	236	2,148		36.8
Electric generators.....		Kilowatts	2	Kilowatts 18	5	Kilowatts 170	(?)	(?)	(?)	(?)		
Electric energy purchased ¹		Kilowatt-hours 982,738		(?)		(?)		(?)		(?)		

¹ Not called for separately on schedule.
² Not called for on schedule.
³ This item covers consumption of purchased electric energy for all purposes—power, heat, light, etc.
⁴ Data incomplete.

TABLE 4.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1929, 1925, 1919, AND 1914, AND BY STATES, 1929

[This table presents statistics for only those States for which figures can be given without disclosing data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures]

STATE	Average number employed during year	NUMBER EMPLOYED ON 15TH DAY OF MONTH OR NEAREST REPRESENTATIVE DAY												Per cent minimum is of maximum
		January	February	March	April	May	June	July	August	September	October	November	December	
United States:														
1929.....	681	723	745	714	690	688	678	665	<i>641</i>	653	658	647	665	80.0
1925.....	1,389	1,409	1,476	1,509	1,509	1,445	1,361	1,366	1,345	1,298	1,328	<i>1,296</i>	1,325	85.9
1919.....	6,509	5,918	5,991	<i>6,866</i>	6,046	6,208	6,397	6,646	6,902	6,904	7,095	7,056	7,020	82.5
1914.....	11,087	11,985	12,274	12,445	12,370	11,967	11,392	11,049	10,588	10,127	9,728	<i>9,534</i>	9,585	76.6
Arkansas.....	267	256	284	271	247	245	231	234	268	274	267	249	264	81.3
Indiana.....	48	53	57	57	51	45	48	51	43	45	42	30	46	68.4
Kentucky.....	54	65	65	65	75	73	73	71	59	32	34	36	32	38.7
Pennsylvania.....	85	90	90	73	94	96	95	82	80	81	77	85	79	76.0

CARS, ELECTRIC AND STEAM RAILROAD

Description of the industry.—This industry consists in the building, rebuilding, and repair of railroad cars by establishments engaged primarily in such work, not including railroad repair shops.

Detailed statistics of products.—The numbers and values of the several classes and types of cars built are

shown in Tables 3, 4, and 5. Table 5 relates only to the industry proper, but the figures in Tables 3 and 4 include also data for cars built in railroad repair shops and by establishments in other industries.

TABLE 1.—SUMMARY FOR THE UNITED STATES: 1899 TO 1929

YEAR OR PERIOD	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products	Value added by manufacture ¹	Horsepower ²
1929	147	40,015	\$63,887,382	\$223,889,397	\$323,220,204	\$104,330,807	238,455
1927	136	38,031	60,624,856	209,112,561	312,508,598	103,896,037	235,415
1925	141	50,393	77,246,992	266,053,504	390,771,210	124,717,706	243,934
1923	139	80,590	129,178,010	418,660,102	604,350,341	190,660,239	250,102
1921	118	48,033	70,944,634	211,938,355	340,536,225	128,597,870	(3)
1919	106	55,218	82,410,737	368,143,487	556,664,807	188,521,320	167,180
1914	117	53,128	43,890,906	138,549,938	205,270,622	66,720,684	135,898
1909	124	46,669	26,312,171	83,013,231	131,539,493	45,526,162	112,918
1904	87	38,788	23,087,400	80,998,570	122,016,506	41,020,936	63,048
1899	85	37,038	18,938,170	65,709,610	97,316,548	32,105,938	38,028
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929	8.9	-5.2	4.6	7.1	5.0	0.9	0.9
1925-1927	-4.3	-24.5	-21.5	-21.4	-20.0	-17.1	-3.1
1923-1925	1.4	-37.5	-40.2	-35.7	-35.3	-34.6	-2.5
1921-1923	17.8	67.8	82.1	95.2	77.5	48.3	-----
1919-1921	11.3	-13.0	-13.9	-42.4	-38.8	-31.8	-----
1919-1929	38.7	-27.5	-23.1	-39.2	-41.0	-44.7	42.6
1909-1919	-14.5	18.3	181.2	343.5	323.2	238.5	48.1
1899-1909	(4)	26.0	54.8	26.3	34.5	51.1	107.0

¹ Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

² Rated capacity of power equipment in plant.

³ Not called for on schedule.

⁴ Per cent not computed where base is less than 100.

CENSUS OF MANUFACTURES: 1929

TABLE 2.—GENERAL STATISTICS FOR THE UNITED STATES, 1929, 1927, AND 1919, AND BY STATES, 1929 AND 1927

[This table presents statistics separately for each State for which figures can be given without disclosing data for individual establishments, and for the remaining States in groups. Certain of the States for which figures are given in combination with those for others, however, reported larger values of products than some of the States shown separately.]

STATE	Cen- sus year	Num- ber of estab- lish- ments	Salar- ied officers and em- ploy- ees ¹	Wage earners (aver- age for the year)	HORSEPOWER (RATED CAPACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products	Value added by manufac- ture ²
					Total	Prime movers	Motors run by pur- chased energy			Total	Materials	Fuel and purchased energy		
United States..	1929	147	6,098	40,015	238,455	97,000	140,555	\$13,365,728	\$63,387,382	\$223,880,397	\$219,160,065	\$4,723,332	\$328,220,204	\$104,330,807
	1927	135	6,244	38,031	236,415	89,060	137,355	13,851,043	60,024,856	209,112,691	204,440,380	4,072,181	312,608,598	103,306,037
	1919	106	6,847	55,218	197,180	60,863	170,317	14,538,243	82,410,737	308,148,487	301,586,346	6,558,141	550,664,807	188,521,320
Individual States:														
Delaware.....	1929	3	229	1,294	7,228	450	6,778	460,150	2,047,986	2,693,648	2,579,256	114,392	5,491,966	2,798,318
	1927	3	281	1,336	9,255	2,526	6,730	694,872	2,051,763	4,048,718	3,907,738	135,980	7,513,254	3,469,536
Georgia.....	1929	3	50	511	1,376	194	1,182	121,987	606,100	900,795	965,020	25,775	1,734,908	744,113
	1927	3	50	259	1,886	204	1,682	87,767	321,153	560,595	550,526	10,060	882,819	422,224
Illinois.....	1929	25	1,471	9,991	49,450	35,262	14,194	3,361,422	16,226,157	57,850,120	56,881,788	968,332	82,479,979	24,629,859
	1927	25	1,562	8,580	42,568	29,705	12,863	3,298,263	15,057,840	50,394,007	49,552,020	840,937	75,585,816	25,191,809
Indiana.....	1929	9	805	5,438	41,244	11,558	29,686	1,063,210	9,125,127	30,035,539	38,301,620	733,919	55,211,532	16,175,993
	1927	11	746	4,877	21,872	9,722	12,150	1,007,832	7,927,789	33,085,472	32,999,964	685,508	47,835,304	14,149,832
Kansas.....	1929	7	58	543	2,687	5	2,682	90,024	822,763	2,510,280	2,474,831	41,449	3,689,077	1,172,797
	1927	5	33	342	1,695	5	1,690	102,602	480,358	911,904	875,240	36,668	1,620,207	708,303
Missouri.....	1929	9	524	2,881	14,087	9,281	4,806	1,052,143	4,366,520	16,000,145	16,523,070	386,075	24,769,450	7,860,305
	1927	8	537	2,961	13,756	9,441	4,315	1,125,701	4,314,636	15,768,085	15,339,107	418,978	23,187,208	7,429,123
New York.....	1929	8	256	2,983	14,524	580	13,944	550,256	4,093,867	8,622,648	8,411,015	210,933	14,533,489	5,910,041
	1927	8	248	2,648	15,751	746	15,005	552,731	4,094,808	11,608,285	11,315,393	192,892	17,086,147	5,577,892
Ohio.....	1929	11	333	1,281	16,325	2,302	14,023	743,207	1,984,325	4,697,382	4,462,894	234,488	8,153,207	3,455,825
	1927	10	317	1,165	15,522	2,825	12,697	684,238	1,711,728	8,790,148	8,570,997	225,151	12,139,480	3,343,332
Pennsylvania.....	1929	15	1,200	7,634	39,340	22,935	16,405	2,456,865	12,114,190	51,949,448	50,920,829	1,028,619	74,364,217	22,414,760
	1927	14	1,269	8,074	56,676	24,991	31,585	2,807,887	12,704,994	49,617,432	48,406,639	1,210,793	73,420,183	23,802,751
Groups of States:														
Ala., 1 est.; Fla., 1; La., 3; Tenn., 1.....	1929	6	91	401	5,744	-----	5,744	86,955	498,885	976,738	937,110	39,623	1,641,550	684,817
Calif., 5 est.; Idaho, 1; Oreg., 1; Wash., 4.....	1929	11	225	1,894	8,395	35	8,360	621,812	3,596,541	8,421,958	8,294,648	127,310	12,722,092	4,300,134
Colo., 1 est.; Tex., 3; Wyo., 1.....	1929	5	31	202	1,270	874	396	62,213	278,166	621,100	601,307	19,793	1,040,580	419,480
Iowa, 3 est.; Nebr., 2; Okla., 3.....	1929	8	231	1,282	7,379	6,825	554	546,706	1,902,050	4,354,317	4,127,880	226,437	7,077,533	3,623,266
Md., 2 est.; N. C., 1; S. C., 1; Va., 3; W. Va., 1.....	1929	8	267	1,892	13,038	553	12,485	534,345	2,544,404	16,802,254	16,581,115	221,139	22,328,419	5,526,165
Mass., 4 est.; N. J., 5; R. I., 1.....	1929	10	218	884	8,867	3,196	5,671	589,868	1,201,411	3,954,517	3,828,986	126,531	6,360,025	2,405,508
Mich., 1 est.; Minn., 5; Wis., 3.....	1929	9	109	904	6,995	3,850	3,145	414,965	1,378,900	3,493,613	3,274,096	219,517	5,722,130	2,228,517
States not shown separately.....	1927	48	1,201	7,789	57,534	18,896	38,638	2,988,800	11,959,789	33,836,915	32,921,750	915,165	53,138,180	19,301,265

¹ Not including proprietors and firm members, as follows: For 1929, 3; 1927, none; 1919, 3. The total numbers of persons engaged—proprietors and firm members, salaried officers and employees, and wage earners—as reported for the industry, are as follows: For 1929, 46,116; 1927, 44,275; 1919, 62,068.

² Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

³ Alabama, 1 establishment; California, 4; Delaware, 2; Georgia, 1; Iowa, 2; Kentucky, 1; Maryland, 1; Massachusetts, 2; Michigan, 1; Mississippi, 1; Missouri, 9; Nebraska, 1; New Hampshire, 1; New Jersey, 2; New York, 2; North Carolina, 1; Ohio, 11; Oklahoma, 1; Oregon, 1; Pennsylvania, 17; Tennessee, 2; Texas, 2; Virginia, 2; Washington, 2; West Virginia, 1; Wisconsin, 2.

⁴ Data for purchased power other than electric (power transmitted into the plant by belt or shaft) are included in the State items for 1919 but not in the United States totals.

⁵ Alabama, 1 establishment; California, 4; Florida, 1; Idaho, 1; Iowa, 3; Maine, 1; Maryland, 1; Massachusetts, 3; Michigan, 1; Minnesota, 4; Nebraska, 2; New Hampshire, 1; New Jersey, 3; North Carolina, 2; Oklahoma, 3; Oregon, 1; Tennessee, 2; Texas, 5; Virginia, 3; Washington, 2; West Virginia, 1; Wisconsin, 2; Wyoming, 1.

CARS, ELECTRIC AND STEAM RAILROAD

1211

TABLE 3.—CARS BUILT, BY SERVICE, KIND, NUMBER, AND VALUE, FOR ALL INDUSTRIES, FOR THE UNITED STATES: 1925 TO 1929

[The differences between the items in this table and the corresponding ones in Table 5 are due to the inclusion in this table and the exclusion from Table 5 of data for cars built by establishments classified in other industries]

	1929	1927	1925		1929	1927	1925
1. "Cars, electric and steam-railroad, not built in railroad repair shops" industry, all products, total value.....	\$328, 220, 204	\$312, 508, 598	\$390, 771, 210	Car building and repair work—Contd.			
2. Cars.....	225, 443, 597	205, 144, 809	266, 629, 968	Cars—Continued.			
3. Other products, including car parts, value, and receipts for repair work.....	97, 267, 618	101, 523, 496	110, 368, 884	Steam-railroad cars—Continued.			
4. Products not normally belonging to the industry.....	5, 508, 989	5, 840, 293	13, 772, 358	Freight service—			
5. Secondary production of other industries:				Total number.....	86, 243	69, 016	98, 094
6. Cars.....	24, 235, 161	23, 608, 162	7, 988, 438	Total value.....	\$200, 676, 239	\$153, 576, 896	\$199, 327, 364
7. Car parts, value, and receipts for repair work.....	449, 331	1, 993, 978	1, 395, 462	Box—			
Car building and repair work, all industries:				Number.....	24, 168	19, 645	49, 230
Aggregate value (sum of 2, 3, 6, and 7).....	\$347, 395, 697	\$332, 270, 445	\$386, 382, 752	Value.....	\$80, 983, 587	\$45, 318, 843	\$101, 023, 855
Cars, total value.....	\$249, 678, 748	\$228, 752, 971	\$274, 618, 406	Caboose—			
Steam-railroad cars—				Number.....	453	188	242
Total number.....	87, 754	71, 036	100, 230	Value.....	\$1, 357, 416	\$717, 132	\$690, 775
Total value.....	\$242, 450, 901	\$206, 987, 378	\$254, 560, 114	Flat—			
Passenger service—				Number.....	2, 845	1, 656	2, 306
Total number ¹	1, 511	2, 021	2, 136	Value.....	\$5, 150, 169	\$2, 837, 703	\$3, 226, 184
Total value.....	\$41, 874, 722	\$53, 410, 482	\$55, 232, 760	Gondola—			
Day coaches—				Number.....	12, 644	10, 479	21, 402
Number.....	342	967	532	Value.....	\$29, 400, 947	\$20, 023, 065	\$42, 002, 090
Value.....	\$6, 816, 793	\$22, 620, 966	\$11, 090, 777	Hopper—			
Baggage and express—				Number.....	10, 132	8, 734	3, 243
Number.....	369	265	349	Value.....	\$24, 681, 998	\$19, 917, 003	\$5, 869, 778
Value.....	\$6, 475, 763	\$5, 202, 315	\$5, 676, 023	Refrigerator—			
Chair, parlor, dining and buffet, mail, and sleeping—				Number.....	5, 165	9, 004	4, 704
Number.....	521	545	1, 068	Value.....	\$20, 081, 236	\$25, 633, 161	\$14, 740, 724
Value.....	\$18, 310, 096	\$19, 154, 139	\$34, 146, 172	Stock—			
Self-propelled—				Number.....	2, 469	1, 016	3, 319
Number.....	146	244	167	Value.....	\$4, 743, 412	\$1, 881, 862	\$5, 876, 501
Value.....	\$6, 865, 595	\$6, 433, 062	\$3, 419, 788	Tank—			
Other, and undistributed—				Number.....	3, 290	5, 455	5, 398
Number.....	133			Value.....	\$6, 139, 817	\$10, 448, 662	\$10, 701, 728
Value.....	\$3, 406, 475			Other, and undistributed—			
				Number.....	15, 072	12, 840	8, 261
				Value.....	\$28, 082, 654	\$26, 798, 865	\$15, 196, 719
				Electric-railroad cars ² —			
				Total number.....	551	1, 393	1, 887
				Total value.....	\$6, 615, 793	\$20, 671, 705	\$20, 058, 292
				Passenger—			
				Number.....	513	1, 226	1, 798
				Value.....	\$6, 349, 675	\$18, 917, 625	\$19, 604, 813
				Freight, other, and undistributed ³ —			
				Number.....	33	167	89
				Value.....	\$266, 118	\$1, 754, 080	\$453, 479
				Not reported by service, kind, or number—			
				Value.....	\$611, 994	\$1, 093, 888	-----
				Other products, including car parts, value, and receipts for repair work.	\$97, 716, 949	\$103, 517, 474	\$111, 764, 346

¹ For 1929, 12,675 steam-railroad cars, valued at \$22,947,182; 78 electric-railroad cars, \$675,975; cars not reported by class or number, \$611,994. For 1927, 10,562 steam-railroad cars, \$21,600,662; 101 electric-railroad cars, \$913,612; cars not reported by class or number, \$1,093,888. For 1925, 4,098 steam-railroad cars valued at \$7,379,450; 53 electric-railroad cars, \$603,988.
² Includes gasoline and gasoline-electric motor cars for use by steam railroads, as follows: For 1927, 141; for 1925, 131.
³ Includes gasoline-electric motor cars for electric railroads, as follows: For 1929, 6; for 1927, 51.

CENSUS OF MANUFACTURES: 1929

TABLE 4.—CARS BUILT, BY CLASS, TYPE OF CONSTRUCTION, NUMBER, AND VALUE, FOR ALL INDUSTRIES, FOR THE UNITED STATES: 1925 TO 1929

[The differences between the items in this table and the corresponding ones in Table 5 are due to the inclusion in this table and the exclusion from Table 5 of data for cars built by establishments classified in other industries]

CLASS	Cen- sus year	NUMBER					Value	CLASS	Cen- sus year	NUMBER					Value
		Total	All wood	Steel under- frame	Steel body with wood inter- ior	All steel				Total	All wood	Steel under- frame	Steel body with wood inter- ior	All steel	
Aggregate ¹	1929	88,306	155	35,737	14,272	38,141	\$249,678,748	Electric-railroad cars, total	1929	551	41	-----	337	173	6,615,793
	1927	72,429	351	35,157	8,949	29,922	228,752,971		1927	1,893	23	87	488	795	20,671,705
	1925	102,117	8,894	49,982	9,011	34,230	274,618,406		1925	1,887	16	467	955	449	20,068,292
Steam-railroad cars, total..	1929	87,754	114	35,737	13,935	37,968	242,450,961	Passenger.....	1929	513	36	-----	334	143	6,349,675
	1927	71,036	328	35,070	6,511	29,127	206,987,378		1927	1,226	20	20	488	698	18,917,625
	1925	100,230	8,878	49,515	8,066	33,781	254,560,114	Freight and other.....	1925	1,798	11	424	955	408	19,604,813
Passenger service ²	1929	1,511	-----	86	40	1,385	41,874,722		1929	38	5	-----	3	30	266,118
	1927	2,021	-----	27	360	1,634	53,410,482		1927	167	3	67	-----	97	1,764,080
	1925	2,136	4	113	194	1,825	55,232,700	Not reported by number or type of construction...	1925	89	5	43	-----	41	463,479
Freight service.....	1929	86,243	114	35,651	13,895	36,583	206,876,239		1929	(³)	(⁴)	(⁵)	(⁶)	(⁷)	\$ 611,894
	1927	69,015	328	35,043	6,151	27,493	153,876,896		1927	(⁸)	(⁹)	(¹⁰)	(¹¹)	(¹²)	1,093,888
	1925	98,094	8,874	49,402	7,862	31,956	199,327,354								

¹ Includes data for cars built by establishments in other industries, chiefly steam and electric-railroad repair shops, as follows: For 1929, 12,753 cars, valued at \$23,623,167; for 1927, 10,663 cars, \$22,514,274; for 1925, 15,210 cars (value not reported separately).
² Includes data for baggage, express, and mail cars.
³ Revised.
⁴ Data incomplete.
⁵ Value of cars not built by establishments engaged primarily in car building, or in railroad repair shops.

TABLE 5.—CARS BUILT, BY CLASS, KIND, TYPE OF CONSTRUCTION, NUMBER, AND VALUE, FOR THE INDUSTRY, FOR THE UNITED STATES: 1925 TO 1929

[See headnote, Table 4]

CLASS	Cen- sus year	NUMBER OF CARS BUILT					Value	CLASS	Cen- sus year	NUMBER OF CARS BUILT					Value
		Total	All wood	Steel under- frame	Steel body with wood inter- ior	All steel				Total	All wood	Steel under- frame	Steel body with wood inter- ior	All steel	
Aggregate.....	1929	75,852	112	31,204	14,237	39,909	\$225,443,597	Caboose.....	1929	458	-----	108	225	125	\$1,357,416
	1927	61,766	21	28,336	6,418	26,991	205,144,809		1927	186	-----	36	-----	150	717,132
	1925	97,966	7,735	47,176	8,992	34,063	266,629,968		1925	242	140	102	-----	-----	690,775
Steam-railroad cars, total..	1929	75,079	112	31,204	13,695	29,788	219,503,779	Flat.....	1929	2,845	-----	2,782	-----	93	5,150,169
	1927	60,474	-----	28,267	5,058	24,249	185,886,716		1927	1,650	-----	1,441	-----	215	2,837,703
	1925	96,132	7,724	46,737	8,056	33,615	247,180,664		1925	2,306	1	652	1,050	603	3,225,184
Passenger service, total.	1929	1,428	-----	86	40	1,302	40,413,103	Gondola.....	1929	12,644	-----	3,028	467	9,149	20,400,947
	1927	1,965	-----	26	307	1,632	52,379,918		1927	10,470	-----	4,678	100	5,701	20,023,065
	1925	2,121	2	102	194	1,823	54,940,366	Hopper.....	1925	21,402	-----	6,324	1,800	13,278	42,002,090
Day coaches.....	1929	342	-----	71	-----	271	6,816,793		1929	10,132	-----	-----	-----	10,132	24,681,998
	1927	967	-----	26	202	739	22,629,906		1927	8,734	-----	201	1	8,532	19,917,603
	1925	593	-----	41	63	459	13,992,732		1925	3,243	-----	121	-----	3,122	5,869,778
Baggage and ex- press.....	1929	369	-----	8	-----	361	6,476,763	Refrigerator.....	1929	5,165	-----	4,715	-----	450	20,031,239
	1927	285	-----	-----	25	237	5,292,315		1927	9,004	-----	9,004	-----	-----	25,633,161
	1925	349	-----	52	31	266	5,076,023		1925	4,704	1,041	3,663	-----	-----	14,740,724
Chair, parlor, din- ing and buffet, mail, and sleep- ing.....	1929	521	-----	7	-----	513	18,310,096	Stock.....	1929	2,469	-----	2,304	-----	165	4,743,412
	1927	545	-----	-----	7	538	19,154,139		1927	1,016	-----	1,006	-----	10	1,881,862
	1925	1,027	2	9	20	996	32,144,217		1925	3,310	250	3,060	-----	-----	5,876,501
Other passenger service.....	1929	196	-----	-----	39	157	8,810,451	Tank.....	1929	3,290	-----	-----	-----	3,290	6,139,817
	1927	188	-----	-----	70	118	5,402,498		1927	5,465	-----	4	-----	5,461	10,448,662
	1925	152	-----	-----	80	72	3,127,394		1925	5,396	-----	943	-----	4,453	10,701,728
Freight service, total..	1929	73,651	112	31,208	13,895	28,436	179,090,676	Other freight serv- ice.....	1929	2,480	112	206	189	1,973	6,587,091
	1927	58,509	-----	28,241	5,651	24,617	133,006,798		1927	2,334	-----	683	-----	1,651	6,228,767
	1925	94,011	7,722	46,635	7,862	31,792	102,240,298		1925	4,178	20	1,233	10	2,915	8,106,663
Box.....	1929	34,108	-----	18,095	13,014	3,059	80,988,587	Electric-railroad cars, total.	1929	473	-----	-----	302	171	5,930,818
	1927	19,645	-----	11,188	5,550	2,907	45,318,843		1927	1,202	21	69	460	742	19,768,063
	1925	49,230	6,270	30,537	5,092	7,421	101,023,855		1925	1,834	11	439	936	448	19,449,304
								Passenger.....	1929	436	-----	-----	299	137	5,412,557
									1927	1,143	20	18	460	645	18,105,781
									1925	1,753	11	898	936	408	19,030,149
								Freight.....	1929	(¹)	-----	-----	(¹)	(¹)	(¹)
									1927	50	-----	49	-----	1	169,760
									1925	12	-----	12	-----	-----	41,225
								Other.....	1929	37	-----	3	-----	34	\$ 627,261
									1927	99	1	2	-----	96	1,492,562
									1925	69	-----	29	-----	40	377,930

¹ Included in "Other."
² Includes data for 2 freight cars. Value not shown separately in order to avoid disclosing data reported by individual establishments.

CARS, ELECTRIC AND STEAM RAILROAD

1213

TABLE 6.—PRINCIPAL MATERIALS CONSUMED IN THE INDUSTRY, BY KIND, QUANTITY, AND COST, BY STATES: 1929

[Quantities and costs of the principal materials consumed were reported by only 97 of the 147 establishments in this industry. The combined value of products reported by these 97 establishments amounted to \$295,794,917, or 90.1 per cent of the aggregate value of all products of the industry. Another reason for the difference between the sum of the costs of the several kinds of materials shown in this table and the total cost of materials as given in Tables 1 and 2 is found in the fact that this table covers only certain specified materials whereas the others cover all materials. Statistics are given for each State for which it is possible to present separate figures without disclosing data for individual establishments. In some cases, however, certain of the "Other States" reported larger quantities and costs of the specified materials than some of the States shown separately]

KIND AND STATE	Quantity	Cost	KIND AND STATE	Quantity	Cost
Pig iron, total.....	<i>Tons</i> 47,894	\$1,050,080	Hardwoods, total.....	<i>M. ft. b. m.</i> 18,016	\$1,372,089
Illinois.....	4,888	114,083	Georgia.....	54	5,670
Indiana.....	1,654	32,455	Illinois.....	8,312	620,987
Missouri.....	3,128	87,570	Indiana.....	1,435	116,206
New York.....	117	2,962	Kansas.....	123	8,681
Pennsylvania.....	15,470	350,766	Missouri.....	802	75,449
Other States (Iowa, Mich., W. Va.).....	22,637	462,214	New York.....	160	26,344
Scrap iron and steel, total.....	265,949	3,666,332	Ohio.....	544	50,520
Illinois.....	76,092	918,564	Pennsylvania.....	2,576	127,190
Indiana.....	59,974	728,832	Other States (Calif., Del., Md., Mass., Minn., Nebr., N. J., N. C., Okla., Texas, Va., W. Va., Wis.).....	4,010	341,062
Missouri.....	47,428	677,043	Softwoods, total.....	216,977	11,546,859
New York.....	261	5,195	Georgia.....	54	2,092
Pennsylvania.....	41,055	720,563	Illinois.....	66,079	3,438,865
Other States (Iowa, Mich., Minn., Okla., Wash., W. Va.).....	41,139	616,135	Indiana.....	41,691	2,026,698
Gray-iron castings, purchased as such, total.....	27,480	2,034,283	Kansas.....	4,992	261,385
Georgia.....	120	5,125	Missouri.....	15,639	1,016,259
Illinois.....	1,190	120,717	New York.....	15,335	716,822
Indiana.....	4,053	243,380	Ohio.....	3,945	256,128
Kansas.....	615	33,530	Pennsylvania.....	39,543	1,816,598
Missouri.....	86	10,872	Other States (Calif., Del., Iowa, La., Md., Mass., Minn., Nebr., N. J., N. C., Okla., Oregon, Texas, Va., Wash., W. Va., Wis.).....	29,699	1,421,712
New York.....	2,440	617,760	Paints, varnishes, and lacquers, total.....		3,560,343
Ohio.....	1,813	115,241	Georgia.....		31,501
Pennsylvania.....	1,534	167,756	Illinois.....		863,255
Other States (Del., Iowa, La., Md., Mass., Minn., Nebr., N. J., N. C., Okla., Tenn., Tex., Va., Wash., W. Va., Wis.).....	15,629	719,902	Indiana.....		634,946
Steel, all forms, total.....	1,280,509	66,727,370	Kansas.....		155,574
Georgia.....	152	13,800	Missouri.....		373,614
Illinois.....	260,785	12,555,271	New York.....		191,541
Indiana.....	223,122	13,108,147	Ohio.....		94,862
Kansas.....	11,370	568,815	Pennsylvania.....		641,676
Missouri.....	67,982	2,871,418	Other States (Calif., Del., Iowa, Md., Mass., Minn., Nebr., N. J., Okla., Tenn., Texas, Va., W. Va., Wis.).....		573,375
New York.....	59,550	3,737,412	Upholstering materials, total.....		2,789,285
Ohio.....	81,630	2,934,059	Georgia.....		135,257
Pennsylvania.....	382,823	16,796,572	Illinois.....		1,612,797
Other States (Calif., Del., Iowa, La., Md., Mass., Minn., Nebr., N. J., N. C., Okla., Oregon, Tenn., Tex., Va., Wash., W. Va., Wis.).....	234,045	14,048,876	Indiana.....		229
Copper, brass, and bronze, purchased as such, total.....	<i>Pounds</i> 3,109,689	565,668	Missouri.....		225,192
Georgia.....	32,399	5,766	New York.....		185,549
Illinois.....	2,096,241	347,340	Ohio.....		11,643
Indiana.....	12,797	3,391	Pennsylvania.....		190,978
Missouri.....	96,348	27,215	Other States (Calif., Del., Mass., Wis.).....		427,641
New York.....	558,047	100,680			
Ohio.....	30,099	4,242			
Pennsylvania.....	183,818	54,675			
Other States (Calif., Del., Mass., N. J., Tenn., Va., W. Va., Wis.).....	96,840	22,459			

CENSUS OF MANUFACTURES: 1929

TABLE 7.—PRIME MOVERS, MOTORS, GENERATORS, AND CONSUMPTION OF PURCHASED ELECTRIC ENERGY—NUMBER AND RATED CAPACITY OF PRIME MOVERS AND ELECTRIC MOTORS, 1929, 1927, 1925, 1919, AND 1914, AND OF GENERATORS, 1929, 1927, AND 1925; QUANTITY OF ELECTRIC ENERGY PURCHASED 1929

TYPE	1929		1927		1925		1919		1914		PER CENT DISTRIBUTION OF RATED HORSEPOWER CAPACITY	
	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	1929	1919
Prime movers and electric motors driven by purchased energy, aggregate.....	9,214	Horse-power 238,455	8,927	Horse-power 236,415	8,086	Horse-power 243,934	4,352	Horse-power 167,180	1,995	Horse-power 135,898	100.0	100.0
Prime movers, total.....	217	97,900	239	99,000	265	113,382	322	96,863	469	111,077	41.1	57.9
Steam, total.....	208	96,022	228	97,000	249	110,880	304	93,915	441	105,090	40.3	56.2
Engines.....	109	49,174	178	43,890	207	61,996	268	57,419	(1)	(1)	19.4	34.3
Turbines.....	39	49,848	50	53,110	42	48,884	36	36,496	(1)	(1)	20.9	21.8
Internal-combustion engines.....	9	1,878	10	1,935	15	2,402	17	2,848	24	5,757	.8	1.7
Water wheels and water turbines.....			1	125	1	100	1	100	4	230		.1
Electric motors driven by purchased energy.....	8,997	140,555	8,688	137,355	7,821	130,562	4,030	70,317	1,526	24,821	58.9	42.1
Electric motors, total.....	15,527	235,960	16,419	246,002	16,406	248,894	10,849	179,505	7,662	123,962	100.0	100.0
Driven by purchased energy.....	8,997	140,555	8,688	137,355	7,821	130,562	4,030	70,317	1,526	24,821	59.6	39.2
Driven by energy generated in establishments reporting.....	6,530	95,405	7,731	108,647	8,585	118,342	6,819	109,188	6,136	99,141	40.4	60.8
Electric generators.....	83	Kilowatts 49,764 Kilowatt-hours	107	Kilowatts 51,720	127	Kilowatts 55,720	(?)	(?)	(?)	(?)		
Electric energy purchased ¹		79,120,489		(?)		(?)		(?)		(?)		

¹ Not called for separately on schedule.
² Not called for on schedule.
³ This item covers the consumption of purchased electric energy for all purposes—power, heat, light, etc.
⁴ Data incomplete

TABLE 8.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1929, 1925, 1919, 1914, AND 1909, AND BY STATES, 1929

[This table presents statistics for only those States for which figures can be given without disclosing data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures]

STATE	Average number employed during year	NUMBER EMPLOYED ON 15TH DAY OF MONTH OR NEAREST REPRESENTATIVE DAY												Per cent minimum of maximum
		January	February	March	April	May	June	July	August	September	October	November	December	
United States:														
1929.....	40,015	30,373	34,083	37,675	40,749	42,810	42,099	41,796	42,184	42,225	41,307	41,653	43,187	70.3
1925.....	50,393	58,886	58,975	58,783	57,757	53,874	52,419	46,238	45,519	44,015	41,757	41,548	44,941	70.4
1919.....	55,218	68,939	64,785	59,622	58,283	56,890	54,225	52,849	51,371	49,325	47,845	47,938	50,544	69.4
1914.....	58,128	68,432	60,259	54,994	54,280	57,107	60,940	62,598	60,041	58,393	53,208	48,036	48,036	70.2
1909.....	46,669	46,331	43,923	41,705	42,074	38,303	43,010	41,975	40,963	48,683	51,863	59,024	62,185	61.6
Delaware.....	1,294	1,358	1,298	1,419	1,465	1,698	1,371	1,313	1,311	1,146	1,067	1,069	1,116	66.8
Georgia.....	511	505	505	515	562	617	634	531	444	434	435	476	470	68.5
Illinois.....	9,991	7,553	8,325	9,493	10,310	10,589	11,077	10,996	10,873	10,700	9,643	9,390	10,884	68.2
Indiana.....	5,438	3,713	4,861	5,194	5,456	5,381	5,037	5,334	5,200	5,787	6,251	6,660	6,381	55.8
Kansas.....	543	473	564	710	711	770	521	347	385	397	430	492	715	45.1
Missouri.....	2,881	1,702	2,118	2,255	3,368	3,567	3,471	3,403	3,656	2,987	2,768	2,355	2,919	46.6
New York.....	2,983	2,846	3,047	3,150	3,270	3,323	2,988	2,703	2,767	2,707	2,945	3,057	2,984	81.3
Ohio.....	1,281	736	750	982	1,268	1,472	1,414	1,110	1,082	1,402	1,745	1,657	1,663	42.2
Pennsylvania.....	7,634	5,897	6,180	7,414	6,959	7,780	8,390	7,888	7,796	8,412	8,438	8,398	8,054	68.9

LOCOMOTIVES

Description of the industry.—The establishments classified in the locomotive industry are those engaged exclusively or chiefly in the manufacture of steam and internal-combustion locomotives. Steam locomotives are also manufactured to some extent by steam-rail-road repair shops.

This industry does not include the manufacture of electric locomotives, which are treated as products of

the "Electrical machinery, apparatus, and supplies" industry.

Omission of State statistics.—In order to avoid disclosing the data reported by individual establishments, no State statistics for this industry are given.

TABLE 1.—SUMMARY FOR THE UNITED STATES: 1904 TO 1929

YEAR OR PERIOD	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products	Value added by manufacture ¹	Horsepower ²
1929.....	16	11,045	\$17,994,078	\$52,808,092	\$83,858,258	\$31,050,166	98,482
1927.....	17	12,961	17,648,206	45,688,450	78,719,403	31,030,953	148,971
1925.....	18	12,809	18,218,843	41,717,142	65,389,134	23,671,992	114,269
1923.....	19	30,672	51,866,976	124,261,528	215,392,951	91,131,423	91,214
1921.....	22	16,583	20,472,715	55,411,656	102,023,358	46,611,702	(³)
1919.....	17	26,716	38,798,641	72,375,950	156,269,730	83,893,780	96,504
1914.....	19	17,391	11,085,375	23,646,118	43,374,141	19,828,023	50,373
1909.....	16	14,999	8,914,266	18,050,983	31,582,302	16,522,319	35,102
1904.....	15	24,806	15,798,432	27,702,930	59,552,092	31,849,162	29,806
PER CENT OF INCREASE OR DECREASE (-)							
1927-1929.....	(⁵)	-14.8	2.0	15.6	9.3	0.1	-23.9
1925-1927.....	(⁵)	1.2	-3.1	9.5	17.3	31.1	39.4
1923-1925.....	(⁵)	-58.2	-64.9	-64.4	-69.6	-74.0	25.2
1921-1923.....	(⁵)	85.0	153.3	124.3	111.1	95.5	
1919-1921.....	(⁵)	-37.9	-47.2	-23.4	-34.7	-44.4	
1919-1929.....	(⁶)	-58.7	-53.6	-27.0	-46.3	-63.0	2.0
1909-1919.....	(⁶)	79.2	335.2	389.6	394.8	407.8	174.9

¹ Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.
² Rated capacity of prime movers plus that of electric motors driven by purchased energy, in use in locomotive works.
³ See footnote 1, Table 5.
⁴ Not called for on schedule.
⁵ No comparable statistics available for earlier years.
⁶ Per cent not computed where base is less than 100.

TABLE 2.—GENERAL STATISTICS FOR THE UNITED STATES: 1929, 1927, AND 1919

[No State figures can be given without disclosing data for individual establishments]

Census year	Number of establishments	Salaried officers and employees	Wage earners (average for the year)	HORSEPOWER (RATED CAPACITY) OF POWER EQUIPMENT IN LOCOMOTIVE WORKS			Salaries	Wages	COST OF MATERIALS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products	Value added by manufacture ¹	
				Total	Prime movers	Electric motors run by purchased energy			Total	Materials	Fuel and purchased energy			
United States.....	¹ 1929	16	1,801	11,045	98,482	28,693	69,789	\$5,519,072	\$17,994,078	\$52,808,092	\$50,927,349	\$1,880,743	\$83,858,258	\$31,050,166
	¹ 1927	17	1,650	12,961	148,971	44,930	104,051	4,983,951	17,648,206	45,688,450	43,568,998	2,119,452	78,719,403	31,030,953
	¹ 1919	17	2,026	26,716	96,504	37,420	59,084	4,778,316	38,798,641	72,375,950	69,268,472	3,107,478	156,269,730	83,893,780

¹ Not including proprietors and firm members, as follows: For 1929, 5; 1927, none; 1919, 1. The total numbers of persons engaged—proprietors and firm members, salaried officers and employees, and wage earners—as reported for the industry, are as follows: For 1929, 12,851; 1927, 14,611; 1919, 28,742.
² Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.
³ Alabama, 2 establishments; Georgia, 1; Illinois, 1; Iowa, 1; New York, 2; Ohio, 2; Pennsylvania, 6; Virginia, 1.
⁴ See footnote 1, Table 5.
⁵ Georgia, 2 establishments; Illinois, 1; Iowa, 1; New York, 2; Ohio, 3; Pennsylvania, 6; Virginia, 2.
⁶ Arkansas, 1 establishment; Georgia, 1; Iowa, 1; New Jersey, 1; New York, 2; Ohio, 2; Pennsylvania, 8; Virginia, 1.

CENSUS OF MANUFACTURES: 1929

TABLE 3.—PRODUCTION, BY CLASS, NUMBER, AND VALUE, FOR THE UNITED STATES: 1929 AND 1927

CLASS	1929	1927	CLASS	1929	1927
1. Locomotive industry, all products, total value.....	\$83,858,258	\$76,719,403	Locomotives and parts—Continued.		
2. Locomotives and parts.....	70,961,472	72,622,734	Steam, standard gage—		
3. Other products (not normally belonging to the industry), value, and receipts for repair work ¹ .	12,896,780	4,096,619	Number.....	892	944
4. Locomotives and parts made as secondary products by establishments in other industries (chiefly the steam-railroad repair-shop industry).....	3,292,709	3,888,521	Value.....	\$61,543,983	\$56,922,426
Locomotives and parts, all industries:			Steam, mining and industrial—		
Total value (sum of 2 and 4).....	74,254,181	76,511,305	Number.....	103	110
			Value.....	\$1,201,124	\$1,392,958
			Internal-combustion, standard-gage, and mining and industrial ² —		
			Number.....	700	(³)
			Value.....	\$2,398,252	\$2,335,097
			Parts for steam, internal-combustion, and electric locomotives, value ⁴	\$9,050,822	\$15,800,826

¹ Principally receipts for repairing and rebuilding, but includes also values of such miscellaneous products as forgings, gray-iron and steel castings, dump wagons and road rollers, heating, refrigerating, and oil-refining equipment, power shovels and cranes, and hardware specialties.
² Combined in order to avoid disclosing an approximation of the data reported by individual establishments.
³ Data incomplete.
⁴ Data for values of parts for the several types of locomotives were not called for separately on the schedule. The value of parts for electric locomotives included in this item represents only such parts made by establishments engaged primarily in the manufacture of steam and internal-combustion locomotives. Electric locomotives are treated for census purposes as products of the "Electrical machinery, apparatus, and supplies," industry, and, therefore, most of the parts for such locomotives are made by establishments classified in that industry.

TABLE 4.—PRINCIPAL MATERIALS CONSUMED IN THE INDUSTRY, BY KIND, QUANTITY, AND COST: 1929

[The reason for the difference between the sum of the costs of the several kinds of materials shown in this table and the total cost of materials as given in Tables 1 and 2, is found in the fact that this table covers only certain specified materials whereas the others cover all materials]

KIND	Quantity	Cost of principal materials	KIND	Quantity	Cost of principal materials
Pig iron.....tons (2,240 pounds)...	21,404	\$418,539	Iron and steel, all other forms.tons (2,000 pounds)...	304,932	\$18,231,837
Scrap iron.....tons (.....do).....	6,025	95,318	Copper, brass, and bronze.....pounds...	6,556,375	1,284,934
Iron and steel castings and forgings.....tons (2,000 pounds)...	70,377	1,176,105	Antifriction bearing metal.....do.....	76,928	14,438

TABLE 5.—PRIME MOVERS, MOTORS, GENERATORS, AND CONSUMPTION OF PURCHASED ELECTRIC ENERGY—NUMBER AND RATED CAPACITY OF PRIME MOVERS AND ELECTRIC MOTORS, 1929, 1927, 1925, 1919, AND 1914, AND OF GENERATORS, 1929, 1927, AND 1925; QUANTITY OF ELECTRIC ENERGY PURCHASED, 1929

TYPE	1929 ¹		1927		1925		1919		1914		PER CENT DISTRIBUTION OF RATED HORSEPOWER CAPACITY	
	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	1929	1919
Prime movers and electric motors driven by purchased energy, aggregate.....	4,225	Horse-power 98,482	6,031	Horse-power 148,971	4,083	Horse-power 114,209	3,018	Horse-power 96,504	332	Horse-power 50,373	100.0	100.0
Prime movers, total.....	60	23,693	128	44,920	118	40,268	91	37,420	102	44,592	22.1	38.8
Steam, total.....	54	27,538	101	38,312	92	33,710	86	34,065	129	35,762	28.0	35.3
Engines.....	42	16,087	86	24,432	80	20,452	78	27,010	(²)	(²)	16.3	28.0
Turbines.....	12	11,451	15	13,880	12	13,258	8	7,055	(²)	(²)	11.6	7.3
Internal-combustion engines.....	6	1,155	27	6,608	26	6,558	5	3,355	31	8,380	1.2	3.5
Water wheels and water turbines.....									2	450		
Electric motors driven by purchased energy.....	4,165	69,789	5,903	104,051	3,965	73,941	2,927	59,084	170	5,781	70.9	61.2
Electric motors, total.....	7,433	137,299	8,648	164,428	7,233	141,093	5,763	118,873	4,558	76,846	100.0	100.0
Driven by purchased energy.....	4,165	69,789	5,903	104,051	3,965	73,941	2,927	59,084	170	5,781	50.8	49.7
Driven by energy generated in establishments reporting.....	3,268	67,510	2,745	60,377	3,268	67,152	2,836	59,789	4,388	71,065	49.2	50.3
Electric generators.....	29	Kilowatts 13,330 Kilowatt-hours 41,077,608	61	Kilowatts 21,728	91	Kilowatts 32,365	(³)	(³)	(³)	(³)		
Electric energy purchased ⁴				(³)		(³)		(³)		(³)		

¹ The pronounced decreases shown for most of the power items for 1929 as compared with the corresponding ones for 1927 are accounted for in large part by the fact that two important establishments which operated in 1927 were idle in 1929, and in some measure also by decreases reported by some of the establishments which were active in both years.
² Not called for separately on schedule.
³ Not called for on schedule.
⁴ This item covers the consumption of purchased electric energy for all purposes—power, heat, light, etc.
⁵ Data incomplete.

TABLE 6.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES: 1929, 1925, 1919, 1914, AND 1909

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

STATE	Average number employed during year	NUMBER EMPLOYED ON 15TH DAY OF MONTH OR NEAREST REPRESENTATIVE DAY												Per cent minimum is of maximum	
		January	February	March	April	May	June	July	August	September	October	November	December		
United States:															
1929.....	11,045	8,059	8,564	9,690	11,378	12,122	12,218	12,749	12,291	11,662	11,538	11,241	11,045	63.1	
1925.....	12,809	13,659	13,890	13,774	13,408	12,348	12,193	12,965	12,138	11,358	11,688	12,810	13,562	81.5	
1919.....	26,715	55,659	32,843	32,031	29,667	28,094	26,011	25,707	26,322	23,778	20,376	20,255	19,837	55.6	
1914.....	17,391	22,384	22,202	21,814	19,699	18,839	17,482	16,162	15,760	15,272	13,576	12,555	13,047	56.0	
1909.....	14,909	13,211	13,526	13,471	13,418	13,046	13,537	15,566	15,349	15,763	16,077	17,116	18,232	71.0	

MOTORCYCLES, BICYCLES, AND PARTS

Description of the industry.—The establishments in this industry are engaged primarily in manufacturing or in assembling complete motorcycles and bicycles, or in manufacturing parts and accessories, other than engines, tires, lamps, and electrical supplies.¹ The total value of products for the industry thus includes duplication to the extent to which the products of establishments engaged primarily in the manufacture of parts and accessories are used as materials by estab-

lishments manufacturing complete machines. Many of the parts and accessories are, however, sold to dealers or to consumers for use as additional equipment or for replacement.

Comparison with preceding census years.—The production both of motorcycles and of bicycles showed pronounced decreases for the period 1923-1927. The number of motorcycles manufactured decreased from 41,898 in 1923 to 39,350 in 1925, to 35,197 in 1927, and to 31,912 in 1929; while the number of bicycles produced decreased from 486,177 in 1923 to 303,446 in 1925, to 255,456 in 1927, and then increased to 307,845 in 1929.

TABLE 1.—SUMMARY FOR THE UNITED STATES: 1899 to 1929

[Data for establishments with products under \$5,000 in value included for 1919 and prior years but not for 1921 and subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

YEAR OR PERIOD	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, containers for products, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²	Horsepower ³
1929	21	4,392	\$6,263,876	\$11,281,327	\$23,894,805	\$12,613,478	11,124
1927	29	3,897	5,441,602	10,174,092	21,454,149	11,280,057	10,753
1925	36	4,193	5,662,397	12,176,935	24,257,923	12,080,988	12,609
1923	39	6,576	8,010,021	18,002,907	32,259,205	14,256,298	14,840
1921	46	4,308	4,981,295	10,322,811	23,097,749	12,774,938	(⁴)
1919	51	10,886	12,763,235	25,985,915	53,105,895	27,119,980	14,420
1914	78	6,680	4,738,750	10,927,654	22,234,262	11,306,608	8,718
1909	95	4,437	2,908,199	5,082,569	10,698,567	5,616,998	5,816
1904	101	3,319	1,971,403	2,628,146	5,153,240	2,525,094	2,508
1899	312	17,525	8,189,817	16,792,051	31,915,908	15,123,857	18,838
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929	(⁵)	12.7	15.1	10.9	11.4	11.8	3.5
1925-1927	(⁵)	-7.1	-3.9	-16.4	-11.6	-6.6	-14.7
1923-1925	(⁵)	-36.2	-29.3	-32.4	-24.8	-15.3	-15.0
1921-1923	(⁵)	52.6	60.8	74.4	39.7	11.6	-----
1919-1921	(⁵)	-60.4	-61.0	-60.3	-56.5	-52.9	-----
1919-1929	(⁵)	-59.7	-60.9	-56.6	-55.0	-53.5	-22.9
1909-1919	(⁵)	145.3	338.9	411.3	396.4	382.9	147.9
1899-1909	-69.6	-74.7	-64.5	-69.7	-66.5	-62.9	-69.1

¹ For 1929 manufacturers' sales (shipments or deliveries); for earlier years, production. See GENERAL EXPLANATIONS—Value of Products.

² Value of products less cost of materials, containers for products, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

³ Horsepower of prime movers in motorcycle and bicycle factories, not horsepower of motorcycles manufactured.

⁴ Not called for on schedule.

⁵ Per cent not shown where base is less than 100.

CENSUS OF MANUFACTURES: 1929

TABLE 2.—GENERAL STATISTICS, BY STATES: 1929, 1927, AND 1919

[This table presents statistics separately for each State for which figures can be given without disclosing data for individual establishments, and for the remaining States in groups. Data for establishments with products under \$5,000 in value are included for 1919 but not for subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

STATE	Census year	Number of establishments	Salaried officers and employees ¹	Wage earners (average for the year)	HORSEPOWER (RATED CAPACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, CONTAINERS FOR PRODUCTS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products ²	Value added by manufacture ³
					Total	Prime movers	Motors run by purchased energy			Total	Materials and containers	Fuel and purchased energy		
United States.....	1929	21	722	4,392	11,124	2,315	8,809	\$1,754,837	\$6,263,876	\$11,281,327	\$10,937,207	\$344,120	\$23,894,805	\$12,613,478
	1927	29	697	3,897	10,753	2,355	8,395	1,542,212	5,441,502	10,174,092	9,894,490	279,602	21,454,149	11,280,057
	1919	51	1,298	10,856	14,420	4,137	10,283	2,200,358	12,763,235	25,985,915	25,346,073	639,242	53,105,895	27,119,980
Individual States:														
Massachusetts.....	1929	5	262	1,206	2,442	400	2,042	596,762	1,567,456	3,439,429	3,323,024	116,405	6,645,657	3,206,228
	1927	6	247	1,363	3,361	450	2,881	603,733	1,061,292	3,579,697	3,471,021	108,676	7,593,435	4,018,738
	1919	8	441	3,000	3,050	665	2,385	601,568	3,238,280	8,403,358	8,229,016	179,342	15,999,501	7,591,143
New York.....	1929	4	42	396	1,063	225	838	155,398	514,042	1,297,842	1,254,571	43,271	2,530,092	1,232,250
	1927	5	32	353	959	225	734	111,960	479,554	976,625	946,496	30,029	2,083,914	1,082,389
	1919	7	33	674	1,017	315	702	110,332	555,003	1,515,142	1,476,150	38,992	2,864,329	1,349,687
Groups of States:														
Ill., 3 est.; Ind., 1; Wis., 2.....	1929	6	294	1,937	4,985	1,265	3,720	775,138	3,115,389	4,838,942	4,718,782	120,160	9,897,207	5,058,265
Other States (Conn., 1 est.; Ky., 1; Mich., 1; N. H., 1; Ohio, 2).....	1929	6	124	853	2,634	425	2,209	227,539	1,066,959	1,705,114	1,640,830	64,284	4,821,849	3,116,735
States not shown separately:	1927	18	418	2,181	6,433	1,650	4,783	926,519	3,300,056	5,617,870	5,476,973	140,897	11,796,800	6,178,930
	1919	36	824	7,212	10,353	3,157	7,196	1,488,458	8,669,352	16,062,415	15,641,507	420,908	34,241,505	18,179,150

¹ Not including proprietors and firm members. The total numbers of persons engaged and the numbers of proprietors and firm members, as reported for this industry, are as follows: For 1929, total, 6,117; proprietors and firm members, 3. For 1927, total, 4,598; proprietors and firm members, 4. For 1919, total, 12,200; proprietors and firm members, 16.

² For 1929, manufacturers' sales (shipments or deliveries); for earlier years, production. See GENERAL EXPLANATIONS—Value of products.

³ Value of products less cost of materials, containers for products, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by manufacture.

⁴ Data for purchased power other than electric (power transmitted into the plant by belt or shaft) are included in the State items for 1919 but not in the United States totals.

⁵ Connecticut, 3 establishments; Illinois, 4; Indiana, 1; Kentucky, 1; Michigan, 2; New Hampshire, 1; Ohio, 4; Wisconsin, 2.

⁶ Connecticut, 3 establishments; Illinois, 7; Indiana, 5; Michigan, 2; Ohio, 9; Pennsylvania, 4; Washington, 1; Wisconsin, 5.

TABLE 3.—MOTORCYCLES, BICYCLES, AND PARTS—PRODUCTION, BY CLASS, NUMBER, AND VALUE, FOR THE UNITED STATES: 1923 TO 1929

[The figures given for 1929 refer to sales (shipments or deliveries) by manufacturers; those for earlier years represent production. See GENERAL EXPLANATIONS—Value of Products]

CLASS	1929	1927	1925	1923
1. Motorcycle and bicycle industry, all products, total value.....	\$23,894,805	\$21,454,140	\$24,257,923	\$32,259,205
2. Motorcycles, bicycles, and parts.....	19,280,319	18,842,616	22,430,559	29,799,153
3. Other products (not normally belonging to the industry), value, and receipts for repair work.....	4,614,486	2,611,533	1,818,364	2,460,052
4. Motorcycles, bicycles, and parts made as secondary products in other industries, value.....	1,917,930	559,233	1,061,185	1,101,867
Motorcycles, bicycles, and parts, all industries:				
Total value (sum of 2 and 4).....	\$21,198,249	\$19,401,899	\$23,500,744	\$30,901,020
Motorcycles—				
Number.....	31,012	35,197	39,350	41,898
Value.....	\$7,542,862	\$8,000,683	\$8,875,657	\$10,025,170
Motorcycle side cars—				
Number.....	8,672	(¹)	(¹)	(¹)
Value.....	\$513,187	\$649,350	\$577,641	\$908,318
Motorcycle parts, value.....	\$2,079,462	\$2,742,375	\$3,191,890	\$3,567,561
Bicycles—				
Number.....	307,845	255,456	303,446	486,177
Value.....	\$6,183,773	\$5,803,440	\$7,030,566	\$10,728,900
Bicycle parts, value.....	\$4,278,965	\$2,208,051	\$3,824,990	\$5,663,071

¹ Not reported separately.

MOTORCYCLES, BICYCLES, AND PARTS

1219

TABLE 4.—PRIME MOVERS, MOTORS, GENERATORS, AND CONSUMPTION OF PURCHASED ELECTRIC ENERGY—NUMBER AND RATED CAPACITY OF PRIME MOVERS AND ELECTRIC MOTORS, 1929, 1927, 1925, 1919, AND 1914, AND OF GENERATORS, 1929, 1927, AND 1925; QUANTITY OF ELECTRIC ENERGY PURCHASED, 1929

TYPE	1929		1927		1925		1919		1914		PER CENT DISTRIBUTION OF RATED HORSEPOWER CAPACITY	
	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	1929	1919
Prime movers and electric motors driven by purchased energy, aggregate.....	993	Horse-power 11,124	882	Horse-power 10,753	1,010	Horse-power 12,009	989	Horse-power 14,420	551	Horse-power 8,718	100.0	100.0
Prime movers, total.....	10	2,315	13	2,355	14	2,365	26	4,137	38	2,979	20.8	28.7
Steam, total.....	8	2,190	8	2,090	9	2,100	20	3,970	22	2,560	19.7	27.5
Engines.....	8	2,190	8	2,090	9	2,100	19	3,700	(1)	(1)	19.7	25.7
Turbines.....							1	270	(1)	(1)		1.9
Internal-combustion engines.....			1	60	1	60	4	77	14	319		0.5
Water wheels and water turbines.....	2	125	4	205	4	205	2	90	2	100	1.1	0.6
Electric motors driven by purchased energy.....	983	8,809	869	8,398	996	10,244	963	10,283	513	5,739	79.2	71.3
Electric motors, total.....	1,045	9,792	1,038	10,093	1,044	11,176	1,017	11,633	555	6,256	100.0	100.0
Driven by purchased energy.....	983	8,809	869	8,398	996	10,244	963	10,283	513	5,739	90.0	88.4
Driven by energy generated in establishments reporting.....	62	983	169	1,695	48	932	54	1,350	42	517	10.0	11.6
Electric generators ¹	5	Kilowatts 980	3	Kilowatts 395	5	Kilowatts 995						
Electric energy purchased ²		Kilowatt-hours 9,815,740										

¹ Not called for separately on schedule.

² Data for electric generators not called for on schedule prior to 1925.

³ This item covers consumption of purchased electric energy for all purposes—power, heat, light, etc. No data available for years prior to 1929.

TABLE 5.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1929, 1925, 1919, 1914, AND 1909, AND BY STATES, 1929

[This table presents statistics for only those States for which figures can be given without disclosing data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures]

STATE	Average number employed during year	NUMBER EMPLOYED ON 15TH DAY OF MONTH OR NEAREST REPRESENTATIVE DAY												Per cent minimum is of maximum
		January	February	March	April	May	June	July	August	September	October	November	December	
United States:														
1929.....	4,392	4,295	4,304	4,521	4,551	4,593	4,440	4,285	4,267	4,369	4,393	4,377	<i>4,241</i>	92.4
1925.....	4,193	4,092	4,220	4,358	4,414	4,159	3,865	5,631	3,813	3,991	4,471	4,641	4,659	77.9
1919.....	10,886	11,258	<i>10,166</i>	10,550	10,903	10,952	10,777	10,628	10,630	10,616	11,008	11,491	11,653	87.2
1914.....	6,680	8,843	9,177	8,840	8,300	7,872	6,270	5,351	4,792	4,333	4,608	5,360	6,414	47.2
1909.....	4,437	5,691	4,134	4,428	4,638	4,568	4,998	4,318	4,225	4,214	4,245	4,465	4,738	79.9
Massachusetts.....	1,206	1,295	1,310	1,319	1,311	1,318	1,275	1,188	1,141	1,126	1,029	1,064	1,093	78.0
New York.....	396	383	361	370	345	349	341	345	392	458	591	495	421	68.1

MOTOR VEHICLES; MOTOR-VEHICLE BODIES AND MOTOR-VEHICLE PARTS

The manufacture of motor vehicles and the manufacture of bodies and parts for such vehicles are treated for census purposes as separate industries. Combined statistics for these industries are presented in the table below.

Duplication in cost of materials and value of products.—The combined statistics for cost of materials and for value of products include a great deal of duplication due to the fact that in large measure the products of the "Motor-vehicle bodies and motor-vehicle parts" industry are used as materials in the "Motor vehicles" industry, so that the combined cost

of materials greatly exceeds the cost of raw and partly manufactured materials produced outside the industries, and the combined value of products is much in excess of the total factory value of the finished products in the form in which they reach the final purchaser.

On the other hand, as explained elsewhere (see p. 1228), the bodies-and-parts industry does not include the manufacture of tires and certain other materials and parts, and for this reason the statistics in the table below do not show the total number of persons employed, directly and indirectly, in the manufacture of motor vehicles.

COMBINED SUMMARY FOR MOTOR VEHICLES AND MOTOR-VEHICLE BODIES AND MOTOR-VEHICLE PARTS INDUSTRIES, FOR THE UNITED STATES: 1904 TO 1929

[Data for establishments with products under \$5,000 in value included for 1919 and prior years but not for 1921 and subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

YEAR OR PERIOD	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, containers for products, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²	Horsepower
1929.....	1,398	447,448	\$733,082,618	\$3,258,497,400	\$5,260,723,067	\$2,002,225,667	1,638,617
1927.....	1,477	369,369	612,955,061	2,530,732,811	3,999,509,298	1,469,139,397	1,277,313
1925.....	1,655	429,110	713,931,334	2,970,913,203	4,721,402,556	1,750,489,293	1,172,013
1923.....	5,471	401,886	659,877,336	2,711,570,577	4,176,440,284	1,464,893,707	890,633
1921.....	2,359	212,777	318,752,065	1,321,026,902	2,079,403,503	768,376,006	(³)
1919.....	2,830	343,115	491,121,373	1,940,678,876	3,080,073,979	1,139,395,103	539,093
1914.....	1,271	127,092	101,926,874	356,207,630	632,831,474	276,623,544	172,876
1909.....	743	75,721	48,693,867	181,645,736	249,202,075	117,550,339	75,550
1904 ⁴	178	12,049	7,158,058	18,151,365	30,033,536	16,882,171	10,109
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929.....	-5.3	21.1	19.6	28.8	31.5	36.3	20.5
1925-1927.....	-10.8	-13.3	-14.1	-14.8	-15.3	-16.1	9.0
1923-1925.....	-33.0	5.2	8.2	9.6	13.0	19.5	36.2
1921-1923.....	4.7	90.3	107.0	105.3	100.8	93.2	-----
1919-1921.....	-16.6	-38.0	-35.1	-31.0	-32.5	-33.4	-----
1914-1919.....	-50.6	30.4	49.3	67.9	70.8	75.7	185.4
1904-1919.....	280.9	353.1	908.6	1,374.2	1,136.0	869.2	613.5

¹ For 1929, manufacturers' sales (shipments or deliveries); for earlier years, production. See GENERAL EXPLANATIONS—Value of Products.

² Value of products less cost of materials, containers for products, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

³ Not called for on schedule.

⁴ No data for "Motor-vehicle bodies and motor-vehicle parts" were collected for 1899.

MOTOR VEHICLES

Description of the industry.—The classification "Motor vehicles" applies to all manufacturing establishments whose principal products are four-wheeled motor-propelled (internal-combustion, steam, or electric) steerable vehicles, or trailers for use with such vehicles.¹ Establishments engaged primarily in the manufacture of motor-propelled fire-department apparatus, street sweepers, road oilers, etc., are also classified in this industry.

Importance of the industry.—The motor-vehicle industry, as defined above, in 1929 outranked all other manufacturing industries, on the basis of value of production. In 1927, however, this industry was outranked by the "Meat packing, wholesale" industry. In using the number of wage earners to determine the rank, consideration must be given to the fact that the total number of wage earners employed, directly and indirectly, in the manufacture of motor vehicles is greatly in excess of the number reported for the motor-vehicle industry alone. The total number includes the 221,332 wage earners in the bodies-and-parts industry, together with those employed in the manufacture of motor-vehicle engines, electric starting and lighting equipment, etc., in other industries, and those employed in the manufacture of tires and inner tubes. No accurate estimate can be made of the grand total, but the combined number, 447,448, of wage earners employed in the motor-vehicles and motor-vehicle bodies and motor-vehicle parts industries in 1929 exceeded the number reported for any other industry, according to the census classification, with the exception of the "Foundry and machine-shop products, not elsewhere classified" industry, which shows wage earners to the number of 454,441. In 1927, however, this industry was outranked from this standpoint by three industries, namely, "Cotton goods," "Lumber and timber products, not elsewhere classified," and "Foundry and machine-shop products, not elsewhere classified."

Number of manufacturers.—For census purposes an assembling plant (a plant in which parts made in another plant under the same management are assembled into complete motor vehicles) is treated as a manufacturing establishment, this being necessary in order that each State may be credited with its due share of the motor-vehicle industry. As a result, the number of establishments shown by the census report is somewhat in excess of the actual number of manufacturers. The number of such manufacturers reporting at the census for 1929 (counting the General Motors organization as 6) was 189, including 40 manufacturers of trailers. The numbers of manu-

facturers of the several classes of vehicles (reported for 1927 and 1929) were as follows:

	1927	1929		1927	1929
Passenger vehicles.....	46	49	Patrol wagons.....	3	3
Busses.....	31	30	Street-cleaning apparatus.....	4	5
Taxis.....	3	9	Trucks.....	116	106
Ambulances.....	7	7	Hearse and undertakers' wagons.....	8	8
Fire-department apparatus.....	20	17	Trailers.....	39	40

The sum of the numbers previously shown (274) is larger than the net number of manufacturers (189) for the reason that many of the manufacturers produce two or more classes of vehicles. (For example: A manufacturer of passenger cars, of trucks, and of busses has been counted three times in the statement shown but only once in assembling the net total of 189.) Of the total of 4,362,215 passenger cars (exclusive of public conveyances) manufactured in 1929, 3,927,691, or 90 per cent, were produced by 10 manufacturers (counting individually the manufacturers in the General Motors group).

Detailed statistics of products (Table 3).—In the total value of products of this industry some duplication results from the inclusion of the value of bodies and parts made for sale as such by establishments engaged primarily in the manufacture of motor vehicles. (Bodies and parts for sale are made mainly in the bodies-and-parts industry. See pp. 1228-1231.) On the other hand, the value of the complete vehicles, chassis, etc., made during the census year was somewhat less than the net value of the output of the industry, for the reason that the latter includes the value of bodies and parts, and especially parts, produced for sale direct to dealers or individual customers for use as additional equipment or for replacement.

After increasing from 3,901,710 in 1923 to 4,177,897 in 1925, the production of complete motor vehicles, chassis, and trailers decreased to 3,355,772 in 1927, followed by an abnormally large increase to 5,316,493 in 1929. The production of open cars, after decreasing greatly between 1925 and 1927, increased slightly between 1927 and 1929. The production of closed cars shows great increases from census to census. The rapid increase in the popularity of this type of car is brought out by a comparison of the numbers of such cars made during the last four census years—1,201,577 in 1923, 2,080,697 in 1925, 2,407,160 in 1927, and 3,916,783 in 1929. The proportion which the number of closed cars formed of the total number of passenger cars reported increased from 35.1 per cent in 1923, to 58.3 per cent in 1925, to 85.4 per cent in 1927, and to 89.8 per cent in 1929.

¹ The manufacture of motorcycles and bicycles is treated as a separate industry.

The average factory value of closed passenger cars decreased from \$888 in 1923, to \$859 in 1925, to \$797 in 1927, and to \$648 in 1929, and the average value of open passenger cars decreased from \$535 in 1923 to \$469 in 1925, and then showed average values of \$561 and \$516 for 1927 and 1929, respectively. The extent of these increases and decreases in average price is affected somewhat by the variations in the proportions of high-priced and of low-priced cars from year to year. For example: Since relatively high-priced cars formed a larger proportion of the total output of open cars in 1927 than in 1925, this alone had the effect of increasing the average price, regardless of any increases in prices of individual makes of cars.

Motor vehicles manufactured, by value and tonnage classes.—The following statement shows the number of passenger vehicles manufactured in 1929, grouped according to value, and the number of commercial vehicles, grouped according to tonnage:

PASSENGER VEHICLES		COMMERCIAL VEHICLES (Including delivery wagons, trucks, and commercial chassis)	
Total number.....	4,362,215	Total number.....	1,818,818
Value up to \$500.....	1,749,642	¾ ton or less.....	173,893
\$501 to \$750.....	1,745,759	1 ton.....	144,854
\$751 to \$1,000.....	424,289	Over 1 to 2½ tons, inclusive.....	477,639
\$1,001 to \$1,500.....	301,072	3 to 4½ tons, inclusive.....	18,828
\$1,501 to \$2,000.....	93,230	5 tons.....	2,704
\$2,001 to \$2,500.....	23,475	Over 5 tons.....	1,042
\$2,501 to \$3,000.....	13,125		
\$3,001 and over.....	11,623		

¹ Exclusive of 55 trucks reported by establishments engaged primarily in other lines of manufacture.

Annual totals of monthly sales figures.—In addition to the biennial statistics, the Bureau of the Census also compiles monthly statistics on factory sales of motor vehicles. The annual totals of the monthly figures for 1929, 1927, etc., differ somewhat from the corresponding totals shown in the reports of the Biennial Census of Manufactures because the sum of the monthly figures for any one year represents exactly a calendar year, whereas the biennial-census returns sometimes represent fiscal years not coinciding with calendar years. Moreover, the monthly figures for all

years represent sales, whereas the biennial-census figures for years prior to 1929 represent production.

YEAR	Total	Passenger cars ¹	Trucks and busses ²
1922.....	2,544,170	2,274,185	269,985
1923 ³	4,034,012	3,624,717	409,295
1924 ³	3,602,640	3,185,881	416,759
1925 ³	4,265,830	3,735,171	530,659
1926 ³	4,300,934	3,783,987	516,947
1927.....	3,401,326	2,936,533	464,793
1928.....	4,358,759	3,816,417	542,342
1929.....	5,358,420	4,587,400	771,020
1930.....	3,354,986	2,814,452	540,534

¹ Light trucks using passenger chassis are here included with passenger vehicles, but in the biennial-census statistics the data for such trucks are included with those for trucks with tonnage less than 1 ton.

² Busses are here included with trucks, but in the biennial-census statistics the figures for busses are separately shown.

³ Revised.

Motor-vehicle registration.—The rapidity of the increase in the use of motor vehicles is best brought out by the annual registration figures, published by the Bureau of Public Roads, Department of Agriculture. The number of registrations during each year, however, includes some duplication due to the scrapping of motor vehicles. The number of cars and trucks scrapped or discarded within the year is included in the total number registered, but not in the total number actually in use at the end of the year. Thus, in order to determine the actual number of motor vehicles in use at the end of the year, it would be necessary to reduce the total number of registrations by subtracting from it the number of vehicles scrapped or discarded during the year. It may be assumed, however, that the variation from year to year in the extent of the duplication due to this cause is not sufficient to have any material effect on the comparability, as between one year and another, of the ratios between the number of motor vehicles and the total population.

The following statement shows the total number of registrations of 4-wheeled motor vehicles during each calendar year from 1913 (the earliest year for which the registration figures have been compiled) to 1929, inclusive, together with the ratio between the number of registrations and the estimated population at the close of the year:

MOTOR VEHICLES

1223

YEAR	Motor-vehicle registrations	Number of registrations to 1,000 population	YEAR	Motor-vehicle registrations	Number of registrations to 1,000 population
1913.....	1,258,062	13	1922.....	12,238,375	111
1914.....	1,711,339	17	1923.....	15,090,936	134
1915.....	2,445,064	24	1924.....	17,591,981	154
1916.....	3,512,096	35	1925.....	19,937,274	172
1917.....	4,983,340	48	1926.....	22,091,393	187
1918.....	6,146,617	59	1927.....	23,133,241	194
1919.....	7,565,446	72	1928.....	24,493,124	204
1920.....	9,231,941	86	1929.....	26,501,443	218
1921.....	10,463,295	96			

From these figures it will be seen that more than twenty-one times as many motor vehicles were registered in 1929 as in 1913, only 16 years earlier, and that the ratio of motor-vehicle registrations to population was nearly seventeen times as large for December 31, 1929, as for December 31, 1913. The ratio for 1913 (disregarding duplication due to the above-mentioned cause) represents 1 motor vehicle to about 77 persons or 17 families; that for 1929, 1 motor vehicle to 4.6 persons or 1 family.

TABLE 1.—SUMMARY FOR THE UNITED STATES: 1899 TO 1929

[Data for establishments with products under \$5,000 in value included for 1919 and prior years but not for 1921 and subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

YEAR OR PERIOD	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²	Horsepower ³
1929.....	244	226,116	\$366,579,233	\$2,401,511,763	\$3,722,793,274	\$1,321,281,511	713,912
1927.....	264	187,010	321,064,093	1,889,426,249	2,848,442,843	950,016,594	725,674
1925.....	297	197,728	341,210,401	2,108,191,812	3,198,122,683	1,089,930,821	509,758
1923.....	351	241,356	406,730,278	2,147,463,352	3,163,327,874	1,015,864,522	435,545
1921.....	385	143,658	221,973,586	1,107,062,065	1,671,386,976	564,324,591	(4)
1919.....	315	210,559	312,165,870	1,578,651,574	2,387,903,287	809,251,713	282,323
1914.....	300	79,307	66,634,350	292,597,565	593,230,137	210,632,572	104,963
1909.....	265	51,294	33,180,474	107,731,446	193,823,108	86,091,662	50,841
1904.....	121	10,239	6,178,950	11,658,138	26,645,064	14,986,026	7,624
1899.....	57	2,241	1,320,658	1,804,287	4,748,011	2,943,724	3,164
PER CENT OF INCREASE OR DECREASE (-)							
1927-1929.....	-7.6	20.3	14.0	27.1	30.7	37.8	-1.6
1925-1927.....	-11.1	-5.0	-5.7	-10.4	-10.9	-12.0	42.4
1923-1925.....	-15.4	-18.1	-16.1	-1.8	1.1	7.3	17.0
1921-1923.....	-8.8	68.0	83.2	94.0	89.3	80.0	-----
1919-1921.....	22.2	-31.8	-28.9	-29.9	-30.0	-30.3	-----
1919-1929.....	-22.5	7.4	17.4	52.1	55.9	63.3	152.9
1909-1919.....	18.9	310.5	840.8	1,365.4	1,132.0	840.0	457.5
1899-1909.....	(5)	2,188.9	2,412.4	5,870.9	3,982.2	2,824.6	1,500.5

¹ For 1929, manufacturers' sales (shipments or deliveries); for earlier years, production. See GENERAL EXPLANATIONS—Value of Products.
² Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.
³ Horsepower of prime movers in motor-vehicle factories; not horsepower of engines, etc., installed in motor vehicles.
⁴ Not called for on schedule.
⁵ Per cent not computed where base is less than 100.

CENSUS OF MANUFACTURES: 1929

TABLE 2.—GENERAL STATISTICS, BY STATES: 1929, 1927, AND 1919

[This table presents statistics separately for each State for which figures can be given without disclosing data for individual establishments, and for the remaining States in groups. Data for establishments with products under \$5,000 in value are included for 1919 but not for subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

STATE	Census year	Number of establishments	Salaried officers and employees	Wage earners (average for the year)	HORSEPOWER (RATED CAPACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products ²	Value added by manufacture ³
					Total	Prime movers	Motors run by purchased energy			Total	Materials	Fuel and purchased energy		
United States	1929	244	27,076	226,116	713,912	243,358	460,554	\$79,865,972	\$360,579,233	\$2,401,511,765	\$2,379,498,089	\$22,013,674	\$3,722,793,274	\$1,321,281,511
	1927	264	26,050	187,016	725,674	284,189	441,485	71,118,022	321,604,093	1,889,426,245	1,871,695,567	17,730,682	2,848,442,843	959,016,594
	1919	316	32,327	210,559	282,323	105,393	176,930	67,215,804	312,165,870	1,578,651,574	1,565,694,602	12,959,972	2,387,903,287	809,261,713
Individual States:														
California	1929	23	755	5,443	7,307	500	6,807	1,999,507	7,916,949	82,572,255	82,343,203	229,052	138,316,167	55,743,912
	1927	22	578	2,008	4,740		4,740	1,535,582	3,192,148	46,147,525	46,016,700	130,825	68,426,887	12,279,362
	1919	12	309	1,327	1,432		1,284	525,530	1,806,924	27,026,061	26,949,004	77,055	36,626,893	9,600,832
Illinois	1929	19	574	3,234	6,448	4,025	2,423	1,671,296	5,028,654	42,350,006	42,158,997	191,003	62,405,791	20,055,791
	1927	25	956	2,849	9,118	4,056	5,058	3,166,015	4,879,517	22,201,791	21,975,824	225,967	35,631,587	13,429,796
	1919	25	943	3,507	6,263	1,050	5,213	1,846,516	4,664,710	61,031,772	60,867,016	164,756	77,018,464	15,866,622
Indiana	1929	15	2,220	20,573	47,382	30,694	16,688	7,218,793	30,642,398	131,375,192	129,538,776	1,836,416	208,247,058	76,871,586
	1927	19	2,015	16,941	46,112	31,100	15,012	4,945,497	26,108,697	88,118,912	85,754,598	1,364,312	143,385,648	55,266,738
	1919	27	1,615	10,544	13,564	2,830	10,734	2,824,429	12,480,913	77,697,745	77,158,346	539,399	107,347,614	29,648,869
Kansas	1929	3	0	24	120		120	16,300	39,588	142,157	138,806	3,347	138,904	
Michigan	1929	40	13,477	108,796	461,690	150,784	310,876	39,264,425	188,799,808	1,034,955,397	1,021,765,000	13,199,497	1,549,658,499	514,708,102
	1927	43	14,080	114,023	459,281	168,788	300,473	34,738,298	206,017,067	1,038,113,474	1,027,224,872	10,888,602	1,664,727,963	626,614,489
	1919	68	16,035	126,937	180,702	80,473	100,229	38,534,405	197,768,189	809,204,989	801,202,501	8,002,488	1,332,076,498	522,871,509
Missouri	1929	8	689	6,086	8,398	6,327	2,071	1,576,198	8,486,001	169,265,508	168,745,600	519,008	246,762,302	77,496,794
	1927	8	518	1,865	1,470	500	970	686,239	2,303,753	60,124,246	60,052,993	71,253	62,624,650	12,500,404
	1919	6	325	5,616	3,907	3,000	907	823,569	8,417,492	83,315,185	83,179,699	135,480	131,597,607	48,282,612
New Jersey	1929	8	579	2,484	14,493	14,260	233	1,733,915	4,235,380	54,095,018	53,793,372	301,046	66,276,110	12,181,622
	1927	6	484	2,359	3,246	300	2,946	853,014	3,506,042	30,682,409	30,520,043	163,366	39,560,664	8,878,255
	1919	18	2,193	10,603	25,787	5,292	20,495	5,734,012	17,301,178	147,150,695	146,369,249	791,446	232,345,843	85,195,148
New York	1929	20	2,094	8,346	31,381	10,375	21,006	4,783,065	14,246,548	125,014,292	124,396,287	618,005	169,503,816	44,489,524
	1927	28	3,523	14,794	14,498	5,227	9,271	5,649,182	20,000,509	101,243,949	100,645,015	598,934	140,721,999	39,478,050
	1919	38	3,404	28,727	60,566	5,224	55,342	11,183,023	43,900,394	249,983,507	247,618,957	2,364,550	387,355,225	137,371,718
Ohio	1929	36	2,910	20,253	60,891	10,991	49,900	8,194,723	32,381,802	216,425,789	214,448,306	1,977,483	299,575,975	83,150,186
	1927	44	4,546	29,212	37,473	6,741	30,732	8,660,393	41,443,839	198,438,901	196,364,341	2,084,620	287,045,832	88,006,871
	1919	35	4,546	29,212	37,473	6,741	30,732	8,660,393	41,443,839	198,438,901	196,364,341	2,084,620	287,045,832	88,006,871
Pennsylvania	1929	14	1,057	7,731	12,989	2,952	10,047	2,410,849	11,738,024	60,112,248	59,776,586	336,662	100,488,760	40,376,512
	1927	14	789	3,125	12,930	2,534	10,396	2,182,612	4,758,781	28,340,136	28,110,333	229,803	41,359,545	13,019,409
	1919	25	906	4,434	5,413	848	4,565	1,684,099	5,703,126	61,420,909	61,220,062	200,847	68,490,911	17,070,002
Wisconsin	1929	15	1,068	10,241	26,412	3,550	22,862	3,772,703	16,183,014	141,176,367	139,787,213	1,389,154	219,192,950	78,016,583
	1927	15	1,272	8,786	30,774	5,960	24,814	4,506,832	12,854,868	121,937,497	120,844,406	1,123,091	177,452,567	55,486,070
	1919	15	1,851	8,907	14,864	5,036	9,828	3,099,130	13,257,349	61,768,260	61,074,320	683,930	95,030,129	33,271,879
Groups of States:														
Colo., 3 establishments; Nebr., 4; Okla., 1	1929	8	180	2,875	3,489		3,489	598,595	4,113,503	36,101,012	35,897,261	203,751	63,185,302	27,084,380
Fla., 2 est.; Ga., 2	1929	4	205	1,652	2,891	728	2,163	791,351	2,545,611	41,391,965	41,285,510	106,455	67,420,360	20,028,395
Iowa, 4 est., Minn., 2	1929	6	176	2,022	33,647	32,340	1,307	465,320	3,963,638	37,247,186	37,089,350	157,809	64,498,425	27,251,266
Ky., 1 est.; N. C., 2; Tenn., 2	1929	5	173	3,771	4,664	4,102	502	587,481	5,602,787	42,818,840	42,644,782	174,058	77,009,615	34,280,775
La., 3 est.; Miss., 1; Tex., 6	1929	10	191	2,716	3,537	1,330	2,207	628,488	4,010,247	38,568,997	38,423,406	145,531	68,359,881	29,790,884
Oreg., 1 est.; Wash., 3	1929	4	104	1,206	1,142		1,142	300,264	1,691,917	15,275,822	15,215,713	60,109	27,914,661	12,638,839
Other States (Del., 1 est.; D. C., 1; Me., 1; Md., 1; Mass., 5; N. H., 1; Va., 1)	1929	11	216	4,195	3,556	2,150	1,406	823,528	6,289,000	47,709,461	47,540,021	169,440	77,603,501	29,954,130
States not shown separately	1927	63	757	9,087	55,974	46,121	9,853	5,331,573	12,980,276	149,001,807	148,130,869	870,938	192,102,745	43,100,938
	1919	57	1,597	6,073	3,498	2,340	1,158	2,852,867	9,220,913	110,022,283	109,641,959	380,324	141,359,633	31,337,360

¹ Not including proprietors and firm members. The total numbers of persons engaged and the numbers of proprietors and firm members, as reported for this industry, are as follows: For 1929, total, 253,228; proprietors and firm members, 36. For 1927, total, 213,970; proprietors and firm members, 30. For 1919, total, 242,922; proprietors and firm members, 36.

² For 1929, manufacturers' sales (shipments or deliveries); for earlier years, production. See GENERAL EXPLANATIONS—Value of Products.

³ Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

⁴ Data for purchased power other than electric (power transmitted into the plant by belt or shaft) are included in the State items for 1919 but not in the United States totals.

⁵ Colorado, 2 establishments; Connecticut, 2; Delaware, 1; District of Columbia, 1; Florida, 1; Georgia, 1; Iowa, 4; Kansas, 3; Kentucky, 2; Louisiana, 4; Maine, 2; Maryland, 1; Massachusetts, 5; Minnesota, 4; Mississippi, 1; Missouri, 8; Nebraska, 3; New Hampshire, 1; North Carolina, 2; Oklahoma, 1; Oregon, 1; Tennessee, 2; Texas, 6; Virginia, 1; Washington, 3.

⁶ Arkansas, 1 establishment; Colorado, 2; Connecticut, 2; District of Columbia, 1; Georgia, 2; Iowa, 6; Kansas, 2; Kentucky, 2; Louisiana, 2; Maryland, 1; Massachusetts, 8; Minnesota, 5; Nebraska, 2; New Hampshire, 1; North Carolina, 2; Oklahoma, 3; South Carolina, 1; South Dakota, 1; Tennessee, 1; Texas, 5; Virginia, 2; Washington, 4; West Virginia, 1.

MOTOR VEHICLES

1225

TABLE 3.—MOTOR VEHICLES, CHASSIS, AND TRAILERS—PRODUCTION, BY CLASS, NUMBER, AND VALUE: 1929, 1927, 1925, AND 1923

(The figures given for 1929 refer to sales (shipments or deliveries) by manufacturers; those for earlier years represent production. See GENERAL EXPLANATIONS—Value of Products)

CLASS	1929	1927	1925	1923
1. "Motor-vehicles" industry, all products, total value.....	\$3,722,793,274	\$2,548,442,843	\$3,198,122,633	\$3,163,327,874
2. Complete vehicles, chassis, and trailers—				
Number.....	5,314,555	3,354,805	1,4,176,169	1,3,901,325
Value.....	\$3,421,060,298	\$2,546,807,658	\$2,951,023,408	\$2,615,680,490
3. Other products (not normally belonging to the industry), value.....	\$301,733,086	\$301,635,785	\$247,094,225	\$547,647,876
4. Motor vehicles, chassis, and trailers made as secondary products in other industries—				
Number.....	1,938	967	1,728	285
Value.....	\$1,811,664	\$1,119,227	\$729,510	\$421,161
Motor vehicles, chassis, and trailers, all industries:				
Aggregate value (sum of 2 and 4)—				
Number.....	5,316,493	3,355,772	14,177,897	13,901,710
Value.....	\$3,422,871,872	\$2,547,926,285	\$2,951,768,218	\$2,616,101,680
Passenger vehicles (not including public conveyances)—				
Total number.....	4,362,215	2,817,306	3,565,945	3,419,430
Total value.....	\$2,767,339,368	\$2,147,562,710	\$2,453,885,306	\$2,253,110,199
Closed—				
Total number.....	3,916,783	2,407,160	2,080,697	1,201,577
Total value.....	\$2,537,349,561	\$1,917,343,612	\$1,786,834,065	\$1,066,838,433
Coupés (including convertible)—				
Number.....	945,062	465,157		
Value.....	\$567,118,236	\$353,165,131		
2-door sedans and coaches—				
Number.....	1,268,170		2,080,697	1,201,577
Value.....	\$625,715,203		\$1,786,834,065	\$1,066,838,433
4-door sedans—				
Number.....	1,629,806	1,942,093		
Value.....	\$1,209,439,092	\$1,564,178,651		
Other closed (landaus, broughams, etc.)—				
Number.....	73,745			
Value.....	\$75,050,518			
Open—				
Total number.....	444,845	409,158	1,455,248	2,215,144
Total value.....	\$229,401,843	\$220,405,033	\$667,051,241	\$1,186,995,740
Roadsters and runabouts ² —				
Number.....	298,401	197,880	390,062	432,152
Value.....	\$151,108,503	\$116,099,471	\$180,845,006	\$221,898,652
Other—				
Number.....	146,444	211,278	1,065,186	1,782,992
Value.....	\$78,293,340	\$113,305,562	\$516,206,235	\$964,097,097
Other passenger—				
Number.....	587	988	(?)	2,709
Value.....	\$587,964	\$913,805	(?)	\$2,276,017
Public conveyances—				
Total number.....	26,100	8,965	15,295	12,878
Total value.....	\$55,361,093	\$27,982,060	\$43,690,144	\$24,667,281
Motor busses (school, sight-seeing, and public-utility)—				
Under 21 passengers—				
Number.....	5,639	(?)	(?)	(?)
Value.....	\$7,452,042	(?)	(?)	(?)
21 to 32 passengers—				
Number.....	2,332	(?)	(?)	(?)
Value.....	\$13,572,817	(?)	(?)	(?)
33 passengers and over—				
Number.....	1,101	(?)	(?)	(?)
Value.....	\$10,587,015	(?)	(?)	(?)
Taxis—				
Number.....	17,028	(?)	(?)	(?)
Value.....	\$20,748,561	(?)	(?)	(?)
Commercial vehicles—				
Total number.....	391,563	320,673	341,811	231,477
Total value.....	\$277,352,017	\$258,404,005	\$287,243,212	\$222,419,517
Light delivery (less than 1 ton)—				
Number.....	124,414	60,981	35,976	25,042
Value.....	\$64,229,473	\$33,882,564	\$24,080,170	\$17,139,899
Trucks (1 ton and over)—				
Number.....	261,523	296,492	303,824	252,563
Value.....	\$205,772,262	\$220,049,809	\$257,803,815	\$202,722,744
Hearse and undertakers' wagons—				
Number.....	2,316	2,200	2,011	872
Value.....	\$5,055,220	\$4,471,632	\$5,359,227	\$2,587,374
Other—				
Number.....	3,340			
Value.....	\$1,695,062			
Government (Federal, State, county, and municipal), etc.—				
Total number.....	1,960	1,590	1,233	1,192
Total value.....	\$10,156,108	\$11,521,291	\$10,496,267	\$10,051,776
Ambulances—				
Number.....	361	219	129	197
Value.....	\$1,005,864	\$663,698	\$527,679	\$820,209

¹ Revised.

² The statistics for roadsters and light delivery wagons for 1925 are not strictly comparable with those for 1927, because of the fact that a large number of roadsters with slip-on bodies manufactured in 1925 were practically passenger vehicles and were so classified, whereas the roadsters with slip-on bodies reported for 1927 were commercial vehicles and were classified as such.

³ Not called for separately on schedule.

CENSUS OF MANUFACTURES: 1929

TABLE 3.—MOTOR VEHICLES, CHASSIS, AND TRAILERS—PRODUCTION, BY CLASS, NUMBER, AND VALUE, 1929, 1927, 1925, AND 1923—Continued

[See note at head of this table]

CLASS	1929	1927	1925	1923
Motor vehicles, chassis, and trailers, all industries—Continued.				
Government (Federal, State, county, and municipal), etc.—Continued.				
Fire-department apparatus—				
Number.....	1,350	1,145	1,020	910
Value.....	\$7,863,644	\$9,058,679	\$9,658,922	\$8,720,787
Other (patrol wagons, street sprinklers, street sweepers, etc.)—				
Number.....	249	235	84	85
Value.....	\$1,286,600	\$892,914	\$360,666	\$510,780
Chassis—				
Total number.....	512,219	178,487	240,760	175,273
Total value.....	\$298,847,221	\$95,244,145	\$121,516,283	\$101,486,215
Passenger (not including bus)—				
Number.....	76,401	56,074	87,780	53,256
Value.....	\$32,397,856	\$27,156,267	\$39,919,444	\$25,121,181
Commercial and bus—				
Number.....	435,818	122,413	153,010	122,017
Value.....	\$266,449,365	\$68,087,878	\$81,596,839	\$76,365,034
Trailers—				
Number.....	22,406	19,739	12,823	11,460
Value.....	\$10,816,120	\$7,212,074	\$4,937,000	\$4,366,722

TABLE 4.—MOTOR-VEHICLE PRODUCTION—PASSENGER VEHICLES, BY CLASS, NUMBER, AND VALUE, AND PUBLIC CONVEYANCES, COMMERCIAL VEHICLES, AND CHASSIS, BY NUMBER AND VALUE, FOR SELECTED STATES: 1929, 1927, 1925, AND 1923

[This table presents statistics for all States for which separate figures can be given without disclosing the output of individual establishments. In the cases of certain classes of products, however, some of the "Other States" outranked some of those shown separately]

CLASS AND STATE	NUMBER				VALUE			
	1929	1927	1925	1923	1929	1927	1925	1923
Passenger vehicles (not including public conveyances).....	4,362,215	2,817,306	3,565,945	3,419,430	\$2,767,339,308	\$2,147,562,710	\$2,483,885,306	\$2,253,110,199
Closed, total.....	3,916,783	2,407,160	2,080,697	1,201,577	2,537,349,561	1,917,343,812	1,786,834,065	1,066,838,433
California.....	163,289	60,271	46,994	35,172	88,609,464	31,365,348	27,182,170	20,047,309
Indiana.....	167,740	72,681	82,394	54,736	155,101,478	78,223,120	84,956,140	53,899,013
Michigan.....	1,483,847	1,331,064	990,568	422,005	1,162,191,060	1,220,285,575	1,029,702,801	521,781,499
New York.....	252,309	168,775	100,812	88,162	153,760,275	104,687,732	78,022,063	72,017,096
Ohio.....	396,625	274,329	263,087	138,011	222,500,908	185,825,780	190,298,496	120,898,806
Wisconsin.....	276,739	208,687	132,691	54,822	173,050,088	148,601,710	109,787,191	46,198,726
Other States.....	1,174,254	291,353	404,151	408,679	582,146,292	148,294,532	257,885,204	231,995,984
Open, roadsters and runabouts, total.....	298,401	197,880	390,062	432,152	151,108,503	116,099,471	180,845,008	221,898,652
Indiana.....	6,327	5,221	15,312	19,419	4,312,163	4,112,238	9,871,800	13,229,346
Michigan.....	67,908	73,689	73,772	105,573	48,429,341	62,592,332	57,129,521	92,073,429
New York.....	12,654	13,107	15,067	18,062	5,464,133	5,585,391	8,335,180	9,760,760
Ohio.....	32,574	24,209	31,608	35,129	15,083,029	11,488,936	14,240,215	14,080,980
Wisconsin.....	6,871	5,804	16,798	22,534	3,663,247	3,379,154	10,132,553	14,572,344
Other States.....	172,567	75,850	237,505	231,435	74,156,590	28,941,420	81,135,677	81,181,763
Open, other than roadsters and runabouts, total.....	146,444	211,278	1,065,186	1,782,992	78,293,340	113,305,562	516,206,235	962,097,097
Indiana.....	2,805	5,609	41,345	100,501	3,474,084	5,717,726	29,433,155	65,655,692
Michigan.....	31,065	52,281	212,954	477,642	28,431,756	46,045,225	159,476,828	399,322,273
New York.....	6,689	17,578	61,394	105,002	3,198,642	7,125,119	26,427,812	46,552,169
Ohio.....	14,776	23,750	108,860	232,814	6,608,752	10,462,740	48,133,763	111,967,568
Wisconsin.....	3,341	6,296	39,764	78,788	2,703,710	4,151,941	20,549,700	43,862,060
Other States.....	87,768	105,764	630,869	788,245	33,876,387	39,802,811	232,185,277	294,757,315
Other.....	587	988	2,709	587,904	813,866	2,276,017
Public conveyances (busses and taxicabs), total.....	26,100	8,968	15,295	12,878	58,361,038	27,982,000	43,690,144	24,667,251
Michigan.....	12,106	3,201	2,424	3,214	31,409,214	8,087,824	6,774,361	6,899,304
Ohio.....	2,043	862	1,156	(1)	10,643,306	3,037,353	4,993,177	(1)
Other States.....	11,951	4,915	11,715	9,664	16,308,528	16,866,883	31,922,606	17,767,947
Commercial vehicles, total.....	391,593	329,673	341,811	281,477	277,352,017	258,404,005	287,243,212	222,419,517
California.....	22,885	18,783	7,442	5,658	16,543,019	15,318,585	6,244,846	7,216,502
Illinois.....	13,626	6,342	8,464	12,735	11,489,147	9,608,321	11,544,427	10,970,421
Indiana.....	15,851	19,944	29,885	12,644	13,220,987	21,741,211	20,862,731	7,514,686
Michigan.....	82,201	90,780	125,542	67,080	71,430,121	77,754,483	110,436,329	48,455,433
New York.....	12,686	18,670	13,114	20,719	8,498,538	17,110,303	11,852,217	20,417,771
Ohio.....	33,293	43,802	38,736	43,183	37,053,737	40,396,155	50,431,447	66,010,454
Pennsylvania.....	18,345	8,005	13,387	24,460	14,823,033	12,466,894	25,929,225	23,171,485
Wisconsin.....	3,044	16,277	5,783	4,444	6,906,690	11,936,595	6,970,243	5,265,309
Other States.....	184,762	106,980	106,458	90,335	97,350,726	43,141,453	44,871,746	33,367,456
Chassis, passenger and commercial, total.....	512,219	178,487	240,790	175,273	298,847,221	95,244,145	121,516,283	101,486,215
Illinois.....	6,693	3,135	(1)	(1)	9,205,906	2,139,761	(1)	(1)
Indiana.....	9,362	(1)	2,763	(1)	13,573,801	(1)	1,954,467	(1)
Michigan.....	78,926	48,620	36,176	(1)	55,224,827	37,557,819	26,177,970	(1)
New York.....	65,619	58,253	28,825	(1)	40,494,719	20,047,285	15,873,508	(1)
Ohio.....	83,737	20,265	20,600	(1)	48,404,308	6,856,267	12,828,839	(1)
Pennsylvania.....	14,679	8,579	24,308	(1)	25,732,223	12,998,661	20,971,596	(1)
Wisconsin.....	25,929	(1)	(1)	(1)	19,004,967	(1)	(1)	(1)
Other States.....	220,975	39,635	128,219	175,273	87,206,470	15,644,352	43,700,004	101,486,215

Included in figures for "Other States" to avoid disclosing the output of individual establishments. Includes data for "Hearse and undertakers' wagons," as follows: For 1929, 2,316, valued at \$5,055,220; 1927, 2,200, \$4,471,632; 1925, 2,011, \$5,359,227; 1923, 872, \$2,557,374.

MOTOR VEHICLES

1227

TABLE 5.—PRIME MOVERS, MOTORS, GENERATORS, AND CONSUMPTION OF PURCHASED ELECTRIC ENERGY—NUMBER AND RATED CAPACITY OF PRIME MOVERS AND ELECTRIC MOTORS, 1929, 1927, 1925, 1919, AND 1914, AND OF GENERATORS, 1929, 1927, AND 1925; QUANTITY OF ELECTRIC ENERGY PURCHASED, 1929

TYPE	1929		1927		1925		1919		1914		PER CENT DISTRIBUTION OF RATED HORSEPOWER CAPACITY	
	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	1929	1919
		Horsepower		Horsepower		Horsepower		Horsepower		Horsepower		
Prime movers and electric motors driven by purchased energy, aggregate.....	71,480	713,912	63,077	725,674	40,507	509,758	14,498	282,323	4,798	104,963	100.0	100.0
Prime movers, total.....	361	253,358	362	254,180	298	168,890	215	105,293	245	49,409	35.5	37.3
Steam, total.....	352	235,168	356	253,538	286	168,450	194	104,532	188	42,731	32.9	37.0
Engines.....	208	41,851	207	51,164	185	46,288	170	45,423	(1)	(1)	5.8	18.1
Turbines.....	144	193,817	149	232,674	101	122,192	24	59,109	(1)	(1)	27.1	20.9
Internal-combustion engines.....	5	190	6	351	12	410	21	861	52	6,268	(2)	0.8
Water wheels and water turbines.....	4	18,000							5	410	2.5	
Electric motors driven by purchased energy.....	71,119	460,554	52,715	441,485	40,299	340,868	14,283	176,930	4,553	55,554	64.5	62.7
Electric motors, total.....	97,043	649,045	68,888	625,190	62,488	517,920	25,702	270,356	6,245	78,918	100.0	100.0
Driven by purchased energy.....	71,119	460,554	52,715	441,485	40,299	340,868	14,283	176,930	4,553	55,554	70.9	65.4
Driven by energy generated in establishments reporting.....	25,924	189,094	16,173	183,705	22,184	177,052	11,419	93,426	1,692	23,364	29.1	34.6
Electric generators ³	142	Kilowatts 165,234	266	Kilowatts 195,304	240	Kilowatts 115,532						
Electric energy purchased ⁴		Kilowatt-hours 622,046,730										

¹ Not called for separately on schedule.
² Less than one-tenth of 1 per cent.
³ Data for electric generators not called for on schedule prior to 1925.
⁴ This item covers consumption of purchased electric energy for all purposes—power, heat, light, etc. No data available for years prior to 1929.

TABLE 6.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1929, 1925, 1919, AND 1914, AND BY STATES, 1929

[This table presents statistics for only those States for which figures can be given without disclosing data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures. No comparable data are available for years prior to 1914.]

STATE	Average number employed during year	NUMBER EMPLOYED ON 15TH DAY OF MONTH OR NEAREST REPRESENTATIVE DAY												Per cent minimum is of maximum	
		January	February	March	April	May	June	July	August	September	October	November	December		
United States:															
1929.....	226,116	235,612	250,678	262,467	262,808	255,247	241,309	233,973	223,773	219,172	195,283	<i>161,836</i>	162,130	161,836	61.6
1925.....	197,728	167,088	170,084	184,052	200,398	202,966	198,924	199,092	197,807	211,436	220,864	215,162	204,444	204,444	75.8
1919.....	210,559	<i>174,634</i>	179,147	185,578	195,198	194,976	206,069	217,805	224,854	231,115	236,240	239,443	241,709	241,709	72.2
1914.....	79,307	70,604	83,440	84,832	85,271	81,130	74,094	72,737	79,449	80,975	80,839	74,161	75,062	75,062	85.3
California.....	5,443	4,721	5,690	6,088	5,845	5,632	5,889	5,758	5,582	5,610	5,253	4,965	<i>4,280</i>	4,280	70.3
Illinois.....	3,234	2,803	2,857	3,054	3,496	3,824	3,816	3,917	3,846	3,425	3,057	3,075	<i>1,637</i>	1,637	41.8
Indiana.....	20,573	21,469	23,530	24,839	23,461	22,343	22,388	20,881	19,649	18,705	16,792	<i>16,301</i>	16,517	16,517	65.6
Kansas.....	29	32	29	29	29	28	29	30	30	28	28	28	<i>27</i>	27	84.4
Michigan.....	108,796	113,738	125,627	127,990	128,639	122,707	112,951	109,566	109,138	110,174	94,516	75,960	<i>74,438</i>	74,438	57.9
Missouri.....	6,050	6,236	6,397	6,413	6,481	6,397	6,480	6,480	7,003	5,753	5,434	5,215	<i>4,747</i>	4,747	67.8
New Jersey.....	5,616	6,090	6,765	5,775	6,162	6,525	7,098	6,197	6,257	5,194	4,147	3,806	<i>3,449</i>	3,449	49.1
New York.....	10,603	9,440	11,650	12,148	11,929	12,179	11,866	11,366	10,510	10,055	9,233	8,283	<i>8,588</i>	8,588	68.0
Ohio.....	28,727	34,859	38,283	35,656	36,026	34,927	31,099	30,581	23,400	24,591	20,801	17,605	<i>16,914</i>	16,914	44.2
Pennsylvania.....	7,731	7,563	8,293	8,670	8,186	7,948	8,308	8,144	7,870	6,733	6,934	6,802	<i>7,325</i>	7,325	77.7
Wisconsin.....	10,241	10,756	11,255	11,680	12,212	11,621	9,896	9,014	8,445	8,958	10,875	8,995	9,186	9,186	69.2

MOTOR-VEHICLE BODIES AND MOTOR-VEHICLE PARTS

Description of the industry.—The establishments in this industry are engaged primarily in the manufacture, for sale as such (or for transfer to motor-vehicle manufacturing establishments located elsewhere but operated under the same ownership), of motor-vehicle bodies, tops, gears (transmission, differential, and steering), rims, frames, wheels, radiators, windshields, axles, bumpers, bumperettes, shock absorbers, sheet metal for automobiles (such as fenders, dust shields, hoods, or bonnets), and various other assemblies except complete chassis, and parts. The manufacture of certain other assemblies or parts, of which the most important are engines, motors for electric vehicles, tires, springs, ignition apparatus, batteries, and starting and lighting systems,¹ is not, however, in-

cluded in this industry. Where a manufacturer makes various motor-vehicle parts in his main plant and assembles them into complete vehicles at branches, the main plant, with its wage earners, is classified in the bodies-and-parts industry and the branches in the motor-vehicle industry. Similarly, if a manufacturer builds bodies in one plant and installs them on chassis in another factory, the first plant is classified in the bodies-and-parts industry and the second in the motor-vehicle industry.

Where all the parts, including the bodies, are made and assembled in the same plant, the entire plant is classified in the motor-vehicle industry proper and no separate report is made covering the manufacture of the bodies and parts.

Comparability of statistics for earlier years.—The census of manufactures for 1925 was the first at which a special schedule was used for this industry. For this reason, no comparable statistics in regard to numbers and values of individual classes or kinds of products are available for years earlier than 1925.

¹ Establishments engaged primarily in the manufacture of engines, tires, and springs, for sale as such, are classified, respectively, under "Engines, turbines, tractors, and water wheels," "Rubber tires and inner tubes," and "Springs, steel; Railway, vehicle, heavy machine, etc., not made in rolling mills"; and those making motors for electric automobiles or ignition apparatus, batteries, and starting and lighting systems for gasoline automobiles as their products of chief value are classified under "Electrical machinery, apparatus, and supplies."

TABLE 1.—SUMMARY FOR THE UNITED STATES: 1904 TO 1929

[Data for establishments with products under \$5,000 in value included for 1919 and prior years but not for 1921 and subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size. No comparable data are available for years prior to 1904]

YEAR OR PERIOD	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, containers for products, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²	Horsepower
1929	1,194	221,332	\$366,503,385	\$856,985,637	\$1,537,929,793	\$680,944,156	824,705
1927	1,213	181,489	291,290,988	641,306,562	1,151,426,365	510,119,803	551,639
1925	1,358	228,382	372,720,933	862,721,451	1,523,279,923	660,585,472	662,285
1923	2,120	173,530	253,147,054	564,107,225	1,013,112,410	449,005,185	426,088
1921	1,074	68,119	96,779,079	213,964,817	408,015,532	194,051,716	(9)
1919	2,815	132,556	178,955,502	362,027,302	692,170,192	330,143,390	250,770
1914	971	47,785	34,992,517	63,610,365	129,601,337	65,990,972	67,912
1909	478	24,427	15,813,393	33,914,290	55,378,957	31,464,677	24,909
1904	57	1,810	880,000	1,493,297	3,388,472	1,805,247	2,386
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929	-4.9	22.9	25.8	33.4	33.4	33.4	49.5
1925-1927	-10.7	-20.5	-21.8	-25.7	-24.4	-22.8	-16.7
1923-1925	-35.9	39.7	47.2	52.9	50.4	47.1	55.8
1921-1923	7.4	136.6	161.6	163.6	148.3	131.4	-----
1919-1921	-21.5	-47.9	-45.9	-40.9	-41.1	-41.2	-----
1919-1929	-54.1	67.0	104.8	136.7	122.2	106.3	221.2
1909-1919	426.2	442.7	1,053.7	1,418.9	1,149.9	919.3	950.8

¹ For 1929, manufacturers' sales (shipments or deliveries); for earlier years, production. See GENERAL EXPLANATIONS—Value of Products.
² Value of products less cost of materials, containers for products, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.
³ Not called for on schedule.

TABLE 2.—GENERAL STATISTICS, BY STATES: 1929, 1927, AND 1919

[This table presents statistics separately for each State for which figures can be given without disclosing data for individual establishments, and for the remaining States in groups. Data for establishments with products under \$5,000 in value are included for 1919 but not for subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size.]

STATE	Census year	Number of establishments	Salaried officers and employees ¹	Wage earners (average for the year)	HORSEPOWER (RATED CAPACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, CONTAINERS FOR PRODUCTS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products ²	Value added by manufacture ³
					Total	Prime movers	Motors run by purchased energy			Total	Materials and containers	Fuel and purchased energy		
United States	1929	1,154	19,041	221,332	824,705	112,508	712,197	\$57,663,412	\$366,503,385	\$856,985,637	\$37,382,024	\$19,603,613	\$1,537,929,793	\$680,944,156
	1927	1,213	18,913	181,489	551,639	77,409	474,230	49,437,407	291,290,988	641,306,562	624,695,532	16,611,030	1,151,426,365	510,119,803
	1919	2,515	18,497	132,556	250,770	54,312	202,458	34,965,340	178,955,502	362,027,302	353,299,208	8,728,094	692,170,692	330,143,390
Individual States:														
Alabama	1929	5	2	33	105	-----	105	5,500	35,012	37,397	35,871	1,526	109,009	71,612
	1927	6	7	58	276	-----	116	9,359	60,298	41,747	40,031	1,710	136,716	94,969
	1919	9	16	89	236	-----	3	16,928	84,440	92,056	82,651	10,005	262,680	170,024
Arkansas	1929	9	62	833	7,820	1,060	6,760	159,127	762,808	1,900,411	1,821,827	78,584	3,551,359	1,650,948
	1927	8	50	652	3,373	1,740	1,633	137,201	523,002	1,415,180	1,368,177	47,009	2,611,780	1,196,594
	1919	14	9	83	236	-----	236	15,429	62,262	142,590	139,678	2,918	263,654	111,058

¹ Not including proprietors and firm members. The total numbers of persons engaged and the numbers of proprietors and firm members, as reported for this industry, are as follows: For 1929, total, 241,813; proprietors and firm members, 540. For 1927, total, 200,893; proprietors and firm members, 493. For 1919, total, 153,182; proprietors and firm members, 2,129.

² For 1929, manufacturers' sales (shipments or deliveries) for earlier years, production. See GENERAL EXPLANATIONS—Value of Products.

³ Value of products less cost of materials, containers for products, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

⁴ Data for purchased power other than electric (power transmitted into the plant by belt or shaft) are included in the State items for 1919 but not in the United States totals.

MOTOR-VEHICLE BODIES AND PARTS

1929

TABLE 2.—GENERAL STATISTICS, BY STATES: 1929, 1927, AND 1919—Continued

[See note at head of this table]

STATE	Cen- sus year	Number of es- tab- lish- ments	Salar- ied officers and em- ploy- ees ¹	Wage earners (aver- age for the year)	HORSEPOWER (RATED CAPACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, CONTAINERS FOR PRODUCTS, FUEL, AND PUR- CHASED ELECTRIC ENERGY			Value of products ²	Value added by manufac- ture ³
					Total	Prime movers	Motors run by pur- chased energy			Total	Materials and con- tainers	Fuel and purchased energy		
Individual states—Con.														
California.....	1929	94	289	2,170	4,012	-----	4,012	\$832,128	\$3,350,606	\$10,585,891	\$10,488,576	\$97,315	\$16,957,054	\$6,371,163
	1927	107	331	1,799	5,710	-----	5,710	752,337	2,828,089	9,041,729	8,903,843	77,886	14,917,055	5,875,326
	1919	253	234	1,681	1,981	28	1,981	385,157	2,255,894	3,291,677	3,231,336	60,841	7,735,153	4,443,476
Colorado.....	1929	8	12	71	136	-----	136	24,837	109,051	135,585	130,146	5,439	872,542	236,957
	1927	10	25	102	226	-----	226	50,950	170,475	175,773	170,135	5,638	489,466	313,663
	1919	29	30	218	219	-----	219	43,472	276,302	241,396	332,356	9,040	819,290	477,884
Connecticut.....	1929	23	102	360	1,878	263	1,610	264,851	1,224,419	1,888,867	1,824,147	64,720	4,765,415	2,870,548
	1927	27	121	447	1,212	61	1,151	345,104	1,017,966	1,375,502	1,229,887	45,665	3,071,794	1,796,292
	1919	53	178	1,164	1,745	413	1,332	426,050	1,465,134	3,092,002	3,026,067	65,985	6,197,757	3,105,755
Delaware.....	1929	3	1	13	147	-----	147	3,000	20,849	20,779	19,635	1,124	85,892	24,613
	1927	5	3	11	51	12	39	4,731	16,691	15,804	14,835	969	64,013	48,209
	1919	98	779	5,273	19,998	332	19,666	2,297,170	8,403,554	15,294,581	14,716,679	577,911	35,340,749	20,046,168
Illinois.....	1929	113	699	3,700	12,593	467	12,126	1,905,516	5,709,233	10,282,632	9,930,806	351,826	24,222,520	13,929,598
	1927	104	1,075	5,298	8,835	933	7,902	2,208,395	6,474,090	12,922,036	12,609,961	312,075	27,874,978	14,922,942
	1919	204	1,201	13,653	51,507	4,620	46,887	3,585,771	19,199,897	45,612,382	44,106,536	1,506,846	90,128,727	44,516,345
Indiana.....	1929	69	1,188	0,222	28,877	5,244	23,633	2,757,091	13,324,132	30,782,708	29,813,969	968,739	59,171,724	28,389,017
	1927	145	2,039	15,220	25,917	7,801	18,116	3,945,848	17,372,632	40,049,202	38,397,600	1,671,542	71,717,249	31,648,047
	1919	17	104	371	997	150	847	232,394	412,804	882,525	863,259	19,266	2,010,951	1,128,426
Iowa.....	1929	22	85	371	1,617	350	1,267	190,144	421,249	808,644	783,405	25,239	2,009,535	1,200,891
	1927	37	72	460	552	160	402	140,301	469,691	816,441	796,817	19,424	1,713,008	896,547
	1919	9	9	72	157	-----	157	14,500	81,649	105,764	101,247	4,517	246,640	140,876
Louisiana.....	1929	7	22	113	146	-----	146	50,034	139,674	276,411	272,437	3,974	599,401	322,960
	1927	10	22	174	672	263	409	39,135	184,114	435,226	429,945	5,281	731,887	296,661
	1919	13	18	165	342	-----	342	32,303	251,135	219,731	212,389	7,842	607,398	387,667
Maryland.....	1929	11	26	198	552	120	432	45,477	262,085	243,132	221,324	21,808	641,430	398,298
	1927	35	57	233	422	69	353	105,094	278,635	437,723	425,208	12,515	1,034,364	596,641
	1919	46	345	3,398	4,980	30	4,950	956,997	4,884,464	7,868,362	7,606,850	201,512	15,048,736	8,060,374
Massachusetts.....	1929	52	770	3,998	5,480	175	5,314	1,221,890	5,878,405	10,072,886	9,892,621	180,265	18,719,255	8,646,369
	1927	88	418	3,541	3,281	972	2,309	859,265	4,889,699	6,711,895	6,530,637	181,258	11,258,382	7,771,487
	1919	124	7,046	105,572	320,459	61,322	259,137	23,750,560	186,927,518	429,912,995	419,811,193	10,101,802	738,406,167	308,493,172
Michigan.....	1929	17	7,338	95,435	266,903	27,111	239,882	20,755,224	158,030,985	325,936,051	316,646,320	9,289,731	568,700,760	242,724,709
	1927	203	5,766	40,448	103,425	24,828	78,597	11,790,518	75,221,256	150,362,442	147,613,334	2,949,108	288,300,858	137,744,416
	1919	19	71	447	700	-----	700	128,458	400,228	1,044,484	1,006,910	37,574	2,118,610	1,074,026
Minnesota.....	1929	43	83	405	611	-----	611	119,883	456,559	877,186	850,290	26,896	1,763,048	885,862
	1927	32	212	4,230	5,308	20	5,288	555,529	6,580,445	29,592,975	29,416,808	176,167	42,284,503	12,691,528
	1919	38	191	3,107	5,610	708	4,902	416,148	4,624,392	19,236,093	18,936,063	300,030	28,990,271	9,064,173
Missouri.....	1929	78	331	1,975	2,086	553	1,503	491,774	1,417,607	4,819,208	4,767,091	52,147	9,314,846	4,495,638
	1927	7	25	164	164	20	144	45,606	107,850	238,594	234,342	4,252	842,229	303,635
	1919	20	86	327	597	115	210	49,319	151,441	272,395	265,233	7,162	656,464	384,009
Nebraska.....	1929	3	6	37	22	-----	22	159,124	361,049	1,087,044	1,019,454	17,690	1,723,187	666,123
	1927	4	4	27	27	-----	27	3,131	7,077	6,122	5,588	584	19,103	12,981
New Hampshire.....	1929	47	654	3,086	12,221	4,447	7,774	1,421,281	5,163,279	8,251,463	7,931,601	319,862	16,759,982	7,394
	1927	49	820	4,218	12,949	5,194	7,755	1,988,712	7,189,177	12,650,878	12,294,034	342,844	26,050,567	8,508,519
	1919	110	521	3,160	5,939	4,725	1,214	838,308	4,150,935	6,402,608	6,234,843	167,765	16,119,688	13,412,689
New Jersey.....	1929	170	2,113	19,617	60,326	9,304	50,932	6,415,668	31,514,460	70,715,461	69,077,558	1,637,903	136,819,074	64,003,613
	1927	173	2,143	16,060	58,438	16,522	41,912	5,013,521	25,736,773	59,644,907	58,082,224	1,582,683	109,441,852	49,796,945
	1919	316	2,213	15,689	27,976	4,350	23,626	4,130,729	19,305,023	34,552,952	33,617,523	636,429	70,415,154	25,862,202
North Carolina.....	1929	9	36	277	805	-----	805	97,480	293,105	353,197	341,291	11,906	671,071	317,874
	1927	8	24	225	550	-----	550	69,142	248,205	264,261	256,813	7,445	698,172	433,911
	1919	7	44	82	82	-----	82	750	41,747	38,240	36,220	2,020	114,638	76,298
Ohio.....	1929	128	2,936	28,884	101,072	9,216	91,856	7,454,884	48,107,630	127,466,067	125,298,455	2,167,612	233,060,771	105,014,704
	1927	141	2,038	18,646	75,842	5,848	69,994	5,420,115	29,967,520	81,160,439	79,594,051	1,566,385	141,896,667	60,736,228
	1919	237	2,730	16,670	61,566	3,131	38,435	4,801,976	21,066,409	52,541,949	51,448,973	1,092,976	92,390,646	39,848,697
Oregon.....	1929	9	25	97	151	-----	151	56,118	101,965	267,391	261,421	5,970	621,353	293,962
	1927	8	14	57	125	-----	125	66,129	66,379	163,354	2,222	330,553	104,977	
	1919	17	2	46	93	-----	93	2,010	11,358	117,645	113,705	3,940	258,678	141,033
Pennsylvania.....	1929	52	1,270	11,678	52,042	2,358	49,684	3,511,331	17,836,074	27,618,398	26,697,552	920,846	60,827,889	33,209,871
	1927	86	1,360	8,660	30,029	2,329	27,700	3,342,975	13,176,447	20,183,870	19,624,293	559,577	47,202,113	27,018,243
	1919	177	1,375	10,274	3,575	4,374	14,374	2,321,750	13,146,068	24,707,983	24,054,793	653,190	45,829,223	20,821,240
Rhode Island.....	1929	4	15	71	260	45	215	26,510	95,278	100,327	94,986	5,341	245,897	145,570
	1927	5	14	65	238	45	193	27,592	89,901	158,387	153,907	4,480	327,256	168,809
	1919	18	29	179	280	5	275	52,867	192,727	203,859	194,396	9,463	684,605	490,746
Tennessee.....	1929	11	236	3,410	60,490	12,009	48,481	512,265	3,409,123	8,820,114	8,644,850	175,264	10,298,798	10,298,684
	1927	8	49	684	6,589	6,470	119	174,396	601,385	1,467,931	1,410,409	57,522	2,612,160	1,144,229
	1919	17	46	486	1,020	845	175	74,919	417,187	579,154	558,651	20,508	1,351,979	772,825
Texas.....	1929	16	43	218	1,243	-----	1,243	119,127	274,247	400,236	382,453	17,783	1,076,008	675,772

CENSUS OF MANUFACTURES: 1929

TABLE 3.—MOTOR-VEHICLE BODIES AND MOTOR-VEHICLE PARTS—PRODUCTION, BY CLASS, NUMBER AND VALUE, FOR THE UNITED STATES: 1929, 1927, AND 1925

(The figures given for 1929 refer to sales (shipments or deliveries) by manufacturers; those for earlier years represent production. See GENERAL EXPLANATIONS—Value of Products)

	1929	1927	1925		1929	1927	1925
1. Bodies and parts industry, all products, total value.....	\$1,537,929,793	\$1,151,426,365	\$1,523,279,923	Bodies—Continued.			
2. Bodies and parts.....	1,353,350,897	1,094,186,682	1,465,366,168	Public-conveyance—Continued.			
3. Other products (not normally belonging to the industry)...	179,578,896	57,239,683	57,913,755	Taxicab—			
4. Bodies and parts made as secondary products in other industries, value.....	35,556,657	18,953,058	117,273,031	Number.....	8,704	(?)	(?)
Bodies and parts, all industries: Aggregate value (sum of 2 and 4).....	1,393,907,554	1,113,139,740	1,482,639,199	Value.....	\$5,007,675	(?)	(?)
Bodies:				Other—			
Passenger (not including public conveyance)—				Number.....	6,412	(?)	(?)
Number.....	2,562,413	1,816,532	(?)	Value.....	\$2,193,304	\$243,845	\$368,845
Value.....	\$509,376,580	\$416,806,443	\$414,149,356	Parts:			
Closed—				Radiators (shells and cores), value.....	\$59,420,739	\$38,754,672	\$41,447,298
Coups (including convertible)—				Windshields—			
Number.....	632,479			Number.....	3,475,721	1,120,820	1,369,823
Value.....	\$100,365,987			Value.....	\$14,563,281	\$8,175,336	\$11,454,323
2-door sedans or coaches—				Gears—			
Number.....	619,542			Transmission, differential, etc., value.....	\$85,851,601	\$57,519,382	\$49,531,144
Value.....	\$95,315,577			Steering, complete units—			
4-door sedans—				Number.....	3,841,851	2,589,485	1,665,841
Number.....	1,155,844	1,746,871	(?)	Value.....	\$19,697,825	\$17,926,266	\$11,949,039
Value.....	\$273,737,273	\$406,832,616	\$371,773,187	Clutches—			
Other (landau, broughams, etc.)—				Number.....	2,323,320	(?)	(?)
Number.....	94,850			Value.....	\$8,122,599	(?)	(?)
Value.....	\$26,162,443			Axes—			
Open—				Number.....	3,599,904	3,245,673	1,956,928
Roadsters and runabouts—				Value.....	\$94,865,235	\$82,480,440	\$68,980,168
Number.....	42,284			Front—			
Value.....	\$7,940,057			Number.....	1,043,117	1,755,089	1,028,064
Other—				Value.....	\$25,170,609	\$16,853,268	\$16,551,023
Number.....	17,414	69,661	(?)	Rear, complete—			
Value.....	\$5,855,243	\$10,033,827	\$42,376,189	Number.....	1,650,787	1,490,584	928,874
Truck and commercial—				Value.....	\$69,694,566	\$64,584,255	\$62,429,145
Number.....	259,033	166,673	(?)	Other, not specified, value.....	(?)	(?)	(?)
Value.....	\$41,164,959	\$32,419,400	\$41,175,444	Rear-axle housings—			
Panel (including van)—				Number.....	1,212,289	1,227,315	775,994
Number.....	68,556			Value.....	\$4,305,251	\$5,215,524	\$3,800,026
Value.....	\$13,826,790			Axle shafts, rear—			
Platform (including stake)—				Number.....	1,016,044	771,114	739,738
Number.....	97,849			Value.....	\$2,136,003	\$1,428,018	\$1,156,641
Value.....	\$6,036,630	146,726	(?)	Wheels—			
Express (including screen)—				Number.....	19,939,569	12,874,341	18,049,555
Number.....	37,245	\$27,575,006	\$36,266,402	Value.....	\$62,194,634	\$40,985,774	\$67,450,570
Value.....	\$5,814,191			Wire and cast-metal spoke ←			
Truck, not specified by kind—				Number.....	12,628,177	1,362,891	1,228,100
Number.....	21,901			Value.....	\$38,336,136	\$10,054,595	\$10,969,577
Value.....	\$5,866,308			Disc—			
Dump—				Number.....	3,127,042	2,955,018	3,602,168
Number.....	41,611	19,181	(?)	Value.....	\$13,200,989	\$11,249,216	\$17,638,009
Value.....	\$7,766,975	\$3,769,465	\$4,072,812	Wood—			
Hears—				Number.....	4,184,350	8,556,522	13,319,287
Number.....	1,871	766	(?)	Value.....	\$10,657,509	\$19,681,963	\$38,843,284
Value.....	\$1,254,165	\$1,074,929	\$306,230	Rims—			
Public-conveyance—				Number.....	23,708,589	20,794,961	21,330,092
Number.....	17,840	5,283	(?)	Value.....	\$15,102,834	\$13,931,569	\$17,702,047
Value.....	\$16,993,022	\$6,621,641	\$13,900,499	Shock absorbers (actual number)—			
Bns—				Number.....	13,897,169	4,132,633	2,986,286
Under 21 passengers—				Value.....	\$31,000,386	\$12,619,508	\$11,747,670
Number.....	2,990	(?)	(?)	Bumpers—			
Value.....	\$1,984,457	(?)	(?)	Number.....	5,077,146	2,574,738	
21 to 32 passengers—				Value.....	\$19,421,113	\$12,977,403	2,725,273
Number.....	4,737	(?)	(?)	Bumperettes (pairs)—			
Value.....	\$6,140,344	(?)	(?)	Number.....	2,989,206	914,396	\$18,600,518
33 passengers and over—				Value.....	\$10,858,039	\$4,178,947	
Number.....	1,409	(?)	(?)	Horns—			
Value.....	\$3,260,546	(?)	(?)	Number.....	8,014,298	4,803,290	4,270,741
				Value.....	\$6,465,580	\$6,333,484	\$5,389,620
				Windshield wipers, value.....	\$8,321,572	\$4,300,287	(?)
				Sheet-metal parts for motor vehicles, such as fenders, dust shields, hoods or bonnets, etc., value.....	\$24,471,557	\$18,371,024	\$19,755,115
				Parts and accessories not reported in detail, value.....	\$353,297,771	\$330,424,347	\$606,748,640
				Products not distributed by kind, value.....	\$1,017,609	\$1,367,430	\$17,273,031

1 The values of the several classes of products which constitute this item were not separately tabulated, and therefore are not distributed among the several items.

2 Not called for on schedule.

3 No data.

4 Figures include data for the output of 3 establishments manufacturing wire wheels, to avoid disclosing their production.

MOTOR-VEHICLE BODIES AND PARTS

1231

TABLE 4.—PRIME MOVERS, MOTORS, GENERATORS, AND CONSUMPTION OF PURCHASED ELECTRIC ENERGY—NUMBER AND RATED CAPACITY OF PRIME MOVERS AND ELECTRIC MOTORS, 1929, 1927, 1925, 1919, AND 1914, AND OF GENERATORS, 1929, 1927, AND 1925; QUANTITY OF ELECTRIC ENERGY PURCHASED, 1929

TYPE	1929		1927		1925		1919		1914		PER CENT DISTRIBUTION OF RATED HORSEPOWER CAPACITY	
	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	1929	1919
Prime movers and electric motors driven by purchased energy, aggregate	89,925	Horse-power 824,705	67,834	Horse-power 551,639	64,714	Horse-power 662,255	22,269	Horse-power 256,770	4,516	Horse-power 67,912	160.0	100.0
Prime movers, total	307	112,508	217	77,409	257	194,467	496	54,312	224	21,310	13.6	21.1
Steam, total	283	100,012	192	67,713	225	192,847	302	41,680	129	17,502	12.1	16.2
Engines	166	30,388	138	39,137	183	73,516	276	32,920	(1)	(1)	3.7	12.8
Turbines	117	69,674	54	28,576	42	119,331	26	8,760	(1)	(1)	8.4	3.4
Internal-combustion engines	15	1,457	10	1,326	24	1,125	179	12,066	94	3,807	0.2	4.7
Water wheels and water turbines	9	11,039	9	8,370	8	495	15	566	1	1	1.3	0.2
Electric motors driven by purchased energy	89,618	712,197	67,617	474,230	64,457	467,788	21,773	202,458	4,292	46,602	86.4	78.9
Electric motors, total	101,505	816,430	77,040	559,575	101,432	649,283	23,420	220,204	4,973	56,900	100.0	100.0
Driven by purchased energy	89,618	712,197	67,617	474,230	64,457	467,788	21,773	202,458	4,292	46,602	87.2	91.9
Driven by energy generated in establishments reporting	11,947	104,233	9,423	85,345	36,975	181,495	1,647	17,746	681	10,298	12.8	8.1
Electric generators ¹	106	Kilowatts 59,693	128	Kilowatts 52,727	188	Kilowatts 130,080						
Electric energy purchased ²		Kilowatt-hours 731,557,832										

¹ Not called for separately on schedule.

² Data for electric generators not called for on schedule prior to 1925.

³ This item covers consumption of purchased electric energy for all purposes—power, heat, light, etc. No data available for years prior to 1929.

TABLE 5.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1929, 1925, 1919, AND 1914, AND BY STATES, 1929

[This table presents statistics for only those States for which figures can be given without disclosing data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by italic figures. No comparable data are available for years prior to 1914.]

STATE	Average number employed during year	NUMBER EMPLOYED ON 15TH DAY OF MONTH OR NEAREST REPRESENTATIVE DAY												Per cent minimum is of maximum		
		January	February	March	April	May	June	July	August	September	October	November	December			
United States:																
1929	221,332	222,623	239,677	251,602	254,661	254,327	236,684	235,215	230,085	224,757	195,473	152,111	158,783	158,783	79.8	
1925	228,382	180,552	196,151	208,680	224,970	235,470	236,991	227,727	230,718	246,847	254,688	254,688	242,695	74.4		
1919	132,556	108,867	110,025	115,005	119,577	122,523	125,788	133,941	140,420	147,169	153,034	158,998	167,325	69.2		
1914	47,785	47,280	47,702	50,941	52,893	51,511	48,612	46,811	46,243	46,560	47,270	45,829	43,988	83.2		
Alabama	33	34	34	34	29	29	31	38	41	30	31	31	31	70.7		
Arkansas	833	863	925	1,045	1,153	1,187	1,032	683	958	1,000	633	302	229	19.6		
California	2,170	2,150	2,259	2,349	2,317	2,199	2,074	2,195	2,263	2,202	2,114	1,975	1,939	82.5		
Colorado	71	53	61	70	78	70	81	87	80	76	70	64	50	54.9		
Connecticut	866	956	963	1,000	997	880	817	747	760	823	894	843	744	74.4		
Delaware	13	13	13	13	13	14	12	14	14	13	13	12	12	85.7		
Illinois	5,273	5,031	5,497	5,677	5,951	6,048	5,949	5,972	5,446	5,100	4,689	4,002	3,927	64.9		
Indiana	13,653	12,540	13,904	16,215	15,925	16,132	14,860	14,162	13,226	13,749	12,648	10,394	10,077	62.1		
Iowa	371	378	322	431	433	416	402	419	424	385	341	304	298	64.2		
Kansas	72	70	71	71	71	71	71	72	72	73	72	72	73	95.9		
Louisiana	165	176	169	162	165	167	170	170	160	160	160	161	160	90.9		
Massachusetts	3,393	3,071	4,129	4,295	4,567	4,217	3,102	3,598	3,555	2,810	2,200	2,326	2,814	49.5		
Michigan	105,572	108,189	112,857	118,604	120,208	122,771	114,034	114,977	115,488	111,012	93,635	64,785	70,306	52.8		
Minnesota	447	435	425	443	452	403	452	463	513	446	415	396	384	66.6		
Missouri	4,220	3,208	4,493	4,648	4,252	4,103	4,362	4,384	4,312	4,169	4,067	3,945	3,906	84.1		
Nebraska	89	82	85	76	74	85	85	82	109	114	111	106	66	50.9		
New Hampshire	6	6	6	6	6	6	6	6	6	6	6	6	6	83.3		
New Jersey	3,086	2,938	3,070	3,211	3,190	3,074	3,058	2,991	3,050	3,019	3,233	3,269	3,269	89.8		
New York	19,617	20,751	22,001	22,238	22,614	22,558	21,472	20,207	18,916	18,811	16,698	14,831	14,817	63.3		
North Carolina	277	232	272	261	260	261	259	302	380	359	289	220	216	56.8		
Ohio	28,884	29,012	32,770	33,788	37,537	33,110	30,911	30,287	29,179	27,849	25,682	19,275	21,205	57.1		
Oregon	97	82	88	80	96	97	98	98	101	101	106	101	97	78.9		
Pennsylvania	11,678	11,283	13,333	14,664	15,613	13,564	11,974	11,461	10,195	10,649	9,729	8,633	9,042	55.3		
Rhode Island	71	64	65	65	75	67	77	70	63	75	83	74	77	75.9		
Tennessee	3,410	2,866	2,916	3,083	3,234	3,593	4,292	4,698	4,547	4,665	1,556	2,536	3,048	76.9		
Texas	218	203	221	215	222	222	222	219	230	254	228	193	160	74.8		
Virginia	111	115	113	114	117	112	111	110	113	108	110	110	104	88.9		
Washington	229	179	171	219	232	230	234	238	239	220	242	257	289	59.2		
Wisconsin	13,344	13,952	14,661	14,770	15,082	14,723	12,666	13,166	12,497	13,349	14,005	11,161	10,170	67.6		

SHIP AND BOAT BUILDING

Description of the industry.—The statistics for this industry cover privately owned establishments engaged primarily in the construction or the repair of water craft of any kind. Since 1919 no data have been collected from shipyards operated by the Federal Government, and no data relating to such shipyards, for any year, are included in this report.

As generally used in this report, the term "ship" or "vessel" refers to craft of 5 gross tons measurement or over, while craft under 5 tons are designated as "boats." (See "Tonnage, gross, net, and displacement," below.)

Value of products.—The "value of products" for this industry, shown in Tables 1, 2, and 3, so far as it represents new construction, is limited to the value of work done during the year, and therefore does not include the total value of completed vessels except those on which construction was begun and finished within the year. This total includes also the values of certain products other than water craft. (See Table 3, item 3, "Other products.")

Tonnage, gross, net, and displacement.—The term "gross tonnage" is applied to the total internal

capacity of a vessel expressed in tons of 100 cubic feet. "Net tonnage" refers to the internal cubic capacity remaining after deductions have been made from gross tonnage for space occupied by boilers, machinery, and coal bunkers or oil tanks, for quarters of officers and crew, and for other purposes directly or indirectly connected with the operation of the vessel. In other words, the net tonnage represents that portion of the vessel which is available for passengers and cargo. "Displacement tonnage" refers to the weight of the volume of water displaced, which, of course, is the same as the weight of the vessel itself. It is calculated on the basis of 35 cubic feet (approximately the volume of a long ton of sea water) to the ton. Naval vessels, and in a few cases other vessels built for the Federal Government, have been reported in displacement tonnage; and since in most cases it is impracticable to reduce such tonnage to gross tonnage, it has been necessary to combine displacement tonnage and gross tonnage in the totals for the United States (see footnote 1, Table 3), although there is a considerable difference between the two units of measure.

TABLE 1.—SUMMARY FOR THE UNITED STATES: 1899 TO 1929

[Data for establishments with products under \$5,000 in value included for 1919 and prior years but not for 1921 and subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

YEAR OR PERIOD	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²	Horsepower
1929	621	55,089	\$88,274,153	\$85,848,690	\$231,300,165	\$145,451,475	337,455
1927	559	55,014	87,081,444	78,626,391	211,127,087	132,500,676	314,474
1925	565	50,221	74,276,019	66,298,964	177,181,960	110,882,906	303,470
1923	507	62,287	90,719,525	84,557,675	213,232,382	128,674,707	317,712
1921	640	106,445	155,943,490	169,308,425	400,834,105	231,465,680	(3)
1919	1,073	387,446	597,446,648	710,522,676	1,622,361,261	911,838,585	553,271
1914	1,147	44,489	32,651,156	38,596,979	88,682,071	50,085,101	115,114
1909	1,353	40,506	25,267,656	31,214,358	73,300,815	42,146,957	88,038
1904	1,097	59,754	29,241,087	37,463,179	82,769,239	45,306,069	77,896
1899	1,107	46,747	24,524,738	33,474,806	74,532,277	41,057,351	61,494
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929	11.6	0.1	1.4	9.2	9.6	9.8	7.3
1925-1927	-1.1	9.5	17.2	18.6	19.2	19.5	3.0
1923-1925	-4	-19.4	-18.1	-21.6	-16.9	-13.8	-4.5
1921-1923	-11.4	-41.5	-41.8	-50.1	-46.8	-44.4	-----
1919-1921	-40.5	-72.5	-73.9	-76.2	-75.3	-74.6	-----
1919-1929	-42.0	-85.8	-85.2	-87.9	-85.7	-84.0	-39.0
1909-1919	-20.5	856.5	2,264.5	2,176.3	2,111.5	2,063.5	628.5
1899-1909	22.2	-13.4	1.8	-6.8	-1.6	2.7	43.2

¹ See "Value of Products," above.

² Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

³ Not called for on schedule.

SHIP AND BOAT BUILDING

1233

TABLE 2.—GENERAL STATISTICS, BY STATES: 1929, 1927, AND 1919

(This table presents statistics separately for each State for which figures can be given without disclosing data for individual establishments, and for the remaining States in groups. Data for establishments with products under \$5,000 in value are included for 1919 but not for subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size)

STATE	Cen- sus year	Number of es- tab- lish- ments	Sala- ried officers and em- ploy- ees ¹	Wage earn- ers (aver- age for the year)	HORSEPOWER (RATED CA- PACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products ²	Value added by manufac- ture ³
					Total	Prime movers	Motors run by pur- chased energy			Total	Materials	Fuel and purchased energy		
United States	1929	624	5,935	55,089	337,455	54,427	283,028	\$15,717,446	\$88,274,153	\$85,848,690	\$81,744,283	\$4,104,407	\$231,300,165	\$145,451,475
	1927	559	5,430	55,014	314,474	55,203	259,271	14,606,996	87,081,444	78,626,391	74,437,514	4,188,877	211,127,067	132,600,676
	1919	1,075	24,974	387,446	553,271	128,290	424,981	65,114,494	597,446,648	710,522,676	694,918,584	15,604,062	1,622,361,261	911,838,585
Individual States:														
California	1929	60	421	4,178	51,163	684	50,479	762,474	7,805,457	8,015,880	7,681,388	334,492	20,665,345	12,640,465
	1927	52	489	4,771	50,008	594	49,414	1,319,642	8,185,087	8,148,077	7,823,026	325,051	21,339,762	13,191,085
	1919	67	2,126	47,530	64,631	2,119	62,512	5,891,742	66,882,450	70,628,699	75,161,514	1,467,185	185,882,234	109,253,535
Connecticut	1929	25	93	846	2,280	1,231	1,055	361,250	1,354,599	1,294,188	1,209,332	84,856	3,652,982	2,358,794
	1927	19	70	578	2,485	1,594	891	173,166	912,580	865,024	838,550	26,474	2,455,472	1,590,448
Delaware	1929	9	158	1,239	5,187	145	5,042	416,403	1,543,908	3,024,371	2,935,896	88,475	6,908,910	3,884,539
Florida	1929	30	107	740	5,047	1,439	4,208	276,409	933,494	962,184	932,181	30,003	2,916,848	1,954,664
	1927	18	87	595	4,217	1,690	2,527	230,422	749,401	507,956	487,091	20,865	1,854,036	1,245,080
	1919	78	606	11,199	14,097	5,564	8,533	1,417,345	15,441,962	13,917,147	13,597,796	319,351	32,632,379	18,745,232
Illinois	1929	12	27	302	3,836	1,202	2,634	62,284	508,089	405,449	378,345	27,104	1,264,995	879,546
	1927	11	23	312	3,737	1,184	2,553	45,841	538,156	388,137	358,308	29,769	1,270,942	882,805
Indiana	1929	7	30	191	633	368	265	60,697	254,166	351,855	341,111	10,744	673,293	321,438
	1927	6	28	211	653	338	315	44,780	210,829	261,408	254,587	6,821	574,439	313,031
Kentucky	1929	3	12	110	585	505	80	25,720	118,556	252,310	245,935	6,375	406,159	153,849
	1927	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)
	1919	7	4	185	340	305	35	10,284	200,525	52,844	50,863	1,981	330,242	277,398
Louisiana	1929	12	131	1,277	7,024	2,315	4,709	374,338	2,107,085	1,147,716	1,019,929	127,790	4,176,111	3,028,395
	1927	11	118	895	4,333	1,475	2,858	342,701	1,488,749	764,551	689,687	74,894	3,359,099	2,591,548
	1919	22	444	5,346	8,558	4,523	4,035	955,245	7,186,985	6,995,798	6,756,550	239,248	17,597,898	10,602,070
Maine	1929	24	83	1,134	3,635	859	2,779	194,205	1,362,209	2,433,727	2,380,400	53,327	4,421,069	1,987,342
	1927	21	45	843	3,931	702	3,229	96,172	422,941	524,663	501,915	22,748	1,307,110	782,447
	1919	82	480	7,000	8,396	1,013	7,383	1,225,137	9,800,023	9,842,840	9,577,399	265,441	24,632,253	14,839,413
Maryland	1929	24	181	2,312	12,692	63	12,629	479,710	3,381,397	2,710,758	2,548,511	162,247	8,310,589	5,699,589
	1927	26	168	1,541	9,631	506	9,125	437,800	2,136,637	1,560,911	1,437,668	123,245	5,203,535	3,732,624
	1919	42	1,071	10,884	26,539	924	25,615	2,788,944	28,887,100	31,000,254	30,176,216	824,038	67,309,914	36,800,660
Massachusetts	1929	40	507	3,635	17,478	1,777	15,701	1,219,612	6,499,543	5,583,995	5,300,567	283,428	15,449,438	10,865,443
	1927	38	414	4,185	16,725	2,625	14,100	893,101	6,478,876	4,402,476	4,119,876	282,600	14,151,632	9,749,165
Michigan	1929	30	226	1,803	6,534	2,293	4,241	691,037	3,019,225	4,661,103	4,519,109	141,994	10,924,105	6,263,002
	1927	18	182	1,286	5,679	2,424	3,155	546,887	2,280,855	2,854,794	2,738,448	116,346	6,853,786	3,968,992
	1919	33	1,115	16,541	31,153	4,801	26,352	1,782,472	28,921,220	36,120,248	35,438,363	681,855	85,154,702	49,034,454
Minnesota	1929	11	10	110	372	67	305	20,600	161,939	108,391	99,251	9,130	349,452	241,061
	1927	10	8	124	551	215	336	17,488	219,139	212,977	202,381	10,596	578,101	365,124
Mississippi	1920	5	1	18	63	51	12	2,000	20,242	11,101	10,559	542	44,046	32,945
New Jersey	1929	41	897	7,551	40,601	15,123	25,478	2,500,653	12,383,750	9,405,621	8,920,562	485,059	29,620,600	20,214,679
	1927	47	968	8,655	42,321	15,381	26,940	3,158,701	14,085,230	14,181,074	13,576,703	604,371	34,249,127	20,068,053
	1919	93	3,180	52,397	52,712	25,871	26,841	7,949,777	79,962,957	125,553,264	123,495,024	2,058,240	238,016,959	112,461,393
New York	1929	98	1,095	10,811	66,484	3,801	62,683	3,133,542	19,532,507	13,807,929	12,997,691	810,235	46,480,225	32,672,299
	1927	88	1,034	10,396	58,360	5,019	48,341	2,857,764	18,772,283	12,121,542	11,357,690	763,852	41,308,798	29,187,250
	1919	161	2,279	33,295	52,767	13,702	39,065	5,664,170	53,061,323	41,554,836	40,119,782	1,435,054	132,012,124	90,457,288
Ohio	1929	21	146	2,105	17,243	9,103	8,140	400,775	3,185,929	3,694,315	3,469,256	225,059	8,855,070	5,190,745
	1927	16	128	2,628	16,826	9,054	7,772	369,312	4,074,897	3,117,252	2,831,698	285,554	8,953,253	5,841,001
	1919	28	408	11,412	14,219	6,724	7,495	1,426,114	19,608,178	23,901,652	23,169,106	732,546	57,482,599	33,690,947
Oregon	1929	13	29	293	2,340	590	1,750	70,014	467,337	385,979	373,515	12,455	797,758	411,788
	1927	11	17	135	941	204	737	20,805	232,304	249,086	241,646	7,440	587,520	338,434
Pennsylvania	1929	17	414	3,356	27,925	2,875	25,050	899,606	5,287,492	5,409,178	5,058,185	351,040	13,487,898	8,078,723
	1927	21	414	5,854	35,684	1,473	34,211	1,146,842	8,121,893	9,154,320	8,068,730	485,590	19,537,964	10,383,644
Rhode Island	1929	9	97	577	1,240	577	663	180,471	681,618	2,546,435	2,519,661	26,774	3,780,976	1,234,541
	1927	9	86	600	1,119	582	537	166,924	859,755	1,304,265	1,273,111	31,154	2,492,925	1,188,660
Texas	1929	9	49	579	3,293	160	3,133	145,298	886,213	610,767	568,132	42,635	2,308,035	1,697,268
	1927	8	51	677	2,791	61	2,730	109,097	1,028,302	781,043	728,548	52,495	2,408,125	1,627,082
Virginia	1929	22	777	6,760	34,913	4,382	30,531	2,170,771	9,290,429	11,182,123	10,734,737	447,386	25,292,845	14,110,722
	1927	25	999	6,194	34,299	3,991	30,308	1,583,650	8,229,298	8,631,911	8,031,911	613,221	21,513,738	12,365,576
Washington	1929	53	129	1,464	7,950	787	7,163	335,574	2,401,509	2,010,017	1,942,402	67,615	5,474,762	3,464,745
	1927	49	98	1,498	6,893	1,101	5,792	223,839	2,452,229	2,185,641	2,111,572	74,069	5,757,189	3,571,548
	1919	70	1,792	34,576	50,696	3,980	46,716	5,408,591	56,053,323	74,045,217	72,976,049	1,070,168	166,519,787	92,473,570
Wisconsin	1929	19	157	1,297	7,846	2,581	5,265	490,251	1,881,133	3,335,324	3,217,475	117,849	6,617,795	3,282,471
	1927	17	115	1,272	6,679	2,417	4,262	348,919	1,861,676	1,968,899	1,836,712	132,187	5,113,107	3,144,208
	1919	35	564	7,855	10,591	3,861	6,730	1,486,095	12,400,575	20,366,723	19,390,210	376,513	44,163,746	23,797,023

See footnotes at end of table.

CENSUS OF MANUFACTURES: 1929

TABLE 2.—GENERAL STATISTICS, BY STATES: 1929, 1927, AND 1919—Continued

[See note at head of this table]

STATE	Cen- sus year	Num- ber of es- tab- lish- ments	Sala- ried officers and em- ploy- ees ¹	Wage earn- ers (aver- age for the year)	HORSEPOWER (RATED CA- PACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products ²	Value added by manufac- ture ³
					Total	Prime movers	Motors run by pur- chased energy			Total	Materials	Fuel and purchased energy		
Groups of States: Ala., 8 est.; Ga., 3; S. C., 1-----	1929	12	89	1,929	7,622	495	7,327	\$254,117	\$2,472,515	\$1,537,195	\$1,415,631	\$121,604	\$5,264,706	\$3,727,511
D. C., 1 est.; N. C., 2; Tenn., 2; Vt., 1; W. Va., 6--	1929	12	62	384	2,389	908	1,481	169,749	447,174	805,633	775,494	30,139	1,751,492	945,859
Idaho, 1 est.; Iowa, 3; Mo., 2-----	1929	6	7	88	321	40	275	19,916	116,664	155,161	149,171	5,900	384,913	229,752
States not shown separately-----	1927	6 33	238	2,964	11,741	2,573	9,168	560,637	3,740,508	3,924,133	3,724,568	199,565	10,165,407	6,241,274
	1919	7 356	10,911	141,026	219,012	54,903	164,109	29,208,578	218,939,927	250,542,154	244,409,682	6,132,472	570,548,754	320,006,600

¹ Not including proprietors and firm members, as follows: For 1929, 345; 1927, 337; 1919, 816. The total numbers of persons engaged—proprietors and firm members, salaried officers and employees, and wage earners—as reported for the industry, are as follows: For 1929, 61,309; 1927, 60,831; 1919, 413,236.

² See "Value of Products," p. 1232.

³ Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

⁴ Data for purchased power other than electric (power transmitted into the plant by belt or shaft) are included in the State items for 1919 but not in the United States totals.

⁵ Withheld from publication in order to avoid disclosing data for individual establishments.

⁶ Alabama, 8 establishments; Delaware, 6; Georgia, 4; Idaho, 1; Iowa, 1; Kentucky, 3; Mississippi, 2; Missouri, 3; North Carolina, 2; South Carolina, 1; Tennessee, 1; Vermont, 1; West Virginia, 5.

⁷ Alabama, 8 establishments; Connecticut, 38; Delaware, 6; District of Columbia, 2; Georgia, 10; Idaho, 2; Illinois, 11; Indiana, 7; Iowa, 8; Massachusetts, 59; Minnesota, 22; Mississippi, 10; Missouri, 4; Montana, 1; New Hampshire, 2; North Carolina, 18; Oregon, 33; Pennsylvania, 28; Rhode Island, 16; South Carolina, 3; South Dakota, 1; Tennessee, 3; Texas, 22; Vermont, 1; Virginia, 35; West Virginia, 8.

SHIP AND BOAT BUILDING

1235

TABLE 3.—VESSELS LAUNCHED, DISTRIBUTED ACCORDING TO MATERIAL (STEEL AND WOODEN) AND KIND OF POWER, BY NUMBER AND BY GROSS AND NET TONNAGE; AND VALUE OF WORK DONE, FOR THE UNITED STATES: 1929, 1927, AND 1925

MATERIAL AND KIND OF POWER	Census year	Number of vessels launched	TONNAGE		Value of products (principally value of work done during year) ¹	MATERIAL AND KIND OF POWER	Census year	Number of vessels launched	TONNAGE		Value of products (principally value of work done during year) ²
			Gross ¹	Net					Gross ¹	Net	
1. Ship and boat building industry, all products, total value.	1929				\$231,300,165	Ship and boat building and repair work, all industries—Continued. Ship and boat building—Con. Vessels of 5 gross tons and over—Continued. Wooden—Continued. Unrigged, total.					
	1927				211,127,067		1929	356	107,651	92,896	\$3,375,020
	1925				177,181,960		1927	282	114,681	108,413	2,950,155
2. Ship and boat building, repair work, work done on vessels under construction, and miscellaneous products belonging to the industry, value.	1929				223,308,025	1925	362	93,798	89,704	3,151,622	
	1927				193,028,517						
	1925				163,163,685						
3. Other products (not normally belonging to the industry), value.	1929				7,092,140	Barges, including sloop and schooner barges	1929	90	17,918	15,870	514,563
	1927				18,098,650		1927	114	45,560	40,400	1,030,612
	1925				14,028,265		1925	134	40,381	38,578	1,343,911
4. Ship and boat building and repair work, secondary activities of other industries, value.	1929				1,876,229	Canal boats	1929	42	38,065	30,496	606,604
	1927				577,311		1927	12	6,040	6,040	150,250
	1925				390,343		1925	15	4,459	4,207	150,600
Ship and boat building and repair work, all industries: Aggregate value (sum of 2 and 4).	1929				225,184,254	Lighters, scows, pile drivers, etc.	1929	224	51,668	46,530	2,253,853
	1927				193,605,823		1927	156	63,051	61,973	1,769,293
	1925				163,544,038		1925	213	48,928	46,919	1,657,111
Ship and boat building, total value.	1929				83,398,744	Boats under 5 gross tons—					
	1927				57,327,572	Motor, total	1929	14,930			11,397,119
	1925				52,311,761	Inboard	1929	2,600			8,147,501
Vessels of 5 gross tons and over, total.	1929	1,553	420,293	292,253	68,953,802	Outboard	1929	12,330			3,249,618
	1927	1,347	443,851	330,760	48,436,473	Motor	1927	2,466			6,272,631
	1925	1,237	352,409	257,989	46,137,197		1925	1,369			4,282,077
Steel, total	1929	475	289,050	182,679	53,417,638	Sailboats	1929	768			531,528
	1927	587	308,941	208,471	37,337,463		1927	799			513,456
	1925	369	242,027	157,086	35,929,130		1925	743			426,901
Steam	1929	43	145,547	51,137	36,104,864	Rowboats	1929	6,531			399,919
	1927	34	130,059	60,568	29,378,964		1927	12,868			1,074,127
	1925	47	167,733	93,757	27,589,433		1925	10,940			816,774
Motor	1929	64	21,554	12,263	9,524,472	Lifeboats, total	1929	790			417,185
	1927	69	50,728	30,635	6,105,916	Motor-propelled	1929	30			36,108
	1925	31	6,730	3,632	2,408,636	Hand-propelled	1929	760			381,077
Sail with auxiliary power.	1929	0	116	105	47,000	Lifeboats	1927	433			160,881
	1927	3	156	107	120,921		1925	(⁴)			(⁴)
	1925	4	1,871	1,629	181,500	Canoes	1929	4,683			341,092
Sail without auxiliary power.	1929	3	180	135	45,000		1927	5,900			453,453
	1927	2	17	15	15,700		1925	6,568			477,906
Unrigged, total	1929	356	121,653	119,039	7,096,302	Other	1929	1,740			271,221
	1927	470	127,981	111,146	10,706,062		1927	338			107,442
	1925	287	65,693	58,068	5,749,561		1925	(⁵)			170,906
Barges, including schooner barges.	1929	315	107,260	105,314	6,106,767	Ships and boats not distributable by material and kind of power.	1929	(⁶)			1,086,878
	1927	388	94,371	82,831	6,698,741		1927	(⁶)			309,109
	1925	231	48,222	43,263	3,699,878	Value of work done on vessels under construction but not yet launched—					
Canal boats	1929					Steel	1929				18,061,390
	1927	8	2,714	2,714	203,784		1927				27,814,551
	1925	2	859	800	101,074	Wooden	1929				3,423,379
Lighters, scows, pile drivers, etc.	1929	41	14,393	13,725	1,589,535		1927				3,789,913
	1927	83	30,896	25,601	3,804,467		1925				1,840,264
	1925	54	16,612	14,005	1,948,669	Amount received for repair work—					
Wooden, total	1929	1,078	131,183	109,574	15,536,164	Steel	1929				80,437,032
	1927	760	134,710	122,289	11,099,010		1927				73,425,780
	1925	868	110,382	100,903	10,208,067	Wooden	1929				61,500,748
Steam	1929	9	790	577	137,250		1927				34,291,205
	1927	76	1,881	1,436	680,398		1925				28,038,406
	1925	22	2,124	1,754	395,439	Other products and receipts, value. ³	1929				5,572,504
Motor	1929	626	18,784	13,329	10,712,880		1927				3,208,607
	1927	356	16,481	11,290	6,568,623		1925				3,434,443
	1925	344	11,511	7,329	6,690,231						
Sail, with auxiliary power	1929	73	3,373	2,254	1,137,324						
	1927	41	1,501	1,022	797,506						
	1925	133	2,666	1,902	916,362						
Sail, without auxiliary power	1929	14	585	518	173,690						
	1927	5	166	128	162,328						
	1925	7	283	214	54,413						

¹ Includes 65,046 tons for 1929, 41,174 tons for 1927, and 41,356 tons for 1925, reported as "displacement tonnage." (See "Tonnage, gross, net, and displacement," p. 1232.)

² See "Value of Products," p. 1232.

³ No data.

⁴ Value of lifeboats not reported separately; included in "Other."

⁵ Includes value of lifeboats. (See footnote 4.)

⁶ Data incomplete.

⁷ Includes amounts received for repair work by establishments other than those classified in the ship and boat building industry.

⁸ Carbon-black plants, hydraulic turbines, mining machinery, structural iron, paper-mill and other mill equipment, receipts for dry-docking, etc.

SHIP AND BOAT BUILDING

1237

TABLE 6.—STEAM VESSELS LAUNCHED (5 GROSS TONS AND OVER), BY NUMBER AND BY GROSS AND NET TONNAGE, FOR THE UNITED STATES, 1923 TO 1929, AND BY STATES, 1929

STATE	Number	TONNAGE		STATE	Number	TONNAGE		STATE	Number	TONNAGE	
		Gross	Net			Gross	Net			Gross	Net
United States:				<i>States: 1929—Continued</i>				<i>States: 1929—Continued</i>			
1929.....	52	146,337	51,714	Illinois.....	1	95	95	New York.....	7	3,769	2,561
1927.....	110	131,940	68,004	Indiana.....	3	303	262	Ohio.....	7	16,537	12,575
1925.....	69	169,857	95,511	Iowa.....	1	200	125	Oregon.....	1	59	67
1923.....	73	210,406	130,269	Maine.....	1	65	49	Pennsylvania.....	5	418,064	201,818
<i>States: 1929</i>				Maryland.....	1	248	99	Virginia.....	2	430,526	12,018
California.....	3	1,053	2,284	Massachusetts.....	4	20,801	6,436	Washington.....	4	800	529
Florida.....	1	500	375	Michigan.....	1	7,945	6,337	West Virginia.....	3	906	651
				New Jersey.....	5	32,682	5,730	Wisconsin.....	2	6,654	1,524

¹ Includes 2,000 tons reported as displacement tonnage.
² Includes 10,000 tons reported as displacement tonnage.
³ Includes 23,142 tons reported as displacement tonnage.
⁴ Displacement tonnage.
⁵ Includes 10,000 tons reported as displacement tonnage.
⁶ Includes 160 tons reported as displacement tonnage.

TABLE 7.—MOTOR VESSELS LAUNCHED (5 GROSS TONS AND OVER), BY NUMBER AND BY GROSS AND NET TONNAGE, FOR THE UNITED STATES, 1923 TO 1929, AND BY STATES, 1929

STATE	Number	TONNAGE		STATE	Number	TONNAGE		STATE	Number	TONNAGE	
		Gross	Net			Gross	Net			Gross	Net
United States:				<i>States: 1929—Continued</i>				<i>States: 1929—Continued</i>			
1929.....	660	40,338	25,592	Illinois.....	6	230	201	New York.....	76	4,707	3,409
1927.....	425	67,209	41,025	Indiana.....	2	75	61	Ohio.....	127	1,085	1,600
1925.....	375	18,241	10,961	Iowa.....	2	100	75	Oregon.....	7	458	296
1923.....	199	22,389	11,176	Louisiana.....	11	63	73	Pennsylvania.....	11	429	335
<i>States: 1929</i>				Maine.....	14	2,545	1,263	Rhode Island.....	4	443	272
California.....	58	4,171	2,659	Maryland.....	13	635	421	South Carolina.....	2	1,200	2
Connecticut.....	15	1,471	1,030	Massachusetts.....	40	5,011	3,201	Texas.....	1	35	25
Delaware.....	126	7,336	4,083	Michigan.....	10	1,126	712	Virginia.....	4	80	50
District of Columbia.....	2	11	6	Mississippi.....	2	10	6	Washington.....	99	4,105	2,800
Florida.....	11	404	303	Missouri.....	11	350	210	West Virginia.....	3	108	20
				New Jersey.....	15	1,312	971	Wisconsin.....	18	1,839	1,420

¹ Displacement tonnage.

TABLE 8.—SAIL VESSELS WITH AUXILIARY POWER LAUNCHED (5 GROSS TONS AND OVER), BY NUMBER AND BY GROSS AND NET TONNAGE, FOR THE UNITED STATES, 1923 TO 1929, AND BY STATES, 1929

STATE	Number	TONNAGE		STATE	Number	TONNAGE		STATE	Number	TONNAGE	
		Gross	Net			Gross	Net			Gross	Net
United States:				<i>States: 1929—Continued</i>				<i>States: 1929—Continued</i>			
1929.....	82	3,480	2,350	Florida.....	2	116	102	Washington.....	4	161	127
1927.....	44	1,657	1,129	Maine.....	30	1,168	725	Wisconsin.....	1	20	15
1925.....	137	4,637	3,531	Massachusetts.....	22	1,470	971				
1923.....	42	1,612	942	Mississippi.....	1	35	22				
<i>States: 1929</i>				New Jersey.....	6	236	175				
California.....	9	146	120	New York.....	2	35	30				
Connecticut.....	2	27	22	Rhode Island.....	2	40	25				
				Virginia.....	1	35	25				

TABLE 9.—SAIL VESSELS WITHOUT AUXILIARY POWER LAUNCHED (5 GROSS TONS AND OVER), BY NUMBER AND BY GROSS AND NET TONNAGE, FOR THE UNITED STATES, 1923 TO 1929, AND BY STATES, 1929

STATE	Number	TONNAGE		STATE	Number	TONNAGE		STATE	Number	TONNAGE	
		Gross	Net			Gross	Net			Gross	Net
United States:				<i>States: 1929</i>				<i>States: 1929—Continued</i>			
1929.....	17	765	653	Maryland.....	1	14	14	New York.....	7	79	79
1927.....	7	183	143	Massachusetts.....	2	376	336	Rhode Island.....	1	89	24
1925.....	7	283	214	Mississippi.....	1	17	13	Wisconsin.....	1	7	5
1923.....	5	485	310	New Jersey.....	4	233	158				

CENSUS OF MANUFACTURES: 1929

TABLE 10.—UNRIGGED VESSELS LAUNCHED (5 GROSS TONS AND OVER), BY NUMBER AND BY GROSS AND NET TONNAGE, FOR THE UNITED STATES, 1923 TO 1929, AND BY STATES, 1929

STATE	Number	TONNAGE		STATE	Number	TONNAGE		STATE	Number	TONNAGE	
		Gross	Net			Gross	Net			Gross	Net
United States:				States: 1929—Continued				States: 1929—Continued			
1929	712	220,304	211,035	Illinois	13	275	275	North Carolina	3	100	75
1927	761	242,662	219,559	Indiana	12	5,043	3,837	Ohio	3	475	350
1925	649	159,491	147,772	Iowa	8	1,500	800	Oregon	25	7,180	6,977
1923	497	159,231	145,545	Kentucky	34	1,582	1,532	Pennsylvania	231	80,295	80,235
States: 1929				Louisiana	6	675	675	Texas	13	3,272	685
Alabama	12	16,190	6,040	Maryland	3	1,159	1,159	Virginia	3	1,840	1,340
California	27	5,707	5,565	Massachusetts	1	810	810	Washington	57	4,428	4,428
Connecticut	1	380	380	Michigan	4	1,307	1,307	West Virginia	26	2,946	646
Delaware	47	22,371	22,371	Missouri	2	70	70	Wisconsin	5	1,140	1,030
Florida	5	355	285	New Jersey	18	7,941	7,860				
				New York	153	74,253	63,107				

1 Includes 150 tons reported as displacement tonnage.

2 Includes 300 tons reported as displacement tonnage.

TABLE 11.—NUMBER OF POWER BOATS BUILT (LESS THAN 5 GROSS TONS), FOR THE UNITED STATES, 1923 TO 1929, AND BY STATES, 1929

STATE	Number	STATE	Number	STATE	Number
United States:		States: 1929—Continued		States: 1929—Continued	
1929	14,930	Illinois	140	New York	2,282
1927	2,466	Indiana	1,356	North Carolina	27
1925	1,369	Iowa	17	Ohio	1,655
1923	939	Louisiana	45	Oregon	22
States: 1929		Maine	1,538	Pennsylvania	33
Alabama	25	Maryland	5	Rhode Island	17
California	209	Massachusetts	357	Texas	9
Connecticut	1,498	Michigan	2,976	Virginia	41
Delaware	70	Minnesota	340	Washington	320
District of Columbia	16	Mississippi	6	Wisconsin	1,610
Florida	81	Missouri	3		
		New Jersey	226		

TABLE 12.—PRINCIPAL MATERIALS CONSUMED IN THE INDUSTRY, BY KIND, QUANTITY, AND COST, BY STATES: 1929

[Quantities and costs of principal materials consumed were reported by only 496 of the 624 establishments in this industry. The combined value of products reported by these 496 establishments amounted to \$209,838,820, or 90.7 per cent of the aggregate value of products of the 624 establishments in the industry. Another reason for the difference between the sum of the costs of the several kinds of materials shown in this table and the total cost of materials consumed, as given in Tables 1 and 2, is found in the fact that this table covers only certain specified materials, whereas Tables 1 and 2 cover all materials consumed.]

KIND AND STATE	Total cost	QUANTITY REPORTED		Quantity not reported cost	KIND AND STATE	Total cost	QUANTITY REPORTED		Quantity not reported cost
		Quantity	Cost				Quantity	Cost	
Iron and steel castings and forgings, purchased as such, total	\$4,641,768	(4)			Iron and steel plates and shapes, purchased as such, total	\$13,031,632	Tons 267,043	\$12,737,225	\$204,407
Alabama	16,716	(0)			Alabama	63,978	1,446	63,978	
California	261,776	(0)			California	619,708	11,942	496,070	122,738
Connecticut	1,297,494	(0)			Connecticut	5,887	73	5,208	679
Delaware	81,719	(0)			Delaware	682,160	12,089	682,160	
Florida	29,913	(0)			Florida	208,863	4,214	208,863	
Georgia	250	(0)			Georgia	3,523	35	3,523	
Illinois	2,565	(0)			Illinois	52,390	901	33,964	18,426
Indiana	19,760	(0)			Indiana	110,273	3,087	110,273	
Iowa	1,656	(0)			Iowa	42,431	1,060	42,431	
Kentucky	1,022	(0)			Kentucky	1,000			1,000
Louisiana	49,620	(0)			Louisiana	156,985	2,156	156,985	
Maine	24,845	(0)			Maine	219,708	5,200	218,000	1,708
Maryland	255,500	(0)			Maryland	568,775	11,554	568,775	
Massachusetts	77,896	(0)			Massachusetts	544,372	12,513	544,372	
Michigan	11,293	(0)			Michigan	602,736	16,307	659,849	2,867
Minnesota	6,000	(0)			Minnesota	11,500	250	11,500	
Missouri	100	(0)			Missouri	15,840	101	15,840	
New Jersey	465,414	(0)			New Jersey	2,596,528	37,067	2,596,511	90,717
New York	352,242	(0)			New York	375,241	7,310	370,661	4,550
Ohio	245,914	(0)			Ohio	1,274,990	29,303	1,274,990	
Oregon	20,043	(0)			Oregon	21,112	1	80	21,032
Pennsylvania	467,661	(0)			Pennsylvania	2,267,672	52,148	2,267,672	
Rhode Island	422,190	(0)			Rhode Island	211,070	4,215	210,770	300
South Carolina	5,000	(0)			South Carolina	66,440	1,510	66,440	
Texas	5,782	(0)			Texas	37,875	585	37,875	
Virginia	193,619	(0)			Virginia	1,346,745	33,231	1,346,415	300
Washington	45,773	(0)			Washington	48,308	280	18,268	30,040
West Virginia	10,990	(0)			West Virginia	224,368	5,594	224,368	
Wisconsin	329,015	(0)			Wisconsin	611,154	13,871	611,154	

1 Quantity not called for on schedule.

SHIP AND BOAT BUILDING

1239

TABLE 12.—PRINCIPAL MATERIALS CONSUMED IN THE INDUSTRY, BY KIND, QUANTITY, AND COST, BY STATES: 1929—Continued

[See note at head of this table.]

KIND AND STATE	Total cost	QUANTITY REPORTED		Quantity not reported cost	KIND AND STATE	Total cost	QUANTITY REPORTED		Quantity not reported cost
		Quantity	Cost				Quantity	Cost	
Pig iron, total.....	\$118, 658	Tons 5, 429	\$118, 658		Copper, brass, and bronze—Con.		Pounds		
Alabama.....	210	0	210		Virginia.....	\$375, 526	1, 746, 854	\$374, 526	\$1, 000
California.....	13, 760	468	13, 760		Washington.....	48, 007	138, 851	46, 360	1, 047
Delaware.....	3, 687	152	3, 687		West Virginia.....	883	2, 547	883	
Florida.....	1, 508	71	1, 508		Wisconsin.....	36, 002	108, 402	36, 002	
Georgia.....	1, 000	50	1, 000		Softwood, total.....	4, 758, 706	Mft. b. m. 69, 646	4, 473, 678	285, 028
Maine.....	156	9	156		Alabama.....	29, 968	652	29, 968	
Maryland.....	4, 000	200	4, 000		California.....	624, 648	10, 812	449, 639	175, 009
Massachusetts.....	2, 925	141	2, 925		Connecticut.....	83, 685	1, 067	83, 185	500
New York.....	1, 750	50	1, 750		Delaware.....	315, 578	3, 916	315, 578	
Ohio.....	10, 000	500	10, 000		Florida.....	28, 002	334	27, 002	1, 000
Pennsylvania.....	44, 440	2, 311	44, 440		Illinois.....	33, 598	307	26, 507	
South Carolina.....	775	50	775		Indiana.....	11, 025	326	11, 025	7, 091
Virginia.....	32, 105	1, 309	32, 105		Iowa.....	13, 148	188	13, 148	
Washington.....	252	12	252		Kentucky.....	37, 800	700	37, 800	
West Virginia.....	2, 100	100	2, 100		Louisiana.....	91, 824	1, 183	91, 824	
Scrap iron and steel, purchased as such, total.....	19, 405	1, 568	19, 405		Maine.....	137, 562	1, 556	127, 562	10, 000
Alabama.....	302	12	302		Maryland.....	279, 112	3, 431	207, 012	72, 100
California.....	1, 173	102	1, 173		Massachusetts.....	127, 412	1, 578	127, 412	
Delaware.....	1, 122	80	1, 122		Michigan.....	124, 212	1, 609	116, 712	7, 500
Florida.....	4, 037	489	4, 037		Minnesota.....	9, 585	85	9, 585	
Georgia.....	500	50	500		Mississippi.....	200	2	200	
Massachusetts.....	750	50	750		Missouri.....	2, 325	11	2, 325	
New York.....	1, 400	140	1, 400		New Jersey.....	314, 460	3, 668	304, 460	10, 000
Ohio.....	5, 000	300	5, 000		New York.....	1, 176, 608	16, 925	1, 174, 950	1, 828
South Carolina.....	1, 320	110	1, 320		North Carolina.....				
Virginia.....	3, 721	223	3, 721		Ohio.....	1, 500	30	1, 500	
Washington.....	80	12	80		Oregon.....	57, 694	856	57, 694	
Other iron and steel, total.....	1, 784, 687	26, 306	1, 580, 189	\$204, 498	Pennsylvania.....	75, 645	2, 286	75, 645	
Alabama.....	100	1	100		Rhode Island.....	213, 049	1, 702	213, 049	
California.....	187, 774	1, 779	124, 782	62, 992	South Carolina.....	750	5	750	
Connecticut.....	1, 389	19	1, 389		Texas.....	50, 145	928	50, 145	
Delaware.....	26, 663	357	26, 663		Vermont.....	6, 750	75	6, 750	
Florida.....	52, 348	869	52, 348		Virginia.....	442, 515	7, 415	442, 515	
Georgia.....	300	5	300		Washington.....	256, 718	5, 387	256, 718	
Illinois.....	2, 142	29	2, 049	93	West Virginia.....	19, 046	318	19, 046	
Indiana.....	26, 902	969	26, 902		Wisconsin.....	127, 950	1, 428	127, 950	
Kentucky.....	7, 000			7, 000	Hardwood, total.....	4, 587, 877	44, 080	4, 412, 760	175, 117
Louisiana.....	79, 069	889	79, 069		Alabama.....	3, 240	25	3, 240	
Maine.....	16, 640	204	16, 640		California.....	440, 806	1, 719	365, 429	75, 376
Maryland.....	209, 100	1, 031	83, 009	126, 100	Connecticut.....	66, 824	538	66, 424	500
Massachusetts.....	26, 637	347	26, 537		Delaware.....	148, 966	511	148, 966	
Michigan.....	103, 652	2, 037	96, 543	7, 109	District of Columbia.....	2, 500			2, 500
Minnesota.....	315	1	315		Florida.....	44, 681	433	42, 681	2, 000
New Jersey.....	349, 726	7, 069	349, 726		Georgia.....	1, 000	10	1, 000	
New York.....	427, 193	6, 779	426, 513	680	Illinois.....	20, 795	125	19, 295	4, 500
Ohio.....	65, 129	1, 888	65, 129		Indiana.....	38, 007	651	38, 007	
Oregon.....	10, 061	180	16, 737	324	Iowa.....	1, 275	11	1, 275	
Pennsylvania.....	17, 223	157	17, 223		Kentucky.....	31, 100	479	31, 100	
Rhode Island.....	116	3	116		Louisiana.....	14, 599	117	14, 599	
Texas.....	51, 500	687	51, 500		Maine.....	206, 396	1, 076	192, 396	14, 000
Virginia.....	67, 342	787	67, 142	200	Maryland.....	82, 078	1, 238	82, 078	
Washington.....	30, 149	303	30, 149		Massachusetts.....	341, 244	2, 532	286, 133	55, 111
West Virginia.....	2, 567	32	2, 567		Michigan.....	423, 471	2, 780	410, 971	12, 500
Wisconsin.....	17, 750	384	17, 750		Minnesota.....	102, 060	77	102, 060	
Copper, brass, and bronze, total.....	2, 332, 149	Pounds 7, 320, 914	1, 966, 501	365, 648	Mississippi.....	1, 150	7	1, 150	
Alabama.....	2, 304	10, 808	2, 304		Missouri.....	2, 325	11	2, 325	
California.....	197, 517	295, 555	81, 165	116, 352	New Jersey.....	404, 949	4, 882	398, 599	6, 350
Connecticut.....	13, 680	42, 485	13, 080	500	New York.....	1, 384, 090	18, 667	1, 382, 410	2, 280
Delaware.....	55, 042	216, 903	55, 042		North Carolina.....	600	12	600	
Florida.....	17, 940	50, 240	15, 470	2, 470	Ohio.....	112, 364	1, 376	112, 364	
Georgia.....	60	600	60		Oregon.....	18, 992	290	18, 992	
Illinois.....	5, 087	14, 829	5, 087		Pennsylvania.....	154, 640	1, 959	154, 640	
Louisiana.....	58, 310	252, 650	58, 310		Rhode Island.....	226, 879	2, 046	220, 879	
Maine.....	38, 552	101, 162	38, 552		South Carolina.....	300	2	300	
Maryland.....	120, 750	95, 622	90, 650	90, 100	Texas.....	2, 813	25	2, 813	
Massachusetts.....	225, 343	700, 462	225, 343		Virginia.....	136, 264	1, 107	136, 264	
Michigan.....	177, 348	408, 094	122, 343	55, 000	Washington.....	87, 625	413	87, 625	
Minnesota.....	360	600	360		West Virginia.....	3, 695	62	3, 695	
Missouri.....	200	700	200		Wisconsin.....	87, 450	969	87, 450	
New Jersey.....	227, 562	638, 176	179, 781	47, 781	Electrical equipment, total.....	3, 736, 011	(1)		
New York.....	407, 871	1, 151, 879	402, 011	5, 860	Alabama.....	400	(1)		
Ohio.....	43, 468	49, 149	14, 093	29, 375	California.....	159, 686	(1)		
Oregon.....	16, 162	1, 625	599	15, 563	Connecticut.....	1, 525	(1)		
Pennsylvania.....	35, 404	156, 872	35, 404		Delaware.....	138, 341	(1)		
Rhode Island.....	212, 838	1, 080, 827	212, 838		District of Columbia.....	1, 000	(1)		
South Carolina.....	6, 000	20, 000	6, 000		Florida.....	1, 934	(1)		
Texas.....	10, 033	34, 722	10, 033		Indiana.....	4, 213	(1)		
					Iowa.....	814	(1)		
					Louisiana.....	5, 540	(1)		
					Maine.....	281, 366	(1)		

1 Quantity not called for on schedule.

CENSUS OF MANUFACTURES: 1929

TABLE 12.—PRINCIPAL MATERIALS CONSUMED IN THE INDUSTRY, BY KIND, QUANTITY, AND COST, BY STATES: 1929—Continued

KIND AND STATE	Total cost	QUANTITY REPORTED		Quantity not reported cost	KIND AND STATE	Total cost	QUANTITY REPORTED		Quantity not reported cost
		Quantity	Cost				Quantity	Cost	
Electrical equipment—Con.					All other power equipment—Con.				
Maryland.....	\$82,777	(1)			Indiana.....	\$26,142	(1)		
Massachusetts.....	351,127	(1)			Iowa.....	1,125	(1)		
Michigan.....	98,230	(1)			Louisiana.....	114,000	(1)		
New Jersey.....	451,648	(1)			Maine.....	32,679	(1)		
New York.....	112,516	(1)							
					Maryland.....	216,147	(1)		
Ohio.....	38,890	(1)			Massachusetts.....	884,914	(1)		
Oregon.....	13,630	(1)			Michigan.....	399,329	(1)		
Pennsylvania.....	257,039	(1)			New Jersey.....	540,263	(1)		
South Carolina.....	1,750	(1)							
Texas.....	9,004	(1)			New York.....	106,053	(1)		
					Ohio.....	155,000	(1)		
Virginia.....	1,056,173	(1)			Oregon.....	1,250	(1)		
Washington.....	39,533	(1)			Pennsylvania.....	140,908	(1)		
West Virginia.....	7,441	(1)							
Wisconsin.....	621,425	(1)			Virginia.....	1,000,332	(1)		
All other power equipment, total.	4,693,762	(1)			Washington.....	24,546	(1)		
California.....	621,267	(1)			West Virginia.....	46,066	(1)		
Connecticut.....	40,808	(1)			Wisconsin.....	25,750	(1)		
Delaware.....	278,914	(1)							
District of Columbia.....	5,000	(1)							
Florida.....	24,244	(1)							

¹ Quantity not called for on schedule.

TABLE 13.—PRIME MOVERS, MOTORS, GENERATORS, AND CONSUMPTION OF PURCHASED ELECTRIC ENERGY—NUMBER AND RATED CAPACITY OF PRIME MOVERS AND ELECTRIC MOTORS, 1929, 1927, 1925, 1919, AND 1914, AND OF GENERATORS, 1929, 1927, AND 1925; QUANTITY OF ELECTRIC ENERGY PURCHASED, 1929

TYPE	1929		1927		1925		1919		1914		PER CENT DISTRIBUTION OF RATED HORSE-POWER CAPACITY	
	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	1929	1919
		Horsepower		Horsepower		Horsepower		Horsepower		Horsepower		
Prime movers and electric motors driven by purchased energy, aggregate.....	14,959	337,455	13,461	314,474	12,469	303,470	22,179	553,271	2,999	115,114	100.0	100.0
Prime movers, total.....	525	54,427	651	55,203	622	57,006	1,255	128,200	1,338	85,029	16.1	23.2
Steam, total.....	340	47,678	404	48,987	405	51,757	789	121,200	831	79,599	14.1	21.9
Engines.....	328	31,841	388	44,812	384	47,464	750	79,164	(1)	(1)	9.4	14.3
Turbines.....	18	15,837	16	4,175	21	4,293	39	42,036	(1)	(1)	4.7	7.6
Internal-combustion engines.....	178	6,744	246	6,211	210	5,164	461	7,019	502	5,336	2.0	1.3
Water wheels and water turbines.....	1	5	1	5	7	85	5	71	5	94	(1)	(1)
Electric motors driven by purchased energy.....	14,434	283,028	12,810	259,271	11,847	246,464	20,924	424,081	1,661	30,085	83.9	76.8
Electric motors, total.....	15,884	300,012	14,351	285,229	14,441	286,197	23,390	476,135	3,089	66,275	100.0	100.0
Driven by purchased energy.....	14,434	283,028	12,810	259,271	11,847	246,464	20,924	424,081	1,661	30,085	94.1	89.3
Driven by energy generated in establishments reporting.....	1,450	17,884	1,541	25,958	2,594	39,733	2,466	51,154	2,328	36,190	5.9	10.7
Electric generators.....	39	Kilowatts 15,580 Kilowatt-hours	40	Kilowatts 23,027	97	Kilowatts 25,989	(2)	(2)	(2)	(2)		
Electric energy purchased ⁴		117,733,059		(2)		(2)		(2)		(2)		

¹ Not called for separately on schedule.

² Less than one-tenth of 1 per cent.

³ Not called for on schedule.

⁴ This item covers the consumption of purchased electric energy for all purposes—power, heat, light, etc.

⁵ Data incomplete.

SHIP AND BOAT BUILDING

1241

TABLE 14.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1929, 1925, 1919, 1914, AND 1909, AND BY STATES, 1929

[This table presents statistics for only those States for which figures can be given without disclosing data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures]

STATE	Average number employed during year	NUMBER EMPLOYED ON 15TH DAY OF MONTH OR NEAREST REPRESENTATIVE DAY												Per cent minimum is of maximum	
		January	February	March	April	May	June	July	August	September	October	November	December		
United States:															
1929	55,089	<i>48,005</i>	50,189	55,767	59,548	59,305	56,500	55,276	52,704	52,510	55,642	57,003	58,622	80.6	
1925	60,224	50,534	61,498	53,103	54,988	52,047	51,008	48,820	47,493	46,714	<i>43,662</i>	47,858	51,085	84.9	
1919	387,446	444,885	406,553	432,454	429,218	427,614	418,438	403,539	390,825	369,255	323,395	<i>301,172</i>	302,206	67.7	
1914	44,489	47,038	45,776	48,534	48,941	49,587	48,610	46,161	43,606	39,870	39,162	<i>37,843</i>	38,757	76.3	
1909	40,506	38,616	<i>37,595</i>	39,922	42,256	42,244	41,690	40,190	39,149	40,283	41,151	41,023	42,075	88.9	
California	4,178	3,787	4,287	4,801	4,855	4,406	3,657	4,072	3,477	3,719	4,151	4,508	4,419	71.6	
Connecticut	846	<i>695</i>	722	847	957	1,011	941	881	861	798	858	833	742	68.7	
Delaware	1,239	1,073	1,098	<i>1,029</i>	1,091	1,177	1,205	1,240	1,304	1,308	1,384	1,449	1,505	68.4	
Florida	740	653	638	743	767	780	588	674	777	786	857	763	859	68.5	
Illinois	302	270	407	503	431	280	251	202	273	169	176	343	328	31.8	
Indiana	191	<i>88</i>	98	174	263	306	252	250	164	156	195	167	179	30.4	
Kentucky	110	<i>64</i>	70	109	108	142	139	103	115	111	109	112	129	45.1	
Louisiana	1,277	<i>1,101</i>	1,281	1,506	1,447	1,153	1,398	1,141	1,200	1,154	1,556	1,187	1,212	70.8	
Maine	1,134	<i>859</i>	911	1,021	1,110	1,195	1,209	1,246	1,163	1,111	1,175	1,263	1,841	64.1	
Maryland	2,312	<i>1,808</i>	2,032	2,277	2,434	2,451	2,357	2,486	2,474	2,479	2,377	2,362	2,209	72.7	
Massachusetts	3,635	<i>3,315</i>	3,522	3,601	3,625	3,945	3,964	3,744	3,344	3,421	3,693	3,837	3,695	83.6	
Michigan	1,803	<i>1,188</i>	1,599	2,100	2,460	2,430	2,078	2,074	1,581	1,415	1,563	1,816	1,633	48.3	
Minnesota	110	<i>79</i>	91	106	149	140	133	113	105	101	95	166	89	53.0	
Mississippi	18	<i>14</i>	15	18	21	18	18	18	17	19	17	18	17	66.7	
New Jersey	7,551	<i>6,792</i>	6,980	7,497	8,063	8,690	8,181	7,594	7,354	7,285	7,379	7,655	7,882	83.5	
New York	10,811	10,066	<i>9,737</i>	10,595	12,012	12,177	11,145	10,593	10,451	10,081	11,033	10,740	11,067	80.0	
Ohio	2,105	1,621	2,094	2,811	2,600	2,563	2,232	2,109	1,822	<i>1,601</i>	1,801	2,128	2,579	61.6	
Oregon	293	348	338	359	284	259	275	317	285	302	295	250	267	65.5	
Pennsylvania	3,356	<i>2,800</i>	2,271	2,566	2,697	3,070	3,451	3,592	3,603	3,845	3,882	4,491	4,607	47.8	
Rhode Island	577	590	662	716	804	795	481	459	411	413	587	562	439	51.1	
Texas	579	494	563	712	627	483	537	451	536	632	764	676	486	59.8	
Virginia	6,760	<i>5,400</i>	5,686	6,440	6,726	6,890	7,355	7,443	7,209	7,100	6,897	6,881	6,996	73.8	
Washington	1,464	1,482	1,639	1,866	1,860	1,839	1,764	1,260	<i>918</i>	1,032	1,324	1,356	1,724	47.3	
Wisconsin	1,297	<i>1,083</i>	1,197	1,249	1,351	1,374	1,415	1,289	1,266	1,402	1,240	1,316	1,384	76.5	

Group 15.—RAILROAD REPAIR SHOPS

THE GROUP AS A WHOLE

This group comprises only two industries, "Car and general construction and repairs, steam-railroad repair shops" and "Car and general construction and repairs, electric-railroad repair shops."

Summary statistics for the group as a whole are presented in the table below and the detailed reports for the two industries follow on pages 1243 to 1251.

SUMMARY FOR GROUP 15.—RAILROAD REPAIR SHOPS: 1914 TO 1929

INDUSTRY	Census year	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products	Value added by manufacture ¹	Horsepower
Total for the group.....	1929	2, 297	\$308, 156	\$637, 311, 434	\$548, 343, 565	\$1, 209, 910, 830	\$721, 573, 274	1, 153, 147
	1927	2, 309	428, 672	645, 908, 452	545, 491, 754	1, 239, 095, 158	744, 203, 404	1, 110, 821
	1925	2, 363	457, 755	608, 191, 708	563, 645, 944	1, 332, 079, 079	789, 633, 135	942, 248
	1923	2, 348	523, 430	772, 908, 122	631, 358, 483	1, 520, 092, 751	885, 734, 268	798, 005
	1921	2, 326	418, 285	671, 655, 820	506, 571, 090	1, 267, 342, 559	760, 771, 460	(?)
	1919	2, 368	515, 709	726, 690, 460	547, 828, 694	1, 354, 446, 094	806, 617, 400	644, 875
	1914	2, 011	365, 902	253, 149, 943	201, 438, 181	552, 617, 790	201, 170, 609	478, 803
Car and general construction and repairs, electric-railroad repair shops.....	1929	446	29, 475	47, 108, 710	32, 781, 113	85, 481, 577	52, 700, 464	76, 424
	1927	515	31, 584	48, 391, 897	30, 421, 479	84, 504, 448	54, 082, 969	73, 357
	1925	521	32, 521	48, 357, 386	29, 738, 148	83, 812, 220	54, 074, 072	70, 479
	1923	547	34, 925	49, 225, 583	31, 981, 650	80, 412, 645	54, 430, 995	62, 370
	1921	560	33, 279	47, 775, 235	33, 500, 133	87, 312, 426	53, 752, 293	(?)
	1919	624	31, 272	39, 073, 154	32, 025, 484	75, 210, 701	43, 185, 217	53, 805
	1914	649	26, 384	18, 644, 845	17, 609, 574	38, 576, 565	20, 966, 991	44, 989
Car and general construction and repairs, steam-railroad repair shops.....	1929	1, 851	368, 681	590, 202, 724	515, 562, 452	1, 184, 435, 202	668, 872, 810	1, 076, 723
	1927	1, 794	397, 088	600, 516, 555	515, 070, 275	1, 205, 190, 710	690, 120, 435	1, 037, 404
	1925	1, 842	425, 234	619, 834, 382	533, 907, 796	1, 248, 866, 859	714, 959, 063	² 934, 839
	1923	1, 801	488, 505	723, 742, 539	599, 376, 833	1, 433, 680, 160	834, 303, 273	735, 635
	1921	1, 766	385, 066	624, 180, 594	473, 016, 960	1, 180, 030, 133	707, 019, 107	(?)
	1919	1, 744	484, 437	687, 617, 312	515, 803, 210	1, 279, 235, 303	763, 432, 183	591, 070
	1914	1, 362	339, 518	234, 505, 098	243, 828, 607	514, 041, 225	270, 212, 618	433, 904

¹ Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

² Not called for on schedule.

³ Revised; revision not carried into group total.

ELECTRIC-RAILROAD REPAIR SHOPS

Description of the industry.—Repair shops maintained by electric-railroad companies for the purpose of making repairs on rolling stock and equipment are classified under the industry designation "Car and general construction and repairs, electric-railroad repair shops."

Value of products.—The "Value of products" shown for the industry represents, in general, the cost of materials plus the amounts of salaries and wages paid to shop employees.

TABLE 1.—SUMMARY FOR THE UNITED STATES: 1899 TO 1929

[Data for establishments with products under \$5,000 in value included for 1919 and prior years but not for 1921 and subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

YEAR OR PERIOD	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²	Horsepower
1929	440	29,475	\$47,103,710	\$32,781,113	\$85,481,577	\$52,700,464	76,424
1927	515	31,584	48,301,897	30,421,479	84,504,448	54,082,969	73,357
1925	521	32,521	48,357,868	29,738,148	83,812,220	54,074,072	70,479
1923	547	34,925	49,225,683	31,981,650	86,412,645	54,430,995	62,370
1921	560	33,279	47,775,235	33,560,133	87,312,428	53,752,293	(3)
1919	624	31,272	39,073,154	32,025,484	75,210,701	43,185,217	53,805
1914	649	26,384	18,644,845	17,639,574	38,576,565	20,966,991	44,989
1909	541	22,418	14,486,009	15,187,899	31,962,561	16,794,662	35,794
1904	86	11,052	7,012,798	5,483,380	13,437,121	7,973,761	8,154
1899	108	7,025	4,404,693	4,336,744	9,370,811	5,034,067	6,443
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929	-13.4	-6.7	-2.7	7.8	1.2	(4) -2.6	4.2
1925-1927	-1.2	-2.9	.1	2.3	.8		4.1
1923-1925	-4.8	-6.9	-1.8	-7.0	-3.0	(4) -.7	13.0
1921-1923	-2.3	4.9	3.0	-4.7	-1.0	1.3	
1919-1921	-10.3	6.4	22.3	4.8	16.1	24.5	
1919-1929	-23.5	-5.7	20.6	2.4	13.7	22.0	42.0
1909-1919	15.3	39.5	169.7	111.1	185.3	157.1	50.3
1899-1909	400.9	219.1	223.9	249.8	241.1	233.6	455.5

¹ See "Value of products," above.

² Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

³ Not called for on schedule.

⁴ Less than one-tenth of 1 per cent.

CENSUS OF MANUFACTURES: 1929

TABLE 2.—GENERAL STATISTICS, BY STATES: 1929, 1927, AND 1919

(This table presents statistics separately for each State for which figures can be given without disclosing data for individual establishments, and for the remaining States in groups. Certain of the States for which figures are given in combination with those for others, however, reported larger values of products than some of the States shown separately. Data for establishments with products under \$5,000 in value are included for 1919 but not for subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size)

STATE	Cen- sus year	Num- ber of estab- lish- ments	Salaried officers and emp- loy- ees	Wage earners (aver- age for the year)	HORSEPOWER (RATED CAPACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products ¹	Value added by manufac- ture ²
					Total	Prime movers	Motors by pur- chased energy			Total	Materials	Fuel and purchased energy		
United States.....	1929	446	2,507	29,475	76,424	65	76,359	\$5,423,674	\$47,108,710	\$32,781,113	\$31,331,150	\$1,440,063	\$85,481,577	\$52,700,464
	1927	515	2,553	31,584	73,357	75	73,282	5,249,632	48,391,807	30,421,479	29,546,725	874,754	84,604,448	54,082,098
	1919	624	1,847	31,272	53,805	6,439	47,366	2,979,397	39,073,154	32,025,484	30,820,218	1,205,266	75,210,701	43,185,217
Individual States:														
Alabama.....	1929	7	22	126	747		747	46,380	201,143	162,445	150,049	3,396	400,968	247,523
	1927	8	16	177	789		789	31,054	222,310	181,936	179,618	2,318	435,300	253,364
	1919	0	10	164	551	500	51	9,349	250,762	241,726	229,762	11,904	515,536	273,810
Arkansas.....	1929	5	6	81	215		215	14,100	101,670	49,180	45,700	3,480	164,950	116,770
	1927	5	13	97	220		220	24,043	109,010	75,153	73,093	2,000	208,206	133,053
California.....	1929	18	118	2,550	6,661		6,661	201,468	3,949,573	1,607,924	1,603,478	64,440	5,953,922	4,285,998
	1927	21	148	2,862	6,788		6,788	321,421	4,355,465	2,399,100	2,353,071	66,119	2,859,901	4,679,711
	1919	22	98	1,731	4,307	354	3,953	150,002	2,066,760	1,804,334	1,739,446	64,888	4,057,871	2,263,537
Florida.....	1929	5	10	106	304		304	23,445	124,780	98,261	95,882	2,379	246,486	148,225
	1927	5	10	120	212		212	29,030	124,540	84,751	81,402	3,349	238,321	153,570
	1919	5	13	89	133		133	18,120	103,939	59,363	58,594	769	175,778	116,415
Illinois.....	1929	26	286	3,181	7,852		7,852	584,926	5,656,763	4,108,890	3,978,578	130,321	10,351,416	6,242,517
	1927	35	328	3,220	8,002		8,002	649,758	5,324,598	3,010,901	2,890,530	120,371	9,054,390	6,043,489
	1919	49	163	3,151	6,395	995	5,400	245,917	4,399,343	2,796,973	2,717,837	79,136	7,478,033	4,681,060
Indiana.....	1929	25	81	983	1,246		1,246	151,310	1,209,434	801,110	770,065	31,045	2,168,631	1,367,421
	1927	26	54	1,053	1,530		1,530	117,012	1,354,476	1,036,646	1,012,274	23,372	2,631,031	1,496,385
	1919	30	65	977	2,054	1,400	654	89,728	1,005,083	849,087	808,076	41,011	1,960,617	1,111,530
Iowa.....	1929	12	20	238	820		820	42,265	301,537	287,936	265,405	22,531	631,738	343,802
	1927	17	25	232	449		449	49,304	308,287	246,735	236,401	10,334	606,430	359,695
	1919	15	22	323	538	50	488	37,512	401,530	311,795	297,402	14,393	769,666	457,771
Kansas.....	1929	6	9	43	107		107	16,840	55,647	38,612	37,638	974	111,090	72,487
	1927	7	13	99	160		160	23,272	115,017	79,082	78,827	255	139,289	139,289
	1919	11	21	162	827	375	452	25,536	182,147	144,032	138,426	6,506	360,154	216,222
Louisiana.....	1929	5	11	155	360		360	25,220	234,882	131,188	127,279	3,909	895,807	264,619
	1927	5	16	180	631		631	31,924	277,650	119,554	119,525	29	429,138	309,574
	1919	7	23	417	396		396	26,561	508,212	445,071	443,850	2,121	1,066,129	620,168
Maine.....	1929	8	17	119	314		314	42,008	138,243	95,741	88,225	7,510	276,082	180,341
	1927	10	8	146	362		362	13,718	181,702	133,218	124,614	8,604	328,738	195,520
	1919	11	15	151	149		149	23,943	178,219	191,410	182,140	9,264	402,621	211,211
Massachusetts.....	1929	17	63	1,094	4,450		4,450	139,483	2,065,803	1,219,110	1,155,870	63,240	3,426,806	2,206,696
	1927	26	81	1,370	4,125		4,125	170,369	2,123,637	1,361,482	1,329,781	31,701	3,716,022	2,355,140
	1919	30	99	1,846	2,790	225	2,565	163,537	2,446,126	1,756,398	1,690,710	69,688	4,504,579	2,748,181
Michigan.....	1929	13	86	921	2,225		2,225	202,366	1,716,350	1,185,271	1,102,663	82,608	3,103,088	1,918,717
	1927	16	45	693	1,690	10	1,680	118,792	1,174,424	734,834	678,693	56,141	2,023,050	1,288,216
	1919	15	112	1,401	849	385	464	72,318	2,058,393	1,625,199	1,580,140	45,050	3,828,271	2,203,072
Mississippi.....	1929	5	5	67	68		68	7,624	80,971	11,445	10,825	620	100,078	88,633
	1927	4	2	22	50		50	4,750	33,010	11,499	11,413	86	51,334	39,835
	1919	5	2	16	48	10	38	2,700	18,942	15,033	13,802	1,231	40,556	25,623
Montana.....	1929	4	4	56	240		240	12,225	118,688	57,802	52,583	5,219	188,715	130,913
	1927	5	4	48	283		283	8,191	87,342	71,035	67,211	3,824	170,779	90,744
	1919	5	7	50	153		153	11,807	53,932	50,891	46,465	4,426	121,052	71,061
New Jersey.....	1929	28	35	1,132	4,206		4,206	87,088	1,667,333	937,414	910,654	26,760	2,691,835	1,754,421
	1927	34	42	1,473	4,778		4,778	109,137	2,072,818	1,071,968	1,062,001	19,967	3,268,923	2,181,955
	1919	15	33	1,333	3,887		3,887	70,798	1,754,803	1,578,038	1,536,849	41,239	3,489,418	1,911,330
New York.....	1929	36	736	7,954	13,114		13,114	1,661,902	13,750,700	8,555,162	7,964,181	590,981	23,998,252	15,443,090
	1927	45	717	7,235	11,836		11,836	1,444,833	11,776,556	7,250,433	7,175,287	75,140	20,699,357	13,448,924
	1919	53	353	5,556	7,276	20	7,256	608,477	7,230,994	6,362,636	6,128,091	234,595	14,369,285	8,006,699
North Carolina.....	1929	8	9	85	208		208	19,971	98,261	77,928	77,336	592	106,197	118,259
	1927	6	12	58	95		95	15,241	62,517	38,876	38,765	111	116,634	77,758
Ohio.....	1929	43	124	1,879	3,544		3,544	244,752	3,003,545	2,331,740	2,232,501	99,185	5,587,106	3,255,360
	1927	48	145	2,398	3,180		3,180	304,669	3,696,138	2,533,023	2,447,871	85,152	6,540,461	4,007,438
	1919	60	105	1,903	2,545	131	2,414	226,171	2,269,966	2,116,438	1,914,056	202,382	4,724,631	2,608,193
Oklahoma.....	1929	7	21	199	583		583	47,616	260,273	211,327	205,020	5,398	531,880	320,553
	1927	6	11	166	224		224	19,867	229,772	87,326	86,365	961	343,205	255,879
	1919	10	13	138	238	100	138	22,375	162,973	112,390	108,272	4,118	312,753	200,363
Pennsylvania.....	1929	47	174	2,173	7,276		7,276	377,430	3,141,861	2,523,859	2,457,927	65,962	6,016,070	3,522,781
	1927	51	214	2,837	6,011		6,011	462,855	4,416,469	3,123,292	2,874,984	248,308	8,018,115	4,894,823
	1919	80	239	4,122	5,199	40	5,159	400,093	4,673,154	3,116,011	3,043,935	72,076	8,306,228	5,190,217
Tennessee.....	1929	6	20	293	837		837	41,750	384,914	237,220	220,228	10,992	663,884	426,664
	1927	6	21	330	733		733	41,450	304,654	297,399	7,255	756,114	451,460	
	1919	5	23	280	1,478	1,255	223	40,396	297,405	286,508	278,947	7,561	600,266	403,768
Texas.....	1929	14	55	742	1,195		1,195	126,847	911,076	657,021	651,565	6,050	1,738,297	1,080,676
	1927	13	47	637	869		869	93,697	695,784	486,474	481,969	4,505	1,275,855	789,381
	1919	18	34	567	1,713	403	1,310	53,491	493,592	377,793	364,165	13,628	924,564	546,771

See footnotes at end of table.

ELECTRIC-RAILROAD REPAIR SHOPS

1245

TABLE 2.—GENERAL STATISTICS, BY STATES: 1929, 1927, AND 1919—Continued

[See note at head of this table]

STATE	Cen- sus year	Num- ber of estab- lish- ments	Salaried officers and em- ploy- ees	Wage earners (aver- age for the year)	HORSEPOWER (RATED CAPACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products ¹	Value added by manufac- ture ²
					Total	Prime movers	Motors run by pur- chased energy			Total	Materials	Fuel and purchased energy		
Individual States—Contd.														
Virginia	1929	12	43	203	877	-----	877	\$68,117	\$424,381	\$172,565	\$168,332	\$4,533	\$674,136	\$501,271
	1927	11	27	312	816	-----	816	48,060	338,378	305,068	304,350	718	691,606	384,438
	1919	10	15	407	638	-----	638	77,481	385,116	361,024	358,931	2,093	830,937	469,913
Washington	1929	10	30	379	1,548	-----	1,548	65,272	635,283	461,759	441,236	20,523	1,166,383	704,624
	1927	13	34	413	1,991	-----	1,991	70,035	675,076	439,755	434,550	5,105	1,184,866	745,111
	1919	16	32	670	1,390	30	1,360	43,041	939,984	678,689	547,908	30,781	1,580,174	1,001,485
West Virginia	1929	7	20	155	440	-----	440	42,410	238,159	110,172	108,637	1,335	390,741	280,569
	1927	9	29	191	488	-----	488	57,804	296,133	193,832	189,701	4,131	547,709	353,937
	1919	13	9	195	331	-----	331	13,894	216,675	140,692	138,409	2,283	395,919	255,227
Wisconsin	1929	10	07	687	2,171	-----	2,171	187,267	1,163,641	1,800,296	1,751,305	48,991	3,151,204	1,350,908
	1927	14	02	729	2,301	-----	2,301	193,186	1,094,520	1,147,027	1,104,596	42,431	2,438,062	1,291,065
	1919	17	65	879	1,956	-----	1,956	77,409	790,994	1,705,820	1,640,372	65,448	2,622,802	916,982
Groups of States:														
Ariz., 2 est.; Colo., 3; Oreg., 2; Utah, 3	1929	10	61	522	2,142	-----	2,142	122,276	777,016	454,159	429,379	24,780	1,354,294	900,135
Conn., 14 est.; Del., 1; N. H., 2; R. I., 2	1929	19	112	622	3,386	-----	3,386	265,039	1,020,336	850,007	822,923	27,084	2,137,542	1,267,536
D. C., 2 est.; Ga., 6; Ky., 4; Md., 6; S. C., 3	1929	20	91	1,008	2,661	-----	2,661	153,456	1,574,663	1,052,406	1,024,410	27,996	2,785,441	1,733,035
Minn., 4 est.; Mo., 6; Nebr., 1; N. Dak., 2	1929	13	141	1,513	6,118	-----	6,118	312,731	2,092,784	2,432,218	2,371,107	61,111	4,839,139	2,406,921
States not separately shown.	1927	09	309	4,480	14,644	05	14,579	810,720	6,838,038	3,894,735	3,822,394	72,341	11,548,950	7,654,215
	1919	116	276	4,935	7,959	166	7,523	460,711	6,094,121	4,996,233	4,807,618	188,615	11,682,061	6,685,828

¹ See "Value of products," p. 1243.

² Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

³ Not including 1 proprietor. No proprietors or firm members reported for later years.

⁴ Data for purchased power other than electric (power transmitted into the plant by belt or shaft) are included in the State items for 1919 but not in the United States totals.

⁵ Arizona, 3 establishments; Colorado, 4; Connecticut, 14; Delaware, 1; District of Columbia, 2; Georgia, 7; Idaho, 1; Kentucky, 5; Maryland, 4; Minnesota, 4; Missouri, 7; Nebraska, 3; New Hampshire, 3; North Dakota, 2; Oregon, 2; Rhode Island, 2; South Carolina, 1; South Dakota, 1; Utah, 3.

⁶ Arizona, 2 establishments; Arkansas, 3; Colorado, 5; Connecticut, 22; Delaware, 1; District of Columbia, 2; Georgia, 9; Idaho, 3; Kentucky, 7; Maryland, 6; Minnesota, 8; Missouri, 8; Nebraska, 4; Nevada, 1; New Hampshire, 7; North Carolina, 3; North Dakota, 2; Oregon, 4; Rhode Island, 4; South Carolina, 2; South Dakota, 2; Utah, 3; Vermont, 7; Wyoming, 1.

TABLE 3.—DETAILED STATISTICS OF WORK PERFORMED, FOR THE UNITED STATES: 1923 TO 1929

	1929	1927	1925	1923		1929	1927	1925	1923
Work done and products manu- factured:					Work done and products manu- factured—Continued.				
Aggregate value.....	\$85,481,577	\$84,504,448	\$83,812,220	\$80,412,645	Car departments—Continued.				
Motive-power and machinery departments—					Cars built—Continued.				
Total value.....	\$7,343,898	\$6,500,241	\$6,210,757	\$7,303,978	Freight—				
Electric locomotives built 1—					Number.....	2	3	2	47
Number.....	(?)	(?)	14	17	Value.....	\$4,041	\$14,774	\$9,633	\$103,738
Value.....	(?)	(?)	\$216,078	\$198,775	Other—				
Repairs to motors, etc., value.....	\$6,183,950	\$6,013,623	\$5,525,622	\$6,692,410	Number.....	5	15	6	37
Work for other corporations, value.....	\$233,206	\$114,434	\$117,000	\$101,754	Value.....	\$12,860	\$86,994	\$24,091	\$132,463
Other work and products, value.....	\$926,652	\$432,184	\$352,057	\$311,039	Repairs to cars, value.....	\$64,934,462	\$65,952,673	\$65,392,764	\$65,420,854
Car departments—					Work for other corporations, value.....	\$1,404,567	\$1,156,277	\$1,216,247	\$1,486,880
Total value.....	\$74,632,863	\$74,707,206	\$73,177,906	\$75,070,768	Other work and products, value.....	\$7,617,859	\$6,684,644	\$5,959,907	\$4,639,886
Cars built 1—					Bridge and building depart- ments (shop work only), total value.....	\$420,905	\$396,057	\$639,619	\$438,624
Total value.....	\$675,975	\$913,612	\$608,988	\$3,523,648	Repairs and renewals, value.....	\$260,081	\$290,103	\$608,317	\$434,590
Passenger—					Other work and products, value.....	\$160,824	\$5,954	\$31,302	\$4,034
Number.....	71	83	45	299	Other work done and products manufactured, not reported in detail, value.....	\$3,083,911	\$2,940,944	\$3,783,638	\$3,599,275
Value.....	\$659,074	\$811,844	\$574,664	\$3,257,447					

¹ Electric locomotives are built principally by establishments classified in the "Electrical machinery, apparatus, and supplies" industry. The figures given in this table refer only to those built by electric-railroad repair shops.

² Can not be shown separately without disclosing data for individual establishments. Value included in item for "Other work and products, value."

³ Electric railroad cars are built principally by establishments classified in the "Cars, electric and steam railroad, not built in railroad repair shops" industry. The figures given in this table refer only to those built by electric-railroad repair shops.

CENSUS OF MANUFACTURES: 1929

TABLE 4.—PRIME MOVERS, MOTORS, AND CONSUMPTION OF PURCHASED ELECTRIC ENERGY—NUMBER AND RATED CAPACITY OF PRIME MOVERS AND ELECTRIC MOTORS, 1929, 1927, 1925, 1919, AND 1914; QUANTITY OF ELECTRIC ENERGY PURCHASED, 1929

TYPE	1929		1927		1925		1919		1914		PER CENT DISTRIBUTION OF RATED HORSE-POWER CAPACITY	
	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	1929	1919
		Horse-power		Horse-power		Horse-power		Horse-power		Horse-power		
Prime movers and electric motors driven by purchased energy, aggregate.....	7,388	76,424	6,532	73,357	6,076	70,479	3,577	53,805	2,640	44,986	100.0	100.0
Prime movers, total.....	3	65	4	75	13	305	50	6,439	44	8,128	0.1	12.0
Steam engines.....			1	10	8	125	45	5,875	34	5,997	.1	10.9
Internal-combustion engines.....	3	65	3	65	5	180	11	564	8	1,121	.1	1.1
Water wheels and water turbines.....									2	1,010		
Electric motors driven by purchased energy ¹	7,385	76,359	6,528	73,282	6,063	70,174	3,521	47,366	2,605	36,861	99.9	88.0
Electric motors, total.....	7,385	76,359	6,528	73,282	6,063	70,174	3,711	50,016	3,095	44,670	100.0	100.0
Driven by purchased energy.....	7,385	76,359	6,528	73,282	6,063	70,174	3,521	47,366	2,605	36,861	100.0	94.7
Driven by energy generated in establishments reporting.....							190	2,650	490	7,809		5.3
Electric energy purchased ²		Kilowatt-hours 87,782,367		(³)		(³)		(⁴)		(⁵)		

¹ All motors in electric-railroad repair shops are, of course, driven by energy from the railroad companies' power lines. In some cases this energy is purchased from public-service power plants, and in some cases it is generated in power plants operated by the railroad companies; but in any event it is not generated in power plants operated in direct connection with the repair shops, and therefore is treated for census purposes as "Electric energy purchased."

² This item covers the consumption of purchased electric energy for all purposes—power, heat, light, etc. See footnote 1.

³ Data incomplete.

⁴ Not called for on schedule.

TABLE 5.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1929, 1925, 1919, 1914, AND 1909, AND BY STATES, 1929

[This table presents statistics for only those States for which figures can be given without disclosing data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures.]

STATE	Average number employed during year	NUMBER EMPLOYED ON 15TH DAY OF MONTH OR NEAREST REPRESENTATIVE DAY												Per cent minimum is of maximum	
		January	February	March	April	May	June	July	August	September	October	November	December		
United States:															
1929.....	29,475	29,880	29,498	29,522	29,272	29,072	29,029	29,054	29,829	29,818	29,833	29,356	<i>28,954</i>	29,066	97.0
1925.....	32,621	32,943	32,993	33,139	33,026	32,885	32,989	32,502	32,058	<i>31,864</i>	31,898	31,964	31,966	31,966	96.2
1919.....	31,272	31,490	31,702	31,686	31,332	30,937	30,220	30,896	30,796	30,960	31,568	31,774	31,894	31,894	94.8
1914.....	26,384	26,267	26,709	26,869	26,880	26,919	26,745	26,694	26,336	25,945	25,139	25,139	<i>25,135</i>	25,139	96.2
1909.....	22,418	21,922	22,005	22,169	22,198	22,280	22,325	22,273	22,411	22,857	22,869	22,825	22,888	22,888	95.7
Alabama.....	126	131	131	131	130	130	131	123	<i>120</i>	121	121	121	128	128	91.6
Arkansas.....	81	79	80	82	81	81	81	82	82	82	82	82	81	81	96.3
California.....	2,559	2,634	2,627	2,606	2,597	2,562	2,542	2,526	2,542	2,513	<i>2,508</i>	2,524	2,531	2,531	95.2
Florida.....	106	104	108	112	105	105	108	107	106	107	104	102	<i>101</i>	101	99.2
Illinois.....	3,181	3,083	3,141	3,179	3,196	3,179	3,171	3,175	3,243	3,241	3,269	3,167	3,150	3,150	94.6
Indiana.....	983	1,050	1,034	1,007	971	959	934	988	<i>938</i>	957	959	978	964	964	89.3
Iowa.....	238	244	244	244	242	242	242	240	240	232	230	226	<i>226</i>	226	92.6
Kansas.....	43	30	30	31	34	36	53	47	48	50	48	52	51	51	56.6
Louisiana.....	155	163	163	167	165	166	162	148	142	141	<i>136</i>	153	164	164	81.4
Maine.....	119	119	119	117	<i>116</i>	118	119	120	120	123	121	118	118	118	94.3
Massachusetts.....	1,094	1,111	1,120	1,119	1,104	1,098	1,095	1,078	1,085	1,080	1,078	1,081	<i>1,076</i>	1,076	96.1
Michigan.....	921	880	882	871	880	946	967	958	965	969	965	906	898	898	87.9
Mississippi.....	57	42	49	59	59	54	54	53	47	64	69	74	54	54	58.1
Montana.....	56	46	50	47	47	56	65	66	64	66	68	54	49	49	69.7
New Jersey.....	1,132	1,155	1,144	1,119	1,117	1,096	<i>1,088</i>	1,092	1,136	1,165	1,170	1,159	1,145	1,145	98.0
New York.....	7,984	8,211	7,886	7,880	7,710	7,579	7,550	8,171	8,302	8,300	8,332	8,097	7,785	7,785	90.6
North Carolina.....	85	85	85	85	86	85	88	87	85	85	84	85	84	84	94.3
Ohio.....	1,879	1,919	1,924	1,924	1,902	1,888	1,890	1,891	1,876	1,863	1,855	1,804	1,808	1,808	93.8
Oklahoma.....	190	200	195	194	201	198	194	194	196	196	198	204	212	212	91.5
Pennsylvania.....	2,173	2,236	2,240	2,222	2,220	2,187	2,164	2,164	2,169	2,156	2,113	2,106	2,121	2,121	94.0
Tennessee.....	293	289	289	300	294	291	294	290	293	302	292	292	293	293	95.7
Texas.....	742	748	735	734	729	734	733	738	740	747	758	754	749	749	96.2
Virginia.....	293	286	291	291	296	299	292	293	292	291	291	293	293	293	96.3
Washington.....	379	396	369	370	369	367	374	377	376	377	381	404	382	382	90.8
West Virginia.....	155	158	155	158	155	155	158	155	155	155	155	155	154	154	98.1
Wisconsin.....	687	634	638	636	642	669	701	749	741	732	729	704	668	668	84.6

STEAM-RAILROAD REPAIR SHOPS

Description of the industry.—Repair shops maintained by steam railroads for the purpose of making repairs on rolling stock and bridges are classified under the designation "Car and general construction and repairs, steam-railroad repair shops." The industry does not cover the operation of roundhouses in which incidental repairs are made but no machine-shop work is performed. Locomotives and cars, particularly the

latter, are built to some extent in repair shops, but the bulk of the work done in these shops consists in repairing and rebuilding.

Value of products.—The "value of products" shown for the industry represents, in general, the cost of materials plus the amounts of salaries and wages paid to shop employees.

TABLE 1.—SUMMARY FOR THE UNITED STATES: 1899 TO 1929

(Data for establishments with products under \$5,000 in value included for 1919 and prior years but not for 1921 and subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size)

YEAR OR PERIOD	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²	Horsepower
1929.....	1,861	368,681	\$590,202,724	\$515,532,452	\$1,184,435,262	\$668,872,810	1,076,723
1927.....	1,794	397,088	600,516,555	515,070,275	1,205,190,710	690,120,435	1,037,404
1925.....	1,842	425,234	619,834,382	533,907,796	1,248,886,559	714,959,063	934,839
1923.....	1,801	488,505	723,742,539	599,376,833	1,433,680,106	834,303,273	735,635
1921.....	1,766	385,006	624,180,594	473,010,966	1,180,030,133	707,019,167	(³)
1919.....	1,744	484,437	687,617,312	515,803,210	1,279,235,393	763,432,183	501,070
1914.....	1,362	339,618	234,509,088	243,826,607	514,041,225	270,212,618	433,904
1909.....	1,145	282,174	181,344,296	199,413,412	405,600,727	206,187,315	293,216
1904.....	1,140	236,870	142,152,748	151,104,801	309,775,089	158,670,288	167,900
1899.....	1,292	173,595	96,006,570	109,472,333	218,116,668	108,641,305	95,087
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929.....	3.2	-7.2	-1.7	0.1	-1.7	-3.1	3.8
1925-1927.....	-2.6	-0.6	-3.1	-3.5	-3.5	-3.5	11.0
1923-1925.....	2.3	-13.0	-14.4	-10.9	-12.9	-14.3	27.1
1921-1923.....	2.0	25.9	16.0	26.7	21.5	18.0	-----
1919-1921.....	1.3	-20.5	-9.2	-8.3	-7.8	-7.4	-----
1919-1929.....	6.1	-23.9	-14.2	(⁴)	-7.4	-12.4	82.2
1909-1919.....	52.3	71.7	279.2	158.7	215.4	270.3	101.6
1899-1909.....	-11.4	62.5	88.9	82.2	86.0	89.8	208.4

¹ See "Value of products," above.

² Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

³ Not called for on schedule.

⁴ Less than one-tenth of 1 per cent decrease.

CENSUS OF MANUFACTURES: 1929

TABLE 2.—GENERAL STATISTICS, BY STATES: 1929, 1927, AND 1919

[This table presents statistics separately for each State for which figures can be given without disclosing data for individual establishments, and for the remaining States in groups. Certain of the States for which figures are given in combination with those for others, however, reported larger values of products than some of the States shown separately. Data for establishments with products under \$5,000 in value are included for 1919 but not for subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

STATE	Census year	Number of establishments	Salaries of officers and employees	Wage earners (average for the year)	HORSEPOWER (RATED CAPACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products ¹	Value added by manufacture ¹
					Total	Prime movers	Motors run by purchased energy			Total	Materials	Fuel and purchased energy		
United States	1929	1,851	29,974	368,681	1,076,723	442,047	634,676	\$76,171,019	\$500,202,724	\$515,562,452	\$485,828,084	\$29,733,768	\$1,184,435,262	\$668,872,810
	1927	1,794	35,079	397,088	1,037,464	436,023	601,441	85,396,132	600,516,556	515,070,275	486,911,931	28,158,344	1,205,190,710	600,120,435
	1919	1,744	31,840	484,437	591,070	383,440	207,630	66,948,100	687,017,312	515,803,210	484,402,576	31,400,634	1,279,235,393	768,432,183
Individual States:														
Alabama	1929	20	422	7,183	15,738	5,535	10,203	062,800	10,459,395	6,281,375	5,961,995	319,380	17,724,476	11,443,101
	1927	20	550	7,521	13,866	4,975	8,891	1,291,517	10,896,299	7,073,085	7,688,754	284,331	20,187,869	12,214,784
	1919	20	626	8,065	10,275	7,516	2,759	1,215,537	12,139,646	7,755,091	7,390,769	304,322	21,233,519	13,478,425
Arkansas	1929	15	347	4,168	12,331	2,154	10,177	857,933	5,932,660	6,292,369	5,903,900	388,460	13,108,148	6,816,779
	1927	13	332	3,411	5,385	1,965	4,020	755,177	4,464,842	4,142,079	3,937,446	204,633	9,362,098	5,320,019
	1919	17	315	4,691	8,534	4,231	4,303	632,380	6,824,275	3,571,078	8,850,425	21,653	11,030,406	7,459,391
California	1929	66	1,019	13,838	36,318	5,589	30,729	2,429,152	21,367,194	17,065,799	15,989,373	1,076,420	40,878,914	23,810,121
	1927	64	1,062	13,653	34,744	5,974	28,770	2,651,391	20,287,037	16,693,364	16,043,163	660,201	39,938,975	23,245,611
	1919	60	993	16,213	15,598	2,879	12,719	2,014,676	24,069,704	15,760,909	14,284,057	1,476,852	41,920,975	26,166,060
Colorado	1929	28	373	4,357	15,376	4,274	11,102	874,879	6,611,834	5,340,342	4,963,612	376,730	12,896,035	7,565,093
	1927	29	343	4,792	13,916	4,449	9,466	822,293	7,031,034	5,510,337	5,140,595	369,742	13,390,000	7,885,753
	1919	30	422	5,739	8,282	4,783	3,499	750,949	8,585,725	5,648,187	5,244,405	303,782	15,130,423	9,482,266
Florida	1929	22	256	3,157	13,751	2,830	10,921	718,107	4,992,961	3,475,021	3,032,182	422,839	9,186,089	5,711,068
	1927	17	317	4,202	12,473	1,820	10,653	939,605	5,639,371	5,523,471	5,144,406	379,065	12,193,264	6,670,153
	1919	19	214	3,762	3,557	2,199	1,358	482,343	4,744,412	3,228,009	2,363,808	804,801	10,731,320	5,239,709
Georgia	1929	31	391	6,782	27,819	6,554	21,265	1,076,592	9,138,693	8,845,078	8,354,244	490,834	10,124,942	10,279,894
	1927	31	556	7,943	27,373	7,857	19,516	1,412,706	9,690,623	9,917,649	9,546,634	371,015	21,049,654	11,132,005
	1919	29	324	8,210	12,903	8,553	4,350	735,761	11,192,179	7,671,434	7,366,790	304,644	19,731,820	12,160,896
Idaho	1929	9	94	1,039	8,278	822	7,456	236,848	1,775,425	1,546,400	1,441,605	104,795	3,559,358	2,012,958
	1927	10	106	1,273	10,419	1,817	8,602	269,564	2,051,568	1,686,893	1,556,240	130,653	4,008,155	2,221,262
	1919	9	103	1,877	1,074	1,074	227,357	227,357	1,815,616	2,250,209	2,186,857	63,352	4,401,733	2,151,524
Illinois	1929	146	2,336	31,217	90,977	34,866	56,112	6,239,596	50,906,538	42,406,003	39,278,437	3,127,566	99,622,310	57,216,307
	1927	142	2,937	33,154	76,262	35,760	40,493	7,281,352	50,667,478	42,697,364	40,244,289	2,453,075	101,340,406	58,643,042
	1919	133	3,270	40,219	54,852	36,580	18,266	7,032,342	55,000,664	39,800,827	37,200,566	2,610,261	103,219,263	63,418,426
Indiana	1929	92	1,350	15,001	37,634	8,767	28,867	3,487,906	25,146,621	21,374,692	20,236,226	1,138,466	50,009,319	28,634,627
	1927	84	1,554	16,242	35,370	11,904	23,466	3,947,973	25,682,048	19,169,020	17,062,874	1,206,140	48,816,908	29,647,898
	1919	77	1,991	23,099	30,354	19,614	10,740	3,816,233	32,393,399	24,866,663	23,232,855	1,363,808	61,232,529	36,465,638
Iowa	1929	60	802	9,999	19,654	9,673	9,981	1,933,350	15,828,588	8,824,675	7,948,134	876,541	26,686,613	17,861,938
	1927	61	1,075	11,804	21,988	10,213	11,775	2,197,664	17,006,116	11,337,728	10,319,092	1,018,638	30,544,440	19,207,610
	1919	51	678	13,536	12,063	9,604	2,459	1,956,272	18,900,237	12,218,970	11,221,140	997,830	33,098,660	20,879,932
Kansas	1929	36	742	8,810	20,443	13,830	6,613	1,911,874	13,875,252	11,663,155	10,881,508	781,647	27,456,328	15,793,173
	1927	34	768	9,182	20,940	13,070	6,870	1,793,676	15,675,664	13,612,143	12,737,324	874,819	29,035,762	15,483,619
	1919	32	837	11,196	11,928	10,573	1,355	1,642,611	15,987,475	10,435,089	9,482,875	952,211	28,230,860	17,795,761
Kentucky	1929	27	731	12,723	18,819	7,790	11,029	1,764,726	10,327,420	11,842,749	11,102,443	650,286	33,054,363	21,211,614
	1927	28	872	13,776	13,997	4,468	9,527	2,067,026	10,127,634	13,994,079	13,478,848	515,231	36,188,752	22,194,680
	1919	30	752	12,372	8,799	8,133	660	1,402,202	17,125,442	11,937,248	11,543,602	113,746	30,597,962	18,640,714
Louisiana	1929	31	340	4,742	7,744	3,063	3,781	837,069	6,949,602	4,520,815	4,238,842	281,973	12,496,129	7,975,314
	1927	27	367	4,894	7,982	4,259	3,723	875,013	7,259,771	4,624,087	4,320,651	297,436	12,867,850	8,183,772
	1919	28	211	4,424	3,214	2,374	840	356,336	6,282,928	2,798,528	2,014,186	184,342	9,519,050	6,720,581
Maine	1929	10	153	983	4,044	80	3,964	342,107	1,370,310	1,508,360	1,378,212	130,178	3,228,451	1,720,061
	1927	11	150	1,239	3,636	44	3,592	324,238	1,871,206	1,811,509	1,815,731	115,638	4,007,015	2,105,440
	1919	16	108	1,721	2,466	968	1,588	241,527	2,738,157	1,750,414	1,625,422	130,992	4,743,759	2,987,345
Maryland	1929	19	449	7,504	24,670	8,419	16,257	1,221,753	12,168,198	14,631,102	14,121,552	500,550	28,021,053	13,398,951
	1927	20	511	8,460	24,963	8,417	16,548	1,382,536	12,504,182	14,721,414	14,260,379	461,035	36,943,897	14,008,568
	1919	17	479	8,363	14,341	6,946	7,395	962,278	11,627,441	9,407,892	9,128,451	369,441	22,837,066	13,339,174
Massachusetts	1929	15	459	4,144	12,253	6,606	5,647	1,159,661	6,892,429	9,532,184	9,163,870	368,305	17,884,274	8,062,090
	1927	16	491	4,833	13,896	5,299	8,597	1,251,432	7,842,010	11,860,861	11,346,900	543,961	20,934,303	9,063,442
	1919	14	536	7,724	11,259	8,534	2,725	992,518	11,271,695	10,290,548	9,862,210	428,338	22,637,990	12,347,442
Michigan	1929	47	538	7,328	27,755	3,440	24,315	1,346,986	11,506,628	10,095,822	9,860,896	734,026	22,962,343	12,806,521
	1927	50	521	6,926	39,041	4,641	34,400	1,320,386	11,352,793	10,017,316	9,844,928	672,388	22,721,975	12,704,659
	1919	36	554	7,625	11,079	3,543	7,536	1,072,624	9,862,344	6,228,642	5,751,550	477,086	17,223,189	10,994,547
Minnesota	1929	61	889	11,765	26,321	12,153	14,168	2,213,967	18,100,019	15,438,669	14,361,296	1,087,374	35,839,054	20,400,385
	1927	65	953	12,816	29,156	11,946	17,204	2,280,807	15,652,546	15,652,546	14,491,501	1,101,014	36,943,897	21,291,351
	1919	75	832	15,976	15,157	8,810	6,347	1,616,319	21,070,153	12,692,554	11,693,979	1,098,576	35,350,764	22,658,210
Mississippi	1929	17	182	2,217	6,858	762	6,096	462,652	3,354,206	2,036,051	1,880,284	146,767	6,574,451	3,838,400
	1927	16	212	2,464	7,349	1,296	6,053	584,133	3,767,511	2,263,530	2,104,003	159,527	6,673,850	4,372,084
	1919	13	236	4,030	4,433	1,557	2,876	484,827	5,618,985	4,058,886	3,863,643	205,343	10,225,791	6,166,906
Missouri	1929	61	848	10,660	28,352	14,469	13,883	2,013,275	15,646,782	15,816,304	14,970,470	845,834	33,478,409	17,062,105

STEAM-RAILROAD REPAIR SHOPS

1249

TABLE 2.—GENERAL STATISTICS, BY STATES: 1929, 1927, AND 1919—Continued

[See note at head of this table]

STATE	Cen- sus year	Num- ber of estab- lish- ments	Sala- ried officers and em- ployees	Wage earn- ers (aver- age for the year)	HORSEPOWER (RATED CA- PACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, FUEL, AND PUR- CHASED ELECTRIC ENERGY			Value of products ¹	Value added by manufac- ture ²
					Total	Prime movers	Motors run by pur- chased energy			Total	Materials	Fuel and purchased energy		
Individual States— Continued.														
Nevada	1929	17	102	1,222	5,016	2,362	2,654	\$250,681	\$2,053,272	\$1,538,588	\$1,342,360	\$196,228	\$3,557,357	\$2,318,769
	1927	18	114	1,182	4,131	1,592	2,530	281,058	1,839,070	1,194,488	1,080,934	113,554	3,421,202	2,226,714
	1919	13	89	1,750	3,810	2,184	1,632	187,540	2,304,593	1,474,638	1,311,357	163,261	3,991,838	2,517,200
New Jersey	1929	33	626	7,254	18,214	9,439	8,775	1,568,869	12,315,758	7,152,676	6,645,775	506,901	21,015,923	13,863,247
	1927	33	864	8,577	19,238	12,009	0,539	2,073,018	13,929,104	8,800,367	8,121,365	679,002	24,802,489	16,062,122
	1919	36	931	10,321	19,056	15,233	3,823	1,694,270	15,198,882	11,735,912	11,176,653	609,859	29,467,415	17,681,503
New York	1929	140	2,203	21,706	48,912	16,140	32,772	5,727,037	37,729,752	30,324,327	28,399,770	1,924,557	73,832,097	43,507,770
	1927	131	3,841	23,552	57,761	23,385	34,376	6,617,705	38,556,147	33,453,646	31,763,168	1,689,878	78,645,637	45,192,891
	1919	136	2,424	30,427	48,130	28,893	19,243	4,368,702	43,934,547	33,791,376	31,804,986	1,986,387	82,790,533	48,669,167
North Carolina	1929	15	215	4,059	9,882	2,889	6,993	547,093	5,959,250	6,672,672	5,832,194	240,778	12,579,459	6,566,487
	1927	16	319	4,611	9,825	2,671	7,154	567,062	6,363,212	7,216,179	6,994,746	221,433	14,447,435	7,291,256
	1919	11	210	4,671	3,432	2,796	642	596,718	5,737,259	7,648,583	7,417,667	230,918	13,898,873	6,260,288
North Dakota	1929	19	119	1,294	1,063	719	1,244	397,948	2,691,652	1,647,236	1,486,127	161,106	4,046,836	2,399,600
	1927	19	128	1,253	1,192	805	357	318,726	2,000,496	1,107,873	1,013,942	183,931	3,519,824	2,021,451
	1919	21	78	1,539	720	522	198	172,159	2,015,973	941,209	789,940	151,269	3,182,706	2,241,497
Ohio	1929	137	2,551	25,529	77,227	26,226	51,001	6,601,014	45,076,646	35,153,959	33,146,971	2,006,988	86,080,386	51,826,427
	1927	132	2,846	28,432	74,890	20,096	48,794	7,292,244	46,904,135	32,275,395	30,401,752	1,873,646	86,609,324	54,333,926
	1919	117	3,339	35,246	50,650	31,740	18,910	5,983,926	50,694,380	35,500,048	36,997,952	2,592,066	96,483,946	56,893,596
Oklahoma	1929	23	173	2,283	0,717	1,590	5,127	455,241	3,617,601	2,519,143	2,303,124	216,019	6,593,298	4,074,065
	1927	19	155	2,038	0,637	3,130	3,407	404,145	2,853,224	1,599,650	1,715,995	183,655	5,157,019	3,257,369
	1919	12	141	2,087	2,130	1,281	849	296,218	3,777,544	2,055,100	1,859,662	195,108	6,149,067	4,093,067
Oregon	1929	16	160	2,558	6,837	1,102	5,735	412,258	3,976,178	3,995,266	3,806,658	188,608	8,464,488	4,400,222
	1927	22	188	2,567	6,682	630	5,952	325,788	3,428,617	3,260,261	183,931	7,519,824	4,148,533	
	1919	21	173	2,751	2,938	793	2,176	353,146	3,663,827	2,454,335	2,232,075	222,263	6,472,962	4,018,624
Pennsylvania	1929	194	4,625	53,391	145,828	94,081	51,747	12,065,763	89,837,983	103,019,944	99,532,594	3,487,350	295,363,042	162,343,098
	1927	171	5,750	56,784	144,030	70,108	73,622	14,311,412	88,837,030	88,247,578	84,788,512	3,459,066	193,968,367	105,740,809
	1919	195	3,598	78,749	90,678	72,419	18,259	10,337,448	115,028,406	103,163,517	98,479,050	4,684,467	231,593,870	128,970,358
South Carolina	1929	9	84	1,773	4,149	358	3,791	224,355	2,516,192	1,897,961	1,793,241	104,720	4,638,508	2,740,547
	1927	10	164	2,088	4,514	897	3,617	447,708	2,769,901	2,857,120	2,764,272	92,848	6,074,729	3,217,809
	1919	8	117	1,911	7,13	681	3,12	268,577	2,694,780	2,162,151	2,132,894	29,347	5,137,658	2,975,507
South Dakota	1929	15	64	775	1,318	275	1,043	168,895	1,212,823	561,012	451,286	109,726	1,942,730	1,881,718
	1927	14	169	842	1,211	235	976	174,639	1,304,837	698,361	573,248	125,113	2,177,837	1,479,476
	1919	15	73	1,222	878	878	-----	134,554	1,939,062	885,843	756,871	98,972	2,970,399	2,084,556
Tennessee	1929	23	561	8,955	24,898	8,300	16,598	1,399,490	13,432,581	10,652,021	9,926,748	725,273	25,484,092	14,832,071
	1927	21	651	9,211	29,303	9,151	14,152	1,633,030	12,839,356	9,750,685	9,447,133	303,552	24,223,071	14,472,886
	1919	20	664	10,173	9,627	4,714	4,913	1,228,203	14,901,103	10,519,742	10,212,234	307,508	26,678,505	16,188,823
Texas	1929	103	1,064	14,633	44,031	11,751	32,280	2,630,383	21,603,981	18,601,583	17,209,976	1,391,607	43,006,826	24,406,843
	1927	103	1,163	14,718	38,012	11,461	29,551	2,778,104	21,206,460	19,499,568	18,006,038	1,493,530	43,560,670	24,061,102
	1919	85	1,037	16,703	17,233	9,121	8,112	2,687,710	24,109,080	14,270,021	12,990,983	1,279,038	41,486,708	27,216,682
Utah	1929	11	160	1,980	7,503	1,090	6,413	396,144	3,390,451	2,421,360	2,227,180	194,180	2,207,955	3,786,595
	1927	10	163	2,069	7,174	931	6,243	406,008	3,168,126	2,216,565	2,036,214	180,351	5,790,709	3,574,144
	1919	9	155	3,318	3,415	1,588	1,827	337,023	4,911,633	3,233,937	3,003,376	230,561	8,584,993	5,351,056
Vermont	1929	6	76	820	2,697	83	2,614	139,842	1,199,980	812,583	723,792	88,791	2,152,405	1,339,822
	1927	5	77	715	2,863	960	1,903	149,476	1,055,167	703,153	652,531	50,622	1,907,796	1,204,643
	1919	6	73	1,566	2,616	252	1,703	119,773	2,225,997	2,267,286	2,112,000	155,286	4,607,671	2,340,386
Virginia	1929	41	889	12,134	32,111	14,731	17,380	2,313,286	18,390,598	12,562,131	11,880,587	681,544	33,271,215	20,709,064
	1927	41	226	13,055	39,390	14,710	18,680	2,554,301	18,563,833	17,060,235	16,320,070	700,156	38,229,919	21,149,684
	1919	31	828	12,080	19,081	7,841	11,240	1,678,198	16,724,377	14,332,911	13,692,816	640,065	32,777,078	18,444,167
Washington	1929	36	331	4,990	15,206	1,407	13,859	859,544	8,036,310	7,924,930	7,582,369	342,621	16,846,373	8,921,443
	1927	34	406	5,189	12,968	1,133	11,835	839,375	7,556,749	5,806,035	5,497,482	308,553	14,220,808	8,414,768
	1919	35	333	6,480	6,785	1,865	4,920	646,300	8,476,604	5,723,811	5,290,982	432,829	14,925,008	9,217,197
West Virginia	1929	46	708	9,935	93,556	69,471	24,085	1,891,252	15,531,025	10,096,187	15,267,237	828,950	33,518,553	17,422,366
	1927	41	748	11,578	88,877	70,556	18,321	2,017,555	16,674,250	14,981,283	14,138,352	822,931	38,004,644	18,623,361
	1919	38	691	11,609	12,332	10,253	2,079	1,362,190	16,065,221	10,475,730	9,889,339	856,391	28,248,459	17,772,759
Wisconsin	1929	48	960	8,473	10,506	5,442	5,064	2,196,119	12,990,323	9,404,565	8,753,946	650,619	24,590,243	15,185,678
	1927	50	950	9,709	10,836	5,966	4,873	2,133,285	14,720,439	9,375,658	8,581,647	794,211	26,229,573	16,853,715
	1919	58	672	12,491	6,959	6,267	1,692	1,471,785	16,360,414	18,957,183	18,074,639	882,484	36,790,522	17,833,339
Wyoming	1929	13	151	2,213	6,916	392	6,524	544,925	3,602,698	3,489,015	3,200,049	288,966	7,636,683	4,147,668
	1927	13	153	2,120	6,653	550	6,103	432,007	3,227,703	3,487,064	3,232,909	254,155	7,150,737	3,663,078
	1919	16	255	3,057	6,573	2,384	4,189	513,538	5,284,652	3,256,626	3,058,883	197,743	9,111,184	5,854,538
Groups of States:														
Ariz., 11 est.; Del. 5, D. C., 2; N. Mex., 11	1929	29	409	5,036	13,170	7,757	5,413	1,271,945	8,885,139	5,822,310	5,353,502	468,808	15,974,392	10,157,682
Conn., 10 est.; N. H., 2; R. I., 2	1929	14												

TABLE 3.—DETAILED STATISTICS OF WORK PERFORMED, FOR THE UNITED STATES: 1923 TO 1929

	1929	1927	1925	1923
Work done and products manufactured:				
Aggregate value.....	\$1,184,435,262	\$1,205,190,710	\$1,248,806,859	\$1,433,080,108
Motive-power and machinery departments—				
Total value.....	\$592,292,798	\$603,869,975	\$622,344,073	\$720,204,003
Locomotives built ¹ —				
Number ²	70	97	119	105
Value.....	\$3,164,413	\$5,172,444	\$4,061,453	\$6,321,692
Repairs to locomotives, etc., value.....	\$431,924,697	\$452,436,474	\$469,035,512	\$555,774,695
Work for other corporations, value.....	\$10,492,867	\$10,276,138	\$10,257,608	\$13,810,112
Other work and products, value.....	\$146,710,821	\$135,934,919	\$138,989,505	\$144,388,504
Car departments—				
Total value.....	\$534,966,422	\$522,590,245	\$540,753,100	\$628,462,029
Cars built—				
Total value ³	\$22,947,182	\$21,600,662	\$6,908,335	\$15,703,831
Passenger—				
Number.....	83	56	10	5
Value.....	\$1,401,619	\$1,030,564	\$207,279	\$77,846
Freight—				
Number.....	12,547	10,304	3,351	10,179
Value.....	\$20,868,190	\$20,034,708	\$5,912,283	\$14,600,823
Other—				
Number.....	45	202	282	404
Value.....	\$617,373	\$635,300	\$788,773	\$1,110,162
Repairs to cars, all kinds, value.....	\$433,939,278	\$414,878,583	\$451,813,926	\$504,160,172
Work for other corporations, value.....	\$14,237,121	\$17,567,530	\$19,104,030	\$24,354,562
Other work and products, value.....	\$63,851,841	\$68,552,464	\$62,920,809	\$84,238,364
Bridge and building departments (shop work only), total value.....	\$4,239,863	\$4,927,501	\$5,316,408	\$6,959,903
Repairs and renewals, value.....	\$3,369,513	\$4,232,760	\$4,774,126	\$5,782,779
Work for other corporations, value.....	\$18,502	\$43,329	\$60,206	\$77,555
Other work and products, value.....	\$854,848	\$651,412	\$482,076	\$1,099,569
Other work done and products manufactured, not reported in detail, value.....	\$52,936,179	\$73,793,989	\$80,453,273	\$77,062,371

¹ The figures given in this table refer only to locomotives built in steam-railroad repair shops. Steam and internal-combustion locomotives are built principally by establishments classified in the "Locomotives, not made in railroad repair shops" industry; and electric locomotives are built principally by establishments classified in the "Electrical machinery, apparatus, and supplies" industry.

² Includes, for 1929, 2 electric locomotives; for 1927, 10. The values of these locomotives are included in the corresponding value items but are not given separately in order to avoid disclosing data reported by individual establishments.

³ The figures given in this table refer only to cars built in steam-railroad repair shops. Railroad cars are built principally in the "Cars, electric and steam railroad not built in railroad repair shops" industry. Tables 3 and 4 of the report for that industry show the total production of cars both in the industry proper and in railroad repair shops.

⁴ Revised.

TABLE 4.—PRIME MOVERS, MOTORS, GENERATORS, AND CONSUMPTION OF PURCHASED ELECTRIC ENERGY—NUMBER AND RATED CAPACITY OF PRIME MOVERS AND ELECTRIC MOTORS, 1929, 1927, 1925, 1919, AND 1914, AND OF GENERATORS, 1929, 1927, AND 1925; QUANTITY OF ELECTRIC ENERGY PURCHASED, 1929

TYPE	1929		1927		1925		1919		1914		PER CENT DISTRIBUTION OF RATED HORSEPOWER CAPACITY	
	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	1929	1919
Prime movers and electric motors driven by purchased energy, aggregate.....	42,071	Horse-power 1,076,723	39,998	Horse-power 1,037,464	32,637	Horse-power 934,839	14,295	Horse-power 591,070	8,245	Horse-power 433,904	100.0	100.0
Prime movers, total.....	1,996	442,047	2,212	436,023	2,205	420,224	2,659	383,440	2,716	321,842	41.1	64.9
Steam, total.....	1,892	437,538	2,066	429,081	2,060	415,549	2,490	375,606	2,514	323,634	40.6	63.5
Engines.....	1,676	267,550	1,861	282,242	1,890	286,215	2,358	325,738	(1)	(1)	24.8	55.1
Turbines.....	216	169,988	205	146,839	170	120,334	132	49,808	(1)	(1)	15.8	8.4
Internal-combustion engines.....	99	4,359	142	6,460	142	4,643	158	6,993	175	5,916	.4	1.2
Water wheels and water turbines.....	5	150	4	482	3	32	11	841	27	1,792	(?)	.1
Electric motors driven by purchased energy.....	40,075	634,676	37,786	601,441	30,432	514,615	11,636	207,630	5,529	102,562	58.9	35.1
Electric motors, total.....	59,841	912,923	55,830	865,730	47,180	775,653	30,185	500,141	19,056	325,054	100.0	100.0
Driven by purchased energy.....	40,075	634,676	37,786	601,441	30,432	514,615	11,636	207,630	5,529	102,562	69.5	41.5
Driven by energy generated in establishments reporting.....	19,766	278,247	18,044	264,289	16,748	260,938	18,549	292,511	13,527	222,492	30.5	58.5
Electric generators.....	562	Kilowatts 179,664 Kilowatt hours	729	Kilowatts 172,310	882	Kilowatts 142,451	(?)	(?)	(?)	(?)		
Electric energy purchased ⁴		529,950,666		(?)		(?)		(?)		(?)		

¹ Not called for separately on schedule.

² Less than one-tenth of 1 per cent.

³ Not called for on schedule.

⁴ This item covers the consumption of purchased electric energy for all purposes—power, heat, light, etc.

⁵ Data incomplete.

STEAM-RAILROAD REPAIR SHOPS

1251

TABLE 5.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1929, 1925, 1919, 1914, AND 1909, AND BY STATES, 1929

[This table presents statistics for only those States for which figures can be given without disclosing data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures, and that of minimum employment by *italic* figures.]

STATE	Average number employed during year	NUMBER EMPLOYED ON 15TH DAY OF MONTH OR NEAREST REPRESENTATIVE DAY												Per cent minimum is of maximum	
		January	February	March	April	May	June	July	August	September	October	November	December		
United States:															
1929	368,081	370,691	373,890	373,051	370,205	368,848	368,102	366,874	367,010	367,856	369,733	367,533	369,884	96.7	
1925	425,234	438,141	438,308	434,680	427,036	419,800	420,597	420,062	416,961	417,119	421,134	423,527	425,441	95.1	
1919	484,437	487,141	494,047	472,266	467,674	469,995	467,919	475,870	480,705	493,057	502,119	507,617	511,134	91.0	
1914	339,518	343,580	340,026	340,983	333,423	332,026	332,735	343,576	345,276	347,031	345,195	338,300	331,967	95.4	
1909	282,174	278,795	273,078	273,022	269,502	268,760	272,165	276,061	284,253	292,042	296,302	299,381	301,539	89.1	
Alabama	7,183	7,348	7,332	7,356	7,405	7,371	7,299	7,094	6,957	6,965	7,110	7,066	6,963	94.0	
Arkansas	4,168	4,172	4,286	4,260	4,124	4,188	4,116	4,104	4,118	4,156	4,207	4,209	4,079	95.2	
California	13,838	13,880	13,834	13,872	13,956	13,800	13,886	13,667	13,578	13,772	14,059	14,044	14,006	96.6	
Colorado	4,357	4,359	4,256	4,278	4,317	4,386	4,375	4,370	4,370	4,454	4,361	4,324	4,439	95.6	
Florida	3,157	3,259	3,308	3,239	3,239	3,212	3,206	2,995	2,969	3,071	3,061	3,149	3,183	89.8	
Georgia	6,782	6,911	6,888	6,915	6,868	6,863	6,852	6,748	6,726	6,702	6,696	6,668	6,640	95.5	
Idaho	1,039	983	1,011	1,041	1,007	1,036	1,036	1,044	1,057	1,072	1,064	1,066	1,054	90.7	
Illinois	31,217	31,086	31,871	31,770	31,274	30,886	30,962	31,007	31,373	31,495	31,776	31,369	29,735	93.3	
Indiana	15,001	15,159	15,247	14,993	14,796	14,854	14,789	14,856	15,029	15,029	15,348	15,303	14,843	96.4	
Iowa	9,999	9,983	10,106	10,169	10,040	9,926	10,050	10,054	10,050	10,026	10,008	9,924	9,662	95.1	
Kansas	8,810	8,931	8,854	8,784	8,693	8,638	8,720	8,945	8,914	8,876	8,888	8,807	8,669	96.6	
Kentucky	12,723	13,000	13,049	12,930	12,839	12,798	12,696	12,684	12,683	12,665	12,595	12,563	12,388	94.9	
Louisiana	4,742	4,704	4,707	4,820	4,756	4,794	4,788	4,727	4,670	4,637	4,717	4,756	4,738	96.2	
Maine	983	1,058	1,033	1,044	1,027	992	982	982	982	982	977	977	1,055	87.1	
Maryland	7,504	7,559	7,612	7,583	7,487	7,464	7,459	7,481	7,477	7,483	7,503	7,483	7,458	98.0	
Massachusetts	4,144	4,107	4,163	4,177	4,156	4,158	4,159	4,146	4,118	4,118	4,122	4,145	4,166	98.3	
Michigan	7,328	7,302	7,460	7,488	7,491	7,383	7,399	7,370	7,374	7,415	7,403	7,403	7,600	95.6	
Minnesota	11,765	11,751	11,768	11,800	11,808	11,806	11,719	11,672	11,808	11,845	11,840	11,750	11,802	97.8	
Mississippi	2,217	2,186	2,225	2,260	2,231	2,223	2,224	2,261	2,275	2,253	2,215	2,199	2,073	91.1	
Missouri	10,660	10,356	10,401	10,513	10,662	10,638	10,752	10,800	10,894	10,883	10,952	10,716	10,453	94.5	
Montana	3,406	3,366	3,372	3,374	3,412	3,389	3,406	3,422	3,444	3,426	3,414	3,438	3,469	97.7	
Nebraska	4,380	4,289	4,298	4,316	4,309	4,334	4,485	4,454	4,539	4,428	4,428	4,327	4,198	91.7	
Nevada	1,222	1,207	1,196	1,201	1,189	1,184	1,191	1,212	1,220	1,252	1,234	1,272	1,250	91.5	
New Jersey	7,264	7,435	7,548	7,492	7,420	7,451	7,240	7,158	7,070	7,164	7,043	7,024	7,063	92.8	
New York	21,706	22,024	22,049	21,935	21,876	21,574	21,574	21,224	21,322	21,598	21,946	22,034	21,843	95.9	
North Carolina	4,059	4,060	4,073	4,131	4,121	4,167	4,181	4,008	3,955	3,962	4,010	4,005	3,967	94.6	
North Dakota	1,294	1,289	1,284	1,261	1,246	1,253	1,255	1,201	1,355	1,349	1,322	1,333	1,277	92.0	
Ohio	25,523	25,854	25,941	25,766	25,430	25,489	25,505	25,536	25,622	25,526	25,790	25,263	24,667	94.9	
Oklahoma	2,283	2,269	2,269	2,262	2,262	2,276	2,280	2,280	2,282	2,326	2,356	2,315	2,288	94.5	
Oregon	2,568	2,598	2,625	2,624	2,566	2,488	2,505	2,530	2,582	2,563	2,556	2,535	2,526	94.8	
Pennsylvania	53,391	54,260	54,475	54,459	53,677	53,343	53,078	53,169	53,012	52,892	52,942	53,010	52,440	96.3	
South Carolina	1,773	1,648	1,724	1,746	1,814	1,833	1,809	1,721	1,696	1,762	1,848	1,846	1,830	89.2	
South Dakota	775	781	784	784	777	760	765	760	781	790	784	762	755	95.4	
Tennessee	8,955	8,758	8,888	9,007	9,002	9,037	9,093	8,943	8,827	8,904	9,072	9,065	8,836	96.3	
Texas	14,633	14,790	14,808	14,930	14,770	14,728	14,669	14,745	14,538	14,538	14,489	14,367	14,420	96.0	
Utah	1,080	1,023	1,050	1,060	1,067	1,079	2,000	1,988	2,010	2,019	1,992	2,013	1,956	95.2	
Vermont	820	822	838	838	827	827	827	837	801	806	805	801	807	95.6	
Virginia	12,134	12,280	12,429	12,417	12,349	12,308	12,291	12,027	11,946	11,908	11,897	11,946	11,809	95.0	
Washington	4,990	4,895	4,893	5,016	4,985	5,016	4,940	4,966	5,033	5,038	5,050	5,052	4,977	96.9	
West Virginia	9,935	10,260	10,269	10,167	9,974	9,961	9,995	9,978	9,949	10,009	9,881	9,468	8,872	90.3	
Wisconsin	8,473	8,451	8,635	8,539	8,577	8,580	8,527	8,388	8,513	8,505	8,516	8,468	8,167	94.6	
Wyoming	2,213	2,115	2,120	2,152	2,190	2,192	2,200	2,200	2,287	2,306	2,295	2,260	2,182	91.6	

Group 16.—MISCELLANEOUS INDUSTRIES

THE GROUP AS A WHOLE

Some of the industries in this group can not be properly classified in any of the other groupings because of the varied character of materials used, and others because of the peculiar nature or use of the products made. To a large extent the industries in Group 16 are those which use as their materials the products of certain industries in other groups. This group includes a few industries, however, which use strictly raw materials, such as tobacco for the manufacture of cigars, cigarettes, and other tobacco products; bone and shell for making buttons, hairpins, and fancy articles; broomcorn for brooms; straw for straw hats; and sand for foundry supplies and sandpaper.

Group 16 includes also a class of industries whose manufacturing operations consist principally in processes or treatments which prepare commodities for the trade or the market but produce little change in their character. These industries include "Feathers, plumes, and manufactures thereof," "Furs, dressed," "Hair work," and "Lapidary work."

This group differs slightly from the corresponding one as constituted at the census for 1927, the changes being as follows:

(1) Establishments engaged solely or primarily in dental-laboratory work, formerly classified in the "Dental goods, including dental-laboratory work"

industry, are no longer canvassed. The title of the industry has accordingly been changed to "Dental goods and equipment."

(2) The former "Pens, steel and brass" industry, in Group 11, and the former "Pens, gold" industry, in Group 12, have been combined with the former "Pens, fountain, and stylographic," industry, in Group 16, under the title "Pens, fountain, and stylographic; pen points, gold, steel, and brass."

(3) Establishments engaged in the quarrying and crushing of stone for paving materials, formerly classified in the "Paving materials, not elsewhere classified" industry, have been transferred to the "Miscellaneous stone" industry, which is covered by the Decennial Census of Mines and Quarries, and are no longer treated as manufacturing establishments.

(4) Establishments whose principal products are carbon paper and inked ribbons, formerly assigned to the "Typewriters and supplies" industry, in Group 13, have been classified separately under the industry title "Carbon paper and inked ribbons," in Group 16.

Summary statistics for the group, by industries, are given in the following table; and detailed reports for the individual industries are presented on pages 1258 to 1391.

SUMMARY FOR GROUP 16.—MISCELLANEOUS INDUSTRIES: 1914 TO 1929

[The totals for the group as a whole and for the "Other industries" subgroup for 1927 have been revised for comparison with 1929 by adding the figures for "Carbon paper and inked ribbons," formerly a part of the "Typewriters and supplies" industry, in Group 13; and those for 1927 and prior years have been revised by adding the figures for "Pens, steel and brass," formerly in Group 11, and for "Pens, gold," formerly in Group 12 (see footnotes 4 and 8), and by deducting the figures for "Enameling and japanning," formerly a separate industry classification in Group 16 but now included in the "Stamped ware, enameled ware, and metal stamping, enameling, japanning, and lacquering" industry, in Group 12. Data for establishments with products under \$5,000 in value included for 1919 and 1914 but not for subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size.]

Industry	Census year	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, containers for products, fuel, and purchased electric energy	Value of products	Value added by manufacture ¹	Horse-power
Aggregate for the group.....	1929	14,620	417,467	\$500,581,672	\$1,359,360,806	\$3,426,319,134	\$2,066,958,628	664,371
	1927	14,320	440,456	529,676,055	1,378,169,468	3,217,090,159	1,938,929,691	837,680
	1925	14,216	439,503	508,749,895	1,351,609,948	3,125,318,940	1,773,708,992	732,559
	1923	15,439	475,481	528,885,828	1,429,535,649	3,003,597,298	1,674,061,749	701,511
	1921	15,762	418,221	442,099,510	1,315,607,395	2,557,958,775	1,242,351,380	(²)
	1919	25,195	516,754	511,812,383	1,461,746,515	2,095,478,628	1,533,732,111	751,116
	1914	26,537	442,317	227,722,928	663,691,216	1,270,703,669	667,012,453	449,512
Musical instruments and phonographs, total.....	1929	375	33,941	43,608,242	67,353,463	176,830,335	109,470,872	87,576
	1927	431	42,985	60,761,435	90,158,731	226,362,120	136,203,389	102,105
	1925	461	46,980	62,501,841	98,766,497	231,686,552	132,926,055	97,318
	1923	535	58,329	75,395,851	123,600,029	282,531,628	158,931,499	90,229
	1921	600	45,113	54,493,504	94,987,606	212,988,764	118,001,158	(²)
	1919	778	68,741	75,867,659	137,459,827	320,905,149	183,445,322	91,040
	1914	737	48,768	30,854,658	49,323,415	119,088,728	70,365,313	57,526
Organs.....	1929	62	2,389	3,603,631	3,090,676	11,322,730	8,232,060	4,740
	1927	63	2,770	4,363,731	4,494,449	15,438,623	10,944,174	4,332
	1925	57	2,460	3,609,586	3,748,942	12,283,089	8,534,147	3,983
	1923	59	1,855	2,661,804	2,802,566	9,602,692	6,800,126	2,902
	1921	56	2,346	3,342,795	3,730,917	10,184,854	6,453,987	(²)
	1919	68	1,941	1,978,518	2,217,097	5,973,268	3,756,171	3,245
	1914	85	3,063	1,993,415	2,659,980	6,297,348	3,637,368	3,666

See footnotes at end of summary.

MISCELLANEOUS INDUSTRIES

1253

SUMMARY FOR GROUP 16.—MISCELLANEOUS INDUSTRIES: 1914 TO 1929—Continued

[See note at head of this Summary]

Industry	Census year	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, containers for products, fuel, and purchased electric energy	Value of products	Value added by manufacture	Horse-power
Musical instruments and phonographs—Contd.								
Pianos.....	1929	81	9,970	\$14,000,826	\$18,866,437	\$42,501,375	\$23,634,938	27,193
	1927	124	16,582	23,890,846	33,898,668	75,490,681	41,592,013	29,725
	1925	142	20,079	28,096,207	49,295,643	101,180,777	51,885,134	26,912
	1923	160	22,208	30,679,198	54,178,803	111,139,398	56,980,595	26,859
	1921	185	15,836	18,687,126	38,651,996	73,639,912	34,987,916	(2)
	1919	101	22,957	25,474,200	54,364,656	107,088,650	52,723,394	28,697
1914	255	23,877	15,704,679	29,091,045	62,775,035	33,683,990	25,838	
Piano and organ parts and materials.....	1929	67	3,000	3,597,210	4,247,919	11,883,098	7,635,179	11,099
	1927	85	5,399	6,693,645	9,657,350	22,214,731	12,587,381	14,185
	1925	94	8,618	10,131,137	15,295,335	36,836,238	21,542,603	15,734
	1923	99	9,672	11,243,188	17,019,395	38,838,735	21,819,340	15,478
	1921	89	5,569	5,969,804	8,221,840	15,567,436	10,375,796	(2)
	1919	113	11,009	10,467,137	16,693,140	36,789,627	20,096,487	15,716
1914	138	10,616	5,654,557	9,501,766	19,875,762	10,373,696	14,569	
Musical instruments and parts and materials, not elsewhere classified.....	1929	100	3,176	4,580,720	3,825,294	14,274,078	10,448,784	6,060
	1927	99	4,018	5,737,005	4,640,553	17,891,948	13,251,395	5,356
	1925	100	4,556	6,519,956	5,575,183	20,329,301	14,754,118	4,907
	1923	106	4,103	5,841,976	4,348,938	15,619,438	11,270,500	3,830
	1921	116	3,424	4,520,029	3,325,345	12,353,778	9,028,433	(2)
	1919	240	4,113	3,984,656	4,444,729	12,506,334	8,061,605	3,219
1914	241	1,831	1,160,512	1,022,584	3,624,667	2,002,083	1,765	
Phonographs.....	1929	59	14,416	17,825,855	37,323,137	96,849,048	59,525,911	38,483
	1927	60	14,216	20,176,208	37,467,711	93,296,137	57,828,426	48,507
	1925	68	11,267	14,144,955	24,847,094	61,057,147	36,210,053	45,782
	1923	111	20,491	24,969,685	45,250,327	107,311,265	62,060,938	41,160
	1921	154	17,938	21,773,750	41,057,508	98,212,784	57,165,276	(2)
	1919	166	28,721	33,963,148	59,740,265	158,547,870	98,807,665	40,163
1914	18	9,381	6,341,495	7,048,040	27,115,916	20,067,876	11,688	
Tobacco manufactures, total.....	1929	1,788	116,119	94,578,749	429,272,352	1,246,241,839	816,969,487	64,984
	1927	2,156	159,209	105,950,631	429,646,519	1,163,768,379	743,161,866	52,385
	1925	2,623	132,132	111,558,170	425,769,366	1,091,000,981	665,231,715	42,075
	1923	3,672	146,337	120,462,233	515,864,960	1,044,192,405	628,327,425	43,515
	1921	4,372	149,985	120,903,492	608,688,363	1,048,489,507	439,841,234	(2)
	1919	10,241	157,097	123,988,084	483,567,754	1,012,933,213	529,365,459	43,390
1914	13,951	178,872	77,856,100	297,133,584	460,165,322	283,031,638	34,756	
Cigars and cigarettes.....	1929	1,636	105,308	85,623,298	356,778,023	1,066,908,888	710,150,865	49,517
	1927	1,997	116,174	94,589,211	335,356,075	965,523,702	630,167,627	35,819
	1925	2,445	117,108	99,373,421	331,350,626	874,814,564	543,463,938	24,534
	1923	3,466	130,036	107,723,504	369,491,203	821,226,819	451,735,616	24,894
	1921	4,146	133,357	108,161,040	452,211,828	806,748,865	354,537,037	(2)
	1919	9,926	138,773	111,313,348	353,297,366	773,662,495	420,365,129	24,497
1914	13,515	152,802	68,306,398	130,529,525	314,884,297	184,354,772	13,483	
Tobacco: Chewing and smoking, and snuff.....	1929	152	10,811	8,955,451	72,494,329	179,332,951	106,838,622	15,467
	1927	159	13,125	10,661,420	85,510,438	198,244,677	112,934,239	16,566
	1925	178	15,024	12,184,749	94,418,640	216,186,417	121,767,777	17,541
	1923	206	16,301	12,738,729	146,573,777	222,965,586	76,591,809	18,621
	1921	226	16,628	12,742,452	156,476,535	241,740,732	85,284,197	(2)
	1919	365	18,324	12,674,736	130,270,388	239,270,718	109,000,350	18,893
1914	436	25,980	9,549,702	76,004,059	175,280,925	98,676,866	21,273	
Other industries, 2 total.....	1929	12,457	268,307	362,394,651	862,734,691	2,003,246,960	1,140,512,269	511,812
	1927	11,733	208,172	363,663,889	867,335,224	1,926,959,660	1,059,624,436	683,190
	1925	11,132	200,391	354,089,884	827,680,185	1,862,631,407	975,551,222	593,166
	1923	11,232	270,815	332,527,744	790,070,540	1,676,873,365	886,802,825	567,767
	1921	10,790	224,123	266,762,514	611,931,426	1,296,480,414	684,548,988	(2)
	1919	14,126	200,016	311,956,640	840,718,934	1,661,640,264	830,921,330	616,686
1914	11,849	214,677	119,012,170	347,234,217	660,849,719	313,615,502	357,230	
Artificial and preserved flowers and plants.....	1929	191	3,216	3,217,642	5,527,451	14,425,420	8,897,969	625
	1927	190	4,715	5,050,438	7,888,833	19,576,337	11,687,504	541
	1925	187	4,305	4,286,651	7,264,858	17,823,841	10,558,983	787
	1923	223	4,690	4,501,701	8,692,238	19,649,862	10,957,624	847
	1921	201	3,883	3,820,652	5,849,789	14,188,221	8,338,432	(2)
	1919	224	4,138	3,740,911	7,004,646	16,143,165	9,138,519	468
1914	217	4,808	1,990,768	3,266,868	7,614,049	4,407,181	237	
Artists' materials.....	1929	68	1,167	1,428,728	4,155,317	9,459,565	5,304,248	3,397
	1927	61	1,211	1,428,983	3,771,503	8,204,521	4,483,018	3,250
	1925	62	1,317	1,567,746	3,802,420	8,320,776	4,518,356	2,982
	1923	61	1,411	1,747,175	4,355,150	8,638,744	4,283,594	4,902
	1921	55	1,008	1,198,814	3,989,642	6,959,796	2,970,124	(2)
	1919	58	926	895,764	2,687,226	5,507,656	2,820,430	3,206
1914	44	604	314,504	2,064,716	3,237,729	1,178,013	1,860	
Brooms.....	1929	407	4,542	4,169,087	9,647,688	19,166,353	9,518,665	4,672
	1927	394	4,450	4,274,888	9,175,710	18,444,912	9,269,202	4,401
	1925	421	4,725	4,655,656	11,213,881	21,714,194	10,509,813	3,899
	1923	444	4,730	4,481,045	14,852,827	26,261,834	11,329,607	4,660
	1921	459	4,302	3,871,895	10,417,147	18,188,376	7,771,239	(2)
	1919	1,034	6,313	5,708,885	17,365,109	30,266,267	12,840,158	6,037
1914	868	5,642	2,624,106	7,883,613	14,084,959	6,201,346	4,495	
Brushes, other than rubber.....	1929	303	7,261	7,962,538	21,688,253	45,549,270	23,861,017	11,915
	1927	302	7,673	8,244,032	22,653,058	47,844,124	25,291,066	12,093
	1925	302	7,836	8,452,209	22,021,444	45,824,215	23,802,771	11,220
	1923	306	8,719	9,208,272	25,569,661	50,511,239	24,941,878	10,276
	1921	1,277	6,460	6,415,340	18,664,652	38,544,514	16,879,862	(2)
	1919	379	7,968	7,113,201	19,598,133	39,065,607	19,407,474	7,307
1914	359	7,213	3,461,271	9,326,655	17,894,470	8,667,821	6,298	

See footnotes at end of summary.

CENSUS OF MANUFACTURES: 1929

SUMMARY FOR GROUP 16.—MISCELLANEOUS INDUSTRIES: 1914 TO 1929—Continued

[See note at head of this Summary]

Industry	Census year	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, containers for products, fuel, and purchased electric energy	Value of products	Value added by manufacture ¹	Horse-power
Other industries—Continued.								
Buttons.....	1929	242	9,034	8,813,927	11,501,401	28,977,919	17,476,518	14,015
	1927	229	9,642	9,435,821	11,237,579	20,130,168	17,892,580	15,899
	1925	289	11,513	10,893,176	12,372,646	32,458,435	20,085,780	15,840
	1923	336	11,869	11,239,008	16,199,582	32,750,190	19,550,608	15,384
	1921	346	9,089	8,511,449	10,405,511	26,533,891	16,128,380	(²)
	1919	557	15,577	13,772,599	16,745,357	41,840,459	25,095,102	15,700
	1914	517	14,511	6,424,399	8,702,200	20,711,979	12,009,779	14,009
Carbon paper and inked ribbons ⁴	1929	57	1,251	1,702,358	7,990,763	17,295,140	9,304,387	3,642
	1927	49	1,078	1,514,230	6,019,758	13,793,128	7,773,370	3,267
Combs and hairpins, not made from metal or rubber.....	1929	24	656	640,857	1,006,824	2,482,419	1,475,595	1,015
	1927	36	1,259	1,249,064	1,873,003	4,436,056	2,563,653	1,591
	1925	44	1,300	1,292,923	2,333,755	5,270,208	2,936,453	1,892
	1923	42	2,144	2,266,594	4,583,022	8,770,153	4,187,131	1,919
	1921	38	1,321	1,276,799	2,172,287	4,580,368	2,408,081	(²)
	1919	45	2,229	1,809,453	3,168,818	6,566,365	3,397,547	1,588
	1914	66	2,773	1,393,369	2,852,823	5,478,196	2,025,373	2,453
Dairymen's supplies; creamery, cheese-factory and butter-factory equipment; and poultrymen's and apiarists' supplies.....	1929	172	5,450	6,925,320	16,371,116	42,240,768	25,875,642	13,672
	1927	152	5,091	6,373,561	15,086,293	36,823,648	21,137,355	13,576
	1925	180	4,844	5,863,844	15,421,233	37,263,376	21,842,143	14,719
	1923	192	5,783	6,642,711	17,586,864	30,463,324	21,870,400	14,308
	1921	180	3,841	4,414,031	13,084,780	27,644,471	14,560,691	(²)
	1919	244	6,437	7,078,433	18,526,743	37,397,448	18,870,705	11,756
	1914	236	5,551	3,363,119	9,247,939	18,949,538	9,701,599	11,639
Dental goods and equipment ⁵	1929	87	4,559	5,359,432	17,326,748	35,180,105	17,853,417	6,216
	1927	97	3,759	3,941,289	18,188,584	32,348,979	14,160,395	3,792
Fancy and miscellaneous articles, not elsewhere classified.....	1929	814	18,722	19,040,511	35,139,854	85,388,961	50,249,107	11,071
	1927	595	16,965	18,306,510	34,673,611	83,006,431	48,332,820	10,802
	1925	532	14,552	14,959,902	29,154,685	69,760,149	40,614,464	9,071
	1923	542	13,522	13,713,306	28,531,483	63,208,279	34,676,796	8,098
	1921	509	11,534	11,088,300	24,384,091	51,406,493	27,022,402	(²)
	1919	661	13,961	12,207,913	32,591,073	64,054,481	31,463,408	8,667
	1914	493	7,399	3,566,900	8,428,916	17,658,770	9,229,854	4,465
Feathers, plumes, and manufactures thereof.....	1929	39	257	309,693	380,356	1,141,418	755,062	100
	1927	38	322	396,683	534,149	1,438,441	904,292	103
	1925	70	888	976,394	1,880,708	4,179,083	2,298,355	334
	1923	131	1,712	1,969,327	3,399,785	7,860,492	4,466,757	410
	1921	135	2,064	2,145,013	4,298,325	8,880,540	4,588,215	(²)
	1919	216	3,504	3,405,765	6,694,596	15,377,953	8,683,357	502
	1914	239	4,453	1,988,004	6,102,515	11,450,521	5,348,006	308
Foundry supplies.....	1929	59	853	1,255,801	5,534,548	10,458,589	4,924,041	9,396
	1927	65	941	1,200,141	6,539,050	11,635,060	5,096,010	11,133
	1925	60	1,057	1,360,219	6,903,678	12,723,120	5,819,442	10,733
	1923	64	968	1,162,068	4,822,611	10,247,864	5,425,253	7,736
	1921	50	567	676,241	2,775,014	4,905,678	2,190,664	(²)
	1919	76	906	1,032,029	5,067,230	9,954,676	4,287,440	6,327
	1914	57	555	300,775	997,315	2,012,806	1,016,581	4,689
Fur goods.....	1929	2,855	15,752	33,329,965	176,106,910	277,592,752	101,485,842	5,511
	1927	2,756	16,640	37,670,010	195,322,988	299,615,047	104,292,050	5,855
	1925	2,090	16,556	35,164,292	169,315,693	254,205,709	94,960,015	4,985
	1923	1,758	14,439	27,923,042	126,162,143	198,042,571	71,880,428	4,299
	1921	1,707	12,052	22,421,138	84,536,855	139,365,929	54,829,074	(²)
	1919	1,815	13,639	24,149,212	105,596,605	178,137,739	67,541,134	5,827
	1914	1,322	9,030	6,334,661	23,847,402	48,632,698	19,785,291	3,225
Furs, dressed.....	1929	248	5,167	8,596,377	18,648,954	40,237,102	21,588,238	10,769
	1927	172	5,540	10,360,987	7,071,850	27,680,635	20,608,785	12,467
	1925	133	5,056	8,205,892	7,299,408	25,422,663	18,126,255	9,858
	1923	162	5,293	8,381,453	7,241,783	25,466,841	18,225,058	7,776
	1921	126	4,429	6,768,712	6,070,474	19,157,939	13,086,865	(²)
	1919	141	5,075	7,098,286	6,838,835	20,384,569	14,045,734	5,421
	1914	96	1,525	922,968	966,036	2,875,036	1,969,000	2,207
Hair work.....	1929	59	359	432,340	538,479	1,693,588	1,155,109	44
	1927	69	515	508,034	829,891	2,279,228	1,449,335	21
	1925	85	864	974,982	3,046,276	6,089,756	3,043,480	13
	1923	113	1,317	1,352,406	5,568,007	11,263,953	5,695,046	17
	1921	128	1,222	1,256,198	6,734,188	10,951,844	4,217,656	(²)
	1919	198	1,084	1,064,630	3,829,197	6,963,933	3,133,336	119
	1914	205	1,193	580,815	1,528,942	3,334,946	1,806,004	68
Hand stamps and stencils and brands.....	1929	332	2,971	4,080,780	3,811,158	15,030,023	11,224,865	3,596
	1927	293	2,668	3,841,771	3,733,718	14,155,607	10,421,880	3,159
	1925	323	2,930	4,015,323	4,070,322	15,320,554	11,250,232	3,658
	1923	255	2,312	3,034,974	3,103,320	11,130,936	8,027,616	2,571
	1921	234	2,068	2,657,418	2,785,615	9,079,097	6,293,482	(²)
	1919	382	2,136	2,261,287	3,148,667	9,336,558	6,187,891	1,848
	1914	384	1,767	1,148,708	1,425,562	4,485,350	3,059,788	1,355
Hats, straw, men's.....	1929	50	3,380	3,687,570	8,704,621	18,738,994	10,034,373	1,836
	1927	48	3,263	4,232,332	11,782,956	21,717,689	9,934,733	1,554

See footnotes at end of summary.

MISCELLANEOUS INDUSTRIES

1255

SUMMARY FOR GROUP 16—MISCELLANEOUS INDUSTRIES: 1914 TO 1929—Continued

[See note at head of this Summary]

Industry	Census year	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, containers for products, fuel, and purchased electric energy	Value of products	Value added by manufacture ¹	Horse-power
Other industries—Continued.								
Instruments, professional and scientific.....	1929	276	16,876	22,682,052	28,411,436	89,746,369	61,334,939	22,816
	1927	260	16,414	22,288,973	28,880,222	87,783,488	58,903,266	25,587
	1925	233	12,129	16,166,202	20,428,088	76,338,739	55,910,651	17,505
	1923	258	12,275	15,502,679	18,039,523	64,674,361	45,034,868	16,203
	1921	266	6,384	11,699,959	13,326,311	42,131,845	28,805,534	(2)
	1919	351	15,931	17,499,888	19,494,634	58,136,691	38,642,057	12,681
	1914	307	7,107	4,652,305	5,581,722	17,494,729	11,913,007	6,731
Ivory, shell, and bone work, not including buttons, combs, or hairpins.....	1929	21	391	424,783	517,325	1,260,426	743,101	642
	1927	22	294	329,752	328,067	911,342	583,275	599
	1925	20	488	554,072	727,505	1,879,469	1,151,064	892
	1923	30	603	662,958	1,120,833	2,441,127	1,329,294	880
	1921	39	674	689,818	1,143,711	2,395,375	1,251,664	(2)
	1919	44	842	734,932	1,293,876	2,816,539	1,522,654	879
	1914	54	795	391,338	958,051	1,895,812	937,761	659
Jewelry and instrument cases.....	1929	113	2,269	2,472,880	3,324,459	8,826,727	5,502,268	1,503
	1927	107	2,406	2,597,056	3,293,986	8,810,065	5,516,079	1,440
	1925	125	2,748	2,750,209	3,832,577	10,114,073	6,281,495	2,460
	1923	111	2,977	2,904,430	4,417,256	10,506,478	6,089,222	1,062
	1921	107	2,241	2,087,591	2,712,684	7,635,775	4,323,094	(2)
	1919	142	2,734	2,147,648	3,595,840	8,126,300	4,620,460	1,075
	1914	125	2,393	1,093,672	1,449,848	3,620,838	2,170,990	1,012
Lapidary work.....	1929	100	506	1,001,706	8,234,889	11,942,421	3,707,532	474
	1927	92	547	1,220,647	9,133,059	12,351,503	3,218,444	513
	1925	83	589	1,284,991	7,272,868	10,122,782	2,849,914	515
	1923	87	644	1,286,291	5,887,061	9,129,842	3,242,781	566
	1921	64	399	737,922	2,840,309	4,345,214	1,594,905	(2)
	1919	124	1,155	2,837,811	19,363,004	30,651,460	10,688,456	680
	1914	89	584	641,444	3,940,761	5,399,064	1,419,393	534
Mattresses and bed springs, not elsewhere classified.....	1929	951	17,187	22,583,835	61,527,026	123,279,717	61,752,691	50,554
	1927	838	13,481	16,886,711	52,182,075	98,834,558	46,622,483	32,937
	1925	1,018	14,403	17,429,710	62,489,286	110,719,896	48,227,610	32,840
	1923	1,015	14,103	16,472,966	61,476,696	107,561,634	46,084,988	30,324
	1921	889	11,748	13,546,457	42,056,162	74,628,976	32,567,814	(2)
	1919	1,041	12,637	12,865,351	49,208,560	83,952,609	34,744,049	23,387
	1914	1,000	11,747	6,723,372	22,389,153	38,716,704	16,317,611	20,604
Models and patterns, not including paper patterns.....	1929	804	6,778	13,233,622	5,314,359	30,621,074	25,306,715	12,378
	1927	693	5,584	10,544,694	4,659,266	23,494,992	18,835,726	11,466
	1925	689	5,262	9,419,777	4,927,239	22,484,885	17,657,355	10,473
	1923	697	5,813	9,765,810	11,187,572	30,164,709	18,977,137	12,072
	1921	656	3,936	6,026,634	4,042,100	15,742,112	11,700,012	(2)
	1919	928	6,949	10,318,104	6,395,834	25,300,389	18,994,555	13,750
	1914	762	4,274	3,103,061	2,045,327	8,604,695	6,559,368	5,801
Motion pictures, not including projection in theaters.....	1929	142	10,784	24,860,062	38,441,025	184,102,419	145,061,394	49,732
	1927	142	8,415	18,637,905	34,867,472	134,343,300	99,475,888	32,160
	1925	132	5,573	13,065,756	33,258,368	93,636,348	60,377,950	29,472
	1923	97	6,408	10,601,153	30,656,770	86,418,170	55,781,400	15,476
	1921	127	6,259	14,740,009	31,190,160	77,397,381	46,207,221	(2)
Optical goods.....	1929	117	9,701	12,633,947	11,859,128	40,562,459	28,703,391	15,626
	1927	96	7,596	9,660,725	8,865,025	32,757,210	23,892,185	12,401
Paving materials: Asphalt, tar, crushed slag, and mixtures.....	1929	126	2,375	3,730,867	13,588,502	29,275,369	15,686,867	30,393
Pencils, lead (including mechanical).....	1929	38	5,793	6,292,276	10,756,296	27,772,955	17,016,650	6,921
	1927	27	5,391	5,942,783	9,931,493	24,499,839	14,568,346	9,832
	1925	25	5,630	6,631,305	9,168,525	25,050,757	15,882,232	8,209
	1923	20	5,526	5,540,474	8,635,173	24,597,504	15,908,331	7,288
	1921	14	5,154	5,034,899	7,259,861	21,382,050	14,122,189	(2)
	1919	12	5,970	5,299,050	9,073,563	24,134,169	15,060,596	8,099
	1914	14	4,330	1,944,376	4,564,060	8,328,418	3,764,418	3,728
Pens, fountain and stylographic; pen points, gold, steel, and brass.....	1929	76	4,600	5,304,142	11,459,411	34,211,384	22,751,973	4,235
	1927	68	4,031	4,734,591	10,374,789	25,645,189	15,270,400	8,721
	1925	78	4,203	4,852,547	8,594,651	26,595,734	18,001,083	3,607
	1923	73	4,391	4,732,023	9,343,299	23,730,202	14,386,900	3,167
	1921	67	3,403	3,729,116	6,424,464	14,976,011	8,551,547	(2)
	1919	75	4,430	4,177,191	7,172,212	19,477,809	12,365,597	1,942
	1914	72	1,973	1,134,785	2,633,151	8,021,633	5,987,882	1,539
Photographic apparatus and materials.....	1929	115	12,967	20,597,499	30,362,531	162,827,386	72,434,855	31,904
	1927	122	12,120	18,310,992	29,020,235	90,827,737	61,897,592	24,838
	1925	118	9,154	13,300,259	25,779,218	78,653,651	52,874,433	22,866
	1923	111	9,905	13,224,381	19,253,149	71,828,028	52,574,879	34,791
	1921	136	10,690	13,771,145	22,855,741	70,595,344	47,759,693	(2)
	1919	187	13,465	14,900,237	33,806,708	88,393,022	54,586,314	24,610
	1914	146	8,674	5,545,304	11,539,381	39,041,526	27,592,145	16,439
Pipes (tobacco).....	1929	24	1,680	1,961,020	1,749,222	5,557,982	3,898,760	2,276
	1927	23	1,807	2,278,537	2,722,706	7,279,806	4,551,100	1,928
	1925	28	1,970	2,230,769	2,718,135	7,298,505	4,580,460	2,052
	1923	30	2,402	2,720,218	3,827,927	9,704,816	5,876,889	2,351
	1921	36	1,765	1,637,097	2,825,856	7,123,810	4,297,954	(2)
	1919	56	2,539	2,655,291	3,497,414	11,553,777	8,059,393	2,001
	1914	47	2,354	1,188,411	2,308,246	1,220,084	1,911,838	1,611

See footnotes at end of summary.

CENSUS OF MANUFACTURES: 1929

SUMMARY FOR GROUP 16.—MISCELLANEOUS INDUSTRIES: 1914 TO 1929—Continued

[See note at head of this Summary]

Industry	Census year	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, containers for products, fuel, and purchased electric energy	Value of products	Value added by manufacture ¹	Horse-power
Other industries—Continued.								
Roofing, built-up and roll; asphalt shingles; roof coatings other than paint.....	1929	102	6,027	8,951,537	61,391,590	103,506,090	42,114,500	33,791
	1927	100	7,255	10,712,626	67,327,735	123,210,305	55,882,570	41,740
	1925	140	8,310	12,144,764	78,596,627	123,590,811	44,904,184	34,161
	1923	122	7,665	10,826,123	55,620,343	84,841,081	28,821,588	30,598
	1921	133	6,908	9,213,047	45,013,397	70,193,430	31,180,093	(¹)
	1919	178	8,871	10,344,043	52,587,777	85,895,359	33,307,582	39,247
	1914	170	4,088	2,642,136	17,604,944	27,977,913	10,372,969	11,702
Sandpaper, emery paper, and other abrasive, paper and cloth.....	1929	11	1,228	1,739,544	8,375,277	17,218,590	8,843,313	6,927
	1927	10	917	1,228,420	5,470,629	12,232,064	6,701,435	2,834
	1925	12	1,230	1,713,967	7,341,590	16,622,720	8,281,130	4,513
	1923	14	1,176	1,518,526	6,870,410	13,783,079	6,882,669	3,604
	1921	12	680	867,585	3,591,851	6,462,025	2,870,174	(¹)
	1919	12	771	840,766	5,060,561	9,303,734	4,243,173	3,977
	1914	12	681	359,201	2,686,530	4,328,127	1,641,597	3,092
Signs and advertising novelties.....	1929	1,239	20,000	27,900,605	35,701,412	118,044,157	82,342,745	19,627
	1927	813	16,907	24,044,389	30,892,204	98,481,024	67,588,730	15,325
	1925	759	15,128	20,761,187	25,858,149	89,069,343	63,811,194	12,560
	1923	648	12,988	16,429,466	22,641,082	67,223,676	44,582,594	11,781
	1921	624	10,373	12,703,005	18,734,401	53,270,864	34,536,463	(¹)
	1919	779	10,432	9,715,216	16,071,924	43,343,093	27,271,160	7,714
	1914	776	9,566	5,933,044	9,068,788	24,792,210	15,733,422	7,345
Soda-water apparatus.....	1929	54	2,764	3,921,538	10,489,871	24,509,783	14,019,912	5,271
	1927	48	2,838	4,222,944	10,390,971	23,929,068	13,538,097	5,042
	1925	60	2,372	3,628,340	8,632,026	22,031,816	13,399,790	4,180
	1923	66	2,659	3,779,470	6,712,374	18,169,234	11,456,860	4,238
	1921	62	2,144	3,047,981	6,495,791	16,407,131	8,911,340	(¹)
	1919	66	2,599	3,232,398	6,620,868	15,185,370	8,558,502	4,131
	1914	67	2,229	1,661,245	3,883,076	8,781,437	4,898,361	3,705
Sporting and athletic goods, not including firearms or ammunition.....	1929	242	10,799	13,135,484	24,482,236	58,288,728	33,800,492	18,039
	1927	188	9,689	11,695,489	19,363,661	44,042,778	25,549,117	13,484
	1925	181	8,724	10,292,208	17,874,604	42,629,278	24,754,674	11,550
	1923	170	9,683	10,440,207	18,492,511	41,797,075	23,304,564	11,091
	1921	152	7,063	7,400,470	15,401,261	31,811,174	16,409,913	(¹)
	1919	188	6,412	5,752,963	11,969,388	23,839,991	11,870,603	6,780
	1914	162	5,602	2,770,891	6,951,870	13,234,677	6,282,807	4,116
Stationery goods, not elsewhere classified.....	1929	203	11,078	12,429,726	32,177,887	74,062,047	41,884,160	11,523
	1927	194	8,987	9,791,788	27,016,348	56,987,490	29,971,142	8,891
	1925	217	11,399	12,076,267	31,108,376	67,809,267	36,700,891	10,970
	1923	225	13,314	14,627,838	34,713,818	77,688,935	42,975,117	11,539
	1921	221	11,285	12,369,283	29,605,923	64,596,978	34,991,055	(¹)
	1919	223	11,261	9,577,867	28,160,239	58,363,244	30,203,005	8,342
	1914	189	7,728	3,791,012	10,762,628	21,903,066	11,140,433	5,687
Steam and other packing, pipe and boiler covering, and gaskets, not elsewhere classified.....	1929	171	7,206	9,660,414	21,506,489	45,433,135	23,836,646	30,881
	1927	159	5,946	7,904,603	19,794,205	43,044,501	23,250,298	29,810
	1925	170	6,086	8,072,189	20,371,863	43,871,130	23,499,276	25,579
	1923	142	5,064	6,431,746	15,849,197	32,991,237	17,142,040	17,671
	1921	157	4,877	5,328,783	15,983,091	29,112,457	13,128,766	(¹)
	1919	169	6,147	7,103,275	22,724,561	40,524,779	17,800,218	26,765
	1914	149	4,213	2,524,503	8,175,630	14,212,595	6,036,965	17,166
Surgical and orthopedic appliances, including artificial limbs.....	1929	363	7,910	8,921,668	36,004,844	71,007,119	35,602,275	13,407
	1927	335	7,310	8,371,278	30,763,598	60,623,497	29,859,899	9,662
	1925	303	6,450	6,837,328	20,813,846	38,285,660	21,471,810	12,527
	1923	286	5,868	6,308,521	24,275,660	47,603,399	23,327,739	9,982
	1921	295	4,810	5,280,033	15,077,020	34,946,696	19,609,676	(¹)
	1919	445	7,061	6,873,638	22,988,068	46,805,266	23,817,198	13,239
	1914	391	4,770	2,580,535	7,413,294	16,418,188	9,004,844	6,948
Theatrical scenery and stage equipment.....	1929	55	547	992,133	2,098,498	5,507,827	3,409,329	616
	1927	39	561	1,379,971	2,330,377	5,745,472	3,415,095	998
	1925	33	391	853,652	1,519,607	3,578,210	2,058,303	413
	1923	17	210	429,772	634,622	1,625,668	991,046	162
	1921	18	169	361,302	491,682	1,214,480	722,708	(¹)
	1919	17	149	237,603	504,655	1,007,033	562,378	104
	1914	7	88	89,359	124,577	326,965	202,388	65
Toys (not including children's wheel goods or sleds), games, and playground equipment.....	1929	476	16,060	17,060,673	29,981,527	74,828,931	44,847,454	25,642
	1927	397	14,738	15,543,393	25,805,418	63,955,700	38,150,288	19,028
	1925	352	13,557	13,785,018	22,179,472	55,733,760	33,554,294	19,038
	1923	411	14,484	13,900,548	23,829,329	50,066,432	32,237,103	16,111
	1921	392	9,448	8,953,034	14,508,517	35,491,345	20,922,828	(¹)
	1919	541	14,201	11,847,277	19,841,498	45,650,803	25,815,305	14,423
	1914	290	7,887	3,498,866	5,779,494	13,756,748	7,977,254	6,719
Umbrellas, parasols, and canes.....	1929	141	2,855	2,768,410	10,907,373	17,994,376	7,087,003	3,069
	1927	164	3,308	3,411,261	14,020,984	23,166,400	9,135,416	2,411
	1925	176	3,731	3,696,014	16,594,328	27,269,431	10,705,103	3,027
	1923	187	3,776	3,738,831	17,999,629	28,395,233	10,395,604	2,409
	1921	154	3,149	3,126,246	16,888,759	26,007,792	9,119,093	(¹)
	1919	198	3,368	3,139,662	15,632,989	25,308,826	9,675,837	3,357
	1914	295	4,792	2,167,453	8,591,807	13,813,353	5,221,486	2,544

See footnotes at end of summary.

MISCELLANEOUS INDUSTRIES

1257

SUMMARY FOR GROUP 16.—MISCELLANEOUS INDUSTRIES: 1914 TO 1920—Continued

[See note at head of this Summary]

Industry	Census year	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, containers for products, fuel, and purchased electric energy	Value of products	Value added by manufacture ¹	Horse-power
Other industries—Continued.								
Whips.....	1920	8	57	47,714	80,303	224,219	143,916	82
	1927	7	90	84,365	175,756	310,303	134,547	252
	1925	9	103	73,004	131,969	308,039	176,070	158
	1923	12	200	181,204	301,708	742,145	440,437	334
	1921	14	292	239,931	427,634	1,022,118	594,484	(?)
	1919	26	717	582,230	1,096,642	2,986,285	1,889,643	853
	1914	40	1,163	559,448	1,349,943	3,161,919	1,820,967	1,071
Window shades and fixtures.....	1920	482	4,708	5,623,588	19,785,350	36,964,694	17,179,344	8,389
	1927	386	4,733	5,855,781	21,065,474	37,081,937	16,016,463	8,679
	1925	336	5,176	6,207,820	25,029,474	41,657,681	16,628,207	11,151
	1923	305	5,957	6,825,750	29,521,217	47,649,082	18,118,865	11,450
	1921	242	3,781	4,421,041	17,887,659	29,647,761	11,760,101	(?)
	1919	287	4,411	3,669,286	18,249,540	29,190,649	10,941,109	8,940
	1914	286	4,077	2,180,585	11,888,569	17,444,120	5,555,551	6,594
All other industries ¹⁰	1923	5	633	1,013,469	13,636,334	15,526,266	1,889,922	1,330
	1921	10	1,506	2,076,812	9,885,981	16,245,323	6,359,342	(?)
	1919	95	17,004	25,087,440	130,713,376	208,597,484	77,884,108	97,766
	1914	82	6,496	4,719,000	64,062,000	76,504,000	12,442,600	11,900

¹ Value of products less cost of materials, containers for products, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

² Not called for on schedule.

³ See headnote.

⁴ At censuses prior to that for 1920 the manufacture of carbon paper and inked ribbons was included in the "Typewriters and supplies" industry, in Group 13. No comparable figures for years prior to 1927 are available.

⁵ Data for dental laboratories were included at censuses prior to that for 1929. The figures for 1927 as here presented have been adjusted for comparison with those for 1929.

⁶ No comparable figures are available for earlier years because of a change in classification.

⁷ No comparable figures are available for years prior to 1921.

⁸ Formerly classified as three industries: "Pens, steel and brass," Group 11; "Pens, gold," Group 12; "Pens, fountain and stylographic," Group 16.

⁹ Revised; revision not carried into total for subgroup or aggregate for group.

¹⁰ At the censuses for 1925 and subsequent years it was possible to present statistics for every industry covered by the census classifications, but for the preceding census years covered by this table it was necessary to combine the figures for certain unimportant industries in order to avoid disclosing data for individual establishments.

ARTIFICIAL AND PRESERVED FLOWERS AND PLANTS

Description of the industry.—The establishments in this industry are engaged primarily in the manufacture of artificial flowers, leaves, buds, fruits, palms, grasses, vines, and other plants; the preservation of natural flowers and plants; and the preservation of stems and other parts for use in the manufacture of artificial flowers. The principal materials used in the manufacture of artificial flowers, etc., are textiles, wax, and paper.

TABLE 1.—SUMMARY FOR THE UNITED STATES: 1909 TO 1929

[Data for establishments with products under \$5,000 in value included for 1919 and prior years but not for 1921 and subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

YEAR OR PERIOD	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, containers for products, fuel, and purchased electric energy	Value of products ²	Value added by manufacture ³	Horsepower
1929.....	191	3,216	\$3,217,642	\$5,527,451	\$14,425,420	\$8,897,069	625
1927.....	190	4,715	5,050,438	7,888,833	10,576,337	11,687,504	541
1925.....	187	4,305	4,286,651	7,264,858	17,823,841	10,558,983	737
1923.....	223	4,666	4,501,701	8,692,238	10,649,862	10,957,624	847
1921.....	201	3,883	3,820,652	5,849,789	14,188,221	8,338,432	(4)
1919.....	224	4,138	3,740,011	7,004,646	16,143,165	9,138,519	468
1914.....	217	4,808	1,960,768	3,206,868	7,614,049	4,407,181	237
1909 ⁴	225	4,835	1,740,283	4,617,664	9,041,447	4,423,783	167
PER CENT OF INCREASE OR DECREASE (-)							
1927-1929.....	0.5	-31.8	-30.3	-20.9	-26.3	-23.9	15.5
1925-1927.....	1.6	9.5	17.8	8.0	9.8	10.7	-25.6
1923-1925.....	-16.1	-8.3	-4.8	-10.4	-9.3	-3.6	-13.0
1921-1923.....	10.9	20.9	17.8	48.6	38.5	31.4	-----
1919-1921.....	-10.3	-6.2	2.1	-16.5	-12.1	-8.8	-----
1919-1929.....	-14.7	-22.3	-14.0	-21.1	-10.6	-2.6	33.5
1909-1919.....	-0.4	-14.4	115.0	51.7	78.5	106.6	180.2

¹ For 1929, manufacturers' sales (shipments or deliveries); for earlier years, production. See GENERAL EXPLANATIONS—Value of Products.

² Includes values of miscellaneous products, normally belonging to other industries, made as secondary products by establishments engaged primarily in the manufacture of artificial and preserved flowers and plants, as follows: 1929, \$100,542; 1927, \$242,742; 1925, \$310,233; corresponding amounts for earlier years not available. Does not include following values of artificial and preserved flowers and plants reported by establishments engaged primarily in other lines of manufacture: 1929, \$304,952; 1927, \$185,150; 1925, \$898,727; corresponding amounts for earlier years not available.

³ Value of products less cost of materials, containers for products, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

⁴ Not called for on schedule.

⁵ No comparable figures for prior years.

ARTIFICIAL FLOWERS AND PLANTS

TABLE 2.—GENERAL STATISTICS, BY STATES: 1929, 1927, AND 1919

[This table presents statistics separately for each State for which figures can be given without disclosing data for individual establishments, and for the remaining States in groups. Data for establishments with products under \$5,000 in value are included for 1919 but not for subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

STATE	Census year	Number of establishments	Salaried officers and employees ¹	Wage earners (average for the year)	HORSEPOWER (RATED CAPACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, CONTAINERS FOR PRODUCTS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products ²	Value added by manufacture ³
					Total	Prime movers	Motors run by purchased energy			Total	Materials and containers	Fuel and purchased energy		
United States.....	1929 1927 1919	191 190 224	435 593 504	3,216 4,715 4,138	625 641 468	46 5 55	579 536 413	\$1,257,510 1,459,938 851,799	\$3,217,642 5,050,438 3,740,911	\$5,527,451 7,888,833 7,004,646	\$5,449,142 7,800,642 6,932,595	\$78,309 88,191 52,051	\$14,425,420 19,576,337 16,143,165	\$8,807,969 11,687,504 9,138,519
Individual States:														
California.....	1929 1927 1919	6 6 4	8 5 1	88 56 4	37 27 1	----- ----- -----	37 27 1	45,679 6,240 500	79,697 61,287 4,912	124,933 121,457 5,039	123,000 120,412 4,895	1,933 1,045 144	349,102 300,595 18,340	224,169 179,138 13,301
Illinois.....	1929 1927 1919	26 23 13	107 83 55	487 482 277	140 98 60	----- ----- -----	140 98 60	338,436 213,106 101,762	497,298 465,702 164,470	1,232,980 916,048 362,465	1,218,930 903,558 358,093	14,641 12,490 4,372	2,826,058 2,848,510 890,314	1,593,078 1,432,462 527,849
New Jersey.....	1929 1927 1919	5 7 14	17 37 10	98 189 90	27 69 42	----- ----- -----	27 69 42	45,736 54,825 15,689	104,483 170,867 93,320	113,128 148,140 133,649	109,280 142,481 129,822	3,848 5,659 3,827	348,535 487,550 334,972	235,407 339,410 201,323
New York.....	1929 1927 1919	114 125 157	213 390 344	1,664 3,223 3,031	247 215 278	----- ----- -----	247 215 228	565,529 884,191 542,310	1,918,267 3,718,002 3,030,149	2,877,221 5,436,712 5,438,963	2,844,143 5,387,225 5,417,435	53,078 49,487 21,528	8,000,809 13,557,234 12,385,732	5,123,588 8,120,522 6,946,769
Ohio.....	1929 1927 1919	5 4 0	5 5 5	83 29 22	4 2 1	----- ----- -----	4 3 1	20,284 12,662 9,760	27,680 31,719 21,765	88,132 78,415 45,886	87,913 78,264 45,409	219 151 177	281,082 220,508 112,543	162,950 142,093 69,957
Pennsylvania.....	1929 1927 1919	7 7 14	14 20 50	183 296 458	32 36 53	----- ----- -----	32 36 48	42,057 34,400 84,991	135,861 237,162 250,222	236,278 332,171 500,936	232,852 327,463 576,767	3,426 4,708 14,169	556,919 848,297 1,500,689	320,641 516,126 909,753
Groups of States:														
Conn., 2 est.; Mass., 2; R. I., 1.....	1929 1929	5 4	13 16	180 111	7 7	----- -----	7 7	27,137 44,874	102,909 95,711	105,990 149,560	103,994 147,763	1,996 1,797	392,824 370,263	286,834 220,703
Iowa, 1 est.; Mo., 3; Mich., 2 est.; Wis., 2; Other States (Ala., 1 est.; Colo., 1; Fla., 4; Ind., 4; Md., 1; N. C., 1; Oreg., 1; Tex., 1; Utah, 1).....	1929 1927 1919	15 19 10	41 53 39	358 470 259	99 93 33	----- ----- -----	99 88 33	123,138 154,534 96,787	244,906 365,699 176,073	588,643 855,890 428,008	571,020 841,239 430,174	17,623 14,651 7,834	1,250,093 1,813,643 900,575	661,450 857,753 472,567
States not shown separately.....	1929 1927 1919	15 19 10	41 53 39	358 470 259	99 93 33	----- ----- -----	99 88 33	123,138 154,534 96,787	244,906 365,699 176,073	588,643 855,890 428,008	571,020 841,239 430,174	17,623 14,651 7,834	1,250,093 1,813,643 900,575	661,450 857,753 472,567

¹ Not including proprietors and firm members, as follows: For 1929, 128; 1927, 156; 1919, 234. The total numbers of persons engaged—proprietors and firm members, salaried officers and employees, and wage earners—are as follows: For 1929, 3,779; 1927, 5,494; 1919, 4,876.
² The figures for 1929 refer to sales (shipments or deliveries) by manufacturers; those for earlier years represent production. See GENERAL EXPLANATIONS—Value of Products.
³ Value of products less cost of materials, containers for products, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.
⁴ Connecticut, 2 establishments; Florida, 2; Indiana, 3; Iowa, 1; Maryland, 1; Massachusetts, 3; Michigan, 1; Missouri, 4; Texas, 1; Utah, 1.
⁵ Florida, 3 establishments; Indiana, 1; Iowa, 1; Maryland, 4; Massachusetts, 1; Michigan, 1; Missouri, 3; Utah, 2.

CENSUS OF MANUFACTURES: 1929

TABLE 3.—PRIME MOVERS, MOTORS, GENERATORS, AND CONSUMPTION OF PURCHASED ELECTRIC ENERGY—NUMBER AND RATED CAPACITY OF PRIME MOVERS AND ELECTRIC MOTORS, 1929, 1927, 1925, 1919, AND 1914, AND OF GENERATORS, 1925; QUANTITY OF ELECTRIC ENERGY PURCHASED, 1929

TYPE	1929		1927		1925		1919		1914		PER CENT DISTRIBUTION OF RATED HORSE-POWER CAPACITY	
	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	1929	1919
Prime movers and electric motors driven by purchased energy, aggregate.....	322	Horse-power 625	292	Horse-power 541	289	Horse-power 737	200	Horse-power 468	104	Horse-power 237	100.0	100.0
Prime movers, total.....	4	46	1	5	3	236	2	55	0	47	7.4	11.8
Steam engines.....	3	41			1	230	1	50	2	25	6.6	10.7
Internal-combustion engines.....	1	5	1	5	2	6	1	5	2	10	0.8	1.1
Water wheels and water turbines.....									2	12		
Electric motors driven by purchased energy.....	318	579	291	536	286	501	258	413	98	190	92.6	88.2
Electric motors, total.....	318	579	291	536	310	729	258	413	101	212	100.0	100.0
Driven by purchased energy.....	318	579	291	536	286	501	258	413	98	190	100.0	100.0
Driven by energy generated in establishments reporting.....					24	228			3	22		
Electric generators.....		Kilowatts		Kilowatts	1	Kilowatts 260	(1)	(1)	(1)	(1)		
Electric energy purchased ²		Kilowatt-hours 858,560		(3)		(4)		(1)		(1)		

¹ Not called for on schedule.

² This item covers the consumption of purchased electric energy for all purposes—power, heat, light, etc.

³ Data incomplete.

TABLE 4.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1929, 1925, 1919, AND 1914, AND BY STATES, 1929

[This table presents statistics for only those States for which figures can be given without disclosing data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures.]

STATE	Average number employed during year	NUMBER EMPLOYED ON 15TH DAY OF MONTH OR NEAREST REPRESENTATIVE DAY												Per cent minimum is of maximum
		January	February	March	April	May	June	July	August	September	October	November	December	
United States:														
1929.....	3,216	3,346	3,630	3,652	3,370	3,107	2,805	<i>2,650</i>	2,834	3,151	3,387	3,404	3,200	72.6
1925.....	4,305	4,359	4,654	4,808	4,533	3,853	<i>3,545</i>	3,704	3,853	4,170	4,503	4,833	4,748	72.3
1919.....	4,138	<i>3,848</i>	4,193	4,303	4,262	4,054	3,868	4,041	4,138	4,140	4,185	4,318	4,300	89.1
1914 ¹	4,808	4,572	4,807	5,137	5,162	4,331	<i>3,840</i>	3,902	4,486	5,247	5,382	5,418	5,412	70.9
California.....	88	93	104	127	83	86	<i>59</i>	61	62	74	126	94	88	46.5
Illinois.....	487	399	464	542	500	458	423	<i>393</i>	463	532	569	589	514	66.7
New Jersey.....	98	118	123	120	88	83	80	81	88	104	104	94	92	65.0
New York.....	1,664	1,859	2,016	1,974	1,857	1,666	1,488	<i>1,337</i>	1,420	1,592	1,633	1,627	1,476	66.3
Ohio.....	33	32	34	35	33	33	32	33	31	32	32	32	32	88.6
Pennsylvania.....	183	208	208	210	138	178	<i>143</i>	156	157	155	168	206	211	67.8

¹ No comparable figures for prior years.

ARTISTS' MATERIALS

Description of the industry.—The principal products of the establishments classified in this industry are canvas board, prepared canvases or frames, air brushes for portrait work, air compressors for art work, easels, drawing tables and boards, palettes, sketch boxes, and

pantographs; oil colors, wax, tailors' chalk, crayons, and crayon pencils; gold and bronze mixtures, powders, paints, and size; gold and aluminum enamel and paint for china painting; pyrography goods, including platinum points; drawing inks; and drafting materials.

TABLE 1.—SUMMARY FOR THE UNITED STATES: 1899 TO 1929

[Data for establishments with products under \$5,000 in value included for 1919 and prior years but not for 1921 and subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

YEAR OR PERIOD	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, containers for products, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²	Horsepower
1929	68	1,167	\$1,428,728	\$4,155,317	\$9,459,565	\$5,304,248	3,397
1927	61	1,211	1,429,983	3,771,503	8,204,521	4,433,018	3,250
1925	62	1,317	1,567,746	3,822,430	8,330,776	4,518,356	2,982
1923	61	1,411	1,747,175	4,355,150	8,138,744	4,283,534	4,902
1921	55	1,008	1,198,814	3,989,642	6,959,795	2,970,124	(*)
1919	58	926	895,764	2,687,226	5,507,656	2,820,430	3,206
1914	44	604	314,504	2,064,716	3,237,729	1,173,013	1,860
1909	46	658	307,040	1,360,490	2,339,935	979,445	1,330
1904	28	274	136,658	687,283	1,134,353	452,070	461
1899	21	200	79,267	249,107	497,046	247,939	284
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929	(*)	-3.6	-0.1	10.2	15.3	19.7	4.5
1925-1927	(*)	-8.0	-8.8	-8	-1.4	-1.9	0.0
1923-1925	(*)	-6.7	-10.3	-12.7	-3.7	5.5	-39.2
1921-1923	(*)	40.0	45.7	9.2	24.1	44.2	-----
1919-1921	(*)	8.9	33.8	48.5	26.4	5.3	-----
1919-1929	(*)	26.0	59.5	54.6	71.8	88.1	6.0
1909-1919	(*)	40.7	191.7	97.5	135.4	188.0	141.1
1899-1909	(*)	229.0	287.3	446.1	370.8	295.0	368.3

¹ For 1929, manufacturers' sales (shipments or deliveries); for earlier years, production. See GENERAL EXPLANATIONS—Value of Products.

² Includes following values of miscellaneous products, normally belonging to other industries, made as secondary products by establishments engaged primarily in the manufacture of artists' materials: 1929, \$720,298; 1927, \$777,998; 1925, \$244,370. No corresponding figures available for earlier years. Does not include following values of artists' materials reported as secondary products by establishments engaged primarily in other lines of manufacture: 1929, \$721,716; 1927, \$1,275,087; 1925, \$3,657,497; 1923, \$169,051; 1921, \$100,277; 1919, \$999,033. No corresponding figures available for earlier years.

³ Value of products less cost of materials, containers for products, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

⁴ Not called for on schedule.

⁵ Per cent not computed where base is less than 100.

TABLE 2.—GENERAL STATISTICS, BY STATES: 1929, 1927, AND 1919

[This table presents statistics separately for each State for which figures can be given without disclosing data for individual establishments. Certain of the "Other States," however, reported larger values of products than some of the States shown separately. Data for establishments with products under \$5,000 in value are included for 1919 but not for subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

STATE	Census year	Number of establishments	Salaried officers and employees ¹	Wage earners (average for the year)	HORSEPOWER (RATED CAPACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, CONTAINERS FOR PRODUCTS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products ²	Value added by manufacture ³
					Total	Prime movers	Motors run by purchased energy			Total	Materials and containers	Fuel and purchased energy		
United States	1929	68	307	1,167	3,397	812	2,585	\$921,156	\$1,428,728	\$4,155,317	\$4,016,581	\$138,736	\$9,459,565	\$5,304,248
	1927	61	330	1,211	3,250	720	2,530	796,477	1,429,983	3,771,503	3,619,033	152,470	8,204,521	4,433,018
	1919	58	239	926	3,206	1,819	1,387	578,956	895,764	2,687,226	2,601,980	85,237	5,507,656	2,820,430
California	1929	4	2	10	27	-----	27	1,400	12,199	14,850	14,422	428	42,961	28,101
New Jersey	1929	9	39	118	169	28	141	70,080	183,988	1,003,391	996,113	7,278	1,585,536	682,145
	1927	5	12	100	174	35	139	28,662	116,253	394,244	385,750	8,494	635,021	240,777
	1919	8	62	294	1,454	1,195	259	184,140	340,565	1,306,936	1,273,790	33,146	2,380,567	1,073,661
New York	1929	21	64	173	235	-----	235	289,566	245,076	476,414	463,642	12,772	1,560,375	1,083,961
	1927	20	62	212	373	-----	373	176,924	265,739	599,698	587,347	12,351	1,002,590	1,002,592
	1919	17	18	60	33	5	28	41,948	64,728	177,997	175,621	2,076	468,352	230,355
Pennsylvania	1929	8	27	294	1,249	100	1,149	64,595	366,012	740,695	693,645	47,050	1,811,510	1,070,824
	1927	10	65	331	1,269	120	1,149	97,328	406,068	988,740	965,735	23,005	1,807,689	818,349
	1919	9	62	110	377	50	327	78,225	87,624	281,519	273,234	8,285	633,575	352,056
Other States	* 1929	26	175	573	1,717	684	1,033	495,515	621,453	1,919,967	1,848,759	71,208	4,459,184	2,539,217
	* 1927	20	191	568	1,434	565	869	493,563	641,923	1,788,821	1,680,201	108,620	4,159,821	2,371,000
	* 1919	24	97	402	1,342	569	773	274,623	412,847	920,774	879,044	41,730	2,085,132	1,164,358

¹ Not including proprietors and firm members, as follows: For 1929, 36; 1927, 37; 1919, 40. The total numbers of persons engaged—proprietors and firm members, salaried officers and employees, and wage earners—as reported for the industry, are as follows: For 1929, 1,516; 1927, 1,578; 1919, 1,205.

² For 1929, sales (shipments or deliveries) by manufacturers; for earlier years, production. See GENERAL EXPLANATIONS—Value of Products.

³ Value of products less cost of materials, containers for products, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

⁴ Value of products less cost of materials, containers for products, fuel, and purchased electric energy.

⁵ California, 2 establishments; Georgia, 1; Illinois, 10; Indiana, 1; Massachusetts, 3; Missouri, 1; Nebraska, 1; Ohio, 6; Wisconsin, 1.

⁶ California, 2 establishments; Connecticut, 2; District of Columbia, 1; Georgia, 1; Illinois, 11; Indiana, 2; Massachusetts, 3; Missouri, 2; Ohio, 2.

⁷ California, 2 establishments; Connecticut, 1; District of Columbia, 1; Georgia, 2; Illinois, 8; Indiana, 1; Massachusetts, 3; Missouri, 2; Ohio, 3; Rhode Island, 1.

CENSUS OF MANUFACTURES: 1929

TABLE 3.—PRIME MOVERS, MOTORS, GENERATORS, AND CONSUMPTION OF PURCHASED ELECTRIC ENERGY—NUMBER AND RATED CAPACITY OF PRIME MOVERS AND ELECTRIC MOTORS, 1929, 1927, 1925, 1919, AND 1914, AND OF GENERATORS, 1929, 1927, AND 1925; QUANTITY OF ELECTRIC ENERGY PURCHASED, 1929

TYPE	1929		1927		1925		1919		1914		PER CENT DISTRIBUTION OF RATED HORSEPOWER CAPACITY	
	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	1929	1919
Prime movers and electric motors driven by purchased energy, aggregate.....	586	Horse-power 3,397	530	Horse-power 3,250	477	Horse-power 2,982	187	Horse-power 3,266	108	Horse-power 1,860	100.0	100.0
Prime movers, total.....	15	812	12	720	11	650	23	1,819	23	1,645	23.9	56.7
Steam, total.....	9	538	11	620	8	525	12	1,354	9	1,166	15.8	42.2
Engines.....	9	538	11	620	8	525	11	1,104	(?)	(?)	16.8	34.4
Turbines.....							1	250	(?)	(?)		7.8
Internal-combustion engines.....	5	174			2	31	0	225	11	154	5.1	7.0
Water wheels and water turbines.....	1	100	1	100	1	100	2	240	3	325	3.0	7.5
Electric motors driven by purchased energy.....	571	2,585	518	2,530	466	2,326	164	1,387	85	215	76.1	43.3
Electric motors, total.....	651	3,335	598	3,280	518	2,876	213	1,954	89	358	100.0	100.0
Driven by purchased energy.....	571	2,585	518	2,530	466	2,326	164	1,387	85	215	77.5	71.0
Driven by energy generated in establishments reporting.....	80	750	80	750	52	550	49	567	4	143	22.5	29.0
Electric generators.....	2	Kilowatts 325	1	Kilowatts 250	1	Kilowatts 245	(?)	(?)	(?)	(?)		
Electric energy purchased ¹		Kilowatt-hours 2,742,765		(⁴)		(⁴)		(²)		(²)		

¹ Not called for separately on schedule.
² Not called for on schedule.
³ This item covers the consumption of purchased electric energy for all purposes—power, heat, light, etc.
⁴ Data incomplete.

TABLE 4.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1929, 1925, 1919, 1914, AND 1909, AND BY STATES, 1929

[This table presents statistics for only those States for which figures can be given without disclosing data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures]

STATE	Average number employed during year	NUMBER EMPLOYED ON 15TH DAY OF MONTH OR NEAREST REPRESENTATIVE DAY												Per cent minimum of maximum	
		January	February	March	April	May	June	July	August	September	October	November	December		
United States:															
1929.....	1,167	<i>1,109</i>	1,143	1,159	1,163	1,180	1,163	1,182	1,181	1,206	1,188	1,184	1,151	1,151	92.0
1925.....	1,317	<i>1,252</i>	<i>1,249</i>	1,266	1,260	1,257	1,308	1,332	1,345	1,368	1,390	1,362	1,367	1,367	89.7
1919.....	926	<i>850</i>	859	862	877	882	919	939	958	977	972	1,001	1,016	1,016	83.7
1914.....	604	<i>619</i>	605	603	610	588	579	576	559	617	641	612	609	609	89.9
1909.....	658	<i>612</i>	635	632	637	642	628	622	614	691	719	725	752	752	81.4
California.....	10	<i>10</i>	10	10	10	10	10	10	9	9	9	10	10	10	90.0
New Jersey.....	118	<i>118</i>	119	125	120	123	118	119	118	117	116	117	117	117	91.1
New York.....	172	<i>164</i>	168	178	171	183	172	168	167	174	184	174	164	164	89.1
Pennsylvania.....	294	<i>271</i>	278	282	285	290	304	314	297	302	291	301	306	306	86.3

BROOMS

Description of the industry.—The establishments classified in the broom industry are engaged primarily in the manufacture of household brooms, whisk brooms, etc., made from broom corn and from bassine, and street-sweeping brooms made from heavier material.

Manufacture of brooms in institutions for the blind.—Statistics on the production of brooms in institutions for the blind are shown, for the first time, in the product table, but the general statistics include no data for such institutions.

TABLE 1.—SUMMARY FOR THE UNITED STATES: 1909 TO 1929

[Data for establishments with products under \$5,000 in value included for 1919 and prior years but not for 1921 and subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

YEAR OR PERIOD	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²	Horsepower
1929.....	407	4,542	\$4,169,087	\$9,647,688	\$19,166,353	\$9,518,665	4,672
1927.....	394	4,450	4,274,688	9,175,710	18,444,912	9,269,292	4,401
1925.....	421	4,725	4,053,656	11,213,351	21,714,194	10,500,813	5,399
1923.....	444	4,730	4,481,645	14,932,827	26,261,834	11,324,007	4,980
1921.....	459	4,302	3,871,895	10,417,147	18,188,376	7,771,229	(³)
1919.....	1,034	6,313	5,708,885	17,365,109	30,205,267	12,840,158	6,037
1914.....	868	5,642	2,624,100	7,883,613	14,084,959	6,201,346	4,495
1909.....	898	5,199	2,363,088	8,391,333	14,431,593	6,040,260	3,758
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929.....	3.3	2.1	-2.5	5.1	3.9	2.7	6.2
1925-1927.....	-6.4	-5.8	-8.1	-18.2	-15.1	-11.7	-18.5
1923-1925.....	-5.2	-0.1	3.8	-24.9	-17.3	-7.3	8.9
1921-1923.....	-3.3	0.9	15.7	43.3	44.4	45.8	-----
1919-1921.....	-55.6	-31.9	-32.2	-40.0	-39.8	-39.5	-----
1919-1929.....	-60.6	-28.1	-27.0	-44.4	-36.5	-25.9	-22.6
1909-1919.....	15.1	21.4	141.6	106.9	109.3	112.6	60.6

¹ For 1929, manufacturers' sales (shipments or deliveries); for earlier years, production. See GENERAL EXPLANATIONS—Value of Products.
² Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.
³ Not called for on schedule.
⁴ Data for brooms and brushes not reported separately prior to 1909.

TABLE 2.—GENERAL STATISTICS, BY STATES: 1929, 1927, AND 1919

[This table presents statistics separately for each State for which figures can be given without disclosing data for individual establishments, and for the remaining States in groups. Data for establishments with products under \$5,000 in value are included for 1919 but not for subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

STATE	Census year	Number of establishments	Salaried officers and employees ¹	Wage earners (average for the year)	HORSEPOWER (RATED CAPACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products ²	Value added by manufacture ³
					Total	Prime movers	Motors run by purchased energy			Total	Materials	Fuel and purchased energy		
United States.....	1929	407	474	4,542	4,672	1,225	3,447	\$1,097,040	\$4,169,087	\$9,647,688	\$9,489,474	\$158,214	\$19,166,353	\$9,518,665
	1927	394	550	4,450	4,401	1,166	3,235	1,157,459	4,274,688	9,175,710	9,009,725	165,985	18,444,912	9,269,292
	1919	1,034	1,061	6,313	4,697	2,490	3,547	1,946,126	5,708,885	17,365,109	17,169,441	195,668	30,205,267	12,840,158
Individual States:														
Alabama.....	1929	9	10	91	89	-----	89	17,300	63,134	163,489	161,975	1,514	286,877	123,388
	1927	8	16	90	84	-----	84	23,792	54,141	115,103	113,584	1,519	255,133	140,030
	1919	8	11	64	51	-----	51	18,161	37,317	170,373	168,882	1,491	278,718	108,345
Arkansas.....	1929	3	9	43	20	-----	20	16,348	45,696	102,178	101,102	1,076	200,898	98,720
	1927	(⁴)	(⁴)	(⁴)	(⁴)	-----	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)
	1919	13	10	51	44	16	28	9,798	39,939	131,436	129,825	1,611	215,294	83,858
California.....	1929	19	20	145	96	-----	96	40,762	160,518	332,887	330,118	2,769	683,094	350,117
	1927	10	27	150	98	-----	98	33,390	177,547	359,014	355,583	3,431	728,805	369,791
	1919	23	31	151	102	8	94	36,565	167,256	459,473	457,088	2,385	767,653	368,180
Florida.....	1929	6	10	69	151	125	26	25,500	48,281	94,728	88,632	6,696	197,915	103,187
	1927	6	10	75	148	125	23	18,600	49,455	81,340	77,045	4,292	187,038	105,698
	1919	10	11	59	83	72	11	16,826	30,224	68,655	66,441	2,214	157,470	88,815
Georgia.....	1929	7	6	69	35	4	31	8,700	46,795	111,218	109,827	1,391	207,249	96,028
	1927	8	10	78	59	3	56	13,637	56,887	91,250	89,118	2,132	221,074	129,824
	1919	11	11	102	45	4	41	8,900	64,095	207,363	205,900	1,463	393,685	196,282
Illinois.....	1929	32	34	389	474	155	319	81,262	407,444	1,031,138	1,018,968	12,170	1,955,640	924,502
	1927	32	52	398	418	173	245	117,708	430,176	895,179	878,908	16,271	1,939,099	1,043,920
	1919	82	97	692	554	223	331	229,415	721,359	1,972,790	1,953,927	18,863	3,422,924	1,450,134
Indiana.....	1929	14	48	314	398	191	207	64,564	251,315	604,389	591,007	13,362	1,255,505	651,136
	1927	12	46	360	397	155	242	102,859	304,304	602,747	591,969	10,778	1,267,478	664,731
	1919	61	84	462	541	322	219	186,612	306,776	862,617	849,813	12,804	1,921,849	1,059,232

See footnotes at end of table.

CENSUS OF MANUFACTURES: 1929

TABLE 2.—GENERAL STATISTICS, BY STATES: 1929, 1927, AND 1919—Continued

[See note at head of this table]

STATE	Cen- sus year	Number of estab- lish- ments	Salaried officers and em- ployees ¹	Wage earners (aver- age for the year)	HORSEPOWER (RATED CAPACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products ²	Value added by manufac- ture ³
					Total	Prime movers	Motors run by pur- chased energy			Total	Materials	Fuel and purchased energy		
Individual States—Con.														
Iowa	1929	21	18	159	294	125	169	\$49,605	\$170,107	\$345,215	\$338,344	\$0,871	\$716,447	\$371,232
	1927	23	23	163	295	125	170	60,655	168,434	331,624	324,100	7,428	743,308	411,684
	1919	44	49	198	263	148	115	90,754	180,702	544,924	537,177	7,747	1,052,237	507,313
Kansas	1929	8	9	68	95	—	95	10,523	65,558	128,316	125,757	2,559	283,154	154,838
	1927	7	9	71	91	—	91	16,248	67,221	141,033	137,750	3,253	312,286	171,253
	1919	40	40	149	175	31	144	81,784	136,077	381,980	375,568	6,432	719,940	337,060
Kentucky	1929	13	32	294	171	—	171	58,540	170,073	627,701	618,507	9,194	1,061,302	433,061
	1927	15	45	223	144	3	141	93,458	156,201	748,058	736,349	11,709	1,181,884	383,776
	1919	36	38	170	186	152	34	59,014	149,171	711,361	705,259	6,102	1,276,884	505,523
Louisiana	1929	6	1	47	28	2	26	1,820	54,093	79,924	79,211	713	148,715	68,791
	1927	6	4	45	29	—	29	6,856	60,917	115,083	114,273	810	106,888	51,805
	1919	12	18	133	96	8	88	33,432	101,066	261,590	259,584	1,946	468,562	207,032
Massachusetts	1929	9	4	41	33	—	33	7,227	47,709	135,448	132,938	2,510	234,217	98,709
	1927	12	4	45	54	—	54	5,818	55,171	115,462	115,031	2,431	235,419	119,957
	1919	25	15	107	132	66	60	25,392	94,955	369,597	364,339	5,148	581,289	211,762
Michigan	1929	7	4	59	67	—	67	7,350	78,806	109,965	110,490	2,424	242,944	132,779
	1927	7	9	50	68	—	68	13,473	70,561	113,082	107,649	2,583	232,501	119,419
	1919	21	11	84	89	6	83	16,704	74,864	208,923	206,248	2,675	457,873	188,850
Minnesota	1929	11	6	75	55	—	55	10,817	96,274	151,259	148,608	2,560	331,886	180,620
	1927	12	12	76	58	—	58	14,965	86,048	140,052	137,505	3,444	340,209	199,347
	1919	28	15	103	106	10	96	21,012	118,916	316,000	312,837	4,063	568,084	246,184
Mississippi	1929	3	1	16	31	22	9	1,110	15,510	38,160	37,631	629	77,401	39,241
	1927	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)
	1919	7	4	20	27	12	15	3,722	16,880	35,802	35,298	504	75,163	30,861
Missouri	1929	19	10	129	75	1	74	15,638	125,560	260,052	256,831	3,221	469,980	209,928
	1927	20	14	127	81	—	81	25,440	115,923	229,201	224,735	4,466	451,136	221,935
	1919	63	62	295	205	54	161	65,255	238,908	602,541	595,872	6,669	1,020,572	418,031
New York	1929	35	57	496	562	185	377	178,209	525,040	1,122,820	1,098,519	24,301	2,339,057	1,216,237
	1927	39	59	535	524	180	344	197,971	629,331	1,143,039	1,143,039	26,247	2,470,597	1,327,568
	1919	67	144	980	865	454	411	321,540	1,006,358	2,699,396	2,675,621	23,765	4,676,659	1,980,273
North Carolina	1929	6	5	58	30	—	30	8,290	43,017	138,266	136,774	1,492	220,459	91,198
	1927	5	5	52	24	—	24	5,573	25,284	94,875	93,589	1,286	150,105	64,230
	1919	10	10	63	39	22	17	16,350	53,870	150,552	148,768	1,794	277,904	127,412
Ohio	1929	29	22	210	239	62	221	53,753	219,552	445,995	438,027	7,368	977,636	531,641
	1927	25	33	234	237	62	175	62,717	232,481	413,065	405,334	7,731	862,253	449,188
	1919	79	63	341	352	154	198	90,082	312,649	934,920	921,035	13,893	1,706,377	771,451
Oklahoma	1929	12	1	56	62	6	56	4,440	53,843	107,598	105,050	1,948	219,858	112,200
	1927	7	4	62	41	—	41	5,115	59,812	84,805	83,048	1,767	239,590	154,704
	1919	32	19	110	96	11	85	32,817	116,326	345,753	342,081	3,072	695,046	349,893
Oregon	1929	5	7	45	107	62	45	19,347	40,867	108,266	106,000	2,266	205,584	97,318
	1927	5	7	47	143	50	113	11,440	43,777	107,934	104,954	2,980	192,487	84,553
	1919	7	13	84	103	50	53	28,397	72,167	294,401	291,190	3,211	412,060	117,659
Pennsylvania	1929	34	39	296	491	170	321	67,690	317,632	727,128	711,657	15,471	1,507,662	780,534
	1927	36	41	318	475	174	301	84,544	350,741	802,048	785,689	16,459	1,534,420	732,372
	1919	110	74	547	721	343	378	132,718	530,773	1,534,792	1,514,120	20,672	2,638,608	1,103,816
Rhode Island	1929	3	1	8	9	—	9	1,820	6,140	13,378	13,180	198	22,600	9,222
	1927	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)
	1919	7	13	24	24	—	24	20,540	60,474	60,474	59,458	1,016	101,000	60,626
Tennessee	1929	10	1	55	45	2	43	2,087	42,325	85,780	84,810	979	187,605	101,716
	1927	8	10	52	48	—	48	7,785	41,573	108,839	107,207	1,632	204,151	95,312
	1919	30	5	62	56	11	45	5,904	51,038	199,641	197,878	1,763	292,957	98,316
Texas	1929	33	32	252	178	6	172	58,888	226,854	497,598	489,494	8,104	1,000,010	502,412
	1927	24	28	184	211	42	169	48,066	183,125	362,168	356,043	6,125	799,440	437,272
	1919	45	51	225	228	102	126	71,322	198,738	733,013	725,909	7,044	1,246,690	515,677
Virginia	1929	4	—	29	21	—	21	21,520	52,566	115,403	115,403	1,073	96,632	44,066
	1927	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)	(⁴)
	1919	20	10	70	61	14	47	17,849	54,909	185,454	183,419	2,035	315,456	180,062
Washington	1929	5	4	32	41	—	41	6,980	36,394	74,789	74,099	690	155,853	81,004
	1927	5	4	28	21	—	21	10,732	32,818	62,357	61,673	784	132,600	70,143
	1919	6	16	99	102	—	102	25,590	50,329	208,420	206,704	1,716	310,071	107,051
Wisconsin	1929	10	10	64	42	—	42	12,201	67,575	119,501	116,802	2,699	329,694	210,168
	1927	11	7	65	45	—	45	12,748	63,041	157,940	155,055	2,885	280,381	128,441
	1919	25	24	121	74	2	72	26,672	125,850	380,088	376,063	3,405	624,253	244,165
Groups of States:														
Ariz., 2 est.; Colo., 4; Mont., 1; Nebr., 5; Utah, 2	1929	14	24	367	204	—	204	62,932	253,156	601,190	593,185	8,014	1,189,221	588,022
Maine, 2 est.; N. J., 4	1929	6	10	101	126	90	36	29,360	96,013	235,743	233,306	2,437	456,641	220,898
N. Dak., 1 est.; S. Dak., 2	1929	3	7	14	13	—	13	6,518	19,146	25,245	23,768	1,477	70,856	45,611
Md., 10 est.; S. C., 1; W. Va., 3	1929	14	26	451	346	17	320	113,259	353,251	975,760	965,128	10,632	1,824,924	849,164
States not shown sepa- rately	1927	42	71	942	588	70	518	158,809	752,969	1,759,512	1,735,960	23,552	3,321,771	1,562,269
	1919	106	125	798	642	195	447	273,530	616,213	2,181,974	2,151,839	30,135	3,495,329	1,313,355

¹ Not including proprietors and firm members. The total numbers of persons engaged and the numbers of proprietors and firm members, as reported for this industry, are as follows: For 1929, total, 5,405; proprietors and firm members, 389. For 1927, total, 5,385; proprietors and firm members, 388. For 1919, total, 8,536; proprietors and firm members, 1,162.

² The figures for 1929 refer to sales (shipments or deliveries) by manufacturers; those for earlier years represent production. See GENERAL EXPLANATIONS—Value of Products.

³ Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

⁴ Data for purchased power other than electric (power transmitted into the plant by belt or shaft) are included in the State items for 1919 but not in the United States totals.

⁵ Statistics can not be given without disclosing data for individual establishments.

⁶ Arizona, 2 establishments; Arkansas, 2; Colorado, 5; Connecticut, 1; District of Columbia, 1; Maine, 2; Maryland, 8; Mississippi, 3; Montana, 1; Nebraska, 3; New Jersey, 5; Rhode Island, 1; South Carolina, 1; South Dakota, 2; Virginia, 2; West Virginia, 3.

CENSUS OF MANUFACTURES: 1929

TABLE 5.—PRIME MOVERS, MOTORS, GENERATORS, AND CONSUMPTION OF PURCHASED ELECTRIC ENERGY—NUMBER AND RATED CAPACITY OF PRIME MOVERS AND ELECTRIC MOTORS, 1929, 1927, 1925, 1919, AND 1914, AND OF GENERATORS, 1929, 1927, AND 1925; QUANTITY OF ELECTRIC ENERGY PURCHASED, 1929

TYPE	1929		1927		1925		1919		1914		PER CENT DISTRIBUTION OF RATED HORSEPOWER CAPACITY	
	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	1929	1919
		Horse-power		Horse-power		Horse-power		Horse-power		Horse-power		
Prime movers and electric motors driven by purchased energy, aggregate.....	1,043	4,672	968	4,401	949	5,399	1,195	6,037	837	4,495	100.0	100.0
Prime movers, total.....	40	1,225	39	1,166	48	1,641	205	2,490	234	2,341	26.3	41.2
Steam, total.....	21	984	13	830	17	1,230	29	1,467	44	1,327	21.1	24.3
Engines.....	20	924	12	770	16	1,170	29	1,467	(1)	(1)	19.8	24.3
Turbines.....	1	60	1	60	1	60			(1)	(1)	1.3	
Internal-combustion engines.....	19	241	26	336	31	411	170	987	187	1,000	5.2	16.3
Water wheels and water turbines.....							6	36	3	5		0.6
Electric motors driven by purchased energy.....	1,003	3,447	929	3,235	901	3,758	990	3,547	603	2,154	73.7	58.8
Electric motors, total.....	1,071	3,840	998	3,498	944	4,009	1,043	3,879	614	2,416	100.0	100.0
Driven by purchased energy.....	1,003	3,447	929	3,235	901	3,758	990	3,547	603	2,154	89.8	91.4
Driven by energy generated in establishments reporting.....	68	393	69	263	43	251	53	332	11	262	10.2	8.6
Electric generators.....	7	Kilowatts 219 Kilowatt-hours	5	Kilowatts 341	5	Kilowatts 327	(2)	(2)	(2)	(2)		
Electric energy purchased ¹		2,119,349		(4)		(4)		(4)		(2)		

¹ Not called for separately on schedule. ² This item covers the consumption of purchased electric energy for all purposes—power, heat, light, etc.
³ Not called for on schedule. ⁴ Data incomplete.

TABLE 6.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1929, 1925, 1919, 1914, AND 1909, AND BY STATES, 1929

[This table presents statistics for only those States for which figures can be given without disclosing data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures]

STATE	Average number employed during year	NUMBER EMPLOYED ON 15TH DAY OF MONTH OR NEAREST REPRESENTATIVE DAY												Per cent minimum is of maximum	
		January	February	March	April	May	June	July	August	September	October	November	December		
United States:															
1929.....	4,542	4,576	4,627	4,658	4,606	4,543	4,453	4,416	4,448	4,404	4,502	4,611	4,568	94.6	
1925.....	4,725	4,848	4,949	4,940	4,868	4,721	4,561	4,429	4,593	4,757	4,718	4,714	4,598	89.5	
1919.....	6,313	6,321	6,187	5,907	6,009	5,986	5,994	6,054	6,298	6,512	6,713	6,840	6,938	85.1	
1914.....	5,642	5,767	5,766	5,799	5,678	5,568	5,450	6,372	5,468	5,670	5,687	5,780	5,809	92.5	
1909.....	5,199	5,372	5,372	5,313	5,231	5,073	5,035	4,778	4,913	5,172	5,305	5,431	5,454	87.0	
Alabama.....	91	91	91	91	91	91	91	91	91	91	91	91	91		
Arkansas.....	43	48	47	46	41	41	<i>39</i>	42	41	41	41	43	43	81.3	
California.....	145	150	<i>140</i>	140	140	143	<i>140</i>	148	148	143	150	150	150	93.3	
Florida.....	69	69	69	69	69	69	69	69	67	68	69	69	69	97.1	
Georgia.....	69	74	74	74	74	74	71	71	71	71	61	67	67	68.9	
Illinois.....	380	392	399	415	409	393	364	367	381	385	403	393	371	87.0	
Indiana.....	314	308	339	342	335	318	301	293	296	301	312	316	312	85.7	
Iowa.....	159	171	169	168	162	158	158	149	<i>148</i>	158	155	156	156	86.5	
Kansas.....	68	68	68	68	68	68	68	68	68	68	68	68	68		
Kentucky.....	294	294	295	300	302	301	299	298	284	284	280	293	287	94.0	
Louisiana.....	47	47	47	47	46	47	47	47	47	47	47	47	47	95.7	
Massachusetts.....	41	41	42	44	44	45	41	40	40	43	39	38	38	84.4	
Michigan.....	59	60	60	61	59	58	57	59	59	60	60	68	68	93.4	
Minnesota.....	75	78	78	78	73	73	73	73	73	73	73	76	72	92.3	
Mississippi.....	16	12	13	18	18	17	17	15	13	16	19	16	18	63.2	
Missouri.....	129	126	120	125	127	129	128	133	134	140	138	132	<i>119</i>	85.0	
New York.....	496	506	513	512	510	493	486	480	474	483	498	499	498	92.4	
North Carolina.....	58	62	62	62	58	59	54	<i>53</i>	55	58	59	57	57	85.5	
Ohio.....	210	199	209	207	209	211	200	186	185	197	224	248	249	74.3	
Oklahoma.....	56	62	62	59	54	51	53	53	52	56	58	56	55	82.3	
Oregon.....	45	48	<i>42</i>	43	<i>42</i>	40	44	<i>42</i>	46	46	48	47	48	87.5	
Pennsylvania.....	296	296	297	303	291	295	285	289	300	292	301	299	298	94.1	
Rhode Island.....	8	8	8	8	8	8	8	8	8	8	8	8	8		
Tennessee.....	55	55	55	55	55	55	55	<i>54</i>	54	54	55	54	54	98.2	
Texas.....	252	251	253	248	248	235	241	250	266	278	263	244	254	84.5	
Virginia.....	29	28	30	30	31	32	28	28	31	31	30	30	30	87.5	
Washington.....	32	31	32	33	33	33	33	32	31	32	32	31	32	93.9	
Wisconsin.....	64	65	65	65	65	64	62	64	64	63	63	61	69	90.8	

BRUSHES

Description of the industry.—The establishments classified in the brush industry are engaged in the manufacture of brushes, other than rubber, such as tooth, toilet, paint and varnish, household, and industrial brushes.

TABLE 1.—SUMMARY FOR THE UNITED STATES: 1909 TO 1929

[Data for establishments with products under \$5,000 in value included for 1919 and prior years but not for 1921 and subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

YEAR OR PERIOD	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products ¹	Value added by manufacture ²	Horsepower
1929.....	303	7,261	\$7,962,538	\$21,688,253	\$45,549,270	\$23,861,017	11,915
1927.....	302	7,673	8,244,032	22,553,058	47,844,124	25,291,066	12,093
1925.....	302	7,836	8,452,209	22,021,444	45,824,215	23,802,771	11,220
1923.....	306	8,719	9,208,272	25,509,661	50,511,239	24,941,578	10,276
1921.....	277	6,460	6,415,340	18,664,652	35,544,514	16,879,862	(³) 7,307
1919.....	379	7,968	7,113,201	19,598,133	39,005,607	19,497,474	6,298
1914.....	359	7,213	3,461,271	9,326,655	17,894,476	8,567,821	4,824
1909 ⁴	384	6,954	3,041,145	7,180,937	14,694,003	7,507,066	
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929.....	0.3	-5.4	-3.4	-3.8	-4.8	-5.7	-1.5
1925-1927.....		-2.1	-2.5	2.4	4.4	6.3	7.8
1923-1925.....	-1.3	-10.1	-5.2	-13.9	-9.3	-4.6	9.2
1921-1923.....	10.5	35.0	43.5	37.0	42.1	47.8	
1919-1921.....	-26.9	-18.9	-9.8	-4.8	-8.9	-13.0	
1919-1929.....	-20.1	-8.9	11.9	10.7	16.8	22.9	63.1
1909-1919.....	-1.3	14.6	133.9	172.7	165.5	158.5	51.5

¹ For 1929, manufacturers' sales (shipments or deliveries); for earlier years, production. See GENERAL EXPLANATIONS—Value of Products.

² Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

³ Not called for on schedule.

⁴ Data for brooms and for brushes not reported separately prior to 1909.

CENSUS OF MANUFACTURES: 1929

TABLE 2.—GENERAL STATISTICS, BY STATES: 1929, 1927, AND 1919

[This table presents statistics separately for each State for which figures can be given without disclosing data for individual establishments, and for the remaining States in groups. Data for establishments with products under \$5,000 in value are included for 1919 but not for subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

STATE	Census year	Number of establishments	Salaried officers and employees ¹	Wage earners (average for the year)	HORSEPOWER (RATED CAPACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products ²	Value added by manufacture ³
					Total	Primamovers	Motors run by purchased energy			Total	Materials	Fuel and purchased energy		
United States	1929	303	1,498	7,261	11,915	3,364	8,551	\$4,240,287	\$7,902,538	\$21,688,253	\$21,294,515	\$303,738	\$45,540,270	\$23,801,017
	1927	302	1,584	7,673	12,093	3,738	8,355	3,752,209	8,244,032	22,553,058	22,125,425	427,633	47,844,124	25,291,066
	1919	370	1,643	7,948	7,367	3,360	3,947	3,043,504	7,113,201	19,598,133	19,281,639	310,494	30,005,607	10,407,474
Individual States:														
California	1929	8	25	108	85		85	67,058	133,703	334,638	331,401	3,147	709,161	374,523
	1927	8	21	115	81		81	73,009	120,169	297,123	293,990	3,133	620,134	323,011
	1919	9	8	25	52		52	24,142	24,174	66,844	65,085	1,750	141,940	74,796
Colorado	1929	3	7	12	14		14	3,600	12,335	23,191	22,849	342	50,187	26,996
	1927	3	7	12	16		16	6,286	7,890	18,281	17,415	866	43,280	24,999
	1919	3	6	47	11		11	1,400	23,496	27,119	26,509	610	60,765	33,046
Delaware	1929	3	6	40	11		11	10,052	15,230	24,803	24,215	588	62,902	38,099
	1927	3	6	40	11		11	10,052	15,230	24,803	24,215	588	62,902	38,099
Illinois	1929	29	63	280	492	125	367	212,450	373,000	886,237	866,838	19,390	1,904,551	1,018,314
	1927	27	69	269	431	125	306	176,082	379,372	1,143,689	1,122,601	21,058	1,122,601	623,971
	1919	40	106	379	498	150	348	225,517	357,681	1,293,555	1,268,921	24,634	2,328,802	1,038,247
Indiana	1929	5	61	145	198		198	110,978	132,110	360,954	356,224	4,730	360,954	608,111
	1927	5	58	118	262		262	102,538	121,059	243,346	235,538	7,808	702,921	459,375
	1919	5	5	11	11		11	3,463	7,468	7,444	7,378	66	21,000	13,556
Kentucky	1929	8	129	806	1,621	1,481	140	298,977	745,359	2,285,104	2,263,304	21,300	3,944,304	1,659,200
	1927	9	107	814	1,769	1,181	558	201,712	628,718	2,186,088	2,165,121	20,967	2,165,121	2,990,225
	1919	9	186	771	868	471	397	338,044	500,010	1,893,849	1,867,251	20,598	3,608,919	1,616,070
Massachusetts	1929	24	234	1,002	1,821	580	1,241	647,346	1,096,138	2,413,481	2,355,099	58,382	6,833,449	4,419,968
	1927	23	270	1,228	1,376	620	756	711,398	1,334,981	3,094,509	3,018,129	76,380	7,651,638	4,419,968
	1919	30	184	1,613	1,005	620	355	487,414	1,342,304	3,333,800	3,208,490	65,394	6,857,413	3,673,523
Michigan	1929	13	27	144	195		195	62,525	169,968	486,478	479,037	6,841	948,080	461,602
	1927	9	17	114	222		222	50,775	135,571	475,014	466,690	8,324	772,608	397,594
	1919	10	22	176	171		171	39,747	156,507	340,158	331,984	8,174	668,828	328,670
Missouri	1929	6	16	36	24		24	20,592	41,582	160,759	148,707	1,992	181,481	130,722
	1927	3	13	31	22		22	14,222	38,195	107,126	105,713	1,418	180,774	82,688
	1919	10	13	35	30		30	18,112	38,714	68,468	67,440	1,028	141,640	73,181
Nebraska	1929	3	7	20	60		60	9,934	20,725	49,434	47,278	2,156	110,857	66,923
	1927	3	7	37	41		41	13,538	21,661	47,189	45,792	1,397	89,707	42,518
New Jersey	1929	27	127	650	1,074	360	714	446,678	725,129	1,997,271	1,926,233	71,038	4,377,286	2,380,015
	1927	25	121	796	949	445	504	365,289	904,880	1,936,745	1,873,717	62,028	4,697,921	2,709,176
	1919	25	132	918	742	378	364	414,668	886,864	2,481,579	2,429,653	51,926	4,263,473	1,781,894
New York	1929	75	233	1,909	1,825	362	1,463	726,045	2,007,437	5,784,336	5,685,849	98,487	11,028,209	5,241,873
	1927	81	302	1,798	2,076	743	1,333	720,780	2,070,581	4,897,626	4,803,144	94,482	6,579,177	4,081,551
	1919	120	357	1,790	1,403	748	655	921,681	1,609,782	4,130,323	4,070,632	59,691	8,984,032	4,358,709
North Carolina	1929	3	6	22	46		46	11,625	18,338	12,362	11,622	740	57,473	45,111
	1927	19	171	564	2,228	285	1,943	584,826	711,302	1,825,487	1,802,095	23,302	4,276,385	2,450,898
	1919	24	196	569	2,346	320	2,026	500,736	639,943	1,751,290	1,727,169	24,121	3,890,634	2,130,344
Ohio	1929	19	287	816	1,124	630	494	458,842	954,033	1,075,891	1,053,054	22,837	3,903,798	2,227,907
	1927	25	57	300	328		328	152,840	363,665	1,126,957	1,111,410	15,547	2,084,074	958,017
	1919	25	82	325	393		393	167,580	383,113	900,646	874,041	16,605	2,027,800	1,036,654
Pennsylvania	1929	40	78	372	267	94	173	178,618	327,380	1,059,292	1,047,038	11,354	1,963,050	904,338
	1927	6	11	56	47	5	42	34,958	49,801	59,584	57,638	1,946	209,413	149,829
	1919	6	11	52	41	5	36	20,299	54,736	75,539	73,394	2,145	193,433	117,894
Rhode Island	1929	9	7	79	82	45	37	11,099	51,391	109,124	107,218	1,906	227,949	118,825
	1927	5	15	50	74		74	38,950	48,638	117,423	115,478	1,945	272,647	155,224
	1919	9	37	144	302		302	74,492	146,231	266,924	258,981	7,943	569,828	302,404
Washington	1929	8	36	134	203		203	73,537	141,507	171,748	165,088	6,060	508,595	336,611
	1919	12	31	149	102	2	160	54,981	136,138	286,292	278,799	7,493	647,230	360,938
Wisconsin	1929	12	31	149	102	2	160	54,981	136,138	286,292	278,799	7,493	647,230	360,938
Groups of States:														
Conn., 8 est.; Maine, 2; N. H., 2; Vt., 4; Fla., 1 est.; Ga., 2; Va., 1	1929	16	228	712	1,216	114	1,192	635,787	874,063	2,847,559	2,804,372	43,187	5,702,502	2,914,943
Iowa, 1 est.; Kans., 2; Minn., 5 est.; Oreg., 4	1929	3	9	47	99	41	58	11,080	34,589	65,674	62,683	2,091	157,687	62,013
	1927	3	6	24	41		41	9,980	19,550	35,229	34,403	826	72,665	37,336
	1919	9	33	169	103		103	68,360	146,905	524,608	517,877	6,731	949,401	424,793
States not shown separately	1927	46	261	1,227	1,844	238	1,550	532,370	1,186,576	5,093,296	5,013,668	79,628	10,470,493	5,377,197
	1919	46	232	836	980	222	758	474,829	678,223	2,858,868	2,825,168	33,700	5,368,224	2,609,336

¹ Not including proprietors and firm members. The total numbers of persons engaged and the numbers of proprietors and firm members, as reported for this industry are as follows: For 1929, total, 8,947; proprietors and firm members, 188. For 1927, total, 9,450; proprietors and firm members, 202. For 1919, total, 9,941; proprietors and firm members, 330.

² The figures for 1929 refer to sales (shipments or deliveries) by manufacturers; those for earlier years represent production. See GENERAL EXPLANATIONS—Value of Products.

³ Value of products less cost of materials, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

⁴ Data for purchased power other than electric (power transmitted into the plant by belt or shaft) are included in the State items for 1919 but not in the United States totals.

⁵ Connecticut, 9 establishments; Florida, 2; Georgia, 1; Iowa, 2; Kansas, 1; Maine, 2; Minnesota, 6; New Hampshire, 3; North Carolina, 2; Oregon, 2; Texas, 1; Vermont, 4; Virginia, 1; Washington, 4.

⁶ Colorado, 3 establishments; Connecticut, 13; Delaware, 2; Florida, 3; Georgia, 1; Indiana, 3; Iowa, 2; Kentucky, 1; Louisiana, 1; Maine, 3; Minnesota, 4; Nebraska, 1; New Hampshire, 3; Oregon, 1; Texas, 1; Vermont, 1; Washington, 3.

BRUSHES

1269

TABLE 3.—PRODUCTS, BY CLASS AND VALUE: 1929 AND 1927

(The figures for 1929 refer to sales (shipments or deliveries) by manufacturers; those for 1927 represent production. See GENERAL EXPLANATIONS—Value of Products)

CLASS	1929	1927	CLASS	1929	1927
1. "Brushes, other than rubber" industry, all products, total value.....	\$45,649,270	\$47,844,124	Brushes, etc.—Continued.		
2. Brushes made in the brush industry.....	43,203,422	43,692,470	Paint and varnish brushes (including artists' brushes).....	\$16,705,771	\$17,451,786
3. Other products, value, and receipts for custom and repair work.....	2,345,848	4,151,654	Household brushes.....	7,394,686	6,339,427
4. Brushes made as secondary products in other industries.....	2,029,325	2,628,914	Industrial brushes.....	6,228,375	7,574,343
Brushes, all industries, aggregate value (sum of 2 and 4).....	45,232,747	46,321,384	Rotary power.....	3,188,559	(1)
Toothbrushes.....	5,714,727	5,100,000	Other (including push brooms).....	3,039,816	(1)
Other toilet brushes.....	5,129,097	5,385,268	Brushes not reported by kind.....	4,060,091	4,479,560

¹ Not called for on schedule.

TABLE 4.—PRIME MOVERS, MOTORS, GENERATORS, AND CONSUMPTION OF PURCHASED ELECTRIC ENERGY—NUMBER AND RATED CAPACITY OF PRIME MOVERS AND ELECTRIC MOTORS, 1929, 1927, 1925, 1919, AND 1914, AND OF GENERATORS, 1929, 1927, AND 1925; QUANTITY OF ELECTRIC ENERGY PURCHASED, 1929

TYPE	1929		1927		1925		1919		1914		PER CENT DISTRIBUTION OF RATED HORSEPOWER CAPACITY	
	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	1929	1919
											Horse-power	Horse-power
Prime movers and electric motors driven by purchased energy, aggregate.....	2,588	11,915	2,117	12,093	1,876	11,220	968	7,307	661	6,298	100.0	103.0
Prime movers, total.....	33	3,364	52	3,738	53	3,591	73	3,360	106	3,890	28.2	46.0
Steam, total.....	22	3,191	31	3,371	33	3,237	34	2,694	51	3,262	28.8	36.9
Engines.....	21	2,441	30	2,871	33	3,237	33	2,601	(1)	(1)	20.5	36.8
Turbines.....	1	750	1	500	—	—	1	3	(1)	(1)	6.3	0.1
Internal-combustion engines.....	8	106	15	207	15	226	29	445	36	472	0.9	6.1
Water wheels and water turbines.....	3	67	6	160	5	128	10	221	13	150	0.5	3.0
Electric motors driven by purchased energy.....	2,555	8,551	2,065	8,355	1,823	7,629	895	3,947	561	2,408	71.8	54.0
Electric motors, total.....	2,917	9,736	2,395	9,385	2,289	9,406	1,243	5,477	739	2,954	100.0	100.0
Driven by purchased energy.....	2,555	8,551	2,065	8,355	1,823	7,629	895	3,947	561	2,408	87.8	72.1
Driven by energy generated in establishments reporting.....	362	1,185	330	1,030	466	1,777	348	1,530	178	546	12.2	27.9
Electric generators.....	12	Kilowatts 1,880 Kilowatt-hours 4,742,958	13	Kilowatts 802	15	Kilowatts 689	(2)	(2)	(2)	(2)	—	—
Electric energy purchased ³	—	—	—	(1)	—	(1)	—	(2)	—	(2)	—	—

¹ Not called for separately on schedule.
² Not called for on schedule.

³ This item covers the consumption of purchased electric energy for all purposes—power, heat, light, etc.
⁴ Data incomplete.

CENSUS OF MANUFACTURES: 1929

TABLE 5.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1929, 1925, 1919, 1914, AND 1909, AND BY STATES, 1929

This table presents statistics for only those States for which figures can be given without disclosing data for individual establishments. The sum of the State items in any column is not, therefore, equal to the United States total at the head of the column. The month of maximum employment is indicated by bold-faced figures and that of minimum employment by *italic* figures]

STATE	Average number employed during year	NUMBER EMPLOYED ON 15TH DAY OF MONTH OR NEAREST REPRESENTATIVE DAY												Per cent minimum is of maximum		
		January	February	March	April	May	June	July	August	September	October	November	December			
United States:																
1929.....	7,261	<i>6,966</i>	7,235	7,270	7,296	7,239	7,150	7,185	7,300	7,505	7,635	7,293	7,001	7,001	91.2	
1925.....	7,836	7,927	8,013	8,095	7,977	7,780	7,531	7,448	7,429	7,596	7,912	8,185	8,155	8,155	91.0	
1919.....	7,968	8,080	7,794	7,755	7,642	7,489	7,501	7,716	8,005	8,045	8,368	8,567	8,748	8,748	85.6	
1914.....	7,213	7,448	7,441	7,440	7,359	7,222	7,102	7,114	7,043	7,082	7,295	7,066	<i>6,968</i>	<i>6,968</i>	93.5	
1909.....	6,954	6,890	6,989	7,014	6,941	6,938	6,742	<i>6,510</i>	6,646	6,903	7,190	7,360	7,338	7,338	88.5	
California.....	108	<i>108</i>	104	104	107	109	108	118	110	107	111	112	112	112	91.2	
Colorado.....	12	12	12	12	12	12	12	12	12	12	12	12	12	12	-----	
Delaware.....	47	<i>46</i>	47	48	48	48	47	46	46	47	<i>46</i>	47	47	47	93.8	
Illinois.....	290	<i>267</i>	276	281	288	288	274	273	275	292	295	284	282	282	87.1	
Indiana.....	145	<i>122</i>	129	144	144	143	139	138	150	178	175	149	131	131	89.7	
Kentucky.....	5	<i>4</i>	6	4	5	5	5	5	5	5	4	4	4	4	80.0	
Maryland.....	806	814	812	827	826	805	810	810	790	792	794	797	787	787	95.2	
Massachusetts.....	1,002	1,029	1,014	1,022	997	961	958	<i>954</i>	986	1,006	1,046	1,034	1,017	1,017	91.2	
Michigan.....	144	152	161	170	166	164	159	148	144	134	125	<i>104</i>	105	105	61.2	
Missouri.....	36	36	36	36	36	36	36	36	36	36	36	36	36	36	-----	
Nebraska.....	20	<i>16</i>	16	16	20	25	25	25	24	20	20	20	19	19	64.0	
New Jersey.....	650	<i>497</i>	690	663	647	649	661	657	668	668	683	677	653	653	72.8	
New York.....	1,909	1,807	1,855	1,873	1,876	1,870	1,789	1,899	2,005	2,118	2,178	1,907	1,753	1,753	79.6	
North Carolina.....	22	<i>20</i>	20	20	21	21	21	22	22	23	23	23	23	23	87.0	
Ohio.....	564	<i>566</i>	556	549	573	572	577	558	574	567	581	568	528	528	90.9	
Pennsylvania.....	300	<i>291</i>	296	296	300	299	311	311	316	296	294	292	293	293	92.4	
Rhode Island.....	56	<i>52</i>	56	57	59	54	53	53	54	56	57	56	57	57	88.1	
Washington.....	59	<i>56</i>	60	62	61	60	58	58	58	59	58	57	57	57	90.3	
Wisconsin.....	144	<i>127</i>	131	132	137	130	147	150	157	156	154	155	152	152	89.9	