

# CLEANING AND POLISHING PREPARATIONS

**Description of the industry.**—This industry embraces establishments engaged primarily in the manufacture of washing, ironing, and sweeping compounds, preparations for cleaning gloves and other wearing apparel, furniture polish, floor and laundry wax, paint and varnish removers, metal polish, etc.

**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 <sup>1</sup>	Value added by manufacture <sup>2</sup>	Horsepower
1929	429	2,713	\$3,356,161	\$19,399,041	\$50,779,632	\$31,380,591	10,609
1927	341	2,403	2,988,430	15,219,635	41,234,466	26,014,831	8,485
1925	299	2,161	2,659,707	12,707,370	34,020,384	21,313,014	6,279
1923	298	2,376	2,746,082	13,600,082	35,443,130	21,843,048	6,098
1921	279	1,687	1,884,922	10,959,174	23,177,721	12,218,547	(*)
1919	499	1,955	1,898,447	12,923,518	26,703,109	13,779,691	4,510
1914	398	1,299	618,783	3,893,199	9,151,718	5,256,519	2,543
1909	300	979	478,325	2,699,177	6,260,269	3,561,092	1,743
1904	156	564	241,576	1,286,060	2,710,393	1,424,333	738
1899	154	508	209,438	965,242	2,193,019	1,227,777	658
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929	25.8	12.9	12.3	27.5	23.1	20.6	25.0
1925-1927	14.0	11.2	12.4	19.8	21.2	22.1	35.1
1923-1925	0.3	-9.0	-3.1	-6.6	-4.0	-2.4	-6.3
1921-1923	6.8	40.8	45.7	24.1	52.9	78.8	-----
1919-1921	-44.1	-13.7	-0.7	-15.2	-13.2	-11.3	-----
1919-1929	-14.0	38.8	76.8	50.1	90.2	127.7	135.2
1909-1919	69.3	99.7	296.9	378.8	326.5	286.9	168.7
1899-1909	94.8	92.7	128.4	179.6	185.5	190.0	212.4

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

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

<sup>3</sup> 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 <sup>1</sup>	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 <sup>2</sup>	Value added by manufacture <sup>3</sup>
					Total	Prime movers	Motors run by purchased energy			Total	Materials and containers	Fuel and purchased energy		
United States	1929	429	1,024	2,713	10,609	1,115	9,494	\$4,349,271	\$3,356,161	\$19,399,041	\$10,044,274	\$354,767	\$50,779,632	\$31,380,591
	1927	341	1,408	2,403	8,485	1,641	6,844	3,549,621	2,988,430	15,219,635	14,963,817	256,818	41,234,466	26,014,831
	1919	499	1,953	1,955	4,510	1,373	3,137	3,198,314	1,898,447	12,923,518	12,794,567	128,951	26,703,109	13,779,691
Individual States:														
California	1929	34	53	87	292	-----	292	100,238	115,931	416,222	411,659	4,563	902,474	546,252
	1927	16	42	43	240	4	236	81,066	57,324	387,753	384,441	3,312	798,207	410,514
	1919	35	32	40	69	7	62	54,331	41,555	427,605	426,429	1,176	700,891	273,256
Colorado	1929	7	13	10	14	-----	14	34,391	13,118	40,647	46,231	410	119,130	72,483
	1927	5	7	9	14	-----	14	12,874	11,982	48,691	48,458	233	101,673	52,982
	1919	9	9	3	11	2	9	5,722	2,636	15,565	15,209	366	34,965	19,400
Connecticut	1929	10	44	153	1,954	172	1,782	138,097	228,694	1,042,584	980,594	61,990	1,607,457	564,873
	1927	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
	1919	9	16	23	6	-----	6	29,926	21,224	166,927	166,422	1,505	342,175	176,248
Illinois	1929	55	295	316	805	10	795	671,979	412,471	2,625,651	2,589,892	35,759	7,496,774	4,871,123
	1927	53	169	312	746	-----	746	471,696	420,464	1,751,594	1,732,917	18,677	5,247,844	3,496,250
	1919	61	261	361	408	21	387	630,149	373,735	2,300,338	2,283,051	17,287	4,701,776	2,401,458
Indiana	1929	7	22	54	229	75	154	42,332	50,734	267,490	260,179	7,311	647,125	379,635
	1927	6	30	27	89	-----	89	60,141	21,498	143,735	141,993	1,832	296,178	149,443
	1919	11	67	54	74	-----	74	83,918	30,341	324,842	322,416	2,427	589,449	264,607

See footnotes at end of table.

# CLEANING AND POLISHING PREPARATIONS

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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, CONTAINERS FOR PRODUCTS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products <sup>1</sup>	Value added by manufacture <sup>2</sup>
					Total	Prime movers	Motors run by purchased energy			Total	Materials and containers	Fuel and purchased energy		
Individual States—Contd.														
Iowa	1929	8	30	23	55	39	16	\$57,425	\$26,006	\$119,397	\$117,455	\$1,942	\$362,943	\$243,546
	1927	6	22	12	95	35	60	37,120	16,231	90,528	85,745	4,783	231,486	140,958
	1919	8	47	21	105	5	100	63,412	15,499	125,536	124,035	1,501	275,517	149,981
Maine	1929	4	5	5	6	6	6	8,398	4,460	19,641	19,108	533	71,815	52,174
	1927	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )
	1919	7	1	1	7	7	7	1,260	1,260	12,122	11,873	249	20,191	8,069
Maryland	1929	7	29	27	54	54	54	67,806	27,326	169,236	165,608	3,628	554,054	384,818
	1927	6	22	18	41	41	41	54,743	30,608	137,025	135,926	1,999	427,505	289,580
	1919	7	13	8	19	19	19	16,976	6,110	30,086	30,326	360	65,727	35,041
Massachusetts	1929	32	97	115	339	339	339	220,965	122,341	761,349	753,765	7,584	1,845,393	1,084,044
	1927	24	56	74	127	5	122	125,064	83,611	396,665	392,049	4,616	1,001,506	604,841
	1919	37	75	79	141	17	124	163,327	73,510	733,391	727,205	6,186	1,392,617	659,226
Michigan	1929	21	94	324	1,543	280	1,203	329,510	487,914	3,500,125	3,449,028	51,097	8,555,026	5,354,901
	1927	19	204	252	1,203	550	663	552,942	392,993	2,502,689	2,473,599	29,090	6,373,407	3,870,718
	1919	20	310	138	312	153	164	619,155	181,667	1,801,104	1,789,623	11,481	3,598,751	1,797,647
Minnesota	1929	8	21	20	20	20	20	29,711	16,335	145,312	144,848	464	290,458	145,146
	1927	5	13	10	19	19	19	28,729	10,440	135,157	134,759	398	274,090	138,963
	1919	6	40	20	37	37	37	64,025	21,510	524,260	520,887	3,373	727,745	203,485
Missouri	1929	15	58	101	194	194	194	175,031	120,993	582,162	574,125	8,037	1,781,217	1,199,055
	1927	18	52	78	131	131	131	148,122	83,767	543,574	538,051	5,523	1,636,395	1,092,821
	1919	26	64	83	227	107	120	123,032	124,849	438,221	429,034	9,187	853,880	415,055
New Jersey	1929	19	76	104	401	401	401	246,369	119,206	817,915	806,118	11,797	2,071,719	1,253,604
	1927	17	61	75	185	185	185	135,820	90,401	690,781	689,264	7,517	1,799,613	1,102,832
	1919	19	152	237	321	188	133	292,057	226,852	1,213,120	1,197,312	15,808	2,621,087	1,307,967
New York	1929	74	475	784	2,610	504	2,106	1,203,029	926,590	3,838,229	3,793,868	74,361	10,736,033	6,597,604
	1927	59	400	730	1,991	508	1,483	886,325	931,809	3,322,431	3,292,032	60,399	8,937,853	5,616,422
	1919	57	340	381	1,454	610	844	768,379	322,707	1,913,418	1,886,610	26,908	4,538,215	2,624,797
Ohio	1929	52	200	287	1,005	15	990	595,423	322,002	2,856,095	2,822,391	33,704	7,562,612	4,705,517
	1927	32	145	239	738	20	718	478,083	261,134	2,105,692	2,085,124	20,568	5,118,932	3,013,240
	1919	54	139	131	216	35	181	255,176	128,906	830,000	823,182	6,818	1,880,024	1,050,024
Oregon	1929	3	1	2	5	5	5	2,000	2,300	10,320	10,250	70	22,798	12,478
Pennsylvania	1929	28	109	171	728	20	708	225,117	227,394	1,519,241	1,477,399	41,842	4,001,501	2,482,260
	1927	26	72	166	474	119	365	204,444	200,731	1,254,489	1,238,771	15,718	3,199,165	1,944,676
	1919	49	162	138	391	171	220	228,450	92,414	783,963	773,197	10,736	1,488,095	704,112
Tennessee	1929	5	7	13	36	36	36	11,129	9,239	45,178	43,937	1,241	91,498	46,320
	1927	4	8	14	62	62	62	8,694	9,855	50,108	48,335	1,773	121,368	71,260
	1919	4	4	6	2	2	2	4,420	4,404	18,402	18,578	176	49,446	30,868
Texas	1929	6	11	17	27	27	27	24,019	14,254	68,496	67,961	535	191,360	122,864
	1927	6	9	16	29	29	29	17,041	14,236	52,606	51,937	669	149,748	97,142
	1919	13	12	22	117	40	77	10,960	20,175	50,620	48,427	2,193	116,758	66,138
Wisconsin	1929	6	22	34	137	137	137	53,323	40,843	194,161	190,736	3,425	517,320	323,159
	1927	8	36	45	165	165	165	35,004	49,628	219,250	215,508	3,744	580,213	360,963
	1919	14	131	120	420	10	410	201,182	125,435	883,188	876,268	6,920	2,163,662	1,280,674
Groups of States:														
Ala., 2 est.; Fla., 1; Miss., 1	1929	4	16	11	26	26	26	32,745	13,030	40,306	45,154	1,152	142,773	96,467
Ark., 2 est.; Kans., 1; Okla., 1	1929	4	6	6	14	14	14	6,400	6,960	32,334	31,934	400	88,235	55,601
Del., 1 est.; Ky., 2; Va., 1; W. Va., 1	1929	5	8	13	36	36	36	11,900	10,007	50,357	49,668	689	95,073	44,716
Ga., 2 est.; N. C., 1; S. C., 1	1929	4	6	10	26	26	26	14,440	8,145	41,187	40,892	295	148,618	107,431
Nebr., 2 est.; Wash., 2	1929	4	2	7	33	33	33	3,200	6,980	14,367	14,126	241	46,526	32,159
N. H., 5 est.; R. I., 2	1929	7	14	19	20	20	20	43,376	21,888	109,039	107,348	1,691	469,700	300,661
States not shown separately	1927	31	60	233	2,136	400	1,736	161,813	301,788	1,379,967	1,305,000	74,967	4,942,223	3,562,256
	1919	53	79	89	183	2	181	93,717	78,435	330,014	325,700	4,254	641,938	311,924

<sup>1</sup> Not including proprietors and firm members, as follows: For 1929, 168; 1927, 182; 1919, 356. 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, 4,593; 1927, 3,993; 1919, 4,264.

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

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

<sup>4</sup> 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.

<sup>5</sup> Withheld from publication in order to avoid disclosing data for individual establishments.

<sup>6</sup> Connecticut, 8 establishments; Delaware, 1; Florida, 2; Georgia, 1; Kansas, 1; Kentucky, 1; Maine, 3; Nebraska, 1; New Hampshire, 5; New Mexico, 1; North Carolina, 2; Oklahoma, 1; Rhode Island, 2; South Carolina, 1; Virginia, 1.

<sup>7</sup> Alabama, 2 establishments; Arkansas, 1; Florida, 2; Georgia, 4; Kansas, 4; Kentucky, 2; Louisiana, 1; Montana, 1; Nebraska, 4; New Hampshire, 4; New Mexico, 1; North Carolina, 3; Oklahoma, 3; Oregon, 2; Rhode Island, 6; South Carolina, 1; South Dakota, 1; Utah, 3; Virginia, 4; Washington, 4.



## COMPRESSED AND LIQUEFIED GASES

Description of the industry.—This industry embraces establishments engaged primarily in the production of gases, such as carbon dioxide, chlorine, hydrogen, oxygen, etc., for sale in compressed and liquefied forms. This group of establishments was first classified under a separate industry designation at the census for 1927. (See "Rayon and compressed and liquefied gases," p. 646.)

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

[No comparable data available for years prior to 1927. See "Rayon and compressed and liquefied gases," p. 646]

YEAR OR PERIOD	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products <sup>1</sup>	Value added by manufacture <sup>2</sup>	Horsepower
1929.....	354	3,390	\$5,378,211	\$14,528,603	\$52,189,779	\$37,661,170	85,203
1927.....	313	3,212	4,947,577	11,748,839	50,547,395	38,798,556	70,489
	PER CENT OF INCREASE OR DECREASE (-)						
1927-1929.....	13.1	5.5	8.7	23.7	3.2	-2.9	21.0

<sup>1</sup> For 1929, sales (shipments or deliveries) by manufacturers; for 1927, production. See GENERAL EXPLANATIONS—Value of Products.

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

## 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]

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 <sup>2</sup>	Value added by manufacture <sup>1</sup>
					Total	Prime movers	Motors run by purchased energy			Total	Materials	Fuel and purchased energy		
United States.....	1929	354	3,056	3,300	85,293	9,288	76,005	\$5,662,732	\$5,378,211	\$14,528,603	\$10,971,158	\$3,557,445	\$62,189,779	\$37,661,176
	1927	313	2,541	3,212	70,489	7,582	62,907	4,779,887	4,947,577	11,748,839	8,983,319	2,765,520	50,547,365	28,798,556
Individual States:														
Alabama.....	1929	8	46	47	1,142	60	1,082	70,470	55,897	177,623	140,140	37,483	724,897	547,274
	1927	6	29	43	1,053	85	968	52,487	62,782	120,620	88,355	32,265	713,619	592,999
California.....	1929	24	229	215	4,094	276	3,818	450,480	334,651	1,150,402	973,657	176,835	3,514,556	2,364,064
	1927	18	179	183	4,097	210	3,887	345,606	280,122	986,222	811,840	124,382	3,579,197	2,642,975
Florida.....	1929	4	19	16	516	22	494	37,790	20,101	37,905	18,209	19,696	208,921	170,116
	1927	4	12	12	391	122	269	17,922	15,325	19,559	14,431	5,128	123,701	104,202
Georgia.....	1929	10	59	69	1,339	122	1,217	125,954	78,205	252,613	187,507	65,106	868,878	619,285
	1927	7	45	76	1,151	100	1,051	88,770	71,642	235,274	197,456	37,818	1,059,635	824,361
Illinois.....	1929	17	151	213	7,424	1,259	6,165	294,793	364,060	766,724	542,026	254,698	3,768,813	2,972,089
	1927	19	133	221	6,710	959	5,751	307,338	388,611	702,507	494,541	208,026	3,832,654	3,130,087
Indiana.....	1929	9	128	97	2,213	122	2,091	251,151	156,309	767,834	677,741	90,093	1,750,879	983,045
Iowa.....	1929	6	38	31	928	-----	623	63,780	48,185	209,654	172,522	37,132	600,082	391,028
	1927	5	26	29	466	-----	466	51,476	45,381	153,096	132,738	20,358	490,360	337,264
Kansas.....	1929	6	30	29	657	270	387	64,661	45,085	179,780	139,077	40,703	585,146	405,366
	1927	4	10	21	155	-----	155	16,993	29,149	68,263	58,892	9,371	287,365	219,102
Massachusetts.....	1929	10	111	108	1,727	160	1,567	191,487	168,427	552,002	427,900	124,102	1,743,860	1,191,804
	1927	11	110	113	1,155	375	780	187,720	178,090	511,153	406,423	104,730	2,109,814	1,598,001
Michigan.....	1929	13	132	127	2,369	150	2,219	229,338	193,160	734,447	611,621	122,820	2,309,749	1,875,392
	1927	10	82	120	2,135	-----	2,136	174,912	216,600	567,285	456,908	110,377	2,205,466	1,639,181
Minnesota.....	1929	9	82	62	1,626	122	1,504	151,832	99,396	360,581	280,719	79,862	1,296,800	930,219
Missouri.....	1929	11	144	128	2,907	369	2,538	253,769	185,120	550,755	446,817	103,938	1,936,867	1,385,612
	1927	11	112	104	2,438	175	2,263	215,367	156,208	484,819	389,119	95,700	2,352,966	1,868,147
Nebraska.....	1929	4	51	28	534	-----	534	95,543	44,188	145,003	107,014	37,989	452,864	307,861
New Jersey.....	1929	14	228	377	6,041	1,090	4,951	488,585	582,131	1,372,582	1,021,178	351,404	5,464,748	4,092,166
	1927	16	161	304	4,578	590	2,988	477,666	620,979	1,239,816	1,009,136	230,680	4,304,070	3,064,854
New York.....	1929	16	156	248	10,793	1,565	9,228	254,250	406,143	771,366	588,065	183,301	3,079,772	2,308,406
	1927	14	132	213	4,108	1,288	2,820	244,451	321,162	540,302	410,845	123,957	3,205,108	2,694,866
Ohio.....	1929	35	294	369	8,679	247	8,432	616,982	629,151	1,527,219	1,089,743	437,576	5,691,854	4,164,435
	1927	32	298	378	8,259	60	8,199	607,253	628,886	1,193,864	815,855	378,009	5,207,267	4,013,403
Oklahoma.....	1929	9	62	46	1,280	-----	1,280	106,253	61,624	279,382	207,976	71,406	945,615	666,133
Oregon.....	1929	4	20	13	457	-----	457	26,256	21,436	45,357	29,320	16,037	207,362	162,005
Pennsylvania.....	1929	41	321	430	12,479	644	11,835	552,811	724,401	1,510,660	979,998	530,662	6,785,840	5,225,180
	1927	37	251	473	10,425	859	9,566	450,627	717,813	1,233,010	838,070	394,940	5,012,097	4,679,687
Tennessee.....	1929	9	42	40	979	300	679	81,066	67,657	115,315	71,560	43,755	598,970	483,655
	1927	6	27	30	846	200	646	48,937	46,142	52,080	24,093	27,987	412,683	360,093
Texas.....	1929	21	178	141	5,230	377	4,853	282,142	184,238	651,963	450,901	195,062	2,183,154	1,531,201
	1927	16	97	103	4,937	393	4,544	185,781	138,645	498,053	340,910	157,143	1,379,115	1,381,062
Utah.....	1929	5	29	29	1,181	720	461	59,751	42,310	135,356	103,034	32,322	353,497	218,141
	1927	5	23	31	1,316	630	686	44,761	48,508	98,300	75,259	23,041	370,878	272,578
Virginia.....	1929	9	69	146	2,484	850	1,634	141,562	193,568	340,027	265,452	75,475	1,327,422	986,465
	1927	10	78	123	2,031	75	1,956	140,443	172,416	272,478	211,026	61,452	1,385,520	1,063,942
Washington.....	1929	8	50	47	754	-----	754	94,374	79,162	228,708	186,614	41,794	688,174	459,466
	1927	9	177	80	1,153	-----	1,153	91,070	69,846	223,972	180,633	43,339	808,512	584,540
West Virginia.....	1929	0	34	58	448	93	355	58,610	85,841	303,880	271,603	32,217	825,949	522,069
Wisconsin.....	1929	7	52	73	1,758	-----	1,758	166,138	98,187	380,026	281,492	99,434	1,403,440	1,022,514
	1927	8	65	89	1,892	-----	1,892	151,852	131,794	347,276	232,671	114,604	1,452,668	1,104,823
Groups of States:														
Ariz., 2 est.; Colo., 5; D. C., 1; Me., 1; R. I., 1; S. C., 1	1929	11	61	43	1,036	335	701	104,462	66,088	242,296	185,283	57,013	548,900	306,604
Ark., 1 est.; La., 10	1929	11	72	51	1,879	75	1,804	96,935	61,135	255,482	176,187	79,295	781,289	525,807
Conn., 1 est.; Md., 5	1929	6	63	69	1,083	60	1,023	112,191	98,632	306,360	253,141	63,219	928,374	622,014
Idaho, 1 est.; Mont., 1; S. Dak., 1; Wyo., 1	1929	4	19	8	313	-----	313	30,197	14,418	32,860	13,703	19,157	119,020	86,160
Ky., 4 est.; N. C., 3	1929	7	56	32	1,243	-----	1,243	73,619	46,904	112,461	64,598	47,863	544,981	432,520
States not shown separately.....	1927	65	464	407	12,192	1,461	10,731	898,555	731,066	2,250,831	1,789,118	461,713	8,902,950	6,652,119

<sup>1</sup> Not including proprietors and firm members, as follows: For 1929, 3; 1927, 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, 6,449; 1927, 5,756.

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

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

<sup>4</sup> Arizona, 1 establishment; Arkansas, 1; Colorado, 5; Connecticut, 1; District of Columbia, 1; Idaho, 1; Indiana, 9; Kentucky, 5; Louisiana, 5; Maine, 1; Maryland, 4; Minnesota, 10; Montana, 1; Nebraska, 4; North Carolina, 3; Oklahoma, 5; Oregon, 2; Rhode Island, 1; South Carolina, 1; South Dakota, 1; West Virginia, 3.

# COMPRESSED AND LIQUEFIED GASES

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**TABLE 3.—PRODUCTS, BY KIND, QUANTITY, 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]

	1929	1927	1925	1923
1. Compressed and liquefied gases industry, all products, total value.....	\$52,189,779	\$50,547,305	(1)	(1)
2. Compressed and liquefied gases.....	\$51,622,803	\$50,067,106	(1)	(1)
3. Other products (not normally belonging to the industry).....	\$566,976	\$480,289		
4. Compressed and liquefied gases made as secondary products in other industries, value.....	\$19,670,116	\$11,797,083		
<b>Compressed and liquefied gases, all industries:</b>				
Aggregate value (sum of 2 and 4).....	\$71,292,919	\$61,864,189	\$55,532,616	\$53,384,029
<b>Ammonia, anhydrous 2—</b>				
Number of establishments.....	16	15	16	12
Pounds.....	173,349,355	45,115,020	31,724,868	23,529,382
Value.....	\$10,673,234	\$4,011,362	\$6,771,876	\$6,414,667
<b>Carbon dioxide (carbonic acid)—</b>				
Number of establishments.....	54	49	44	45
Pounds.....	136,930,311	74,344,287	59,721,309	51,095,965
Value.....	\$6,931,735	\$6,048,424	\$5,128,441	\$4,992,373
<b>Chlorine 2—</b>				
Number of establishments.....	20	15	14	12
Total production, pounds.....	398,943,703	234,978,522	166,325,643	125,361,020
Made and consumed in same establishments, pounds.....	109,088,853	54,815,084	61,365,457	49,242,780
For sale—Pounds.....	289,854,850	180,163,438	104,960,186	76,118,240
Value.....	\$7,113,091	\$6,678,145	\$4,236,307	\$2,778,088
<b>Hydrogen—</b>				
Number of establishments.....	44	47	48	51
M cubic feet.....	207,843	103,714	150,602	103,818
Value.....	\$1,423,456	\$741,982	\$876,976	\$695,476
<b>Oxygen—</b>				
Number of establishments.....	178	156	141	121
M cubic feet.....	3,140,095	2,359,896	2,073,826	2,067,526
Liquefaction process.....	2,816,641	2,086,301	1,705,092	1,677,746
Electrolytic process.....	323,454	273,595	368,734	379,780
Value.....	\$23,400,606	\$23,986,881	\$22,577,110	\$23,352,236
<b>Nitrous oxide—</b>				
Number of establishments.....	9	10	10	12
Thousands of gallons.....	109,812	66,392	54,882	45,297
Value.....	\$1,196,392	\$806,614	\$729,534	\$730,644
<b>Sulphur dioxide—</b>				
Number of establishments.....	4	5	4	4
Pounds.....	17,600,936	11,003,719	8,968,463	6,575,995
Value.....	\$973,596	\$720,470	\$638,175	\$414,040
<b>Hydrocarbon gases—</b>				
<b>Acetylene—</b>				
Number of establishments.....	104	83	69	58
M cubic feet.....	969,534	682,481	525,746	522,349
Value.....	\$16,563,763	\$16,190,388	\$13,514,964	\$13,080,232
<b>Pintsch gas—</b>				
Number of establishments.....	32	43	(1)	(1)
M cubic feet.....	118,887	177,460		
Value.....	\$658,315	\$1,408,211		
Other hydrocarbon gases, value.....	\$1,488,881	\$1,007,869	\$882,815	\$735,988
Other gases, value.....	\$570,850	\$254,843	\$176,418	\$160,276

<sup>1</sup>No data. First treated as a separate industry at the census for 1927. See "Rayon and compressed and liquefied gases," p. 646.

<sup>2</sup>Not including data for production in coke and manufactured-gas industries.

<sup>3</sup>Not including chlorine made and consumed in the wood-pulp industry.

<sup>4</sup>No data. Included in statistics for the manufactured-gas industry.

<sup>5</sup>Argon, nitrogen, helium, etc.

**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.....	2,267	Horsepower 85,293	1,822	Horsepower 70,489	100.0	Electric motors, total.....	2,256	Horsepower 77,760	1,816	Horsepower 64,580	100.0
Prime movers, total.....	101	9,288	89	7,582	10.9	Driven by purchased energy.....	2,156	76,005	1,733	62,907	97.7
Steam, total.....	78	7,216	74	5,677	8.5	Driven by energy generated in establishments reporting.....	100	1,755	83	1,673	2.3
Engines.....	72	6,373	73	5,667	7.5	Electric generators.....	20	Kilowatts 2,729	15	Kilowatts 1,982	
Turbines.....	6	843	1	10	1.0	Electric energy purchased <sup>1</sup> .....	236,632	416	(1)		
Internal-combustion engines.....	17	846	10	1,190	1.0						
Water wheels and water turbines.....	6	1,226	5	715	1.4						
Electric motors driven by purchased energy.....	2,156	76,005	1,733	62,907	89.1						

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

<sup>2</sup> Data incomplete.

## CENSUS OF MANUFACTURES: 1929

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 of maximum
		January	February	March	April	May	June	July	August	September	October	November	December	
United States.....	3,390	3,095	3,172	3,222	3,329	3,382	3,463	3,537	3,577	3,557	3,480	3,454	3,412	86.5
Alabama.....	47	<i>36</i>	38	38	39	51	50	49	49	50	51	54	53	66.7
California.....	215	<i>166</i>	199	208	207	207	217	240	243	224	237	219	210	68.3
Florida.....	16	<i>11</i>	13	14	18	16	20	18	19	18	16	15	14	55.0
Georgia.....	69	<i>71</i>	69	67	67	71	71	77	78	69	<i>66</i>	66	67	84.4
Illinois.....	213	210	214	<i>201</i>	214	215	217	214	222	217	214	214	204	90.5
Indiana.....	97	<i>98</i>	99	100	106	96	95	98	97	95	94	<i>82</i>	<i>82</i>	86.8
Iowa.....	31	<i>34</i>	32	33	34	29	28	30	32	31	31	31	29	82.4
Kansas.....	29	<i>31</i>	29	31	31	30	28	33	<i>24</i>	<i>24</i>	<i>24</i>	29	30	72.7
Massachusetts.....	108	108	105	100	101	106	113	105	112	112	109	111	110	88.5
Michigan.....	127	<i>117</i>	122	130	130	131	131	127	128	139	131	120	121	84.2
Minnesota.....	62	<i>62</i>	60	58	62	65	66	67	65	63	62	61	58	86.6
Missouri.....	128	<i>119</i>	126	135	126	126	127	131	130	124	135	128	123	88.1
Nebraska.....	28	<i>28</i>	26	27	27	27	29	30	31	32	28	28	28	81.3
New Jersey.....	377	<i>359</i>	359	357	379	383	408	404	395	393	391	370	351	86.0
New York.....	248	<i>200</i>	214	215	223	225	258	273	273	281	265	271	272	74.4
Ohio.....	369	<i>352</i>	352	355	371	377	370	377	387	379	371	365	362	91.0
Oklahoma.....	46	<i>44</i>	43	44	40	44	44	44	44	49	47	51	48	78.4
Oregon.....	13	<i>4</i>	4	16	11	12	12	12	13	16	15	23	23	17.4
Pennsylvania.....	430	<i>417</i>	415	424	417	425	417	435	443	443	435	442	446	93.3
Tennessee.....	40	<i>38</i>	36	38	39	42	43	42	42	42	42	41	40	86.7
Texas.....	141	<i>138</i>	139	143	143	142	147	145	150	145	133	131	130	83.3
Utah.....	29	<i>25</i>	30	30	29	29	29	27	29	30	29	28	28	80.1
Virginia.....	140	<i>129</i>	132	134	140	149	146	157	160	161	148	147	153	72.2
Washington.....	47	<i>39</i>	41	45	42	46	46	53	48	50	54	48	48	81.2
West Virginia.....	58	<i>24</i>	24	24	67	66	64	65	66	73	77	71	69	81.2
Wisconsin.....	73	<i>65</i>	69	70	81	82	79	81	76	72	68	73	68	72.0

## DRUGGISTS' PREPARATIONS PATENT OR PROPRIETARY MEDICINES AND COMPOUNDS PERFUMES, COSMETICS, AND OTHER TOILET PREPARATIONS

Because of the close relationship existing among these three industries, the statistics are given both separately and in combination in the tables herewith.

Description of the industries.—The "Druggists' preparations" industry embraces those establishments which are engaged primarily in the manufacture of serums, vaccines, toxins, capsules (filled or unfilled), tablets, pills, tinctures, medicinal plasters, cough sirups, ointments, and other pharmaceuticals.

The principal products of the "Patent or proprietary medicines and compounds" industry are medicines and compounds sold under the protection of patents, copyrights, or trade-marks, or prepared

according to secret formulas, including medicines of a proprietary character, not necessarily patented or sold under a trade-mark, and various compounds or products handled by the pharmaceutical trade, such as insecticides, corn cures, household ammonia, disinfectants, boiler compounds, etc.

The establishments assigned to the "Perfumes, cosmetics, and other toilet preparations" industry are those whose leading products are perfumes of all kinds; toilet waters; creams and rouges; face, talcum, and other toilet powders; tooth pastes and other dentifrices; washes and lotions; skin emollients; etc.



## CENSUS OF MANUFACTURES: 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 <sup>1</sup>	Value added by manufacture <sup>2</sup>	Horsepower
<b>THE GROUP AS A WHOLE</b>							
1929	2,766	40,231	\$44,996,007	\$196,844,698	\$637,125,965	\$440,281,267	76,136
1927	2,360	35,672	39,574,979	177,905,588	549,797,727	371,892,139	60,432
1925	2,243	33,261	35,206,911	167,780,065	472,494,233	304,708,258	53,774
1923	2,217	34,080	33,292,878	159,801,905	416,878,001	257,076,696	47,765
1921	2,266	30,476	30,979,429	132,187,711	330,137,156	197,979,445	( <sup>3</sup> )
1919	3,660	38,417	20,893,754	170,194,918	386,369,132	216,264,214	40,275
1914	3,815	25,502	12,709,575	66,339,943	167,372,129	101,032,186	28,500
1909	3,642	22,895	9,896,674	50,376,665	141,941,602	91,565,937	24,917
1904	2,777	20,472	7,913,318	39,494,289	117,435,874	77,941,585	16,089
1899	2,154	19,028	6,909,611	31,049,890	88,780,774	56,840,884	11,851
Per cent of increase or decrease (—):							
1927-1929	17.2	12.8	13.7	10.6	15.9	18.4	26.0
1925-1927	5.2	7.4	12.4	6.0	16.4	22.0	12.4
1923-1925	1.2	-2.0	6.0	5.0	13.3	18.5	12.6
1921-1923	-2.2	11.3	7.2	20.9	26.3	29.9	-----
1919-1921	-36.3	-20.7	3.6	-22.3	-14.6	-8.5	-----
1919-1929	-22.3	4.7	50.5	15.7	64.9	103.6	89.0
1909-1919	-2.3	67.8	202.1	237.7	172.2	136.2	61.6
1899-1909	69.1	20.3	43.2	57.7	59.9	61.1	110.3
<b>DRUGGISTS' PREPARATIONS</b>							
1929	429	10,688	\$12,452,066	\$43,775,986	\$124,778,487	\$81,002,501	19,448
1927	373	10,138	11,942,469	40,493,392	110,309,139	69,809,747	15,919
1925	370	9,685	11,078,384	36,063,719	95,419,324	59,356,105	12,533
1923	389	8,966	9,185,975	33,368,859	79,142,688	45,778,809	11,255
1921	408	10,838	11,036,658	34,573,664	81,607,922	47,124,258	( <sup>3</sup> )
1919	524	15,568	12,161,925	55,188,475	114,593,486	59,455,011	12,670
1914	416	9,277	4,754,508	22,934,723	48,009,654	25,074,931	8,368
1909	375	9,490	4,188,432	17,847,008	43,958,479	26,111,473	9,580
1904	240	7,410	2,792,914	13,419,635	31,782,250	18,362,615	5,991
1899	173	5,638	2,006,540	10,814,432	22,714,889	11,909,457	3,567
Per cent of increase or decrease (—):							
1927-1929	15.0	5.4	4.3	8.1	13.1	16.0	22.2
1925-1927	0.8	4.7	7.8	12.3	15.6	17.6	26.8
1923-1925	-4.9	8.0	20.6	8.1	20.6	29.7	11.5
1921-1923	-4.7	-17.3	-23.0	-3.5	-3.1	-2.9	-----
1919-1921	-22.1	-30.4	-1.9	-37.3	-25.7	-20.7	-----
1919-1929	-18.1	-31.3	2.4	-20.0	8.9	36.2	53.5
1909-1919	89.7	64.0	192.5	209.0	160.7	127.7	32.3
1899-1909	116.8	67.7	107.2	65.0	93.5	119.4	168.6
<b>PATENT OR PROPRIETARY MEDICINES AND COMPOUNDS</b>							
1929	1,522	16,434	\$18,780,980	\$94,769,833	\$318,909,928	\$224,137,095	44,538
1927	1,282	15,071	16,667,425	84,640,850	278,242,929	193,602,079	34,082
1925	1,279	15,802	15,592,017	84,789,647	247,604,046	162,774,309	33,840
1923	1,363	17,853	16,914,859	88,802,058	237,494,447	148,692,889	29,968
1921	1,436	13,800	13,084,434	69,671,327	175,898,330	106,827,093	( <sup>3</sup> )
1919	2,467	17,444	13,748,813	88,819,417	212,162,255	129,842,838	25,409
1914	2,903	13,328	6,675,108	35,940,434	102,469,374	66,622,940	18,326
1909	2,838	11,030	4,744,021	20,894,628	89,771,154	56,876,626	13,962
1904	2,245	10,980	4,351,667	21,293,051	74,620,765	53,227,714	9,819
1899	1,719	11,606	4,334,425	18,000,441	58,988,181	40,987,740	7,710
Per cent of increase or decrease (—):							
1927-1929	18.7	9.0	12.7	12.0	14.6	15.8	30.7
1925-1927	0.2	1.8	6.9	-0.2	12.4	18.9	0.7
1923-1925	-6.2	-14.7	-7.8	-4.5	4.2	9.5	12.8
1921-1923	-5.1	25.7	23.6	27.6	35.0	39.8	-----
1919-1921	-41.8	-20.0	-0.5	-21.7	-17.1	-13.8	-----
1919-1929	-38.3	-5.8	36.6	6.7	50.3	81.7	75.3
1909-1919	-13.1	58.2	189.8	230.2	153.3	116.9	72.8
1899-1909	65.1	-5.0	0.4	49.4	42.0	38.8	90.7
<b>PERFUMES, COSMETICS, AND OTHER TOILET PREPARATIONS</b>							
1929	815	13,109	\$13,762,961	\$58,298,879	\$193,440,550	\$135,141,671	12,150
1927	705	19,403	10,965,085	52,765,340	161,245,659	108,480,313	10,431
1925	594	8,714	8,536,510	46,932,699	129,510,453	82,577,754	7,381
1923	465	7,761	7,102,044	37,635,958	100,241,480	62,605,498	6,502
1921	422	5,838	5,358,337	28,012,720	72,540,904	44,528,184	( <sup>3</sup> )
1919	509	5,405	3,983,016	26,147,023	59,013,391	33,466,365	2,190
1914	496	2,897	1,270,899	7,464,780	10,899,101	9,434,315	1,815
1909	429	2,375	994,221	5,634,031	14,211,060	9,577,938	1,376
1904	292	2,082	708,537	4,781,603	11,132,859	6,351,256	779
1899	262	1,764	598,646	3,135,017	7,087,704	3,952,687	568
Per cent of increase or decrease (—):							
1927-1929	15.6	25.3	25.5	10.5	20.7	24.6	16.5
1925-1927	18.7	20.1	28.4	12.4	24.5	31.4	41.3
1923-1925	27.7	12.3	20.2	24.7	29.2	31.9	13.5
1921-1923	10.2	32.9	32.5	34.4	38.2	40.6	-----
1919-1921	-25.8	8.0	34.5	7.1	21.7	33.1	-----
1919-1929	43.2	142.5	245.5	123.0	224.5	303.8	453.3
1909-1919	32.6	300.6	327.6	364.1	310.5	200.1	59.7
1899-1909	63.7	34.6	74.8	79.7	100.5	117.0	142.1

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

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

<sup>3</sup> Not called for on schedule.

DRUGGISTS' PREPARATIONS, PATENT MEDICINES, ETC.

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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 <sup>2</sup>	Value added by manufacture <sup>3</sup>
					Total	Prime movers	Motors run by purchased energy			Total	Materials and containers	Fuel and purchased energy		
<b>THE GROUP AS A WHOLE</b>														
United States.....	1929	2,760	19,274	40,231	76,136	20,111	50,025	\$33,085,073	\$44,996,007	\$196,844,698	\$193,937,697	\$2,907,001	\$637,125,965	\$440,281,267
	1927	2,360	18,363	35,072	60,432	17,145	43,287	44,329,163	39,574,979	177,905,588	176,309,852	2,595,736	549,707,727	371,892,139
	1919	3,560	23,264	38,417	40,275	19,719	20,556	44,484,709	29,893,764	170,104,918	168,209,030	1,895,888	386,369,132	216,264,214
<b>DRUGGISTS' PREPARATIONS</b>														
United States.....	1929	429	3,930	10,688	19,448	6,328	13,120	11,417,620	12,452,066	33,775,980	42,986,664	789,322	124,778,487	81,002,501
	1927	373	4,478	10,138	15,919	8,088	7,831	10,372,755	11,942,469	40,499,392	39,870,330	629,062	110,399,139	69,809,747
	1919	524	6,718	15,568	12,670	8,406	4,264	13,818,486	12,161,925	55,138,475	54,461,977	686,498	114,593,436	59,455,011
<b>Individual States:</b>														
California.....	1929	22	71	162	190	-----	190	166,029	179,947	664,473	653,173	11,300	1,752,705	1,088,232
	1927	9	74	112	131	-----	131	127,772	124,514	455,076	449,374	5,702	1,153,855	698,779
	1919	15	51	222	95	7	88	102,107	181,549	702,952	697,386	5,566	1,187,841	494,889
Colorado.....	1929	6	12	23	29	-----	29	43,475	30,782	121,907	118,899	3,008	316,268	194,351
	1927	5	10	21	10	-----	10	23,334	30,121	137,375	134,714	2,061	209,756	72,381
	1919	5	17	17	24	-----	24	40,900	16,464	149,090	147,501	1,589	274,483	125,393
District of Columbia.....	1927	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
Georgia.....	1919	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	1919	5	17	54	9	-----	9	48,931	28,097	207,743	207,334	409	435,500	225,847
Illinois.....	1929	36	491	647	3,663	8	3,660	1,828,786	674,216	2,185,452	2,128,471	56,981	7,601,299	5,415,847
	1927	31	398	445	1,264	14	1,250	1,027,022	590,141	1,995,735	1,953,716	42,020	6,171,216	4,175,481
	1919	31	461	503	915	704	211	765,046	446,461	2,113,167	2,071,500	41,667	4,888,548	2,775,381
Iowa.....	1929	14	82	188	324	-----	324	243,930	236,718	1,004,020	976,459	27,561	2,201,677	1,207,057
	1927	11	67	196	291	-----	291	197,645	225,267	1,105,642	1,085,811	19,831	2,062,313	1,556,671
	1919	15	133	234	161	10	151	348,539	266,330	2,011,119	1,996,225	14,894	3,070,077	1,058,958
Kansas.....	1929	14	41	110	212	10	202	127,270	145,300	678,394	667,369	11,025	1,401,373	722,790
	1927	15	44	144	232	2	230	113,120	180,200	1,182,583	1,170,218	12,365	1,690,649	508,096
	1919	17	92	184	106	16	90	213,112	233,697	2,762,534	2,758,071	9,463	3,694,847	932,313
Maine.....	1929	4	7	37	13	-----	13	9,128	28,901	31,704	30,266	1,438	93,715	62,011
	1927	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	1919	3	1	15	1	-----	1	1,300	6,532	34,332	34,026	306	61,475	27,143
Massachusetts.....	1929	18	40	104	116	-----	116	87,271	108,441	305,811	299,491	6,320	827,481	521,670
	1927	19	53	106	148	-----	148	126,280	111,931	576,859	571,340	5,519	1,194,256	617,397
	1919	24	867	1,699	757	610	147	1,673,993	1,307,006	4,952,869	4,913,010	39,859	9,989,720	5,036,851
Minnesota.....	1929	9	18	36	55	-----	55	39,647	41,434	140,212	134,220	5,992	390,126	249,914
	1927	6	13	31	58	-----	58	28,078	33,686	123,268	118,288	4,980	331,132	207,864
	1919	6	73	142	87	40	47	113,001	86,040	258,204	252,765	5,439	818,798	860,694
Missouri.....	1929	20	206	497	647	208	430	572,873	534,269	2,169,999	2,135,522	84,477	5,171,012	3,001,013
	1927	23	149	345	844	310	534	356,363	380,075	1,702,194	1,677,599	24,595	3,429,769	1,727,575
	1919	36	307	646	1,090	911	149	645,826	332,861	2,589,586	2,565,586	24,000	4,831,651	2,242,065
Nebraska.....	1929	11	63	108	171	20	161	160,177	125,716	1,154,053	1,142,913	11,140	2,108,957	1,008,967
	1927	10	69	137	169	10	149	167,145	183,571	1,188,840	1,156,903	11,937	1,942,943	774,103
	1919	11	70	89	93	32	61	144,782	99,999	333,631	326,705	6,926	926,976	595,344
New Jersey.....	1929	20	212	661	378	-----	378	710,365	603,897	1,854,231	1,782,772	71,459	5,680,700	3,820,460
	1927	15	226	631	540	309	240	676,829	526,654	1,740,006	1,716,681	29,325	6,212,143	3,400,137
	1919	16	294	994	1,430	573	833	2,431,058	602,787	3,091,144	3,012,482	78,662	6,334,938	2,243,774
New York.....	1929	88	825	1,722	2,710	810	1,900	2,335,995	1,922,893	7,068,748	6,930,308	138,440	21,751,927	14,683,774
	1927	74	775	1,703	2,999	1,225	1,744	1,795,254	1,595,681	7,258,481	7,141,461	117,020	18,392,861	11,134,350
	1919	98	1,103	2,210	3,139	1,439	974	2,893,934	1,823,187	8,621,164	8,500,728	126,436	18,000,192	9,379,028
Ohio.....	1929	25	176	417	670	-----	670	429,115	428,177	1,730,081	1,705,019	24,442	3,968,005	2,235,944
	1927	24	214	365	739	205	534	392,610	428,177	1,608,537	1,588,732	19,805	3,700,695	2,182,153
	1919	20	289	525	422	142	280	608,548	395,284	1,789,504	1,778,509	15,999	3,941,207	2,151,808
Pennsylvania.....	1929	40	432	1,750	3,359	1,200	2,159	1,369,073	1,838,225	6,041,778	4,928,188	113,690	14,473,512	9,431,734
	1927	39	628	1,588	2,118	1,850	2,688	1,420,676	1,721,342	4,961,760	4,879,523	82,238	15,397,385	10,435,628
	1919	62	986	2,215	1,821	1,466	355	2,008,797	1,997,616	4,808,425	4,719,348	89,077	12,606,051	7,797,626
Rhode Island.....	1929	3	6	18	13	-----	13	14,995	17,694	34,586	33,566	1,020	102,407	59,881
	1927	3	7	17	13	-----	13	17,061	18,724	43,924	41,931	1,993	100,972	57,048
	1919	8	14	15	14	-----	14	25,145	11,610	53,456	52,196	1,260	119,727	68,271
Tennessee.....	1929	6	54	102	73	-----	73	151,313	86,127	797,532	793,458	4,074	1,719,212	921,680
	1927	8	63	111	69	-----	69	131,234	84,478	896,526	892,843	3,683	1,724,785	828,259
	1919	16	126	186	54	-----	54	233,251	83,552	1,192,789	1,187,640	5,129	1,893,092	700,323
Texas.....	1929	6	39	61	114	-----	114	97,859	64,462	248,852	238,918	9,934	779,571	530,719
	1927	8	30	101	85	-----	85	79,140	83,370	353,067	346,859	6,208	835,949	482,882
	1919	9	35	109	46	13	33	104,401	88,701	180,644	177,906	2,738	770,506	589,862
Wisconsin.....	1929	4	26	48	86	-----	86	68,544	47,064	116,128	111,431	4,097	366,584	250,456
	1927	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
	1919	6	11	33	63	15	48	30,500	35,969	148,108	135,763	12,345	347,117	199,009
<b>Groups of States:</b>														
Ala., 1 establishment;	1929	5	31	46	9	-----	9	41,040	26,720	113,631	113,300	331	271,782	158,151
N. C., 2; S. C., 1;	1929	15	259	916	1,010	785	225	476,618	779,714	6,890,112	6,850,936	39,126	13,468,809	6,576,787
Va., 1	1929	30	715	3,053	2,926	2,118	2,118	2,799,946	4,398,606	10,701,327	10,503,969	197,358	38,758,656	28,057,329
Conn., 5; Md., 8; N.	1929	7	21	43	135	3	132	41,356	40,121	115,899	109,344	6,554	299,353	133,455
H., 1; Vt., 1	1929	5	17	67	91	-----	91	40,841	74,919	308,911	302,118	6,793	647,254	338,

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 <sup>1</sup>	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 <sup>2</sup>	Value added by manufacture <sup>1</sup>
					Total	Prime movers	Motors run by purchased energy			Total	Materials and containers	Fuel and purchased energy		
PATENT OR PROPRIETARY MEDICINES AND COMPOUNDS														
United States	1929	1,522	0,224	16,434	44,538	12,209	32,329	\$25,560,155	\$18,780,980	\$94,769,833	\$93,233,431	\$1,536,402	\$318,906,928	\$224,137,095
	1927	1,282	8,463	15,071	34,082	8,298	25,784	21,362,430	16,667,425	84,640,860	83,154,851	1,485,999	278,242,929	193,602,079
	1919	2,467	12,878	17,444	25,409	10,984	14,425	24,736,212	13,748,813	88,819,417	87,732,309	1,087,108	212,162,255	123,342,838
Individual States:														
Arkansas	1929	10	15	23	26		20	24,910	14,621	68,365	67,295	1,070	204,004	135,639
	1927	8	12	16	9		9	21,296	13,590	65,611	63,815	1,796	177,224	111,613
	1919	23	19	53	20		20	23,158	45,404	107,225	106,280	945	258,242	151,017
California	1929	117	347	649	2,127	60	2,067	1,013,235	794,622	4,616,666	4,467,528	48,138	10,215,908	5,700,342
	1927	90	362	509	1,911	26	1,882	806,899	632,074	2,989,673	2,954,974	34,699	6,071,017	3,681,344
	1919	90	208	276	697	134	463	302,066	242,108	1,009,565	985,566	14,999	2,382,734	1,382,169
Colorado	1929	10	29	22	31		31	52,868	22,173	143,861	142,306	1,465	344,308	200,507
	1927	10	14	18	18		18	25,001	10,064	97,846	96,940	906	214,887	117,041
	1919	25	38	39	27		27	41,838	30,068	142,861	142,306	93,281	202,100	107,323
Connecticut	1929	19	135	267	698	160	438	255,611	215,576	1,448,754	1,423,801	24,893	6,068,000	4,619,252
	1927	(9)	(9)	(9)	(9)	(9)	(9)	(9)	(9)	(9)	(9)	(9)	(9)	(9)
	1919	26	102	162	184		184	322,167	158,034	360,408	343,900	16,418	1,085,223	1,024,815
Florida	1929	19	55	93	289		289	112,542	82,587	450,031	451,446	4,585	1,000,794	634,703
	1927	15	54	68	432		427	143,058	60,347	478,151	473,521	4,630	1,117,697	639,446
	1919	24	34	68	34		29	53,608	35,009	387,543	386,854	489	738,214	350,871
Georgia	1929	30	123	188	780	250	530	327,486	125,067	1,043,960	1,030,907	13,053	4,904,064	3,860,104
	1927	25	152	201	377	190	187	368,333	128,519	1,077,169	1,065,169	12,000	3,967,290	2,800,121
	1919	43	133	167	122	72	50	193,332	91,034	692,934	686,957	5,977	2,888,284	2,195,560
Illinois	1929	134	1,233	1,832	7,367	2,473	4,894	3,014,780	2,058,308	14,191,192	13,949,760	241,432	42,902,440	28,711,257
	1927	124	1,211	1,720	4,316	1,201	3,115	2,706,671	2,098,290	11,283,480	11,062,826	220,654	38,808,788	27,528,308
	1919	208	1,973	1,599	2,642	804	1,838	3,930,079	1,217,052	11,254,436	11,153,418	101,018	25,395,228	14,140,792
Indiana	1929	45	360	456	887	100	787	990,668	507,762	1,827,111	1,797,180	20,931	7,204,889	5,377,778
	1927	36	215	347	791	102	689	733,012	395,736	1,611,440	1,484,932	26,508	5,597,442	4,066,002
	1919	83	276	420	469	150	319	490,875	327,920	1,888,356	1,806,520	16,827	4,481,247	3,097,891
Iowa	1929	54	316	324	1,651	293	1,358	589,361	302,170	1,772,779	1,746,220	26,559	5,127,333	3,364,504
	1927	47	292	408	1,214	275	939	519,400	434,839	1,737,019	1,712,559	24,460	5,498,463	3,761,434
	1919	90	1,080	393	664	258	606	1,444,955	332,404	1,953,002	1,933,126	20,776	6,348,551	4,394,649
Kansas	1929	13	16	54	50		50	39,954	56,826	107,474	105,015	2,459	201,571	184,087
	1927	9	15	30	34		34	30,711	36,999	93,696	90,723	2,978	244,178	150,482
	1919	27	58	41	46		44	176,618	32,798	185,063	181,015	3,146	513,391	328,816
Kentucky	1929	15	37	56	81		81	89,737	54,017	200,880	197,919	2,961	846,886	640,006
	1927	12	32	54	71		71	72,736	45,725	185,173	180,622	4,551	658,812	473,139
	1919	28	110	228	206	280	16	179,010	128,181	686,278	642,923	43,350	2,059,571	1,523,263
Louisiana	1929	21	47	123	34		34	111,720	77,320	522,606	518,900	3,006	1,587,652	1,055,356
	1927	18	52	106	31		31	147,153	72,260	481,129	479,351	1,778	1,350,810	869,181
	1919	17	55	111	24		24	120,716	50,879	315,227	314,076	1,151	786,408	471,181
Maine	1929	9	16	33	34		34	58,803	29,011	88,206	88,206	3,053	300,090	269,671
	1927	9	22	46	78		78	54,188	48,790	145,171	138,871	6,300	454,315	309,144
	1919	19	16	30	27		27	32,109	19,930	113,701	112,303	1,398	312,342	198,641
Maryland	1929	37	246	508	1,619	200	1,419	854,808	528,711	4,079,431	4,023,734	55,697	13,961,200	9,281,778
	1927	32	311	514	1,782	15	1,767	865,528	539,696	3,518,244	3,459,972	58,282	12,452,551	8,934,307
	1919	55	312	699	1,210	114	1,096	677,390	524,700	4,785,987	4,765,672	20,015	8,878,122	4,062,135
Massachusetts	1929	60	655	1,564	1,915	1,209	706	1,915,310	2,279,033	6,460,944	6,366,384	95,560	21,312,768	14,851,854
	1927	54	455	1,017	1,695	1,115	580	1,024,830	1,101,637	6,476,609	6,388,760	88,049	20,189,407	13,712,598
	1919	97	412	604	1,196	785	411	852,172	1,305,068	3,057,347	3,019,198	38,149	9,107,958	6,060,611
Michigan	1929	54	567	1,243	3,463	1,650	1,755	1,784,971	1,617,841	5,563,676	5,457,404	105,272	18,978,300	13,415,224
	1927	39	476	1,168	2,129	740	1,349	1,547,576	1,305,998	4,318,126	4,280,739	131,387	13,800,880	9,442,760
	1919	70	713	1,392	1,026	613	412	1,344,427	1,204,369	4,212,806	4,143,206	69,380	9,948,329	5,735,523
Minnesota	1929	34	207	216	282		282	461,084	226,684	1,494,376	1,479,401	14,885	4,358,030	2,884,554
	1927	33	215	220	324		317	471,633	226,684	1,361,868	1,350,006	11,862	4,340,618	2,874,760
	1919	51	416	461	2,234	13	2,221	761,418	295,073	2,722,063	2,696,068	25,995	6,302,629	3,580,556
Mississippi	1929	6	11	9	21		21	18,286	6,290	28,384	27,661	723	82,237	53,583
	1927	(9)	(9)	(9)	(9)	(9)	(9)	(9)	(9)	(9)	(9)	(9)	(9)	(9)
	1919	3	3	6	6		6	4,800	2,552	11,814	11,728	86	29,499	17,685
Missouri	1929	88	699	1,444	2,662	192	2,500	1,874,774	1,404,210	8,946,247	8,851,570	94,907	36,300,635	27,354,388
	1927	83	769	1,595	2,064	157	1,907	1,693,420	1,633,470	9,280,727	9,193,678	87,049	37,504,067	28,223,340
	1919	142	979	1,040	895	422	573	1,945,558	886,379	5,190,818	5,145,822	44,996	14,500,676	9,399,858
Nebraska	1929	19	165	182	225		225	219,893	275,032	483,807	477,554	6,253	1,720,543	1,245,736
	1927	10	52	43	163		163	116,352	49,091	293,983	290,099	3,884	832,772	538,789
	1919	29	118	107	242	43	199	166,799	90,562	404,453	404,453	5,742	1,111,298	646,846
New Jersey	1929	82	721	1,780	6,953	2,180	4,773	1,993,278	2,061,144	11,489,470	11,230,005	259,465	35,187,415	23,697,943
	1927	65	613	1,301	3,484	1,520	4,764	1,392,054	1,521,658	7,862,503	7,633,015	229,488	32,925,373	20,882,870
	1919	81	428	1,021	1,705	1,290	4,310	835,713	829,600	5,160,249	5,028,284	131,965	8,548,141	3,897,892
New York	1929	234	1,411	2,474	5,490	1,180	4,310	4,857,180	3,081,242	14,025,180	13,764,410	260,761	49,077,623	35,052,448
	1927	214	1,586	2,656	5,467	1,950	3,517	4,628,499	3,249,234	14,051,088	13,774,085	277,003	50,132,237	36,091,148
	1919	403	2,690	4,546	6,230	3,710	2,520	5,816,969	3,076,076	24,641,297	24,377,522	263,777	57,057,977	39,816,076
Ohio	1929	103	529	805	2,056	258	1,798							

DRUGGISTS' PREPARATIONS, PATENT MEDICINES, ETC.

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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 <sup>1</sup>	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 <sup>2</sup>	Value added by manufacture <sup>3</sup>
					Total	Prime movers	Motors run by purchased energy			Total	Materials and containers	Fuel and purchased energy		
<b>PATENT OR PROPRIETARY MEDICINES AND COMPOUNDS—contd.</b>														
<b>Individual States—Continued.</b>														
Texas	1929	23	51	77	39	2	39	\$169,552	\$66,985	\$503,546	\$500,207	\$3,249	\$1,485,427	\$981,881
	1927	21	63	85	181	2	179	122,051	98,541	584,916	581,858	3,528	1,564,573	979,657
	1919	52	99	177	88	11	47	148,495	107,689	647,037	645,875	1,162	1,455,182	808,125
Vermont	1929	10	55	123	182	—	182	110,298	117,175	417,068	408,207	10,861	1,470,999	1,053,931
	1927	9	60	132	179	—	179	110,857	109,775	615,571	600,508	15,063	1,596,939	981,368
	1919	14	96	138	18	2	16	134,839	82,961	919,113	904,526	14,587	1,029,500	1,029,500
Virginia	1929	15	59	89	151	40	111	158,574	93,522	465,516	455,536	9,980	1,773,015	1,307,499
	1927	18	66	89	91	35	56	104,991	90,863	589,264	582,559	6,705	1,863,801	1,264,537
	1919	39	105	301	570	501	69	162,365	262,444	862,447	831,411	31,038	1,871,789	1,009,342
Washington	1929	16	35	50	226	100	126	67,686	53,246	331,867	325,109	6,758	868,155	326,288
	1927	16	35	50	226	100	126	67,686	53,246	331,867	325,109	6,758	868,155	326,288
	1919	15	11	20	142	60	83	90,256	28,603	219,420	213,169	6,251	560,609	341,249
West Virginia	1929	6	18	17	32	—	32	11,591	32,864	107,271	107,271	5,078	189,494	77,145
	1927	6	18	17	32	—	32	26,195	17,226	90,024	89,561	463	244,079	154,056
	1919	0	12	12	2	—	2	20,130	15,340	154,440	153,950	484	269,172	114,732
Wisconsin	1929	28	158	120	141	40	101	328,058	118,743	552,205	545,076	7,129	1,702,519	1,160,314
	1927	23	98	90	106	40	156	230,815	82,752	412,792	408,041	4,751	1,253,406	840,614
	1919	50	143	124	140	10	130	188,437	101,101	680,815	673,670	7,145	1,516,296	855,481
Groups of States:														
Ala., 8 establishments; N. C., 13...	1929	21	79	150	124	—	124	181,168	165,528	1,563,756	1,559,377	4,379	6,309,695	4,745,939
Ariz., 2; N. Mex., 1; Utah, 1...	1929	4	10	3	1	—	1	14,866	3,104	7,808	7,748	60	32,580	24,772
Del., 3; D. C., 3; N. H., 2...	1929	8	34	62	468	75	393	136,360	77,600	229,832	218,079	11,153	1,120,214	890,382
Idaho, 1; Mont., 1; N. Dak., 1; Okla., 4...	1929	7	22	20	170	100	70	40,300	25,710	140,635	138,113	2,522	253,523	112,888
States not shown separately	1927	48	249	469	569	85	484	580,980	377,051	2,956,225	2,916,032	40,193	9,960,364	7,004,139
	1919	107	367	440	893	233	660	623,309	312,891	2,623,018	2,580,698	42,320	7,387,442	4,764,424
<b>PERFUMES, COSMETICS, AND OTHER TOILET PREPARATIONS</b>														
United States	1929	815	6,120	13,109	12,150	1,574	10,576	16,107,298	13,762,961	58,298,879	57,717,602	581,277	193,440,560	135,141,671
	1927	705	5,412	10,463	10,431	759	9,672	12,593,978	10,965,085	52,765,846	52,284,671	480,675	161,245,659	108,480,313
	1919	569	3,608	6,406	2,196	329	1,867	6,430,011	3,983,016	26,147,026	26,024,744	122,282	59,613,391	33,466,365
Individual States:														
Alabama	1929	4	13	21	—	—	—	1,337	17,896	43,569	42,976	593	160,072	117,403
California	1929	55	120	203	206	—	206	310,833	167,910	1,128,733	1,123,951	4,812	3,094,189	1,965,406
	1927	43	148	127	231	—	231	213,221	141,110	669,631	660,832	3,099	2,028,399	1,368,468
	1919	32	51	79	31	—	31	56,441	79,774	242,676	240,190	2,486	580,190	338,225
Colorado	1929	5	6	6	6	—	6	10,155	3,923	23,588	23,172	416	73,240	40,652
	1927	5	6	6	6	—	6	10,155	3,923	23,588	23,172	416	73,240	40,652
	1919	3	2	4	4	—	4	1,680	1,846	13,290	13,089	201	24,032	10,742
Connecticut	1929	11	87	351	269	—	269	242,665	280,108	2,245,856	2,234,523	11,633	3,140,562	5,894,706
	1927	5	31	105	68	—	68	134,357	116,191	1,154,816	1,148,817	5,999	2,718,711	1,563,895
	1919	6	77	248	173	105	105	75,469	29,504	181,662	180,054	1,008	518,637	336,975
Georgia	1929	8	23	50	18	—	18	69,625	33,829	201,539	199,906	1,633	535,160	333,621
	1927	9	25	61	22	—	22	55,674	11,776	167,269	166,055	1,214	368,843	191,574
	1919	6	31	23	11	—	11	55,674	11,776	167,269	166,055	1,214	368,843	191,574
Illinois	1929	94	628	1,051	997	—	997	1,725,400	1,016,146	4,376,970	4,332,254	44,716	15,898,746	11,021,776
	1927	80	604	1,008	805	—	805	1,004,465	992,686	5,174,382	5,131,618	42,764	16,448,711	11,274,331
	1919	75	640	710	848	—	848	987,981	772,710	3,421,431	3,405,080	16,345	8,775,563	5,354,130
Indiana	1929	13	78	293	120	—	120	239,522	222,154	561,108	552,571	8,537	1,748,710	1,187,602
	1927	11	120	249	143	—	143	329,747	199,569	928,261	919,449	8,812	2,458,008	1,529,747
	1919	10	12	48	13	—	13	20,604	21,621	169,503	168,550	953	297,405	127,902
Louisiana	1929	9	16	40	23	—	23	25,685	21,169	100,354	99,781	573	235,615	135,265
	1927	4	13	35	23	—	23	15,353	19,182	106,865	106,213	652	208,170	101,301
	1919	5	20	48	15	—	15	19,100	23,066	93,810	93,514	296	176,819	82,500
Maryland	1929	16	36	87	41	—	41	70,850	67,000	407,363	404,828	2,535	965,263	557,605
	1927	11	47	67	29	—	29	48,007	41,558	204,411	201,013	3,398	595,423	304,017
	1919	8	54	66	22	—	22	64,435	31,450	281,704	279,835	2,369	521,401	239,787
Massachusetts	1929	25	59	106	64	—	64	151,111	102,783	649,420	646,995	2,425	1,903,772	1,264,352
	1927	20	59	108	27	—	27	150,977	103,064	503,585	501,613	1,972	1,536,969	1,030,384
	1919	18	44	87	28	—	28	62,056	68,205	601,822	600,922	900	1,092,460	627,638
Michigan	1929	18	151	274	243	125	118	448,606	287,507	1,010,214	998,571	13,643	3,250,928	2,240,714
	1927	22	163	326	310	125	185	392,562	417,656	1,461,320	1,445,208	16,112	3,383,224	2,121,604
	1919	21	71	140	145	30	115	139,458	118,688	481,302	474,084	2,388	1,092,460	627,638
Minnesota	1929	21	279	440	930	—	930	616,431	428,799	1,929,322	1,898,467	36,855	5,595,644	3,666,322
	1927	22	256	392	2,015	—	2,015	591,914	389,569	1,720,640	1,688,841	31,699	5,246,365	3,526,825
	1919	18	146	43	24	—	24	35,739	33,206	178,442	176,054	2,388	348,293	169,851
Missouri	1929	35	231	526	338	—	338	476,153	358,138	1,847,035	1,823,692	24,343	4,357,806	3,010,771
	1927	25	262	406	256	—	256	495,454	410,049	1,886,815	1,877,469	18,346	4,322,246	2,926,431
	1919	23	168	100	103	—	103	213,167	60,954	595,801	589,734	6,067	1,902,208	1,300,427
Nebraska	1929	7	15	19	11	—	11	23,632	17,699	79,145	78,115	1,030	230,383	151,238
New Jersey	1929	26	321	858	991	461	530	1,026,966	938,866	4,134,705	4,092,840	41,860	15,884,943	11,760,238
	1927	24	216	553	718	510	208	604,123	663,995	3,027,966	2,989,332	38,634	10,985,654	7,957,688
	1919	15	105	405	166	3	63	402,045	318,791	2,189,526	2,176,343	14,183	4,351,705	2,442,179
New York	1929	814	3,148	7,026	5,999	963	5,036	8,221,960	7,038,387	32,075,428	31,762,354	313,074	107,956,970	75,881,542
	1927	286	2,370	5,273	3,365	48	3,317	6,210,677	5,871,732	27,650,534	27,447,686	202,848	83,494,619	56,

## 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 <sup>1</sup>	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 <sup>2</sup>	Value added by manufacture <sup>3</sup>
					Total	Prime movers	Motors run by purchased energy			Total	Materials and containers	Fuel and purchased energy		
PERFUMES, COSMETICS, AND OTHER TOILET PREPARATIONS—CON.														
Individual States—Con.														
Pennsylvania	1929	38	153	332	137	-----	137	\$487,743	\$665,819	\$1,528,555	\$1,517,553	\$11,002	\$3,827,281	\$2,208,726
	1927	42	185	431	795	-----	27	474,297	370,616	1,908,912	1,858,631	50,281	4,614,407	2,705,496
	1919	36	178	195	160	83	67	239,958	121,977	830,576	826,733	3,843	1,854,332	1,023,756
Rhode Island	1929	4	10	9	1	-----	1	23,223	6,920	32,602	32,123	477	80,815	57,213
	1927	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )
	1919	4	2	2	-----	-----	-----	1,791	7,161	7,125	7,125	36	16,308	9,147
Tennessee	1929	18	306	466	482	-----	482	593,596	480,983	1,686,175	1,670,692	15,483	5,515,566	3,829,351
	1927	10	230	380	281	-----	281	337,684	283,051	1,576,078	1,563,798	11,280	5,215,852	3,640,774
	1919	10	39	103	52	-----	52	61,491	60,581	384,432	383,409	963	923,843	539,411
Texas	1929	12	31	86	23	-----	23	49,376	50,997	233,701	232,120	1,581	686,826	453,125
	1927	6	13	29	7	-----	7	27,304	15,316	84,653	83,966	687	284,236	199,583
	1919	7	22	15	4	-----	4	31,488	11,747	169,034	168,805	229	279,841	110,807
Wisconsin	1929	6	27	37	33	-----	33	54,112	36,856	151,343	148,850	2,493	308,389	167,046
	1927	6	27	53	24	-----	24	50,578	38,498	52,600	50,291	2,369	219,759	167,099
	1919	5	64	75	20	-----	20	99,885	35,383	276,107	274,088	2,019	780,245	504,188
Groups of States:														
D. C., 1 establishment; Me., 1; N. H., 1; Va., 3	1929	6	29	79	11	-----	11	53,665	47,696	164,805	163,674	1,131	436,048	271,243
Fla., 3; Ky., 4; Miss., 1; N. C., 1	1929	9	29	64	82	-----	82	70,307	47,757	338,592	336,674	1,918	723,634	385,042
Iowa, 8; Kans., 1; Okla., 2; S. Dak., 1; Utah, 2	1929	14	106	216	444	-----	444	322,845	207,818	1,384,553	1,370,207	14,351	3,971,947	2,587,389
Oreg., 2; Wash., 9	1929	11	31	60	30	-----	30	90,072	53,785	184,805	183,283	1,522	710,921	526,116
States not shown separately	1927	51	317	563	763	27	756	895,591	512,378	3,832,942	3,806,184	26,758	12,566,009	8,733,067
	1919	52	188	271	171	42	129	398,725	199,304	1,434,804	1,425,219	9,585	3,282,192	1,847,388

<sup>1</sup> Not including proprietors and firm members. The total numbers of persons engaged and the numbers of proprietors and firm members, as reported for these industries, are as follows: Drugists' preparations, for 1929, total, 14,763; proprietors and firm members, 135. For 1927, total, 14,770; proprietors and firm members, 154. For 1919, total, 22,569; proprietors and firm members, 283. Patent or proprietary medicines and compounds, for 1929, total, 26,120; proprietors and firm members, 462. For 1927, total, 24,187; proprietors and firm members, 633. For 1919, total, 31,970; proprietors and firm members, 1,648. Perfumes, cosmetics, and toilet preparations, for 1929, total, 19,495; proprietors and firm members, 266. For 1927, total, 16,250; proprietors and firm members, 375. For 1919, total, 9,446; proprietors and firm members, 373.

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

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

<sup>4</sup> 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.

<sup>5</sup> No figures for this State can be given for 1927 without disclosing data for individual establishments.

<sup>6</sup> Alabama, 4 establishments; Connecticut, 6; District of Columbia, 4; Florida, 1; Georgia, 3; Indiana, 11; Kentucky, 4; Louisiana, 1; Maine, 3; Maryland, 8; Michigan, 10; Montana, 1; New Hampshire, 2; North Carolina, 2; Oklahoma, 1; Oregon, 1; South Carolina, 2; South Dakota, 1; Utah, 1; Vermont, 1; Washington, 1; West Virginia, 2; Wisconsin, 3.

<sup>7</sup> Alabama, 3 establishments; Arkansas, 1; Colorado, 3; Connecticut, 6; Indiana, 25; Kentucky, 6; Louisiana, 3; Maryland, 13; Michigan, 16; Mississippi, 1; Montana, 1; New Hampshire, 3; North Carolina, 4; North Dakota, 1; Oklahoma, 4; South Carolina, 3; South Dakota, 1; Utah, 1; Vermont, 1; Virginia, 9; Washington, 7; West Virginia, 2.

<sup>8</sup> Alabama, 7 establishments; Connecticut, 9; Delaware, 1; District of Columbia, 3; Idaho, 1; Mississippi, 1; New Hampshire, 2; North Carolina, 12; Oklahoma, 2; Rhode Island, 3; South Dakota, 3; Utah, 2; West Virginia, 2.

<sup>9</sup> Alabama, 22 establishments; District of Columbia, 15; Idaho, 2; Montana, 4; New Hampshire, 6; North Carolina, 27; North Dakota, 2; Oklahoma, 17; South Dakota, 3; Utah, 3.

<sup>10</sup> Alabama, 3 establishments; Colorado, 3; Connecticut, 5; District of Columbia, 1; Florida, 3; Iowa, 8; Kansas, 2; Kentucky, 4; Mississippi, 1; Nebraska, 2; Nevada, 1; New Hampshire, 1; North Carolina, 1; Oklahoma, 3; Rhode Island, 1; Utah, 1; Virginia, 4; Washington, 7.

<sup>11</sup> Alabama, 3 establishments; District of Columbia, 2; Florida, 2; Iowa, 9; Kansas, 2; Kentucky, 4; Maine, 4; Montana, 1; Nebraska, 3; New Hampshire, 1; North Dakota, 1; Oklahoma, 3; Oregon, 2; Vermont, 1; Virginia, 6; Washington, 8.

# DRUGGISTS' PREPARATIONS, PATENT MEDICINES, ETC.

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

(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	CLASS	1929	1927	1925	1923
<b>PRODUCTS, BY INDUSTRIES</b>					<b>PRODUCTS IN DETAIL—contd.</b>				
1. The drug industries, all products, total value.....	\$637,125,065	\$549,797,727	\$472,494,323	\$416,878,601	<i>Patent or proprietary medicines, total value.....</i>	\$211,840,222	\$184,073,332	\$174,305,562	\$165,464,630
2. Products belonging to the drug industries.....	509,634,025	521,510,876	445,252,396	395,745,329	For sale to the general public:				
3. Other products (not normally belonging to these industries).....	37,491,940	23,286,851	27,241,927	21,133,272	Containing narcotic drugs (opium, codeine, morphine, heroin, or cocaine).....	331,815	646,139	278,202	862,403
4. Products normally belonging to the drug industries made as secondary products in other industries, value.....	40,797,450	33,670,382	30,354,730	32,345,968	Not containing narcotic drugs. Ethical specialties (dispensed on physicians' prescriptions or through physicians):	154,587,308	140,032,935	133,009,803	125,980,912
Druggists' preparations industry, all products, total value.....	124,778,487	110,309,139	95,419,824	79,142,668	Containing narcotic drugs (opium, codeine, morphine, heroin, or cocaine).....	2,149,863	1,731,319	1,394,549	1,347,861
Druggists' preparations.....	94,548,916	83,582,583	67,111,168	57,384,698	Not containing narcotic drugs, total value.....	54,791,236	41,612,939	38,723,008	37,273,454
Patent or proprietary medicines and compounds.....	24,928,249	22,069,686	22,500,733	16,983,320	Synthetic chemicals, medicinal.....	3,456,059	5,815,436	2,252,244	
Perfumes, cosmetics, and other toilet preparations.....	1,850,410	1,748,121	2,082,850	1,245,537	Gland products.....	7,021,428	6,743,801	5,447,361	
Other products.....	3,450,912	2,910,749	3,635,073	3,524,113	Vitamin preparations.....	4,483,789	1,443,211	842,554	(*)
Patent or proprietary medicines and compounds industry, all products, total value.....	318,906,928	278,242,929	247,564,046	227,494,447	Other.....	39,829,980	27,605,491	30,680,849	
Patent or proprietary medicines and compounds.....	267,177,259	234,028,975	214,015,680	202,628,887	<i>Patent or proprietary compounds, total value.....</i>	\$101,913,089	\$84,131,794	\$72,988,161	\$64,812,284
Druggists' preparations.....	11,694,158	12,008,181	6,535,576	12,407,979	Antiseptics, value.....	\$21,799,004	\$17,863,540	\$13,842,386	\$7,963,407
Perfumes, cosmetics, and other toilet preparations.....	18,555,387	17,776,856	11,723,274	8,996,691	Deodorants, total value.....	\$5,032,968	\$2,572,840	\$2,718,633	\$1,369,068
Other products.....	21,480,094	14,428,917	15,289,536	13,400,890	Liquid—				
Perfumes, cosmetics, and other toilet preparations industry, all products, total value.....	193,440,550	161,245,059	129,510,453	100,241,486	Pounds.....	10,870,570	6,378,283		
Perfumes, cosmetics, and other toilet preparations.....	165,720,043	142,036,937	115,780,721	90,005,203	Value.....	\$3,450,356	\$1,617,035		
Druggists' preparations.....	4,300,741	2,118,273	921,317	1,809,158	Block and crystal—				
Patent or proprietary medicines and compounds.....	10,858,832	6,143,264	4,491,097	4,778,856	Pounds.....	1,503,122	513,503		
Other products.....	12,500,934	10,947,185	8,317,318	4,148,209	Value.....	\$961,104	\$330,171		
Made as secondary products in other industries:					Powder—				
Druggists' preparations, value.....	14,445,195	10,703,159	6,352,614	7,475,488	Pounds.....	1,937,393	1,671,838		
Patent or proprietary medicines and compounds, value.....	10,788,941	5,963,201	6,196,233	5,880,851	Value.....	\$370,319	\$347,125		
Perfumes, cosmetics, and other toilet preparations, value.....	15,563,314	16,014,022	17,805,889	18,989,629	Other—				
Druggists' preparations.....	4,300,741	2,118,273	921,317	1,809,158	Pounds.....	638,349	630,230		
Patent or proprietary medicines and compounds.....	10,858,832	6,143,264	4,491,097	4,778,856	Value.....	\$250,659	\$328,509		
Other products.....	12,500,934	10,947,185	8,317,318	4,148,209	Germicides, value.....	\$2,482,798	\$2,237,513	\$1,305,430	\$1,060,211
Disinfectants, insecticides, and fungicides:					Disinfectants, total value.....	\$7,331,787	\$6,088,781	\$5,775,388	\$5,291,853
Disinfectants, total value.....	\$7,331,787	\$6,088,781	\$5,775,388	\$5,291,853	Coal-tar—				
Coal-tar—					Pounds.....	21,773,790	23,230,545		
Pounds.....	21,773,790	23,230,545			Value.....	\$4,637,106	\$3,824,974		
Value.....	\$4,637,106	\$3,824,974			Pine oil—				
Pine oil—					Pounds.....	1,831,653	2,897,009		
Pounds.....	1,831,653	2,897,009			Value.....	\$426,874	\$442,072		
Value.....	\$426,874	\$442,072			Chloride of lime and chlorine products—				
Chloride of lime and chlorine products—					Pounds.....	2,835,904	1,890,607		
Pounds.....	2,835,904	1,890,607			Value.....	\$536,424	\$123,925		
Value.....	\$536,424	\$123,925			Other—				
Other—					Pounds.....	11,280,630	7,283,512		
Pounds.....	11,280,630	7,283,512			Value.....	\$1,731,383	\$1,097,810		
Value.....	\$1,731,383	\$1,097,810			Household insecticides, total value.....	\$15,077,107	\$12,907,977		
Value.....	\$1,731,383	\$1,097,810			Sprays, fly—				
Household insecticides, total value.....	\$15,077,107	\$12,907,977			Pounds.....	36,685,374	18,407,817		
Sprays, fly—					Value.....	\$9,822,578	\$6,100,798		
Pounds.....	36,685,374	18,407,817			Insect powder (Pyrethrum)—				
Value.....	\$9,822,578	\$6,100,798			Pounds.....	5,542,498	2,730,563		
Insect powder (Pyrethrum)—					Value.....	\$2,446,624	\$1,772,153		
Pounds.....	5,542,498	2,730,563			Fluoride powders and mixtures—				
Value.....	\$2,446,624	\$1,772,153			Pounds.....	700,845	614,878		
Fluoride powders and mixtures—					Value.....	\$385,199	\$310,236		
Pounds.....	700,845	614,878			Moth repellants—				
Value.....	\$385,199	\$310,236			Pounds.....	2,364,401	3,670,903		
Moth repellants—					Value.....	\$799,774	\$1,103,685		
Pounds.....	2,364,401	3,670,903			Other—				
Value.....	\$799,774	\$1,103,685			Pounds.....	8,954,679	14,197,294		
Other—					Value.....	\$2,123,032	\$3,621,105		
Pounds.....	8,954,679	14,197,294			Disinfectants and insecticides not reported by kind, value.....	\$3,345,314			
Value.....	\$2,123,032	\$3,621,105			Agricultural insecticides and fungicides, value *.....	\$10,339,835	\$8,781,654		
Value.....	\$2,123,032	\$3,621,105			Boiler compounds, value.....	\$5,083,950	\$5,867,285	\$5,756,720	\$4,889,270
Disinfectants and insecticides not reported by kind, value.....	\$3,345,314				Household ammonia, value.....	\$1,253,149	\$1,240,117	\$1,848,195	(*)
Agricultural insecticides and fungicides, value *.....	\$10,339,835	\$8,781,654			Other compounds, value.....	\$30,167,177	\$26,563,687	\$22,837,424	\$22,321,299
Boiler compounds, value.....	\$5,083,950	\$5,867,285	\$5,756,720	\$4,889,270	<i>Perfumes, cosmetics, and other toilet preparations, total value.....</i>	\$201,089,154	\$178,473,936	\$147,392,784	\$110,237,060
Household ammonia, value.....	\$1,253,149	\$1,240,117	\$1,848,195	(*)	Perfumes.....	19,197,844	15,300,504		
Other compounds, value.....	\$30,167,177	\$26,563,687	\$22,837,424	\$22,321,299	Toilet waters.....	8,264,132	8,409,207		20,357,539
Perfumes, cosmetics, and other toilet preparations, total value.....	\$201,089,154	\$178,473,936	\$147,392,784	\$110,237,060	Creams.....	33,347,464	29,218,815		
Perfumes.....	19,197,844	15,300,504			Rouges.....	12,308,069	11,492,644		35,548,929
Toilet waters.....	8,264,132	8,409,207			Dentifrices.....	32,463,698	30,692,834		25,736,005
Creams.....	33,347,464	29,218,815			Hair dyes.....	3,327,250	3,118,760		2,581,802
Rouges.....	12,308,069	11,492,644			Hair tonics.....	10,339,232	11,638,678		9,990,986
Dentifrices.....	32,463,698	30,692,834			Face powders.....	24,037,625	21,582,602		
Hair dyes.....	3,327,250	3,118,760			Talcum powders.....	8,343,697	8,002,743		
Hair tonics.....	10,339,232	11,638,678			Other toilet powders.....	2,340,008	3,096,985		
Face powders.....	24,037,625	21,582,602			Deplatories.....	1,551,633	1,071,909		
Talcum powders.....	8,343,697	8,002,743			Shampoos.....	5,796,526	3,824,540		23,098,412
Other toilet powders.....	2,340,008	3,096,985			Other toilet preparations.....	40,371,067	30,993,655		
Deplatories.....	1,551,633	1,071,909			Not reported by class or kind.....				8,101,418
Shampoos.....	5,796,526	3,824,540							
Other toilet preparations.....	40,371,067	30,993,655							
Not reported by class or kind.....									
Pills, tablets, powders, etc. not otherwise accounted for, value.....	40,486,489	38,611,636	30,232,355	26,316,298					
Pharmaceutical metals and their salts, value.....	4,488,607	2,579,554	1,176,193	1,172,251					

\* This aggregate is the sum of all items in the column beneath except those which are underscored.  
 † Production in the drug industries only. This item consists principally of calcium and lead arsenates and lime-sulphur solution, data for which are included in the statistics for these commodities shown in the report for the "Chemicals, not elsewhere classified" industry.  
 ‡ Not reported separately.  
 § No comparable data.

## CENSUS OF MANUFACTURES: 1929

TABLE 4.—PRODUCTS, BY CLASS AND VALUE, FOR THE UNITED STATES, 1923 TO 1929, AND 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]

STATE AND CENSUS YEAR	Aggregate	DRUGGISTS' PREPARATIONS					Patent or proprietary medicines	Patent or proprietary compounds
		Total	Biological products (serums, vaccines, toxins, etc.)	Tinctures, fluid extracts, medicinal sirups, etc., and synthetic preparations	Pills, tablets, powders, etc., not otherwise accounted for	Alkaloids and derivatives, and pharmaceutical metals and their salts		
United States:								
1929.....	\$640,431,475	\$124,989,010	\$16,850,168	\$49,486,489	\$46,184,113	\$12,408,240	\$211,840,222	\$101,913,089
1927.....	555,181,258	108,502,196	18,411,023	38,611,636	41,745,473	9,734,059	184,073,332	84,131,794
1925.....	476,607,132	80,920,875	10,621,933	30,232,355	32,553,410	7,612,971	174,305,502	72,985,161
1923.....	428,091,297	78,577,323	14,002,409	26,310,298	30,653,374	7,605,242	165,404,630	64,812,284
Individual States:								
California.....	15,286,338	2,012,823	(1)	893,803	552,077	(1)	4,892,394	4,664,026
Colorado.....	651,472	310,354	277,025	(1)	(1)	(1)	194,342	58,189
Connecticut.....	22,249,604	6,708,346	(1)	(1)	(1)	(1)	(1)	628,797
Georgia.....	5,280,520	261,078	(1)	123,929	102,860	(1)	3,885,628	609,755
Illinois.....	69,722,686	11,825,955	392,608	5,284,321	5,598,135	570,891	22,832,796	14,130,098
Indiana.....	24,314,361	13,404,329	1,580,706	(1)	4,728,716	(1)	8,119,994	1,284,473
Iowa.....	10,015,107	1,714,131	1,195,114	80,810	438,207	(1)	4,131,067	423,739
Kansas.....	1,611,131	1,201,038	1,201,038	(1)	(1)	(1)	276,078	(1)
Louisiana.....	1,818,552	35,675	(1)	(1)	(1)	(1)	1,169,741	353,517
Maryland.....	21,096,931	4,429,899	(1)	2,908,257	(1)	(1)	10,922,981	4,732,037
Massachusetts.....	23,615,618	4,249,359	(1)	1,898,752	2,187,460	(1)	11,587,251	2,825,968
Michigan.....	41,674,385	11,248,677	(1)	2,703,187	5,609,300	(1)	22,812,376	3,987,832
Minnesota.....	8,659,099	344,582	(1)	127,332	76,521	(1)	2,451,070	2,421,390
Missouri.....	46,425,581	8,122,765	(1)	3,022,519	1,950,486	(1)	15,024,408	15,892,425
Nebraska.....	4,045,856	2,156,974	1,884,705	(1)	(1)	(1)	1,315,134	346,003
New Jersey.....	65,241,642	8,328,670	(1)	8,161,140	3,169,095	2,396,518	16,599,563	14,788,597
New York.....	176,884,605	24,018,405	(1)	1,555,671	11,384,435	(1)	39,976,508	15,202,652
Ohio.....	27,560,908	3,063,249	(1)	6,055,893	4,395,195	(1)	15,954,644	7,463,822
Pennsylvania.....	38,029,255	14,329,019	(1)	806,459	828,320	(1)	4,852,085	669,538
Tennessee.....	11,249,898	1,531,707	(1)	262,829	(1)	(1)	814,878	299,732
Texas.....	3,003,922	581,859	(1)	120,821	92,758	(1)	739,349	1,224,402
Wisconsin.....	2,081,219	395,509	(1)	(1)	(1)	(1)	747,190	1,484,234
Groups of States:								
Ala., Fla., Miss., and S. C.....	2,838,446	55,900	(1)	(1)	(1)	(1)	235,389	233,162
Ariz., Ark., N. Mex., Okla., and Utah.....	915,237	(1)	(1)	(1)	(1)	(1)	2,262,340	1,561,806
Del., D. C., Ky., and Va.....	6,531,797	2,129,389	(1)	(1)	120,902	1,963,141	(1)	(1)
Idaho, Mont., N. Dak., and S. Dak.....	771,855	(1)	(1)	(1)	(1)	(1)	1,117,404	876,065
Me., N. H., R. I., and Vt.....	2,478,916	323,783	(1)	198,505	(1)	(1)	(1)	(1)
N. C. and W. Va.....	7,288,874	1,446,806	(1)	(1)	(1)	(1)	262,644	603,340
Oreg. and Wash.....	1,554,660	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Undistributed.....		1760,799	110,333,972	115,502,275	13,724,350	17,537,690	110,339,167	1743,299

STATE AND CENSUS YEAR	PERFUMES, COSMETICS, AND OTHER TOILET PREPARATIONS							
	Total	Perfumes and toilet waters	Creams, rouges, etc.	Dentifrices	Hair tonics	Face powders	Talcum and other toilet powders	Other toilet preparations
United States:								
1929.....	\$201,689,154	\$27,461,976	\$45,656,433	\$32,463,698	\$10,339,232	\$24,037,625	\$10,683,705	\$51,046,485
1927.....	178,473,936	23,769,711	40,711,459	30,692,834	11,638,678	21,582,602	11,099,728	38,978,924
1925.....	147,392,734	20,387,539	35,548,920	25,736,063	9,990,936	21,377,529	(1)	34,881,692
1923.....	119,237,060	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Individual States:								
California.....	3,067,096	348,024	812,689	(1)	119,114	257,600	(1)	1,816,577
Colorado.....	85,587	19,132	29,784	(1)	(1)	(1)	(1)	23,673
Connecticut.....	9,752,800	870,410	(1)	1,389,190	13,208	(1)	167,034	1,557,442
Georgia.....	504,059	(1)	37,951	(1)	(1)	22,930	14,328	369,307
Illinois.....	17,933,837	1,649,293	4,484,774	(1)	430,275	1,750,100	(1)	4,532,310
Indiana.....	1,505,565	405,110	321,807	8,767	(1)	(1)	21,583	461,711
Iowa.....	3,746,180	88,088	(1)	11,416	183,347	(1)	85,117	909,604
Kansas.....	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Louisiana.....	259,619	38,600	(1)	(1)	8,217	(1)	77,476	74,074
Maryland.....	1,011,444	95,396	(1)	(1)	30,656	(1)	22,509	223,418
Massachusetts.....	4,953,040	762,797	906,723	(1)	123,179	1,330,794	(1)	891,734
Michigan.....	3,025,500	288,531	656,293	(1)	378,059	193,852	(1)	781,141
Minnesota.....	3,441,445	490,548	(1)	58,903	232,127	(1)	(1)	1,421,685
Missouri.....	9,385,983	283,123	893,280	(1)	(1)	444,775	432,135	1,519,280
Nebraska.....	230,745	(1)	(1)	(1)	15,534	(1)	(1)	(1)
New Jersey.....	25,526,842	(1)	1,949,659	10,807,474	1,082,410	(1)	1,765,380	8,252,109
New York.....	97,687,040	18,775,000	22,283,798	7,621,948	4,741,902	16,072,076	6,241,003	21,951,313
Ohio.....	6,710,830	814,432	(1)	949,242	430,264	(1)	115,693	2,775,549
Pennsylvania.....	3,971,946	570,377	148,039	(1)	(1)	458,386	161,022	1,192,502
Tennessee.....	4,196,568	138,273	1,790,310	(1)	(1)	1,014,079	244,350	708,293
Texas.....	677,765	86,878	101,167	(1)	148,402	55,166	(1)	279,111
Wisconsin.....	321,899	23,675	(1)	(1)	(1)	(1)	7,931	74,962
Groups of States:								
Ala., Fla., Miss., and S. C.....	551,122	112,366	10,577	(1)	(1)	(1)	(1)	167,581
Ariz., Ark., N. Mex., Okla., and Utah.....	277,256	28,924	(1)	(1)	(1)	(1)	8,070	84,080
Del., D. C., Ky., and Va.....	577,782	(1)	107,461	(1)	51,249	36,225	16,980	325,138
Idaho, Mont., N. Dak., and S. Dak.....	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Me., N. H., R. I., and Vt.....	161,684	(1)	8,977	(1)	(1)	(1)	(1)	20,722
N. C. and W. Va.....	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Oreg. and Wash.....	615,085	44,628	51,093	(1)	(1)	(1)	(1)	(1)
Undistributed.....	1307,355	11,527,811	111,210,140	111,378,719	12,373,398	12,169,515	11,303,994	1621,789

<sup>1</sup> The items to which this footnote refers are not shown separately for the several States and groups of States in order to avoid disclosing the output of individual establishments. The "Undistributed" item at the foot of each column is the sum of the items not shown in that column.

<sup>2</sup> Not reported separately.

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
<b>THE GROUP AS A WHOLE</b>												
Prime movers and electric motors driven by purchased energy, aggregate	18,699	Horse-power 76,136	13,141	Horse-power 60,432	9,817	Horse-power 53,774	5,128	Horse-power 40,275	3,069	Horse-power 28,569	100.0	100.0
Prime movers, total	191	20,111	188	17,145	195	18,216	339	19,719	461	18,087	26.4	49.0
Steam, total	169	19,732	162	16,138	166	15,972	232	18,713	280	15,908	25.9	46.5
Engines	150	14,264	150	13,135	163	15,222	229	18,182	(1)	(1)	18.7	45.2
Turbines	19	5,468	12	3,003	3	1,750	3	531	(1)	(1)	7.2	1.3
Internal-combustion engines	18	305	26	1,007	29	1,244	96	951	170	2,000	0.4	2.4
Water wheels and water turbines	4	74					11	55	11	179	0.1	0.1
Electric motors driven by purchased energy	18,508	56,025	12,953	43,287	9,622	35,558	4,789	20,556	2,808	10,422	73.6	51.0
Electric motors, total	23,212	68,186	16,873	54,897	13,557	48,672	7,142	29,364	4,253	17,924	100.0	100.0
Driven by purchased energy	18,508	56,025	12,953	43,287	9,622	35,558	4,789	20,556	2,808	10,422	82.2	70.0
Driven by energy generated in establishments reporting	4,704	12,161 Kilowatts	3,920	11,610 Kilowatts	3,935	13,114 Kilowatts	2,353	8,808	1,645	7,502	17.8	30.0
Electric generators <sup>1</sup>	85	11,612 Kilowatt-hours	84	9,810	90	9,833						
Electric energy purchased <sup>2</sup>		35,872,107										
<b>DRUGGISTS' PREPARATIONS</b>												
Prime movers and electric motors driven by purchased energy, aggregate	3,933	Horse-power 19,448	2,924	Horse-power 15,919	1,750	Horse-power 12,553	1,344	Horse-power 12,670	634	Horse-power 8,368	100.0	100.0
Prime movers, total	46	6,328	53	8,088	51	7,620	115	8,406	89	6,285	32.5	66.3
Steam, total	42	6,314	47	7,475	48	7,001	86	8,231	68	6,026	32.5	33.7
Engines	33	3,788	39	4,873	45	5,251	85	7,731	(1)	(1)	19.5	61.0
Turbines	9	2,520	8	2,602	3	1,750	1	500	(1)	(1)	13.0	3.9
Internal-combustion engines	4	14	6	613	3	625	27	173	20	257	(4)	1.4
Water wheels and water turbines							2	2	1	2		(1)
Electric motors driven by purchased energy	3,887	13,120	2,871	7,831	1,699	4,927	1,229	4,264	545	2,083	67.5	33.7
Electric motors, total	5,620	17,802	4,885	13,033	3,932	10,762	2,724	8,432	1,574	6,130	100.0	100.0
Driven by purchased energy	3,887	13,120	2,871	7,831	1,699	4,927	1,229	4,264	545	2,083	73.7	50.9
Driven by energy generated in establishments reporting	1,733	4,682 Kilowatts	2,014	5,202 Kilowatts	2,233	5,835 Kilowatts	1,495	4,168	1,029	4,047	26.3	49.4
Electric generators <sup>2</sup>	27	4,302 Kilowatt-hours	35	5,012	31	4,592						
Electric energy purchased <sup>3</sup>		9,141,769										
<b>PATENT OR PROPRIETARY MEDICINES AND COMPOUNDS</b>												
Prime movers and electric motors driven by purchased energy, aggregate	8,959	Horse-power 44,638	6,528	Horse-power 34,082	5,066	Horse-power 33,810	2,994	Horse-power 25,409	2,081	Horse-power 18,326	100.0	100.0
Prime movers, total	127	12,209	120	8,298	134	9,870	210	10,084	340	11,093	27.4	43.2
Steam, total	109	11,844	101	7,924	111	9,276	136	10,167	196	9,515	26.0	40.1
Engines	102	8,032	98	7,530	111	9,276	134	10,156	(1)	(1)	20.1	40.0
Turbines	7	2,912	3	304			2	31	(1)	(1)	6.5	0.1
Internal-combustion engines	14	291	19	374	23	594	65	744	137	1,408	0.7	2.9
Water wheels and water turbines	4	74					9	53	7	170	0.1	0.2
Electric motors driven by purchased energy	8,832	32,329	6,408	25,784	5,532	23,970	2,784	14,425	1,741	7,233	72.6	56.8
Electric motors, total	10,800	38,990	8,030	31,745	7,065	30,763	3,635	10,046	2,310	10,468	100.0	100.0
Driven by purchased energy	8,832	32,329	6,408	25,784	5,532	23,970	2,784	14,425	1,741	7,233	82.9	75.7
Driven by energy generated in establishments reporting	1,968	6,661 Kilowatts	1,622	5,961 Kilowatts	1,533	6,793 Kilowatts	851	4,621	569	3,235	17.1	24.3
Electric generators <sup>2</sup>	50	6,530 Kilowatt-hours	44	4,453	53	4,850						
Electric energy purchased <sup>3</sup>		20,275,165										
<b>PERFUMES, COSMETICS, AND OTHER TOILET PREPARATIONS</b>												
Prime movers and electric motors driven by purchased energy, aggregate	5,807	Horse-power 12,150	3,889	Horse-power 10,431	2,401	Horse-power 7,381	790	Horse-power 2,196	354	Horse-power 1,815	100.0	100.0
Prime movers, total	18	1,574	15	759	10	720	14	329	32	708	13.0	15.0
Steam, total	18	1,574	14	739	7	695	10	295	16	367	13.0	13.4
Engines	15	1,544	13	732	7	695	10	295	(1)	(1)	12.7	13.4
Turbines	3	30	1	7					(1)	(1)	0.3	
Internal-combustion engines			1	20	3	25	4	34	18	335		1.0
Water wheels and water turbines									3	7		
Electric motors driven by purchased energy	5,789	10,576	3,674	9,672	2,391	6,661	776	1,867	322	1,106	87.0	85.0
Electric motors, total	6,792	11,394	3,958	10,119	2,569	7,147	783	1,886	369	1,326	100.0	100.0
Driven by purchased energy	5,789	10,576	3,674	9,672	2,391	6,661	776	1,867	322	1,106	92.8	99.0
Driven by energy generated in establishments reporting	1,003	818 Kilowatts	284	447 Kilowatts	169	486 Kilowatts	7	19	47	220	7.2	1.0
Electric generators <sup>2</sup>	8	780 Kilowatt-hours	5	345	6	391						
Electric energy purchased <sup>3</sup>		6,454,173										

<sup>1</sup> Not called for separately on schedule.

<sup>2</sup> Data for electric generators not called for on schedule prior to 1925.

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

<sup>4</sup> Less than one-tenth of 1 per cent.



CENSUS OF MANUFACTURES: 1929

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	
<b>THE GROUP AS A WHOLE</b>														
1929	40,231	40,756	41,353	41,249	40,224	39,581	39,199	39,129	39,359	40,321	41,089	40,790	39,786	94.6
1925	33,201	32,761	33,462	33,666	33,533	32,810	32,387	32,293	32,702	33,239	33,921	34,042	33,587	94.9
1919	38,417	38,913	39,347	39,102	37,995	37,457	36,784	37,059	37,911	38,027	39,095	40,038	39,878	91.9
1914	25,502	26,073	26,453	26,674	26,363	25,808	24,804	24,626	24,184	25,111	25,446	25,329	25,158	90.7
1909	22,895	22,526	22,898	23,337	23,138	22,672	21,942	21,406	21,540	22,829	23,865	24,363	24,202	87.9
<b>DRUGGISTS' PREPARATIONS</b>														
1929	10,638	10,936	11,057	10,947	10,743	10,570	10,549	10,477	10,411	10,480	10,791	10,751	10,547	94.2
1925	9,685	9,594	9,685	9,667	9,665	9,560	9,470	9,493	9,770	9,899	9,796	9,840	9,709	95.7
1919	15,568	16,275	16,359	16,159	15,484	15,219	14,841	15,138	14,981	15,221	15,547	15,709	15,803	91.3
1914	9,277	9,549	9,568	9,540	9,423	9,311	9,146	8,976	8,866	9,301	9,351	9,247	9,067	92.6
<b>States, 1929</b>														
California	162	168	160	153	146	158	168	173	170	168	170	160	156	84.4
Colorado	28	28	22	22	23	22	23	24	24	24	24	24	24	91.7
District of Columbia	17	18	18	18	18	18	18	18	18	18	18	18	18	66.7
Georgia	28	28	24	26	27	26	25	25	25	25	24	25	25	88.9
Illinois	547	534	530	523	523	533	547	547	544	562	565	573	571	92.1
Iowa	188	178	181	186	191	198	210	207	212	179	186	174	156	73.6
Kansas	110	102	111	122	126	123	127	122	116	110	97	82	87	64.6
Maine	37	37	37	37	37	37	37	37	37	37	37	37	37	85.7
Massachusetts	104	108	112	111	107	103	98	99	97	96	100	105	106	85.7
Minnesota	36	38	31	36	40	43	40	40	39	38	37	33	28	65.1
Missouri	497	501	501	500	500	505	496	498	501	508	499	489	471	93.3
Nebraska	108	89	92	105	112	125	125	126	128	109	104	90	88	68.8
New Jersey	561	553	574	561	573	555	588	571	558	551	567	554	529	90.0
New York	1,722	1,822	1,833	1,787	1,759	1,708	1,697	1,874	1,648	1,665	1,712	1,698	1,672	90.4
Ohio	417	423	433	432	428	421	416	427	396	415	410	402	400	91.5
Pennsylvania	1,780	1,892	1,914	1,866	1,794	1,750	1,684	1,607	1,630	1,721	1,827	1,856	1,816	84.0
Rhode Island	18	18	18	18	18	18	18	18	18	18	18	18	18	68.4
Tennessee	102	117	109	112	106	97	91	90	92	97	106	110	99	76.9
Texas	61	54	53	55	61	64	68	66	66	64	65	64	55	77.9
Wisconsin	48	48	49	48	44	44	49	48	49	48	51	48	51	86.3
<b>PATENT OR PROPRIETARY MEDICINES AND COMPOUNDS</b>														
1929	16,434	17,127	17,432	17,152	16,629	16,161	15,862	15,732	15,842	16,306	16,508	16,330	16,082	90.5
1925	14,802	14,786	15,124	15,213	15,113	14,801	14,491	14,238	14,188	14,428	14,970	15,137	15,188	92.9
1919	17,444	17,917	18,112	17,938	17,415	17,002	16,629	16,607	16,766	17,086	17,600	18,166	18,101	91.4
1914	13,328	13,878	14,143	14,235	14,000	13,569	12,753	12,804	12,643	12,862	12,945	13,082	13,122	88.1
<b>States, 1929</b>														
Arkansas	23	18	23	27	25	28	28	28	23	21	21	18	18	64.3
California	649	700	669	675	665	640	654	636	633	621	624	634	634	85.7
Colorado	22	20	19	18	19	20	21	19	20	20	20	20	20	64.3
Connecticut	267	272	272	269	269	274	270	266	267	259	268	260	264	93.4
Florida	93	148	103	99	92	97	87	78	63	70	81	83	85	52.7
Georgia	188	172	217	212	207	194	155	149	190	186	190	193	186	88.7
Illinois	1,832	1,745	1,947	1,809	1,784	1,765	1,833	1,825	1,802	1,986	1,868	1,748	1,778	87.9
Indiana	456	448	464	468	428	436	434	426	477	475	495	469	468	87.8
Iowa	324	355	369	356	327	314	317	303	295	317	319	317	301	79.9
Kansas	54	54	53	57	57	53	53	53	53	53	53	52	52	91.2
Kentucky	56	57	57	57	54	54	54	54	54	54	58	60	57	88.3
Louisiana	123	141	127	122	120	118	122	120	125	128	116	118	119	82.3
Maine	33	42	38	39	34	32	30	30	26	30	30	34	33	61.9
Maryland	608	623	618	636	642	605	481	485	470	498	504	498	493	83.5
Massachusetts	1,864	1,603	1,771	1,667	1,571	1,455	1,556	1,433	1,463	1,570	1,671	1,635	1,492	78.6
Michigan	1,243	1,292	1,914	1,269	1,269	1,236	1,214	1,240	1,212	1,198	1,255	1,222	1,222	89.0
Minnesota	216	192	193	201	203	214	232	234	246	240	242	202	189	76.8
Mississippi	9	11	9	9	9	9	9	8	8	9	9	10	10	72.7
Missouri	1,444	1,660	1,684	1,605	1,527	1,433	1,363	1,336	1,340	1,364	1,368	1,369	1,282	76.7
Nebraska	182	178	179	177	179	177	181	182	183	180	187	186	186	94.7
New Jersey	1,780	1,688	1,850	1,804	1,755	1,674	1,703	1,823	1,672	1,841	1,803	1,805	1,838	87.8
New York	2,474	2,582	2,583	2,581	2,568	2,547	2,494	2,361	2,371	2,362	2,443	2,398	2,400	91.4
Ohio	805	854	829	854	847	789	775	757	770	792	790	799	805	88.6
Oregon	23	22	23	24	24	25	25	22	23	22	22	19	23	76.0
Pennsylvania	860	968	896	899	851	849	808	776	797	853	895	883	880	80.3
Rhode Island	24	19	18	23	28	28	27	24	24	25	25	26	26	64.3
South Carolina	10	10	10	10	10	10	10	10	10	10	10	10	10	80.8
South Dakota	23	21	22	22	21	22	28	24	25	25	25	22	22	80.8
Tennessee	444	456	464	464	442	459	436	428	431	421	452	455	433	90.7
Texas	77	73	75	85	77	79	80	79	80	78	81	81	69	73
Vermont	123	117	120	121	116	122	117	116	114	119	135	142	140	80.3
Virginia	83	82	82	80	80	82	82	82	91	90	97	95	67	69.1
Washington	50	50	63	77	75	52	50	45	32	33	37	40	41	41.6
West Virginia	17	20	80	18	18	17	17	16	16	16	16	16	17	80.0
Wisconsin	120	108	106	115	113	132	134	130	125	121	121	119	119	76.9

See footnote at end of table.

DRUGGISTS' PREPARATIONS, PATENT MEDICINES, ETC.

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

[See note at head of this table]

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	
<b>PERFUMES, COSMETICS, AND OTHER TOILET PREPARATIONS</b>														
1929.....	13,109	12,698	12,864	13,150	12,852	12,850	12,788	12,870	13,106	13,535	13,790	13,630	13,177	92.0
1925.....	8,714	8,381	8,653	8,786	8,755	8,449	8,426	8,562	8,804	8,912	9,155	9,056	8,630	91.5
1919.....	5,405	4,781	4,876	5,005	5,096	5,236	5,214	5,314	5,594	5,720	5,948	6,162	5,974	76.6
1914 <sup>1</sup> .....	2,897	2,940	2,752	2,899	2,940	2,928	2,905	2,846	2,786	2,948	3,150	3,000	2,904	84.0
<i>States, 1929</i>														
Alabama.....	21	21	21	21	21	21	21	21	21	21	21	21	21	---
California.....	203	201	186	202	203	203	187	191	205	207	227	215	210	81.5
Colorado.....	6	6	6	6	6	6	6	6	6	6	6	6	6	---
Connecticut.....	351	316	335	336	335	354	345	347	344	354	361	386	398	79.8
Georgia.....	50	47	53	49	48	48	48	50	53	53	55	53	41	80.0
Illinois.....	1,051	970	1,035	1,128	1,073	1,031	1,032	1,031	1,029	1,068	1,109	1,116	937	86.0
Indiana.....	233	208	213	211	219	232	232	245	267	260	262	237	208	77.9
Louisiana.....	40	40	40	40	40	40	40	40	40	40	40	40	40	---
Maryland.....	87	88	88	89	84	82	90	91	92	85	87	86	84	89.1
Massachusetts.....	106	99	99	102	106	102	106	96	101	111	114	131	108	73.3
Michigan.....	274	241	202	290	263	263	264	256	249	258	321	303	285	75.1
Minnesota.....	440	440	425	429	444	476	476	454	448	439	427	413	410	86.1
Missouri.....	526	521	527	529	519	527	533	529	521	531	537	524	517	90.3
Nebraska.....	19	18	18	18	19	19	19	20	20	20	20	20	20	90.0
New Jersey.....	858	823	817	839	830	832	832	857	858	858	929	910	872	87.9
New York.....	7,026	6,892	6,988	7,031	6,754	6,798	6,749	6,847	7,041	7,355	7,410	7,309	7,139	91.1
Ohio.....	469	479	468	497	516	456	438	431	436	457	464	480	476	83.5
Pennsylvania.....	332	317	321	333	331	335	332	323	322	345	354	340	330	89.5
Rhode Island.....	9	9	9	9	9	9	9	9	9	9	9	9	9	---
Tennessee.....	466	460	453	460	464	467	469	459	464	460	473	476	475	95.2
Texas.....	80	66	70	84	79	76	90	94	98	83	92	98	98	66.7
Wisconsin.....	37	37	35	48	42	45	44	36	36	36	33	31	25	52.1

<sup>1</sup> No comparable data available for 1909 for the separate industries.

# DRUG GRINDING

Description of the industry.—The establishments in this industry are engaged primarily in grinding drugs, charcoal, herbs, gum, licorice and other roots, etc. The values of products for the industry, as given in the table below, do not, of course, include the values of drugs ground for their own use or for sale by establish-

ments which, because of the character of their principal products, are classified in the "Druggists' preparations," "Patent or proprietary medicines and compounds," or other industries. See GENERAL EXPLANATIONS—Classification of Establishments.

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 <sup>1</sup>	Value added by manufacture <sup>2</sup>	Horsepower	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 <sup>1</sup>	Value added by manufacture <sup>2</sup>	Horsepower	Per cent of increase or decrease (—):	
																1929-1929	1925-1927
1929	26	677	\$840,935	\$5,675,079	\$9,069,220	\$3,994,141	5,277										
1927	25	659	820,187	5,683,720	9,205,243	3,521,523	4,062										
1925	22	622	709,903	4,921,118	8,446,361	2,525,245	4,399										
1923	24	750	893,318	6,555,193	10,561,590	4,006,357	4,958	(4)	2.7	2.5	-0.2	5.0	13.4	13.2			
1921	28	840	1,005,155	6,804,453	10,085,091	3,281,238	(3)	(4)	5.9	15.5	15.5	9.0	-0.1	6.2			
1919	31	1,347	1,526,137	11,556,489	16,937,698	5,381,216	6,723	(4)	-17.1	-20.5	-24.9	-20.0	-12.0	-11.5			
1917	29	1,059	583,991	5,215,287	8,080,118	2,894,831	4,972	(4)	-10.7	-11.1	-3.7	4.7	22.1	-----			
1915	25	922	464,128	3,453,720	6,009,999	2,559,279	3,310	(4)	-37.6	-34.1	-41.1	-40.5	-39.0	-----			
1913	25	922	464,128	3,453,720	6,009,999	2,559,279	3,310	(4)	-49.7	-44.9	-50.9	-42.9	-25.8	-21.5			
1911	27	981	483,097	3,024,305	5,145,522	2,121,517	2,805	(4)	46.1	228.8	234.0	182.0	110.8	103.2			
1899	26	644	291,823	3,315,228	4,308,144	992,910	4,615	(4)	43.2	59.0	4.2	39.4	157.1	-28.3			

<sup>1</sup> For 1929, manufacturers' sales (shipments or deliveries); for earlier years, production. See GENERAL EXPLANATIONS—Value of Products.  
<sup>2</sup> Value of products less cost of materials, containers for products, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.  
<sup>3</sup> Not called for on schedule.  
<sup>4</sup> 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 <sup>1</sup>	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 <sup>2</sup>	Value added by manufacture <sup>3</sup>
					Total	Prime movers	Motors run by purchased energy			Total	Materials and containers	Fuel and purchased energy		
United States	1929	26	182	677	5,277	2,685	2,592	\$590,422	\$840,935	\$5,675,079	\$5,501,018	\$174,061	\$9,069,220	\$3,994,141
	1927	25	169	659	4,062	2,462	2,200	555,020	820,187	5,683,720	5,508,493	175,227	9,205,243	3,521,523
	1919	31	298	1,347	6,723	5,507	1,216	707,642	1,526,137	11,556,489	11,223,377	333,103	16,937,698	5,381,216
Individual States:														
New York	1929	6	34	72	738	164	574	82,555	111,184	466,624	445,071	21,553	963,059	406,435
	1927	5	29	63	745	194	551	68,587	95,617	362,184	350,157	12,027	740,887	378,703
	1919	9	100	245	903	559	344	182,272	273,299	1,818,116	1,788,707	20,409	3,088,793	1,250,677
Pennsylvania	1929	4	19	35	310	30	280	40,830	30,816	272,082	266,599	5,483	352,699	110,617
	1927	5	21	33	455	110	345	36,739	39,173	314,742	307,270	7,472	458,834	143,592
	1919	4	26	50	359	130	229	29,258	61,856	494,820	486,744	8,076	680,680	185,860
Groups of States:														
Ill., 2 establishments, Ind., 1; Minn., 1; Wis., 1	1929	5	26	95	1,334	825	509	63,783	101,271	793,450	780,234	13,216	1,298,608	505,158
Md., 1; Mass., 2; N. J., 5	1929	8	78	473	2,785	1,666	1,119	400,134	586,620	4,071,012	3,940,179	130,833	6,899,004	2,827,992
Mich., 1; N. C., 1; Tenn., 1	1929	3	5	12	110	-----	110	12,120	11,044	71,011	68,935	2,076	125,850	53,039
States not shown separately	1927	15	119	563	3,462	2,158	1,304	449,694	685,397	5,000,794	4,851,066	155,728	8,006,022	2,990,228
	1919	18	172	952	5,463	4,818	645	586,112	1,190,982	9,243,544	8,947,926	295,618	13,188,225	3,944,681

<sup>1</sup> 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, 844; proprietors and firm members, 5. For 1927, total, 837; proprietors and firm members, 6. For 1919, total, 1,661; proprietors and firm members, 16.  
<sup>2</sup> For 1929, manufacturers' sales (shipments or deliveries); for earlier years, production. See GENERAL EXPLANATIONS—Value of Products.  
<sup>3</sup> Value of products less cost of materials, containers for products, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.  
<sup>4</sup> 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.  
<sup>5</sup> Illinois, 2 establishments; Indiana, 1; Maryland, 1; Massachusetts, 1; Michigan, 1; Minnesota, 1; New Jersey, 5; North Carolina, 1; Tennessee, 1; Wisconsin, 1.  
<sup>6</sup> Illinois, 4 establishments; Maryland, 1; Massachusetts, 4; Minnesota, 1; New Jersey, 5; North Carolina, 1; Virginia, 1; Wisconsin, 1.

## DRUG GRINDING

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**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
		<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.....	274	5,277	210	4,662	154	4,389	120	6,723	112	4,972	100.0	100.0
Prime movers, total.....	70	2,685	66	2,462	64	2,854	56	5,507	48	4,319	50.9	81.9
Steam, total.....	65	2,285	62	2,061	59	2,423	52	5,445	41	4,179	43.3	81.0
Engines.....	59	2,055	56	1,831	51	1,618	43	2,045	(1)	(1)	38.9	43.8
Turbines.....	6	230	6	230	8	805	9	2,500	(1)	(1)	4.4	37.2
Internal-combustion engines.....	1	30			1	30	3	50	3	60	0.6	0.7
Water wheels and water turbines.....	4	370	4	401	4	401	1	12	4	80	7.0	0.2
Electric motors driven by purchased energy.....	204	2,592	144	2,200	90	1,535	64	1,216	64	653	49.1	18.1
Electric motors, total.....	336	4,012	244	3,320	190	2,868	173	1,542	186	2,550	100.0	100.0
Driven by purchased energy.....	204	2,592	144	2,200	90	1,535	64	1,216	64	653	64.0	78.9
Driven by energy generated in establishments reporting.....	132	1,420	100	1,120	100	1,333	109	326	122	1,897	35.4	21.1
Electric generators <sup>2</sup> .....	8	<i>Kilowatts</i> 745	8	<i>Kilowatts</i> 735	9	<i>Kilowatts</i> 608						
Electric energy purchased <sup>3</sup> .....		1,734,145										

<sup>1</sup> Not called for separately on schedule.

<sup>2</sup> Data for electric generators not called for on schedule prior to 1925.

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

**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 is of maximum	
		January	February	March	April	May	June	July	August	September	October	November	December		
United States:															
1929.....	677	<i>654</i>	679	685	684	709	682	669	670	668	680	675	664	664	92.2
1925.....	622	<i>654</i>	643	643	640	626	608	603	<i>696</i>	606	609	614	619	619	91.1
1919.....	1,347	1,372	1,399	1,335	<i>1,290</i>	1,243	1,285	1,321	1,337	1,326	1,456	1,424	1,446	1,446	83.8
1914.....	1,059	1,063	1,050	1,076	<i>1,021</i>	1,049	1,074	1,042	1,076	1,090	1,065	1,070	1,032	1,032	93.7
1909.....	922	<i>916</i>	<i>779</i>	955	926	954	956	957	917	912	944	937	916	916	81.4
New York.....	72	<i>72</i>	70	71	73	71	73	73	70	76	76	72	69	69	90.8
Pennsylvania.....	25	<i>22</i>	24	27	27	27	23	25	24	25	25	24	23	23	81.5

## ESSENTIAL OILS

Description of the industry.—This industry consists in the distillation and refining of natural essential oils and of witch-hazel extract. Essential oils, volatile oils, or essences are distinguished by the possession of strong and characteristic odors and by being vaporiza-

ble without decomposition and usually with little or no residue. Outside this industry is a large production of synthetic oils and perfume bases which are chiefly of coal-tar origin and are classed as chemicals.

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 <sup>1</sup>	Value added by manufacture <sup>2</sup>	Horsepower
1929	22	265	\$325,881	\$3,804,228	\$6,653,353	\$2,849,125	1,894
1927	14	169	258,030	3,427,334	4,641,861	1,214,527	758
1925	14	178	281,395	4,362,512	5,881,089	1,519,177	1,164
1923	17	170	237,409	2,255,772	3,184,124	928,352	1,388
1921	27	299	363,879	2,548,439	3,421,690	873,251	( <sup>3</sup> )
1919	78	321	391,213	3,003,417	5,695,403	1,704,986	1,833
1914	105	249	132,272	1,564,835	2,313,606	748,771	1,959
1909	68	290	123,000	1,255,478	1,737,234	481,756	1,193
1904	52	132	69,711	1,110,470	1,464,682	354,192	837
1899	47	168	61,415	588,504	813,495	224,901	1,043
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929	( <sup>4</sup> )	56.8	26.3	11.0	43.3	134.0	149.9
1925-1927		-5.1	-8.3	-21.4	-21.1	-20.1	-34.9
1923-1925	( <sup>4</sup> )	4.7	18.5	53.4	84.7	63.6	-16.1
1921-1923	( <sup>4</sup> )	-43.1	-34.8	-11.5	-6.9	6.3	
1919-1921	( <sup>4</sup> )	-6.9	-7.0	-34.7	-40.0	-51.4	
1919-1929	( <sup>4</sup> )	-17.4	-10.7	-4.5	16.8	58.7	8.3
1909-1919	( <sup>4</sup> )	19.7	218.1	210.9	228.0	272.6	53.6
1899-1909	( <sup>4</sup> )	72.6	100.3	113.7	113.3	114.2	14.4

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

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

<sup>3</sup> Not called for on schedule.

<sup>4</sup> Per cent not computed where base is less than 100.

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

[Connecticut is the only 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 Connecticut. 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 <sup>1</sup>	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 <sup>2</sup>	Value added by manufacture <sup>3</sup>
					Total	Prime movers	Motors run by purchased energy			Total	Materials and containers	Fuel and purchased energy		
United States	1929	22	94	265	1,894	981	913	\$306,143	\$325,881	\$3,804,228	\$3,717,898	\$86,330	\$6,653,353	\$2,849,125
	1927	14	49	169	758	485	273	189,726	258,036	3,427,334	3,360,084	60,650	4,641,861	1,214,527
	1919	78	98	321	1,833	1,091	142	228,790	391,213	3,003,417	3,808,067	95,350	5,695,403	1,704,986
Connecticut	1929	( <sup>4</sup> )	27	55	288	134	154	70,775	49,918	163,592	155,287	8,305	502,178	338,580
	1927	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )
	1919	0	12	26	345	295	50	27,023	19,791	250,418	244,383	6,035	472,315	221,897
Other States	* 1929	18	67	210	1,066	847	759	229,368	275,963	3,640,636	3,562,611	78,025	6,151,175	2,510,539
	* 1927	14	49	169	758	485	273	189,726	258,036	3,427,334	3,360,084	60,650	4,641,861	1,214,527
	* 1919	69	86	295	1,488	1,396	92	201,767	371,422	3,652,969	3,563,684	89,316	5,220,088	1,673,089

<sup>1</sup> Not including proprietors and firm members, as follows: For 1929, 8; 1927, 7; 1919, 74. 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, 307; 1927, 225; 1919, 493.

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

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

<sup>4</sup> Withheld from publication in order to avoid disclosing data for individual establishments.

\* California, 2 establishments; Indiana, 4; Michigan, 2; New Hampshire, 1; New Jersey, 2; New York, 5; Pennsylvania, 1; Washington, 1.

\* California, 1 establishment; Connecticut, 2; Indiana, 3; Michigan, 3; New Hampshire, 2; New Jersey, 3; New York, 1.

\* California, 1 establishment; Indiana, 22; Kentucky, 1; Michigan, 29; New Jersey, 4; New York, 5; Ohio, 1; Pennsylvania, 3; Tennessee, 1; Virginia, 2.

## ESSENTIAL OILS

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**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.....	220	<i>Horsepower</i> 1,894	78	<i>Horsepower</i> 758	73	<i>Horsepower</i> 1,164	70	<i>Horsepower</i> 1,833	74	<i>Horsepower</i> 1,959	100.0	100.0
Prime movers, total.....	24	981	21	485	20	912	52	1,691	74	1,959	51.8	92.8
Steam, total.....	22	844	19	471	16	893	37	1,512	47	1,608	44.6	82.5
Engines.....	21	594	18	451	16	893	37	1,512	(1)	(1)	31.4	82.5
Turbines.....	1	280	1	20	—	—	—	—	(1)	(1)	13.2	—
Internal-combustion engines.....	2	137	1	12	3	9	13	129	24	251	7.2	7.0
Water wheels and water turbines.....	—	—	—	—	1	10	2	60	3	100	—	2.8
Electric motors driven by purchased energy.....	106	913	57	273	53	252	18	142	—	—	48.2	7.7
Electric motors, total.....	217	1,106	78	466	77	453	65	492	16	181	100.0	100.0
Driven by purchased energy.....	106	913	57	273	53	252	18	142	—	—	82.5	28.9
Driven by energy generated in establishments reporting.....	21	193	21	193	24	201	47	350	16	181	17.5	71.1
Electric generators.....	3	<i>Kilo-watts</i> 445	2	<i>Kilo-watts</i> 110	5	<i>Kilo-watts</i> 129	(1)	(1)	(1)	(1)	—	—
Electric energy purchased <sup>1</sup> .....	—	<i>Kilo-watt-hours</i> 788,891	—	(1)	—	(1)	—	(1)	—	(1)	—	—

<sup>1</sup> Not called for separately on schedule.

<sup>2</sup> Not called for on schedule.

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

<sup>4</sup> Data incomplete.

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

[Connecticut 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.....	265	<i>209</i>	226	243	270	286	261	267	274	315	301	281	247	68.3
1925.....	178	176	184	183	171	170	168	184	202	204	151	169	167	74.0
1919.....	321	299	299	295	278	<i>274</i>	292	360	398	370	340	320	320	69.2
1914.....	249	202	<i>199</i>	215	218	223	288	287	359	307	253	231	206	55.4
1909.....	290	211	215	310	395	380	317	<i>306</i>	234	303	338	336	233	52.2
Connecticut.....	55	04	04	04	65	56	54	46	46	48	46	56	56	70.8

## EXPLOSIVES

**Description of the industry.**—This industry embraces those establishments whose principal products are explosives, not including fireworks, cartridges, detonators, fuses, etc. (Separate reports have been compiled for the "Ammunition" and "Fireworks" industries, the former of which includes the manufacture of cartridges, detonators, and fuses.)

**Detailed statistics of products (Table 3).**—The so-called "permissible" explosives are those approved by the Department of Commerce, Bureau of Mines, as

suitable for use in mines where dust and gas explosions are likely to occur.

The bulk of the nitroglycerin manufactured is consumed by the producing establishments in the manufacture of other explosives, principally dynamite, 95.9 per cent of the total production having been thus used in 1929, 96.4 per cent in 1927, 96.1 per cent in 1925, and 96.2 per cent in 1923. The amount received for well shooting has been taken as the value of the nitroglycerin thus consumed.

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 <sup>1</sup>	Value added by manufacture <sup>2</sup>	Horsepower
1929	95	5,614	\$3,487,890	\$31,764,307	\$72,539,724	\$40,775,417	51,612
1927	100	5,803	8,131,234	36,893,576	72,489,068	35,590,092	38,239
1925	103	5,697	7,731,369	37,877,418	69,668,837	31,791,419	37,808
1923	106	6,388	9,112,027	39,495,972	75,029,127	35,533,155	35,231
1921	109	4,478	6,610,206	30,644,327	59,174,598	28,530,271	( <sup>3</sup> )
1919	118	9,249	12,604,986	45,911,049	92,474,813	46,563,764	51,635
1914	111	6,306	4,488,288	25,626,539	41,432,970	15,806,431	45,778
1909	80	6,274	4,304,370	22,811,548	40,139,661	17,328,113	28,601
1904	124	5,800	3,308,774	17,203,667	20,602,884	12,399,217	29,665
1899	97	4,502	2,383,766	10,334,974	17,125,418	6,790,444	19,195
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929	-5.0	-3.3	4.4	-13.9	0.1	14.6	35.0
1925-1927	-2.9	1.9	5.2	-2.6	4.0	12.0	1.1
1923-1925	-2.3	-10.8	-15.2	-4.1	-7.1	-10.5	7.3
1921-1923	-2.8	42.7	37.8	23.9	26.8	24.5	
1919-1921	-7.6	-51.6	-47.1	-33.3	-36.0	-38.7	
1919-1929	-19.5	-39.3	-32.1	-30.8	-21.6	-12.4	( <sup>4</sup> )
1909-1919	( <sup>5</sup> )	47.4	190.5	101.3	130.4	168.7	80.5
1899-1909	( <sup>5</sup> )	39.4	80.6	120.7	134.4	155.2	49.0

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

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

<sup>3</sup> Not called for on schedule.

<sup>4</sup> Per cent not computed where base is less than 100.

<sup>5</sup> Less than one-tenth of 1 per cent.

# EXPLOSIVES

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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 <sup>1</sup>	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 <sup>2</sup>	Value added by manufacture <sup>3</sup>
					Total	Prime movers	Motors run by purchased energy			Total	Materials and containers	Fuel and purchased energy		
United States	1929	95	781	5,614	51,612	23,498	28,114	\$2,226,390	\$8,487,890	\$31,764,307	\$29,988,690	\$1,797,617	\$72,530,724	\$40,775,417
	1927	100	862	5,803	38,239	20,133	17,508	2,272,614	8,131,234	36,893,576	35,240,532	1,652,994	72,489,668	35,596,092
	1919	118	6,152	9,249	51,635	35,149	16,486	13,244,224	12,504,986	45,911,049	43,194,669	2,716,380	92,474,813	46,563,764
Individual States:														
Illinois	1929	9	62	384	3,154	1,254	1,900	164,140	499,675	1,940,098	1,817,947	122,151	4,116,612	2,176,514
	1927	7	66	200	2,610	1,721	895	119,326	224,944	718,802	657,892	61,000	2,209,881	1,490,989
	1919	9	173	454	1,710	1,601	115	318,025	393,133	2,265,336	2,181,021	84,315	3,779,743	1,514,407
Missouri	1929	4	60	458	3,399	1,135	2,264	160,830	628,339	3,251,640	3,111,659	139,981	7,055,493	3,893,853
	1927	5	66	458	2,361	1,617	744	179,232	607,834	3,839,326	3,675,601	163,725	7,499,733	3,660,407
Ohio	1929	9	10	184	2,155	159	1,996	39,566	236,528	639,130	589,807	49,323	1,618,618	979,488
	1927	10	32	188	3,283	934	2,319	135,991	259,463	842,429	777,784	64,645	1,786,862	944,433
	1919	12	122	804	4,080	2,577	1,509	307,193	417,024	1,473,062	1,387,511	86,151	2,790,301	1,316,639
Oklahoma	1929	4	2	5	72	72	72	5,600	11,450	59,175	58,599	570	286,014	227,730
	1927	5	3	10	58	58	58	10,500	18,786	79,015	77,430	1,585	313,013	233,998
	1919	9	53	76	439	439	439	101,429	149,013	548,525	537,048	11,477	1,063,310	514,785
Pennsylvania	1929	18	201	1,121	7,603	2,439	5,164	593,458	1,633,358	4,867,011	4,620,201	246,810	11,969,844	7,102,833
	1927	21	231	1,300	6,537	3,537	3,000	580,363	1,968,151	7,738,996	7,479,977	259,019	15,103,613	7,364,617
	1919	26	511	1,217	6,897	4,414	2,483	1,250,793	1,583,890	6,102,981	5,821,596	281,385	11,440,493	5,343,512
West Virginia	1929	5	8	61	817	817	817	18,938	75,311	194,402	189,078	8,324	634,060	439,064
	1927	5	6	53	672	672	672	11,880	65,630	163,729	156,327	7,402	437,750	274,021
Groups of States:														
Ala., 3 est.; Ky., 4; Tenn., 2	1929	9	37	352	3,075	2,008	1,667	97,877	446,671	1,028,329	1,531,890	96,439	3,914,494	2,280,165
Ariz., 1 est.; Calif., 3; Ark., 1 est.; Tex., 5	1929	4	96	556	4,833	1,133	3,700	284,404	936,628	3,716,935	3,584,169	152,766	8,252,521	4,535,589
Colo., 2 est.; Iowa, 1; Kans., 3; Utah, 1	1929	6	18	38	421	421	421	41,259	67,709	153,044	150,031	3,913	693,218	439,274
Ind., 1 est.; Mich., 2; Wis., 2	1929	7	43	200	3,168	900	2,268	118,289	449,581	1,950,249	1,849,141	101,108	4,199,480	2,249,231
Mass., 1 est.; N. J., 5; N. Y., 2	1929	5	66	428	5,566	3,063	2,503	186,130	635,520	2,503,415	2,313,254	190,161	5,677,939	3,174,524
Mont., 1 est.; Wash., 5; Wyo., 1	1929	8	100	1,406	14,627	9,519	5,108	434,990	2,501,095	9,150,264	8,507,946	642,318	20,085,550	10,935,286
States not shown separately	1927	47	450	3,527	22,742	12,194	10,548	1,234,722	4,986,426	23,511,189	22,415,571	1,095,618	45,138,816	21,627,627
	1919	62	5,298	7,198	38,497	26,118	12,379	11,266,824	9,961,926	35,620,545	33,267,493	2,353,052	73,394,966	37,874,421

<sup>1</sup> Not including proprietors and firm members, as follows: For 1929, 28; 1927, 25; 1919, 23. 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, 6,433; 1927, 6,600; 1919, 15,429.

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

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

<sup>4</sup> Alabama, 3 establishments; Arizona, 1; Arkansas, 1; California, 3; Colorado, 1; Indiana, 2; Iowa, 1; Kansas, 3; Kentucky, 4; Massachusetts, 1; Michigan, 2; Montana, 2; New Jersey, 5; New York, 4; Tennessee, 2; Texas, 4; Utah, 1; Washington, 4; Wisconsin, 2; Wyoming, 1.

<sup>5</sup> Alabama, 2 establishments; Arkansas, 1; California, 3; Colorado, 2; Delaware, 1; Indiana, 2; Iowa, 1; Kansas, 4; Kentucky, 4; Massachusetts, 1 (4 plants); Michigan, 2; Minnesota, 1; Missouri, 6; Montana, 1; New Jersey, 10; New York, 2; Tennessee, 2; Texas, 4; Utah, 1; Washington, 2; West Virginia, 8 (9 plants); Wisconsin, 2; Wyoming, 1.



## CENSUS OF MANUFACTURES: 1929

TABLE 3.—PRODUCTS, BY KIND, QUANTITY, 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]

KIND	1929	1927	1925	1923
	Explosives industry, all products.....	\$72,539,724	\$72,489,668	\$69,068,837
Explosives (including consumption in shooting wells), value.....	62,953,053	66,192,463	63,825,757	68,132,607
Other products (not normally belonging to the industry), value.....	9,586,671	6,297,205	5,243,080	6,896,520
Explosives (including consumption in shooting wells):				
Total pounds.....	529,862,602	548,809,144	551,188,384	577,245,570
Total value.....	\$62,953,053	\$66,192,463	\$63,825,757	\$68,132,607
Dynamite—				
Number of establishments.....	28	27	28	29
Pounds.....	306,147,401	294,716,040	282,310,570	262,200,012
Value.....	\$36,989,032	\$38,274,514	\$36,163,905	\$35,891,486
Permissible explosives—				
Number of establishments.....	24	24	25	24
Pounds.....	70,608,408	65,220,008	60,711,877	67,334,759
Value.....	\$8,376,355	\$8,412,190	\$7,944,684	\$9,389,908
Nitroglycerin—				
Number of establishments.....	80	61	64	66
Total production, pounds.....	84,544,281	79,028,128	78,951,184	71,087,865
Consumed in works where produced, pounds.....	81,090,919	76,181,869	75,891,194	68,892,085
Consumed in shooting wells, pounds.....	2,966,882		2,686,158	2,581,743
Amount received for shooting wells on contract.....	\$2,319,173		\$2,011,393	\$2,059,472
Sold as such—				
Pounds.....	486,480	2,846,759	373,832	114,037
Value.....	\$127,711	\$2,168,230	\$266,197	\$66,100
Blasting powder—				
Number of establishments.....	29	36	36	38
Kegs (25 pounds).....	4,828,696	5,475,299	6,437,876	8,433,986
Value.....	\$7,750,000	\$8,693,884	\$9,684,228	\$13,493,183
Gunpowder, black—				
Number of establishments.....	6	6	3	5
Pounds.....	1,081,515	1,585,450	1,177,570	2,779,422
Value.....	\$231,384	\$315,767	\$238,319	\$548,235
Smokeless powder—				
Number of establishments.....	5	5	6	6
Pounds.....	6,615,972	5,729,052	4,053,522	5,150,825
Value.....	\$4,537,668	\$3,861,382	\$2,768,511	\$3,569,412
Fuse powder—				
Number of establishments.....	5	6	6	6
Pounds.....	2,270,258	2,708,099	2,840,160	2,724,300
Value.....	\$426,914	\$662,454	\$669,437	\$532,070
Other explosives—				
Pounds.....	19,018,288	39,230,655	30,087,799	23,420,822
Value.....	\$2,195,816	\$3,904,042	\$4,139,083	\$2,528,621
CONSUMED IN WORKS WHERE PRODUCED				
Sulphuric acid (basis 50° Baumé)..... tons.....	88,369	105,961	114,209	107,955
Sulphuric acid recovered and used..... do.....	39,761	40,240	33,518	40,723
Nitric acid..... do.....	87,227	65,286	67,978	61,143
Mixed acid..... do.....	88,352	88,495	76,244	75,372
Nitrate of ammonia..... do.....	42,853	41,794	31,119	31,773

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 HORSE-POWER 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.....	2,396	51,612	1,471	38,239	1,332	37,808	1,431	51,635	872	46,778	100.0	100.0
Prime movers, total.....	219	23,498	242	20,733	234	22,278	373	35,149	435	37,884	45.5	68.1
Steam, total.....	206	22,811	223	19,652	213	21,253	324	33,676	396	36,304	44.2	65.2
Engines.....	189	14,760	208	14,322	196	14,900	293	23,304	(1)	(1)	28.6	45.1
Turbines.....	17	8,051	15	5,330	17	6,353	31	10,372	(1)	(1)	16.6	20.1
Internal-combustion engines.....	10	204	11	114	13	158	5	40	10	62	.4	.1
Water wheels and water turbines.....	3	483	8	967	8	867	44	1,433	29	1,518	.9	2.8
Electric motors driven by purchased energy.....	2,177	28,114	1,229	17,506	1,098	15,530	1,058	16,486	437	7,894	54.5	31.9
Electric motors, total.....	3,525	41,556	2,870	36,973	2,277	29,260	2,679	39,305	1,567	25,560	100.0	100.0
Driven by purchased energy.....	2,177	28,114	1,229	17,506	1,098	15,530	1,058	16,486	437	7,894	67.7	41.9
Driven by energy generated in establishments reporting.....	1,348	13,442	1,641	19,467	1,179	13,730	1,621	22,819	1,130	17,666	32.3	58.1
Electric generators.....	58	Kilowatts 10,367 Kilowatt-hours 38,002,755	63	Kilowatts 10,967	66	Kilowatts 11,584	(1)	(1)	(1)	(1)		
Electric energy purchased *.....			(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.

# EXPLOSIVES

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**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 min. num. is of maximum	
		January	February	March	April	May	June	July	August	September	October	November	December		
United States:															
1929.....	5,614	5,518	5,465	<i>5,428</i>	5,461	5,538	5,498	5,603	5,877	5,910	5,850	5,693	5,466	91.8	
1925.....	5,697	5,689	5,770	5,742	5,763	5,616	5,631	5,790	5,869	5,781	5,760	5,575	<b>5,371</b>	91.6	
1919.....	9,240	11,809	9,903	9,509	8,922	8,721	<b>8,605</b>	8,706	8,937	8,694	8,946	8,984	8,952	72.9	
1914.....	6,305	6,398	6,168	6,218	6,154	5,917	5,910	<b>5,877</b>	5,947	5,990	6,129	7,014	7,950	73.9	
1909.....	6,274	5,813	5,737	5,771	<i>5,504</i>	5,893	6,138	6,407	6,548	6,680	6,799	6,899	<b>7,108</b>	77.5	
Illinois.....	384	366	366	368	<i>362</i>	364	378	387	415	426	402	399	378	85.0	
Missouri.....	456	<i>398</i>	399	<i>396</i>	416	423	431	443	496	522	575	481	423	66.9	
Ohio.....	184	193	193	202	185	173	<i>169</i>	186	188	182	179	186	187	78.7	
Oklahoma.....	5	<i>5</i>	<i>5</i>	<i>5</i>	<i>5</i>	<i>5</i>	<i>5</i>	<i>5</i>	<i>5</i>	<i>5</i>	<i>5</i>	<i>5</i>	<i>5</i>	83.3	
Pennsylvania.....	1,121	1,125	1,099	1,095	1,116	1,105	1,101	1,119	1,142	1,142	1,167	1,147	<b>1,094</b>	93.7	
West Virginia.....	61	<i>57</i>	<i>57</i>	58	61	60	60	61	60	61	60	64	67	85.1	

# FERTILIZERS

**Description of the industry.**—This industry consists in the manufacture of commercial fertilizers, of which the principal classes are complete fertilizers (mixtures of superphosphates, potash, and ammoniates) and superphosphates. It does not include the merchandising of fertilizing materials for use in the natural state, nor of tankage from slaughtering and meat-packing establishments for use without remanufacture.

**Sulphuric acid.**—This industry consumes a large amount of sulphuric acid, of which a very considerable proportion is manufactured by the fertilizer companies. Of the total production of sulphuric acid by all industries in 1929, 23.6 per cent was reported by establishments in the fertilizer industry, as compared with 28.5 per cent in 1927, 28.7 per cent in 1925, and 24.9 per cent in 1923.

**Plant-food content of complete fertilizers and potash superphosphate.**—The manufacturers of complete fertilizers and potash superphosphate who reported

for 1929 the percentage content of plant food produced approximately 70 per cent and 80 per cent, respectively, of the total output of these fertilizers for that year.

Table 5 shows, for geographic divisions and for States, the percentages of each of the specified plant foods in that portion of the complete fertilizers and of the potash superphosphate for which this information was reported.

**Monthly statistics on superphosphates.**—The Census Bureau collects monthly, from manufacturers of fertilizers, data on their production, shipments, and stocks of superphosphates. According to the results of this monthly canvass, the production in 1929, on a basis of 16 per cent of available phosphoric acid, aggregated 4,294,967 tons, as compared with 2,531,230 tons on a basis of 16 per cent and 1,601,904 tons on a basis of 20 per cent or less, run of pile, reported at the biennial census for the same year.

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 <sup>1</sup>	Value added by manufacture <sup>2</sup>	Horsepower
1929	638	20,926	\$17,883,925	\$159,801,195	\$232,510,936	\$72,709,741	166,984
1927	621	18,612	17,649,661	138,142,925	190,384,890	52,241,965	156,274
1925	587	19,644	17,743,327	137,808,185	206,772,904	68,964,719	162,193
1923	573	18,572	16,365,324	127,980,450	183,088,751	55,108,301	161,774
1921	588	16,898	16,025,728	144,978,255	180,374,789	35,390,534	( <sup>3</sup> )
1919	600	26,296	25,363,132	185,040,522	281,143,587	96,103,065	125,939
1914	784	22,815	10,532,005	107,954,644	153,196,152	45,241,508	113,926
1909	550	18,310	7,477,170	69,521,920	103,900,213	34,438,293	64,546
1904	399	14,184	5,127,147	39,287,914	56,541,253	17,253,339	47,814
1899	422	11,581	4,185,289	28,958,473	44,657,385	15,698,912	38,200
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929	2.7	12.4	1.3	15.7	22.1	39.2	6.9
1925-1927	5.8	-5.3	-0.5	0.2	-7.9	-24.2	2.7
1923-1925	2.4	5.8	8.4	7.7	12.9	25.1	-5.0
1921-1923	-2.6	9.9	2.1	-11.7	1.5	55.7	
1919-1921	-2.0	-35.7	-36.8	-21.7	-35.8	-63.2	
1919-1929	6.3	-20.4	-29.5	-13.6	-17.3	-24.3	32.6
1909-1919	9.1	43.6	239.2	166.2	170.4	179.1	95.1
1899-1909	30.3	58.1	78.7	140.1	132.8	119.4	69.0

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

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

<sup>3</sup> 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 included for 1919 but not for subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

STATE	Census year	Number of establishments	Salaried officers and employees <sup>1</sup>	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 <sup>2</sup>	Value added by manufacture <sup>3</sup>	
					Total	Prime movers	Motors run by purchased energy			Total	Materials and containers	Fuel and purchased energy			
United States	1929	638	4,051	20,926	166,984	26,024	140,960	\$9,397,707	\$17,883,925	\$159,801,195	\$167,020,058	\$2,781,137	\$232,510,936	\$72,709,741	
	1927	621	3,980	18,612	156,274	26,785	129,489	8,936,036	17,649,661	138,142,925	135,368,365	2,774,560	190,384,890	52,241,965	
	1919	600	6,007	26,296	125,939	46,053	79,886	11,671,600	25,363,132	185,040,522	181,599,677	3,440,845	281,143,587	96,103,065	
Individual States:															
	Alabama	1929	56	191	1,403	8,739	1,979	6,760	412,178	837,770	9,690,939	9,576,542	114,397	13,242,041	3,551,102
	1927	65	192	1,065	8,181	2,116	6,065	396,481	772,873	7,818,014	7,709,382	108,632	9,497,502	1,679,488	
1919	40	250	1,136	5,908	2,657	3,251	476,369	1,043,507	7,576,410	7,427,033	149,377	11,624,913	4,048,603		
Arkansas	1929	8	79	158	1,541	205	1,336	105,940	112,404	1,599,940	1,587,162	12,778	2,265,103	665,163	
1927	5	39	89	1,385	125	1,260	79,154	55,593	754,088	746,343	7,745	910,628	156,540		

See footnotes at end of table.

# FERTILIZERS

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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 <sup>1</sup>	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 <sup>1</sup>	Value added by manufacture <sup>1</sup>
					Total	Prime movers	Motors run by purchased energy			Total	Materials and containers	Fuel and purchased energy		
Individ. States—Con.														
California	1929	21	101	302	3,416	270	3,146	\$322,114	\$390,970	\$3,653,679	\$3,595,281	\$58,398	\$5,517,940	\$1,864,261
	1927	16	63	269	2,954	225	2,729	187,658	353,126	2,774,472	2,720,664	44,808	3,787,196	1,012,724
	1919	17	182	284	2,423	305	2,118	247,130	317,350	2,532,281	2,482,550	49,731	3,609,704	1,077,423
Connecticut	1929	7	02	171	1,299	245	1,054	192,835	181,097	2,045,957	2,027,250	18,707	3,181,350	1,135,393
	1927	7	49	161	1,105	455	650	156,199	191,129	1,639,235	1,620,693	12,572	2,408,204	768,969
	1919	6	74	188	753	215	538	185,082	203,521	2,556,308	2,537,882	18,516	3,598,886	1,042,488
Delaware	1929	0	23	42	190	35	155	67,393	31,383	436,392	433,513	2,879	678,886	242,404
	1927	7	27	92	673	523	150	52,590	70,283	569,066	550,477	18,589	864,941	295,875
	1919	7	18	41	225	155	70	26,852	28,233	510,093	500,692	3,371	630,405	120,342
Florida	1929	24	233	1,084	0,429	1,045	4,784	593,641	979,028	10,724,440	10,571,216	153,224	15,760,243	5,035,803
	1927	24	252	1,048	0,375	1,510	4,365	681,041	956,408	9,253,289	9,113,376	139,883	14,897,376	5,554,137
	1919	24	326	1,390	4,368	2,942	1,426	575,843	1,102,550	7,157,905	7,005,422	152,483	10,685,810	3,527,914
Georgia	1929	126	566	2,809	23,498	2,267	21,231	1,187,993	1,723,624	20,669,268	20,388,516	280,752	29,252,800	8,583,532
	1927	114	500	2,509	21,877	2,890	18,987	1,186,104	1,621,564	17,389,464	17,094,381	295,083	22,093,903	4,704,439
	1919	144	1,113	4,152	20,661	3,662	10,899	2,117,016	3,336,110	30,766,650	30,448,840	317,810	47,476,842	16,713,192
Illinois	1929	12	120	464	5,750	342	5,408	281,305	536,990	5,065,638	4,943,628	122,010	8,101,734	3,036,096
	1927	13	167	412	5,636	520	5,116	345,783	482,417	4,045,651	3,952,048	93,603	6,107,990	2,062,848
	1919	12	164	953	3,090	765	2,335	333,354	754,809	3,722,686	3,582,444	140,242	6,169,817	2,437,131
Indiana	1929	11	80	259	2,483	45	2,438	201,297	273,214	3,352,058	3,328,197	23,861	4,992,676	1,640,618
	1927	12	111	274	2,703	92	2,611	250,951	284,572	2,938,109	2,915,056	23,073	4,689,298	1,751,189
	1919	13	104	328	2,123	496	1,627	204,333	306,255	2,733,461	2,698,571	34,890	4,718,067	1,979,606
Louisiana	1929	11	137	858	4,384	275	4,109	332,533	478,493	5,702,677	5,613,254	89,423	8,349,043	2,646,366
	1927	11	117	476	4,377	315	4,062	256,525	442,243	3,013,931	2,957,578	56,353	4,142,380	1,128,449
	1919	6	98	584	2,317	465	1,862	165,085	451,672	2,634,336	2,572,364	61,972	4,197,285	1,562,949
Maine	1929	11	54	196	1,075	510	565	103,003	199,113	2,305,924	2,288,379	17,545	3,236,760	930,845
	1927	8	32	71	1,071	189	885	45,617	66,749	783,614	721,427	12,187	1,070,804	337,280
	1919	10	62	174	610	75	541	97,985	150,405	3,076,976	3,068,019	8,957	4,054,698	977,722
Maryland	1929	39	572	2,855	25,045	1,306	23,739	1,402,342	2,819,099	16,735,072	16,262,772	472,300	25,506,620	8,771,548
	1927	45	587	2,387	23,202	1,574	21,628	1,476,605	2,981,778	19,923,900	19,479,584	444,316	27,167,390	7,243,490
	1919	45	737	3,102	16,400	3,102	13,298	1,464,293	3,591,181	24,694,718	24,271,436	423,282	37,014,097	12,319,379
Massachusetts	1929	6	36	387	3,244	87	3,157	88,249	452,505	2,754,582	2,691,436	63,146	3,874,229	1,119,647
	1927	7	51	429	2,993	770	2,223	82,475	451,219	2,863,493	2,769,847	93,646	5,041,128	2,177,635
Mississippi	1929	10	65	378	1,006	450	1,516	111,494	254,413	2,474,873	2,439,962	34,911	3,572,147	1,097,274
	1927	11	63	307	2,746	1,040	1,706	105,512	279,321	2,017,865	1,965,645	52,220	2,792,355	774,490
	1919	9	61	370	2,316	588	1,728	123,448	284,818	2,068,048	2,012,394	55,654	3,026,674	968,026
New Jersey	1929	19	162	612	4,467	2,000	2,377	412,185	765,402	4,952,951	4,865,927	87,024	7,124,287	2,171,336
	1927	20	195	732	4,788	2,300	2,428	365,103	996,660	6,060,707	5,960,639	100,068	8,001,840	1,941,139
	1919	19	330	1,740	6,639	4,845	1,794	543,138	2,092,704	11,811,036	11,487,483	323,553	15,758,105	5,347,069
New York	1929	10	65	236	3,006	1,045	2,021	161,946	288,296	2,131,271	2,100,663	30,608	2,941,482	810,211
	1927	8	78	229	1,567	75	1,492	177,435	294,973	1,760,333	1,737,985	22,348	2,290,912	580,579
North Carolina	1929	70	359	2,140	16,423	3,855	12,658	758,948	1,550,798	16,301,963	16,069,134	232,829	22,956,326	6,654,363
	1927	84	349	1,860	16,078	4,283	11,795	688,193	1,522,363	14,027,493	13,745,640	281,853	18,423,536	4,396,643
	1919	45	420	2,077	9,592	4,172	5,420	920,665	1,850,365	18,006,820	18,331,083	274,737	27,551,316	8,945,496
Ohio	1929	23	206	969	10,608	200	10,408	616,148	1,294,397	9,391,493	9,249,424	142,069	14,188,653	4,797,070
	1927	23	202	873	10,386	630	9,756	574,408	1,095,548	8,209,059	8,071,800	137,250	12,590,974	4,707,015
	1919	23	341	1,197	7,179	3,917	3,262	617,432	1,609,901	8,071,243	7,909,625	161,718	14,042,055	5,970,812
Pennsylvania	1929	26	156	570	3,210	591	2,619	341,467	688,346	4,508,169	4,378,085	132,074	6,729,984	2,221,825
	1927	25	162	617	3,398	779	2,619	335,684	696,324	4,301,782	4,179,932	121,850	6,113,498	1,811,716
	1919	31	268	1,021	5,077	2,785	2,342	503,329	1,149,672	5,845,047	5,577,840	267,207	8,731,281	2,886,234
South Carolina	1929	45	302	1,606	11,606	1,497	10,109	614,979	1,049,862	10,476,603	10,310,157	165,446	14,050,480	3,574,877
	1927	49	251	1,563	10,703	1,152	9,551	539,785	1,136,955	9,405,316	9,242,549	162,767	11,739,872	2,334,566
	1919	50	509	2,765	10,197	2,153	8,044	1,076,104	2,124,157	19,429,068	19,179,399	249,669	30,411,575	10,982,507
Tennessee	1929	10	102	638	5,676	45	5,631	224,221	521,380	4,327,516	4,243,843	83,673	7,061,986	2,734,470
	1927	9	93	602	4,682	275	4,407	191,400	486,187	3,557,034	3,497,001	60,033	4,923,651	1,366,617
	1919	10	134	821	3,646	1,320	2,326	287,343	712,941	4,011,567	3,875,261	136,296	6,841,797	2,830,240
Texas	1929	13	24	177	1,360	-----	1,360	43,673	152,077	1,947,518	1,928,035	19,483	2,920,748	973,230
	1927	6	14	79	815	-----	815	22,983	74,819	555,021	544,320	10,701	811,408	256,387
	1919	9	29	190	1,404	405	999	49,684	189,076	1,100,770	1,070,001	30,775	1,592,718	491,942
Virginia	1929	42	280	2,047	15,403	5,597	9,806	594,475	1,681,295	14,356,087	14,180,760	225,327	16,180,916	6,305,829
	1927	44	254	2,040	13,342	4,300	9,042	551,682	1,705,809	11,291,137	11,011,973	279,164	15,273,776	3,981,689
	1919	43	407	2,364	13,260	8,341	4,910	935,280	2,450,294	14,198,194	13,915,308	282,886	22,891,363	8,693,166
Washington	1929	3	13	24	190	75	115	34,330	23,645	230,970	227,357	3,613	402,704	171,784
	1927	4	11	21	117	85	32	20,868	26,576	168,037	164,035	4,002	267,907	99,870
Groups of States: Kans., 3 establishments; Mo., 1; Nebr., 1; Ky., 2 est.; R. I., 1; Vt., 1; W. Va., 1; Mich., 3 est.; Wis., 2; Mont., 1 est.; Nev., 1; Utah, 1; States not shown separately	1929	5	5	44	554	165	389	12,248	30,774	115,745	91,587	24,158	236,036	120,291
	1929	5	18	111	603	125	478	32,339	96,815	955,173	948,015	7,158	1,061,595	706,422
	1929	5	33	313	3,050	295	2,764							

## CENSUS OF MANUFACTURES: 1929

TABLE 3.—FERTILIZERS—PRODUCTION, BY CLASS, QUANTITY, 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]  
[Ton, 2,000 pounds]

CLASS	1929	1927	1925	1923	CLASS	1929	1927	1925	1923
1. Fertilizer industry, all products, total value.....	\$232,510,936	\$190,384,890	\$206,772,904	\$183,088,751	Fertilizers, all industries—Continued				
2. Fertilizers.....	\$201,751,371	\$165,272,337	\$187,003,635	\$170,070,039	Superphosphates, including concentrated phosphates—				
3. Other products (not normally belonging to the industry) <sup>1</sup> .....	\$30,759,565	\$25,112,553	\$19,769,269	\$13,018,712	Total production, tons.....	4,133,134	4,086,225	4,096,442	4,237,537
4. Fertilizers made as secondary products in other industries, value.....	\$20,979,745	\$8,537,436	\$8,036,522	\$9,879,616	For sale—				
Fertilizers, all industries:					Tons.....	2,531,230	2,434,516	2,638,761	2,458,118
Total tons.....	9,320,229	8,122,723	8,229,032	7,625,517	Value.....	\$28,375,184	\$30,008,438	\$35,180,160	\$33,204,439
Total value (sum of 2 and 4) <sup>2</sup> .....	\$222,731,116	\$173,809,773	\$195,040,157	\$179,949,655	Made and consumed, tons.....	1,601,904	1,651,709	1,457,681	1,779,419
Complete fertilizers—					Fish scrap—				
Tons.....	5,991,780	5,088,179	4,925,948	4,032,506	Tons.....	84,711	95,769	72,123	76,229
Value.....	\$168,838,463	\$128,379,589	\$143,326,670	\$118,460,453	Value.....	\$3,244,632	\$3,348,589	\$2,927,927	\$2,722,688
					Potash superphosphate—				
					Tons.....	211,293	233,499	247,541	
					Value.....	\$4,854,865	\$5,404,885	\$6,159,388	
					Bone meal—				
					Tons.....	39,548	41,990	48,282	41,058,664
					Value.....	\$1,644,054	\$1,601,044	\$1,622,204	\$25,502,075
					Other fertilizers—				
					Tons.....	461,667	228,764	296,377	
					Value.....	\$15,874,418	\$5,012,237	\$5,823,508	

<sup>1</sup> Sulphuric acid, bone black, etc., and goods sold in condition in which purchased. Sulphuric acid is made primarily in the "Chemicals, not elsewhere classified" industry, and bone black is made primarily by establishments in the "Bone black, carbon black, and lampblack" industry. The values of these commodities included in this table represent only the production of establishments in the fertilizer industry.

<sup>2</sup> Basis 16 per cent available phosphoric acid.

<sup>3</sup> Not included in total tons for "Fertilizers, all industries."

<sup>4</sup> Includes data for 245,819 tons, valued at \$6,199,585, reported as "Commercial fertilizers."

TABLE 4.—FERTILIZERS—PRODUCTION, BY CLASS, QUANTITY, AND VALUE, BY STATES: 1929

[The figures refer to production, not sales. 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]  
[Ton, 2,000 pounds]

STATE	TOTAL		COMPLETE FERTILIZERS		SUPERPHOSPHATES, INCLUDING CONCENTRATED PHOSPHATES		OTHER FERTILIZERS <sup>1</sup>	
	Tons	Value	Tons	Value	Tons	Value	Tons	Value
United States.....	9,320,229	\$222,731,116	5,991,780	\$168,838,463	2,531,230	\$28,375,184	797,219	\$25,517,469
Individual States:								
Alabama.....	530,829	12,182,176	352,017	9,400,560	166,022	2,206,514	12,190	575,102
Arkansas.....	71,573	2,006,294	49,485	1,652,580	( <sup>2</sup> )	( <sup>3</sup> )	( <sup>4</sup> )	( <sup>5</sup> )
California.....	144,074	5,367,764	65,822	2,052,974	7,577	115,722	70,675	2,299,068
Florida.....	545,776	14,963,461	380,788	12,000,313	156,139	1,713,769	8,849	340,379
Georgia.....	1,171,011	26,734,436	863,270	22,766,084	281,937	3,255,961	25,804	712,391
Illinois.....	322,280	9,115,600	189,962	5,902,944	44,666	771,698	87,752	2,440,858
Indiana.....	146,087	4,577,649	98,706	3,258,386	18,861	382,793	28,520	936,370
Louisiana.....	284,436	7,787,733	199,016	6,439,780	72,177	924,320	13,242	373,638
Maryland.....	1,208,393	10,707,466	517,809	13,388,121	683,785	5,612,373	39,739	706,972
Massachusetts.....	175,304	4,015,070	111,967	3,062,708	50,199	508,965	13,138	444,297
Mississippi.....	155,094	4,372,065	120,205	3,819,008	( <sup>2</sup> )	( <sup>3</sup> )	( <sup>4</sup> )	( <sup>5</sup> )
New Jersey.....	397,968	13,640,880	210,642	5,812,827	( <sup>2</sup> )	( <sup>3</sup> )	( <sup>4</sup> )	( <sup>5</sup> )
New York.....	123,266	2,966,854	93,547	2,430,483	( <sup>2</sup> )	( <sup>3</sup> )	( <sup>4</sup> )	( <sup>5</sup> )
North Carolina.....	978,225	22,146,391	766,782	19,303,799	183,826	2,009,557	27,647	833,038
Ohio.....	670,355	12,799,771	315,972	8,549,972	178,467	2,411,533	75,926	1,838,266
Pennsylvania.....	246,139	5,764,987	121,045	3,818,119	93,589	891,903	31,505	1,054,065
South Carolina.....	674,124	11,870,977	427,762	10,200,063	137,909	1,469,779	8,453	201,135
Tennessee.....	328,125	6,930,740	129,677	3,987,574	173,806	2,440,898	24,642	493,268
Texas.....	118,671	3,251,989	75,335	2,585,805	( <sup>2</sup> )	( <sup>3</sup> )	( <sup>4</sup> )	( <sup>5</sup> )
Virginia.....	797,999	19,261,732	611,339	16,800,233	98,614	1,026,228	88,046	1,925,251
Groups of States:								
Ariz., Colo., Mont., Nev., Utah.....	73,867	1,110,215	12,033	152,956	( <sup>2</sup> )	( <sup>3</sup> )	( <sup>4</sup> )	( <sup>5</sup> )
Conn., R. I.....	54,602	2,468,218	46,811	1,952,671			7,791	515,547
D. C., Del., W. Va.....	27,576	785,843	26,733	743,848			1,843	44,995
Iowa, Mich., Minn., Wis.....	88,357	2,593,188	62,312	1,992,444	( <sup>2</sup> )	( <sup>3</sup> )	( <sup>4</sup> )	( <sup>5</sup> )
Kans., Ky., Mo., Nebr., Okla.....	79,761	1,942,453	47,717	1,358,763	( <sup>2</sup> )	( <sup>3</sup> )	( <sup>4</sup> )	( <sup>5</sup> )
Mo., N. H., Vt.....	83,006	3,463,803	76,140	3,233,434			6,866	170,369
Oreg., Wash.....	23,432	1,020,033	19,856	872,494			3,576	147,559
Undistributed.....					213,166	2,024,171	224,015	9,465,001

<sup>1</sup> Potash superphosphate, fish scrap, bone meal, and "Other fertilizers." (See Table 2.)

<sup>2</sup> Basis 16 per cent available phosphoric acid.

<sup>3</sup> The figures not shown for individual States or groups of States are included in the "Undistributed" item in order to avoid disclosing the output of individual establishments.



## CENSUS OF MANUFACTURES: 1929

TABLE 6.—MATERIALS CONSUMED IN THE FERTILIZER INDUSTRY, FOR THE UNITED STATES: 1929 AND 1919

The cost of materials shown in this table covers only the materials specified, whereas the cost of materials shown in other tables of this report covers all materials consumed]

KIND	1929		1919		KIND	1929		1919	
	Short tons	Short tons	Short tons	Short tons		Short tons	Short tons	Short tons	Short tons
Cottonseed meal.....	84,762		230,526		Sulphate of potash.....	77,043		79,482	
Tankage (animal).....	208,809				Manure salts.....	389,884		17,560	
Dried blood.....	12,651		1,689,753		Other potash-bearing substances.....	90,497		154,135	
Ammonium sulphate—nitrate.....	36,317				Total cost of above materials.....	\$79,827,387		\$119,060,550	
Calcium nitrate.....	10,947				Phosphate rock.....	2,291,037		2,247,325	
Fish scrap, meal, and tankage.....	149,887		273,252		Sulphur.....	330,088		221,558	
Sulphate of ammonia.....	460,505		135,882		Pyrites.....	201,384		308,002	
Calcium cyanamid (lime nitrogen).....	77,889		16,926		Sulphuric acid, 50° Baumé: Made and consumed.....	1,373,033		1,568,577	
Nitrate of soda.....	240,403		152,415		Purchased.....	922,150		636,632	
Bones, ground, steamed, etc.....	45,676		169,771		Superphosphates (basis 20 per cent or less, run of pile), made and consumed in same establishments.....	1,001,085		3,216,486	
Superphosphates: <sup>1</sup>					Other fertilizer materials.....	869,848		( <sup>2</sup> )	
Basis 20 per cent or less, run of pile.....	1,320,094		1,200,182						
Basis over 40 per cent.....	47,337								
Whale guano (meat and blood).....	11,841		33,053						
Guano, other than whale.....	28,966								
Kainite.....	81,119		31,145						
Muriate of potash.....	228,319		32,900						

<sup>1</sup> Includes data for tankage other than animal and for ammoniates not specified.

<sup>2</sup> Not including superphosphates made and consumed in same establishments.

<sup>3</sup> No data.

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
		Horsepower		Horsepower		Horsepower		Horsepower		Horsepower		
Prime movers and electric motors driven by purchased energy, aggregate.....	7,268	166,984	6,764	156,274	6,036	152,193	4,556	125,939	3,022	113,926	100.0	100.0
Prime movers, total.....	407	26,024	440	26,785	501	33,405	798	40,053	1,117	66,476	15.6	36.6
Steam, total.....	317	22,817	321	23,180	394	30,104	555	40,482	843	60,363	13.7	32.1
Engines.....	306	21,347	318	22,443	381	28,292	549	39,274	( <sup>1</sup> )	( <sup>1</sup> )	12.8	81.2
Turbines.....	11	1,470	3	737	18	1,872	6	1,208	( <sup>1</sup> )	( <sup>1</sup> )	0.9	1.0
Internal-combustion engines.....	89	3,192	116	3,540	104	3,179	219	4,862	258	5,786	1.9	3.8
Water wheels and water turbines.....	1	15	3	65	3	62	24	709	16	337	( <sup>2</sup> )	0.6
Electric motors driven by purchased energy.....	6,861	140,960	6,324	129,489	5,534	118,788	3,758	79,886	1,905	47,450	84.4	63.4
Electric motors, total.....	7,268	147,526	6,931	137,693	6,107	129,487	4,535	93,111	2,795	65,266	100.0	100.0
Driven by purchased energy.....	6,861	140,960	6,324	129,489	5,534	118,788	3,758	79,886	1,905	47,450	95.5	85.8
Driven by energy generated in establishments reporting.....	402	6,566	607	8,204	663	10,699	777	13,225	800	17,816	4.5	14.2
Electric generators <sup>3</sup> .....	50	Kilowatts 5,251	66	Kilowatts 6,259	102	Kilowatts 8,920						
Electric energy purchased <sup>4</sup> .....		Kilowatt-hours 97,842,555										

<sup>1</sup> Not called for separately on schedule.

<sup>2</sup> Less than one-tenth of 1 per cent.

<sup>3</sup> Data on electric generators not called for on schedule prior to 1925.

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

# FERTILIZERS

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**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 is of maximum	
		January	February	March	April	May	June	July	August	September	October	November	December		
<b>United States:</b>															
1929.....	20,926	19,946	23,337	35,195	37,787	18,688	14,847	<i>14,554</i>	15,287	18,961	17,941	17,381	17,210	38.5	
1925.....	19,644	17,761	23,212	33,402	31,962	16,338	<i>13,916</i>	14,116	15,321	18,872	17,405	16,655	16,773	41.7	
1919.....	26,296	27,808	31,043	38,387	36,465	23,866	<i>21,071</i>	21,731	22,500	25,205	22,028	21,897	23,591	54.9	
1914.....	22,815	22,571	30,647	38,332	32,977	21,793	18,286	17,603	18,041	20,863	18,249	17,564	<i>16,854</i>	44.0	
1909.....	18,310	17,076	24,166	29,310	23,198	16,737	14,508	<i>14,264</i>	15,514	18,163	16,232	15,095	15,425	48.7	
Alabama.....	1,403	1,253	1,079	2,879	3,072	1,148	844	778	959	949	1,082	1,003	1,133	25.3	
Arkansas.....	158	181	176	322	615	127	79	45	52	38	75	65	70	7.3	
California.....	302	328	403	403	293	255	<i>246</i>	269	274	313	292	276	269	61.0	
Connecticut.....	171	153	184	221	308	280	168	116	100	124	121	143	131	32.5	
Delaware.....	42	33	35	52	54	54	37	40	46	47	53	28	23	42.6	
Florida.....	1,084	1,131	1,226	1,131	992	1,105	943	<i>805</i>	956	1,099	1,049	1,284	1,215	71.4	
Georgia.....	2,809	2,983	3,784	6,895	5,591	1,921	1,509	<i>1,551</i>	1,478	1,667	1,887	2,102	2,439	19.3	
Illinois.....	454	372	411	542	780	581	370	365	410	544	381	309	321	41.2	
Indiana.....	259	160	166	263	345	328	261	244	242	496	222	194	187	32.3	
Louisiana.....	858	892	1,124	2,018	2,010	468	<i>384</i>	423	512	514	604	686	657	19.0	
Maine.....	196	189	207	298	275	310	149	105	143	169	178	178	149	33.0	
Maryland.....	2,855	2,447	2,886	3,543	4,143	2,872	2,581	2,567	2,519	3,131	2,882	2,460	2,129	51.4	
Massachusetts.....	387	378	389	518	608	446	306	281	297	318	349	384	370	46.4	
Mississippi.....	378	355	446	862	929	261	236	221	206	240	240	245	303	22.2	
New Jersey.....	612	692	704	775	985	600	532	<i>453</i>	468	614	480	471	615	48.4	
New York.....	236	208	219	267	346	278	246	206	236	267	192	174	188	50.3	
North Carolina.....	2,149	2,081	2,365	4,008	4,907	1,879	1,101	<i>1,017</i>	1,201	1,574	1,853	1,760	1,935	20.7	
Ohio.....	969	763	722	1,026	1,263	906	857	933	964	1,891	796	660	724	36.5	
Pennsylvania.....	570	563	593	690	778	587	<i>464</i>	462	519	584	540	603	472	58.4	
South Carolina.....	1,606	1,739	2,003	3,583	2,608	1,171	918	981	<i>864</i>	1,152	1,301	1,468	1,485	24.1	
Tennessee.....	638	564	705	1,053	1,818	543	370	370	377	433	459	460	475	20.4	
Texas.....	177	256	322	443	438	82	48	52	60	106	77	85	130	10.8	
Virginia.....	2,047	1,704	1,932	2,619	3,898	1,766	1,672	1,882	1,878	2,039	2,211	1,636	<i>1,277</i>	32.8	



# FIREWORKS

Description of the industry.—This industry embraces establishments engaged primarily in the manufacture of fireworks of all kinds, such as toy torpedoes, bombs, shells, pin wheels, torches, rockets, sparklers, fire-crackers, and set pieces.

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 <sup>1</sup>	Value added by manufacture <sup>2</sup>	Horsepower
1929	50	1,811	\$1,930,595	\$2,464,617	\$6,583,502	\$4,118,885	1,746
1927	36	1,564	1,395,024	2,623,672	5,884,939	3,261,267	1,300
1925	41	1,446	1,429,093	2,399,200	6,031,435	3,632,235	1,148
1923	38	1,224	1,156,120	1,830,933	4,977,008	3,146,075	941
1921	37	1,229	1,116,075	1,917,104	4,726,870	2,809,760	( <sup>3</sup> )
1919	57	1,222	994,851	2,108,156	4,629,984	2,521,828	1,005
1914	41	1,324	616,279	1,206,006	2,295,236	1,090,230	707
1909	42	1,403	579,001	896,190	2,269,349	1,373,159	517
1904	34	1,480	535,508	769,235	1,988,790	1,217,555	347
1899	46	1,633	506,960	627,761	1,785,271	1,157,510	219
PER CENT OF INCREASE OR DECREASE (-)							
1927-1929	( <sup>4</sup> )	15.8	38.4	-0.1	11.9	26.3	34.3
1925-1927	( <sup>4</sup> )	8.2	-2.4	9.4	-2.4	-10.2	13.2
1923-1925	( <sup>4</sup> )	18.1	23.6	31.0	21.2	15.5	22.0
1921-1923	( <sup>4</sup> )	-4	3.6	-4.5	5.3	12.0	-----
1919-1921	( <sup>4</sup> )	.6	12.2	-9.1	2.1	11.4	-----
1919-1929	( <sup>4</sup> )	48.2	94.1	16.9	42.2	63.3	73.7
1909-1919	( <sup>4</sup> )	-12.9	71.8	135.2	104.0	83.7	94.4
1899-1909	( <sup>4</sup> )	-14.3	14.2	42.8	27.1	18.6	136.1

<sup>1</sup> For 1929, manufacturers' sales (shipments or deliveries); for earlier years, production. See GENERAL EXPLANATIONS—Value of Products.  
<sup>2</sup> Value of products less cost of materials, containers for products, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.  
<sup>3</sup> Not called for on schedule.  
<sup>4</sup> 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	Officers and salaried employees <sup>1</sup>	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 <sup>2</sup>	Value added by manufacture <sup>3</sup>
					Total	Prime movers	Motors run by purchased energy			Total	Materials and containers	Fuel and purchased energy		
United States	1929	50	175	1,811	1,746	272	1,474	\$453,215	\$1,930,595	\$2,464,617	\$2,360,315	\$104,302	\$6,583,502	\$4,118,885
	1927	36	138	1,564	1,300	469	831	367,070	1,395,024	2,623,672	2,509,389	114,283	5,884,939	3,261,267
	1919	57	148	1,222	1,065	605	400	325,274	994,851	2,108,156	2,061,451	46,705	4,629,984	2,521,828
Individual States:														
Illinois	1929	3	6	92	49	-----	49	11,136	107,895	119,978	116,025	3,953	435,719	316,741
New Jersey	1929	6	13	170	245	100	145	28,670	203,556	406,677	390,415	16,262	850,073	443,396
	1927	5	12	168	162	138	24	52,532	140,135	459,096	418,865	40,231	892,183	433,087
	1919	16	20	219	221	180	41	64,600	182,285	447,296	436,177	11,119	823,987	376,691
Pennsylvania	1929	7	15	54	29	-----	29	31,785	47,563	115,441	113,563	1,878	247,619	132,178
	1927	4	11	15	-----	-----	-----	20,840	14,102	34,963	34,427	536	123,495	88,532
Groups of States:														
Calif., 2 est.; Wash., 1 Conn., 3 est.; Mass., 5, Me., 1	1929	3	12	48	60	-----	60	27,214	51,140	50,154	48,380	1,774	155,547	105,303
Md., 1 est.; N. Y., 7	1929	9	49	513	540	32	568	123,811	587,202	485,310	457,634	27,676	1,539,621	1,054,311
Iowa, 1 est.; Kans., 1; Nebr., 1; Mo., 1; Tex., 1	1929	8	31	420	374	70	304	100,036	396,372	852,973	825,667	27,306	1,736,885	883,912
Ind., 1 est.; Ohio, 6; Tenn., 1; Va., 1	1929	5	12	53	67	20	47	14,415	58,739	56,071	52,610	3,461	168,662	112,591
	1927	9	37	461	382	50	332	116,148	478,122	378,013	356,021	21,992	1,449,376	1,071,363
States not shown separately	<sup>4</sup> 1927	27	115	1,381	1,188	331	807	293,098	1,240,767	2,129,613	2,056,097	73,516	4,869,261	2,739,648
	<sup>5</sup> 1919	41	128	1,003	784	426	359	260,674	812,566	1,660,860	1,625,274	35,586	3,805,997	2,145,137

<sup>1</sup> Not including proprietors and firm members, as follows: For 1929, 16; 1927, 8; 1919, 26. 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, 2,002; 1927, 1,710; 1919, 1,396.  
<sup>2</sup> For 1929, manufacturers' sales (shipments or deliveries); for earlier years, production. See GENERAL EXPLANATIONS—Value of Products.  
<sup>3</sup> Value of products less cost of materials, containers for products, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.  
<sup>4</sup> California, 2 establishments; Colorado, 1; Connecticut, 2; Illinois, 2; Indiana, 1; Iowa, 1; Maine, 1; Maryland, 2; Massachusetts, 5; Missouri, 1; New York, 4; Ohio, 1; Tennessee, 1; Texas, 1; Virginia, 1; Washington, 1.  
<sup>5</sup> California, 1 establishment; Connecticut, 3; Delaware, 1; Illinois, 4; Indiana, 2; Iowa, 1; Maine, 1; Massachusetts, 5; Michigan, 1; Missouri, 1; New York, 7; Ohio, 4; Pennsylvania, 5; Rhode Island, 1; Tennessee, 1; Texas, 1; Virginia, 1; Washington, 1.

# FIREWORKS

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**TABLE 3.—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
		<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.....	353	1,746	219	1,300	214	1,145	82	1,005	53	707	100.0	100.0
Prime movers, total.....	7	272	14	409	14	358	17	605	18	557	15.6	60.2
Steam, total.....	4	200	9	408	9	315	12	535	13	455	11.5	53.2
Engines.....	4	200	8	400	9	315	12	535	(1)	(1)	11.5	53.2
Turbines.....			1	8					(1)	(1)		
Internal-combustion engines.....	2	40	4	29	5	43	3	30	3	32	2.3	3.0
Water wheels and water turbines.....	1	32	1	32			2	40	2	70	1.8	4.0
Electric motors driven by purchased energy.....	346	1,474	205	831	200	780	65	400	35	150	84.4	39.8
Electric motors, total.....	346	1,474	205	831	200	780	91	440	47	334	100.0	100.0
Driven by purchased energy.....	346	1,474	205	831	200	780	65	400	35	150	100.0	90.9
Driven by energy generated in establishments reporting.....							26	40	12	184		9.1
Electric energy purchased <sup>1</sup> .....		<i>Kilowatt-hours</i> 1,108,969		(2)		(2)		(1)		(1)		

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

**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												Percent minimum is of maximum
		January	February	March	April	May	June	July	August	September	October	November	December	
<b>United States:</b>														
1929.....	1,811	1,855	1,934	1,955	2,004	2,073	1,941	<i>1,425</i>	1,543	1,095	1,737	1,775	1,801	65.6
1925.....	1,446	1,584	1,618	1,673	1,578	1,592	1,569	885	1,277	1,333	1,303	1,419	1,460	52.9
1919.....	1,222	1,141	1,188	1,260	1,283	1,360	1,383	1,178	1,203	1,174	<i>1,129</i>	1,182	1,183	81.6
1914.....	1,324	1,207	1,373	1,435	1,531	1,660	1,661	<i>992</i>	1,351	1,327	1,140	1,065	1,021	58.7
1909.....	1,403	1,452	1,527	1,529	1,591	1,662	1,575	893	1,195	1,389	1,386	1,332	1,290	54.0
Illinois.....	92	98	102	100	101	97	85	90	94	91	81	81	80	78.4
New Jersey.....	170	175	179	182	174	183	192	153	<i>149</i>	168	159	160	161	77.6
Pennsylvania.....	54	45	45	46	54	55	62	54	67	67	61	47	43	64.2

## GLUE AND GELATIN

Description of the industry.—This industry classification covers establishments whose principal products are animal, vegetable, and other glues, and edible and inedible gelatin.

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 <sup>1</sup>	Value added by manufacture <sup>2</sup>	Horsepower
1929	74	2,993	\$4,236,092	\$18,978,027	\$32,458,019	\$13,479,992	23,654
1927	61	3,226	4,524,232	19,222,384	31,195,807	11,973,423	24,763
1925	55	3,325	3,976,383	15,337,870	25,763,977	10,426,107	22,807
1923	50	3,651	4,076,904	14,590,638	24,366,097	9,775,459	24,708
1921	47	2,915	3,573,149	13,401,858	21,342,004	7,940,146	(3)
1919	62	4,264	4,776,724	19,279,906	32,134,087	12,854,162	16,979
1914	57	3,129	1,653,548	9,367,922	13,732,824	4,364,902	13,299
1909	65	3,263	1,570,643	7,524,529	13,717,820	6,193,291	15,541
1904	58	2,894	1,528,512	6,156,139	10,034,685	3,848,546	14,230
1899	61	1,618	685,096	3,767,023	5,389,006	1,621,983	6,756
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929	(4)	-7.2	-6.4	-1.3	4.0	12.0	-4.8
1925-1927	(4)	-3.0	13.8	25.3	21.1	14.8	8.6
1923-1925	(4)	-8.9	-2.4	5.1	5.7	6.7	-7.7
1921-1923	(4)	25.2	14.1	8.9	14.2	23.1	-----
1919-1921	(4)	-31.6	-25.2	-30.5	-33.6	-38.2	-----
1919-1929	(4)	-29.8	-11.3	-1.6	1.0	4.9	38.9
1909-1919	(4)	30.6	204.1	150.2	134.3	107.5	9.3
1899-1909	(4)	101.8	129.3	99.7	154.6	281.8	130.0

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

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

<sup>3</sup> Not called for on schedule.

<sup>4</sup> Per cent not computed where base is less than 100.

# GLUE AND GELATIN

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**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 <sup>2</sup>	Value added by manufacture <sup>3</sup>
					Total	Prime movers	Motors run by purchased energy			Total	Materials and containers	Fuel and purchased energy		
United States...	1929	74	545	2,993	23,584	17,137	6,447	\$1,058,419	\$4,236,692	\$18,978,027	\$17,448,905	\$1,529,122	\$32,458,019	\$13,479,992
	1927	61	535	3,226	24,763	19,213	5,550	1,010,424	4,624,232	19,222,384	17,237,014	1,985,370	31,195,807	11,973,423
	1919	62	618	4,204	16,079	16,286	693	1,378,636	4,776,724	19,279,905	17,632,697	1,647,808	32,134,067	12,864,162
Individual States:														
California.....	1929	5	11	85	640	134	506	35,985	120,109	579,693	549,477	30,216	818,775	239,082
Illinois.....	1929	17	129	609	6,753	5,480	1,273	317,660	816,395	3,273,298	2,963,679	309,619	6,632,134	3,358,830
	1927	12	116	540	5,304	4,025	679	347,364	830,540	3,149,893	2,650,007	469,886	4,946,607	1,796,714
	1919	11	242	1,583	7,477	7,420	57	410,850	1,547,366	4,939,579	4,417,469	522,110	9,157,094	4,217,515
Massachusetts.....	1929	12	117	729	3,652	1,628	2,024	329,966	1,054,291	4,561,108	4,165,943	395,165	7,944,050	3,382,942
	1927	12	141	775	3,731	1,785	1,946	411,270	1,042,950	4,242,898	3,815,895	427,003	6,830,569	2,687,671
	1919	13	104	826	1,995	1,065	30	269,374	939,913	3,629,796	3,359,079	270,717	6,431,367	2,821,571
Missouri.....	1929	4	16	72	456	35	421	40,053	86,803	389,751	359,045	30,766	639,646	249,895
	1927	3	10	69	417	35	382	23,426	72,301	334,870	299,982	34,888	522,049	187,179
New York.....	1929	13	89	393	2,010	2,112	798	261,845	558,497	3,011,120	2,732,898	278,222	4,824,833	1,813,713
	1927	8	79	463	2,926	2,100	736	227,438	546,390	3,159,094	2,833,618	325,476	5,180,637	2,021,543
	1919	9	62	369	2,005	1,892	113	200,684	406,969	2,380,979	2,207,504	173,475	4,184,579	1,803,600
Pennsylvania.....	1929	7	85	480	2,013	1,898	115	330,099	707,245	3,300,053	3,165,023	135,030	5,294,341	1,994,288
	1927	8	61	678	3,731	4,234	347	210,993	1,077,242	4,408,840	4,198,101	300,739	7,344,798	2,845,958
	1919	7	77	570	2,378	2,376	2	229,213	748,068	3,102,821	2,862,828	239,993	4,777,654	1,674,833
Groups of States:														
Conn., 1 est.; Md., 1; N. J., 3; Vt., 1; Mich., 2 est.; Ohio, 2.....	1929	6	32	126	1,034	240	794	135,803	172,534	1,638,620	1,582,825	55,795	2,710,141	1,071,521
Other States (Ind., 2 est.; Minn., 1; Wash., 2; Wis., 1).....	1929	4	4	7	56	-----	56	9,458	11,074	55,112	53,519	1,263	93,379	38,267
States not shown separately.....	1927	18	128	701	7,804	6,344	1,460	389,933	954,800	3,836,789	3,409,411	427,378	6,371,147	2,584,358
	1919	22	133	616	4,024	3,533	491	268,296	1,134,378	5,226,730	4,785,217	441,513	7,563,373	2,336,643

<sup>1</sup> Not including proprietors and firm members, as follows: For 1929, 14; 1927, 18; 1919, 23. 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, 3,652; 1927, 3,779; 1919, 4,905.  
<sup>2</sup> The figures for all census years refer to production, not sales. See GENERAL EXPLANATIONS—Value of Products.  
<sup>3</sup> Value of products less cost of materials, containers for products, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.  
<sup>4</sup> California, 3 establishments; Connecticut, 1; Indiana, 4; Iowa, 1; Kentucky, 1; Maryland, 1; Missouri, 4; New Hampshire, 1; New Jersey, 2; Ohio, 2; Washington, 1; Wisconsin, 1.  
<sup>5</sup> California, 2 establishments; Connecticut, 1; Indiana, 4; Iowa, 1; Kentucky, 1; Maryland, 1; Missouri, 4; New Hampshire, 1; New Jersey, 2; Ohio, 2; Washington, 1; Wisconsin, 2.

**TABLE 3.—PRODUCTION, BY KIND, QUANTITY, AND VALUE: 1929 AND 1927**

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

KIND	1929	1927	KIND	1929	1927
1. Glue and gelatin industry, all products, total value.....	\$32,458,019	\$31,195,807	Glue and gelatin, all industries—Continued.		
2. Glue and gelatin.....	26,863,540	25,213,514	Glues—Continued.		
3. Other products (not normally belonging to the industry).....	5,594,479	5,982,293	Casein—		
4. Glue and gelatin made as secondary products in other industries, value.....	5,332,618	5,538,704	Pounds.....	2,652,840	3,200,747
Glue and gelatin, all industries:			Value.....	\$425,035	\$472,568
Aggregate value (sum of 2 and 4).....	\$32,196,158	\$30,752,218	Flexible and fish—		
Glues:			Pounds.....	10,281,013	7,489,191
Animal—			Value.....	\$2,430,510	\$2,812,172
Pounds.....	106,350,612	112,303,104	Kind not specified—		
Value.....	\$15,141,433	\$15,549,399	Pounds.....	-----	2,598,928
Vegetable—			Value.....	-----	\$294,269
Pounds.....	133,152,385	97,142,115	Gelatin:		
Value.....	\$6,141,686	\$4,972,481	Edible—		
			Pounds.....	18,423,304	17,695,423
			Value.....	\$7,514,488	\$6,462,167
			Inedible—		
			Pounds.....	1,712,769	2,030,978
			Value.....	\$642,997	\$689,202

## 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 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.....	742	23,584	594	24,763	454	22,807	151	16,979	136	13,290	100.0	100.0
Prime movers, total.....	91	17,137	101	19,213	101	18,626	89	16,286	108	12,845	72.7	95.9
Steam, total.....	87	17,112	99	19,198	99	18,591	84	16,184	102	12,078	72.6	95.3
Engines.....	77	12,257	87	14,759	89	13,157	80	13,684	(1)	(1)	52.0	80.6
Turbines.....	10	4,855	12	4,439	10	5,434	4	2,500	(1)	(1)	20.6	14.7
Internal-combustion engines.....	4	25	2	15	2	35	5	102	6	167	0.1	0.6
Electric motors driven by purchased energy.....	651	6,447	493	5,550	353	4,181	62	693	28	454	27.3	4.1
Electric motors, total.....	1,649	18,965	1,457	18,627	1,277	16,050	880	11,894	243	5,010	100.0	100.0
Driven by purchased energy.....	651	6,447	493	5,550	353	4,181	62	693	28	454	34.0	5.8
Driven by energy generated in establishments reporting.....	998	12,518	964	13,077	924	11,869	818	11,201	215	4,556	66.0	94.2
Electric generators.....	42	Kilowatts 13,667 Kilowatt- hours	45	Kilowatts 12,503	38	Kilowatts 11,467	(2)	(2)	(2)	(2)		
Electric energy purchased *.....		6,357,026		(4)		(4)		(2)		(2)		

<sup>1</sup> Not called for separately on schedule.

<sup>2</sup> Not called for on schedule.

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

<sup>4</sup> 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.....	2,993	3,180	3,151	3,159	3,112	2,995	2,817	2,670	<i>2,557</i>	2,858	3,021	3,211	3,204	3,204	79.0
1925.....	3,325	3,509	3,553	3,725	3,568	3,376	3,105	2,943	<i>2,911</i>	3,043	3,172	3,403	3,599	3,599	78.1
1919.....	4,264	4,377	4,454	4,448	4,478	4,323	4,181	<i>3,812</i>	4,017	4,098	4,308	4,398	4,274	4,274	85.1
1914.....	3,129	3,396	3,414	3,438	3,581	3,342	3,158	2,788	<i>2,785</i>	2,827	3,008	2,902	2,959	2,959	78.9
1909.....	3,265	3,593	3,570	<b>3,620</b>	3,517	3,394	3,117	2,829	<i>2,810</i>	2,949	3,169	3,304	3,325	3,325	77.6
California.....	85	85	85	85	85	85	85	85	85	85	85	85	85	85	
Illinois.....	609	674	698	695	656	566	547	520	<i>499</i>	503	553	715	687	687	69.8
Massachusetts.....	729	787	739	736	736	731	715	633	<i>517</i>	741	795	803	819	819	63.1
Missouri.....	72	85	83	87	87	83	28	27	<i>27</i>	85	90	92	84	84	29.3
New York.....	393	414	399	407	406	405	392	367	365	<i>359</i>	382	404	420	420	85.5
Pennsylvania.....	480	478	489	495	491	496	459	461	474	480	484	475	475	475	92.5

# GREASE AND TALLOW, NOT INCLUDING LUBRICATING GREASES

Description of the industry.—This industry embraces establishments engaged primarily in rendering grease and soap stock, chiefly from animal fat, bones, meat scraps, etc., and in rendering tallow from fat.

Grease and tallow are also made in large quantities as by-products by establishments in other industries, principally the meat-packing industry. (See footnote 2, Table 1.)

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 <sup>1,2</sup>	Value added by manufacture <sup>3</sup>	Horsepower
1929	207	5,475	\$7,862,149	\$40,142,447	\$61,607,990	\$21,465,543	41,686
1927	247	5,052	7,402,936	38,272,446	56,279,958	18,007,512	34,069
1925	263	5,303	7,608,013	33,713,150	51,442,186	17,729,036	30,840
1923	254	5,248	7,004,170	31,274,806	48,633,681	17,358,875	25,275
1921	265	4,428	5,428,939	17,786,592	27,206,011	9,419,419	( <sup>4</sup> )
1919	482	6,047	7,954,378	47,756,341	67,265,206	19,508,865	25,544
1914	369	5,106	3,512,085	17,060,872	24,900,519	7,836,647	17,935
1909	353	4,357	2,629,239	15,543,439	23,419,395	7,875,956	14,498
1904	300	3,628	2,114,355	12,369,075	18,814,333	6,445,453	11,523
1899	287	2,040	1,066,693	8,751,797	11,953,021	3,201,224	7,691
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929	20.2	8.4	6.2	4.9	9.5	19.2	22.4
1925-1927	-6.1	-4.7	-1.4	13.5	9.4	1.0	10.5
1923-1925	3.5	1.0	7.2	7.8	5.8	2.1	22.0
1921-1923	-4.2	18.5	29.0	75.8	78.8	84.3	
1919-1921	-45.0	-33.4	-31.8	-62.8	-59.6	-51.7	
1919-1929	-38.4	-17.6	-1.2	-15.9	-8.4	10.0	63.2
1909-1919	36.5	52.0	202.5	207.2	187.2	147.7	76.2
1899-1909	23.0	113.6	146.5	77.6	95.9	146.0	88.5

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

<sup>2</sup> For 1929: Grease, \$7,928,725; tallow, \$24,689,800; other products, \$28,989,465. For 1927: Grease, \$6,892,562; tallow, \$23,202,409; other products, \$26,184,687. For 1925: Grease, \$7,506,756; tallow, \$23,147,048; other products, \$20,789,382. No corresponding data available for earlier years. Does not include values of grease and tallow made as secondary products by establishments in other industries (principally the meat-packing industry), as follows: For 1929—Grease, \$18,364,159; tallow, \$16,889,765. For 1927: Grease, \$15,810,767; tallow, \$17,019,637. For 1925—Grease, \$19,323,530; tallow, \$20,640,630. For 1923—Grease and tallow combined, \$32,473,996; 1921, \$18,635,621; 1919, \$51,804,781. No corresponding data available for earlier years.

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

<sup>4</sup> Not called for on schedule.

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 employes <sup>1</sup>	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 <sup>2,3</sup>	Value added by manufacture <sup>4</sup>
					Total	Prime movers	Motors run by purchased energy			Total	Materials and containers	Fuel and purchased energy		
United States	1929	297	959	5,475	41,686	15,281	26,405	\$2,615,255	\$7,862,149	\$40,142,447	\$38,103,480	\$2,038,967	\$61,607,900	\$21,465,543
	1927	247	1,050	5,052	34,069	14,029	20,040	2,809,968	7,402,936	38,272,446	36,178,266	2,094,180	56,279,958	18,007,512
	1919	482	1,175	6,647	25,544	18,582	6,962	2,065,084	7,954,378	47,756,341	45,545,421	2,210,920	67,265,206	19,508,865
Individual States:														
California	1929	19	45	323	2,744	225	2,519	112,744	488,311	2,728,441	2,642,701	85,740	3,905,864	1,177,423
	1927	12	24	202	1,539	130	1,409	64,151	331,606	1,971,078	1,898,702	72,376	2,726,197	765,119
	1919	19	35	163	894	260	634	47,230	202,472	1,691,850	1,542,056	149,794	2,427,162	735,312
Colorado	1929	6	14	55	721	185	536	33,474	69,828	303,843	287,516	16,327	509,205	206,362
	1927	7	9	56	535	192	343	18,784	72,062	192,624	170,928	21,696	377,300	184,766
Georgia	1929	3	5	10	85	40	45	4,715	11,344	22,971	19,220	3,751	49,127	26,156
Illinois	1929	19	113	822	6,128	4,377	1,751	361,355	1,257,549	8,824,609	8,540,435	284,174	13,044,850	4,220,250
	1927	18	280	934	5,238	3,271	1,967	732,976	1,466,980	8,931,498	8,598,235	333,263	11,916,958	2,985,460
Indiana	1929	24	18	104	1,709	601	1,108	51,226	130,811	276,533	230,072	40,461	632,954	356,421
	1927	17	15	81	1,153	560	593	45,800	99,013	300,926	274,751	26,175	509,187	268,261
	1919	44	26	149	1,387	1,135	252	37,300	160,028	275,800	223,431	52,378	674,075	398,866
Iowa	1929	25	10	122	1,136	220	916	24,426	159,817	249,740	195,102	54,647	750,143	500,394
	1927	15	5	84	554	259	295	11,480	99,791	296,600	264,219	32,381	559,742	293,142
	1919	29	7	69	287	234	33	18,609	94,069	384,774	365,217	19,557	669,239	284,465
Kansas	1929	3	17	89	847	150	697	42,362	126,575	350,575	322,692	27,883	723,719	373,144
	1927	3	12	75	544	150	394	62,195	106,801	345,148	316,030	20,118	694,949	349,801
Kentucky	1929	4	7	14	411	201	210	9,082	15,770	31,146	25,579	5,597	78,229	47,083
	1927	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )
	1919	4	7	17	98	65	33	10,064	19,070	77,880	74,353	3,533	282,061	205,075
Maryland	1929	5	14	117	280	260	20	60,064	154,506	476,986	400,809	76,177	744,000	267,620
	1927	6	16	104	406	261	62	62,525	139,575	497,706	420,289	77,437	752,454	254,748
	1919	5	8	21	164	162	2	12,008	22,381	180,079	121,279	8,800	241,024	110,945
Massachusetts	1929	17	103	624	4,009	952	3,117	208,535	828,093	3,777,297	3,529,041	247,650	5,900,500	2,123,203
	1927	18	122	669	3,602	1,037	2,565	243,790	868,911	3,735,317	3,470,277	265,040	5,704,754	2,020,437
	1919	24	122	825	2,163	1,437	726	212,702	916,524	4,835,621	4,562,612	273,009	7,323,228	2,487,607
Michigan	1929	14	46	293	2,126	370	1,756	160,572	539,518	1,041,948	840,539	195,409	2,660,714	1,624,766
	1927	11	39	249	2,056	275	1,791	90,811	470,061	821,727	621,768	199,971	1,971,506	1,149,779
	1919	14	26	144	583	137	446	50,895	244,047	900,363	819,410	80,947	1,410,631	510,269
Minnesota	1929	4	2	16	120	120	120	4,520	23,184	123,034	115,813	7,221	212,742	89,709
	1927	4	8	16	157	40	117	25,530	22,530	90,757	84,267	6,500	198,576	107,818
	1919	10	8	20	188	173	15	24,912	28,806	118,605	111,129	7,476	262,070	133,465
New Jersey	1929	16	51	256	2,116	1,030	1,085	196,109	497,230	4,848,863	4,733,904	114,959	6,284,385	1,435,522
	1927	14	42	167	1,468	645	823	156,072	290,898	4,934,021	4,852,064	81,357	4,855,345	921,824
	1919	67	43	209	1,166	1,126	30	153,110	389,074	4,415,819	4,282,778	133,041	5,401,932	986,673
New York	1929	28	183	754	4,034	1,935	2,099	476,105	1,110,174	4,880,759	4,673,231	216,528	7,234,330	2,344,571
	1927	26	166	685	4,356	2,456	1,900	461,034	1,038,846	5,217,190	4,938,320	283,870	8,000,112	2,701,922
	1919	36	163	843	2,550	2,170	336	287,375	1,001,743	5,882,254	5,594,541	287,713	7,844,280	1,902,036
Ohio	1929	32	84	558	4,863	1,324	3,479	252,040	791,255	2,665,006	2,474,747	190,259	4,666,627	2,001,621
	1927	27	76	475	3,797	1,245	2,532	239,518	698,164	2,298,586	2,110,921	178,665	3,867,803	1,569,217
	1919	54	141	711	4,424	2,698	1,726	228,451	859,525	3,793,020	3,426,317	367,203	5,638,572	1,845,552
Pennsylvania	1929	37	124	668	4,468	1,104	3,364	339,567	961,460	5,325,618	5,083,654	241,964	7,608,918	2,283,800
	1927	29	111	628	3,522	1,215	2,307	329,408	920,900	4,597,417	4,369,613	227,804	6,439,841	1,842,424
	1919	61	148	1,185	3,338	2,345	993	271,509	1,280,920	7,598,923	7,373,987	224,936	10,247,140	2,648,217
Virginia	1929	4	21	145	772	525	247	53,013	160,994	1,021,225	989,969	31,256	1,317,881	296,656
	1927	3	24	145	725	525	206	80,419	163,590	770,218	737,847	32,371	1,120,070	349,852
	1919	7	34	251	1,073	580	493	76,934	318,885	1,686,005	1,606,071	77,534	2,428,763	742,158
Wisconsin	1929	11	17	70	950	168	782	31,702	98,409	593,903	557,237	36,726	882,278	288,315
	1927	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )	( <sup>5</sup> )
	1919	13	15	51	381	320	52	25,171	64,297	436,336	416,507	10,829	710,441	274,105
Groups of States:														
Ala., 1 est.; Del., 1; D. C., 1; Tenn., 1; Conn., 2 est.; Me., 2; N. H., 3; R. I., 1; Vt., 1	1929	4	12	33	660	110	550	46,972	44,563	231,783	216,875	14,908	391,310	169,527
La., 1 est.; Mo., 2; S. Dak., 1; Tex., 1; Mont., 1 est.; Nebr., 2; Oreg., 2; Utah, 3	1929	9	52	328	2,136	800	1,336	85,421	392,018	1,068,470	1,860,322	108,148	3,216,070	1,246,066
	1929	5	10	31	404	130	274	39,295	39,432	144,073	127,007	17,066	364,542	220,460
States not shown separately	1927	37	101	455	3,907	1,364	2,543	194,815	553,328	3,271,633	3,045,477	226,160	5,426,074	2,154,441
	1919	95	392	1,899	6,892	5,711	1,181	549,724	2,345,957	15,528,397	15,023,227	505,170	21,713,028	6,184,631

<sup>1</sup> Not including proprietors and firm members, as follows: For 1929, 177; 1927, 143; 1919, 454. 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, 6,611; 1927, 6,245; 1919, 8,270.  
<sup>2</sup> For 1929, manufacturers' sales (shipments or deliveries); for earlier years, production. See GENERAL EXPLANATIONS—Value of Products.  
<sup>3</sup> See footnote 2, Table 1.  
<sup>4</sup> Value of products less cost of materials, containers for products, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.  
<sup>5</sup> 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.  
<sup>6</sup> Withheld from publication in order to avoid disclosing data for individual establishments.  
Alabama, 1 establishment; Connecticut, 3; Delaware, 1; District of Columbia, 1; Georgia, 2; Kentucky, 5; Maine, 2; Missouri, 2; Nebraska, 3; New Hampshire, 3; Rhode Island, 3; South Dakota, 1; Tennessee, 1; Utah, 2; Vermont, 1; Wisconsin, 3.  
Alabama, 1 establishment; Colorado, 3; Connecticut, 4; Delaware, 3; District of Columbia, 1; Florida, 1; Georgia, 2; Illinois, 4; Kansas, 4; Louisiana, 1; Maine, 4; Missouri, 7; Nebraska, 3; New Hampshire, 2; North Dakota, 1; Oklahoma, 1; Oregon, 1; Rhode Island, 4; South Dakota, 1; Tennessee, 2; Texas, 3; Utah, 1; Vermont, 1; Washington, 2.

GREASE AND TALLOW

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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 HORSE-POWER CAPACITY	
	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	Number	Capacity	1928	1919
Prime movers and electric motors driven by purchased energy, aggregate.....	1,877	Horse-power 41,086	1,350	Horse-power 34,069	1,115	Horse-power 30,840	831	Horse-power 25,544	500	Horse-power 17,935	100.0	100.0
Prime movers, total.....	216	15,281	206	14,029	251	14,457	423	18,582	372	15,790	36.7	72.7
Steam, total.....	206	15,115	191	13,901	235	14,317	385	18,243	349	15,598	36.3	71.4
Engines.....	194	13,967	181	12,838	222	13,299	362	16,806	(1)	(1)	33.5	65.8
Turbines.....	12	1,148	10	1,063	13	1,018	23	1,437	(1)	(1)	2.8	5.6
Internal-combustion engines.....	9	136	14	112	16	140	38	339	23	192	0.3	1.8
Water wheels and water turbines.....	1	30	1	16							0.1	
Electric motors driven by purchased energy.....	1,661	26,405	1,144	20,040	864	16,383	408	6,962	128	2,145	63.3	27.3
Electric motors, total.....	2,348	36,704	1,702	28,064	1,383	23,903	747	12,768	307	5,770	100.0	100.0
Driven by purchased energy.....	1,661	26,405	1,144	20,040	864	16,383	408	6,962	128	2,145	71.9	54.6
Driven by energy generated in establishments reporting.....	687	10,299	558	8,624	519	7,520	339	5,796	179	3,625	28.1	45.4
Electric generators.....	35	Kilo-watts 4,528 Kilowatt-hours	34	Kilo-watts 4,745	47	Kilo-watts 4,326	(?)	(?)	(?)	(?)		
Electric energy purchased <sup>1</sup> .....		15,710,662		(?)		(?)		(?)		(?)		

<sup>1</sup> Not called for separately on schedule.

<sup>2</sup> Not called for on schedule.

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

<sup>4</sup> 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 is of maximum
		January	February	March	April	May	June	July	August	September	October	November	December	
United States:														
1929.....	5,475	5,417	5,392	5,420	5,453	<b>5,383</b>	5,419	5,592	5,628	5,597	5,525	5,461	5,411	95.6
1925.....	5,303	5,389	5,230	5,253	5,265	<b>5,184</b>	5,298	5,385	5,384	5,432	5,267	5,271	5,277	95.4
1919.....	6,647	6,815	6,724	6,667	6,613	<b>6,490</b>	6,527	6,622	6,653	6,753	6,596	6,546	6,558	94.7
1914.....	5,106	5,050	4,973	5,056	5,113	5,151	5,271	5,176	5,191	5,301	5,066	<b>4,955</b>	4,969	93.5
1909.....	4,357	4,208	4,073	4,107	4,156	4,274	4,370	4,414	4,521	4,535	4,375	4,510	4,555	89.0
California.....	323	319	313	316	<i>311</i>	313	319	330	326	329	330	334	341	91.2
Colorado.....	55	57	56	54	57	56	52	51	58	55	52	54	53	87.9
Georgia.....	10	10	10	9	10	10	9	10	11	10	10	11	9	81.8
Illinois.....	822	800	809	814	834	804	819	856	861	843	831	811	778	90.4
Indiana.....	104	103	103	103	100	100	102	106	106	107	106	106	107	93.5
Iowa.....	122	<i>115</i>	116	123	129	123	127	124	124	119	122	121	120	89.1
Kansas.....	86	83	87	86	78	81	87	86	88	84	91	84	91	85.7
Kentucky.....	14	16	14	15	16	13	12	14	14	14	13	13	13	75.0
Maryland.....	117	120	121	120	117	116	116	117	116	<i>115</i>	117	117	116	95.0
Massachusetts.....	624	635	633	630	645	639	621	630	628	624	610	598	597	92.4
Michigan.....	293	293	295	<b>285</b>	290	296	297	303	310	305	307	301	295	91.9
Minnesota.....	16	16	16	16	16	16	16	16	16	16	16	16	16	
New Jersey.....	256	252	252	<b>249</b>	253	257	254	262	264	266	258	255	254	93.6
New York.....	754	708	713	710	702	713	710	814	821	807	791	790	770	85.5
Ohio.....	558	543	544	549	552	556	562	560	565	595	571	556	547	91.3
Pennsylvania.....	683	657	<b>655</b>	669	672	666	671	682	671	662	666	656	664	95.1
Virginia.....	145	178	150	155	163	114	131	113	148	144	151	147	138	63.5
Wisconsin.....	70	73	68	74	73	74	75	72	68	65	63	72	73	84.0



## INK, PRINTING

Description of the industry.—This industry embraces establishments engaged primarily in the production of printing inks of various colors, gold and bronze inks, and lithographing inks.

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 <sup>1</sup>	Value added by manufacture <sup>2</sup>	Horsepower
1929.....	147	2,448	\$3,957,185	\$19,204,715	\$42,749,992	\$23,545,277	20,300
1927.....	123	2,288	3,605,199	16,054,110	37,734,493	21,080,383	18,901
1925.....	109	2,150	3,246,071	16,232,786	34,755,329	18,500,543	17,041
1923.....	99	1,875	2,858,742	14,779,289	29,412,122	14,632,833	14,703
1921.....	97	1,878	2,470,037	10,644,453	20,869,477	10,225,024	( <sup>3</sup> )
1919.....	90	1,888	2,574,920	14,681,115	28,244,470	11,583,355	10,229
1914.....	70	1,891	1,063,959	6,805,874	13,830,312	7,024,438	7,648
1909.....	71	1,121	772,528	4,174,917	8,865,504	4,690,587	5,630
1904.....	60	711	474,987	2,612,558	5,774,254	3,161,696	2,808
1899.....	60	503	298,161	1,535,916	3,079,948	1,544,032	1,615
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929.....	19.5	7.0	8.0	19.6	13.3	8.6	7.4
1925-1927.....	12.8	6.4	9.5	-1.2	8.6	17.2	10.9
1923-1925.....	( <sup>4</sup> )	8.9	17.0	10.0	18.2	26.4	15.9
1921-1923.....	( <sup>4</sup> )	17.8	15.7	38.8	40.9	43.1	-----
1919-1921.....	( <sup>4</sup> )	-15.7	-4.1	-27.4	-20.5	-11.7	-----
1919-1929.....	( <sup>4</sup> )	23.1	53.7	31.0	62.9	103.3	98.5
1909-1919.....	( <sup>4</sup> )	77.3	233.3	251.2	196.0	146.9	81.7
1899-1909.....	( <sup>4</sup> )	122.9	159.1	171.8	187.8	203.8	245.6

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

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

<sup>3</sup> Includes values of commodities other than printing ink made as secondary products by establishments in this industry, as follows: 1929, \$2,051,601; 1927, \$3,116,595. No corresponding figures available for earlier years. Does not include the following values of printing ink made as a secondary product by establishments classified in other industries: 1929, \$952,095; 1927, \$855,060. No corresponding figures available for earlier years.

<sup>4</sup> Not called for on schedule.

<sup>5</sup> Per cent not computed where base is less than 100.

# INK, PRINTING

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**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 <sup>1</sup>	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 <sup>2</sup>	Value added by manufacture <sup>3</sup>
					Total	Prime movers	Motors run by purchased energy			Total	Materials and containers	Fuel and purchased energy		
United States.....	1929	147	1,113	2,448	20,300	4,520	15,780	\$4,311,804	\$3,957,185	\$10,204,715	\$18,543,595	\$661,120	\$42,749,992	\$23,545,277
	1927	123	958	2,288	18,901	4,958	13,943	3,313,582	3,665,199	16,054,110	15,426,441	627,069	37,734,493	21,680,383
	1919	90	1,023	1,988	10,229	6,045	4,184	2,817,162	2,574,920	14,661,115	14,327,796	333,319	26,244,470	11,583,355
Individual States:														
California.....	1929	6	42	129	1,551		1,551	101,212	184,784	1,070,669	1,040,955	29,714	1,496,997	426,328
Illinois.....	1929	30	134	328	3,012	33	2,979	582,340	437,759	3,033,330	2,941,562	91,768	6,305,207	3,271,877
	1927	22	93	246	2,117		2,117	329,819	356,098	1,849,400	1,781,965	67,435	4,745,532	2,896,132
	1919	11	58	79	980		980	198,534	103,142	757,951	743,094	14,857	1,391,492	633,541
Michigan.....	1929	5	40	57	579		579	165,099	82,878	550,041	527,629	22,412	1,372,199	822,158
	1927	5	35	51	695		695	139,836	94,904	409,932	454,693	15,239	1,184,582	714,650
Missouri.....	1929	8	34	63	404	15	389	115,155	75,400	438,128	423,257	14,871	962,257	524,129
	1927	7	28	48	281	18	263	86,318	55,604	404,986	399,350	15,636	833,877	428,891
New Jersey.....	1929	11	63	215	2,347	578	1,769	231,553	347,654	2,015,340	1,959,850	55,490	4,590,787	2,575,397
	1927	11	72	280	3,310	1,085	2,225	222,917	474,701	2,010,866	1,921,691	89,175	4,911,174	2,900,308
	1919	9	169	337	1,171	855	316	354,988	450,136	1,327,523	1,295,672	31,851	2,499,462	1,171,939
New York.....	1929	39	349	855	6,182	2,314	3,868	1,660,234	1,527,957	6,215,398	6,011,850	203,548	14,582,188	8,369,790
	1927	29	332	747	5,505	1,945	3,560	1,278,866	1,354,371	5,107,205	4,884,811	222,394	12,707,517	7,600,312
	1919	38	423	687	4,033	2,342	1,691	1,497,876	994,890	5,731,396	5,620,173	111,223	11,075,790	5,344,394
Ohio.....	1929	14	234	411	2,914	1,480	1,434	715,576	673,165	3,330,236	3,201,237	128,999	7,274,708	3,944,472
	1927	14	134	435	2,618	1,445	1,173	461,626	675,044	2,580,640	2,509,504	71,136	5,652,000	3,071,360
	1919	8	135	307	2,184	1,830	364	299,516	615,197	3,574,328	3,511,412	62,916	5,614,817	1,940,489
Pennsylvania.....	1929	13	113	236	1,643	25	1,618	407,943	410,667	1,166,768	1,110,653	56,115	3,443,104	2,276,336
	1927	14	117	238	1,407	75	1,332	390,455	288,605	1,416,838	1,344,092	72,746	2,662,539	1,245,701
	1919	10	66	230	856	551	305	116,282	288,937	1,390,449	1,335,829	54,620	2,290,279	899,830
Texas.....	1929	3	14	10	153		153	22,392	10,674	62,213	58,858	3,355	180,245	68,032
Wisconsin.....	1929	4	12	12	75		75	53,017	13,142	59,715	58,017	1,698	161,745	102,030
Other States.....	<sup>4</sup> 1929	14	78	132	1,440	75	1,365	257,283	193,105	1,262,877	1,209,727	53,150	2,430,605	1,167,728
	<sup>6</sup> 1927	21	147	237	2,668	390	2,278	409,695	365,872	2,214,243	2,140,335	78,908	4,977,272	2,763,029
	<sup>7</sup> 1919	14	172	288	1,129	467	662	349,916	312,618	1,879,408	1,821,616	57,852	3,472,630	1,593,162

<sup>1</sup> Not including proprietors and firm members, as follows: For 1929, 36; 1927, 36; 1919, 50. 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, 3,597; 1927, 3,282; 1919, 3,061.  
<sup>2</sup> For 1929, manufacturers' sales (shipments or deliveries); for earlier years, production. See GENERAL EXPLANATIONS—Value of Products. See also footnote 3, Table 1.  
<sup>3</sup> Value of products less cost of materials, containers for products, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.  
<sup>4</sup> 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.

<sup>5</sup> Colorado, 1 establishment; Indiana, 2; Iowa, 1; Massachusetts, 5; Minnesota, 1; New Hampshire, 1; Oregon, 1; Tennessee, 1; Virginia, 1.  
<sup>6</sup> California, 4 establishments; Indiana, 2; Iowa, 1; Maryland, 1; Massachusetts, 6; Minnesota, 1; New Hampshire, 1; Texas, 2; Virginia, 2; Wisconsin, 1.  
<sup>7</sup> California, 3 establishments; Kentucky, 1; Maryland, 1; Massachusetts, 3; Michigan, 2; Minnesota, 1; Missouri, 2; Wisconsin, 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 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	1,483	Horse-power 20,300	1,214	Horse-power 18,901	967	Horse-power 17,041	331	Horse-power 10,229	159	Horse-power 7,648	100.0	100.0
Prime movers, total	25	4,520	31	4,958	40	5,090	47	6,045	56	6,589	22.3	59.1
Steam, total	17	3,694	23	4,525	30	5,483	28	5,335	38	5,805	18.2	52.2
Engines	17	3,694	23	4,525	29	5,473	28	5,335	(1)	(1)	18.2	52.2
Turbines					1	10			(1)	(1)		
Internal-combustion engines	8	826	8	433	10	507	16	681	18	784	4.1	6.7
Water wheels and water turbines							3	29				0.3
Electric motors driven by purchased energy	1,458	15,780	1,183	13,943	927	11,051	284	4,184	103	1,059	77.7	40.9
Electric motors, total	1,680	18,507	1,433	16,655	1,162	13,672	483	6,909	308	3,933	100.0	100.0
Driven by purchased energy	1,458	15,780	1,183	13,943	927	11,051	284	4,184	103	1,059	85.3	60.6
Driven by energy generated in establishments reporting	222	2,727	250	2,742	235	2,621	199	2,725	205	2,874	14.7	39.4
Electric generators	13	Kilowatts 2,562 Kilowatt-hours	12	Kilowatts 2,040	12	Kilowatts 1,931	(?)	(?)	(?)	(?)		
Electric energy purchased <sup>1</sup>		14,569,235		(?)		(?)		(?)		(?)		

<sup>1</sup> Not called for separately on schedule.

<sup>2</sup> Not called for on schedule.

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

<sup>4</sup> 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 is of maximum	
		January	February	March	April	May	June	July	August	September	October	November	December		
United States:															
1929	2,448	<i>2,423</i>	2,435	2,437	2,431	2,440	2,437	2,461	2,488	2,453	2,462	2,479	2,431	97.4	
1925	2,150	<i>2,116</i>	2,126	2,139	2,166	2,160	2,146	2,149	2,140	<i>2,116</i>	2,147	2,175	2,214	95.6	
1919	1,988	1,923	1,910	1,889	1,917	1,929	1,951	1,938	1,954	2,005	2,103	2,122	2,188	86.2	
1914	1,391	1,391	1,353	<i>1,374</i>	1,374	1,377	1,385	1,402	1,402	1,409	1,414	1,399	1,382	97.2	
1909	1,121	<i>1,099</i>	1,100	1,110	1,133	1,103	1,115	1,115	1,145	1,137	1,125	1,131	1,141	96.0	
California	129	<i>180</i>	123	124	129	140	127	133	131	125	132	132	130	85.7	
Illinois	328	321	321	314	310	311	325	342	348	334	329	342	340	89.1	
Michigan	57	<i>58</i>	55	56	56	57	56	57	61	59	60	58	56	86.9	
Missouri	63	<i>61</i>	62	64	64	62	61	63	64	64	63	69	64	88.4	
New Jersey	215	<i>222</i>	220	220	216	215	212	216	211	210	213	214	<i>209</i>	94.1	
New York	855	850	852	859	853	847	859	852	864	857	862	858	<i>848</i>	97.5	
Ohio	411	408	414	410	414	428	415	414	417	408	406	410	<i>398</i>	92.0	
Pennsylvania	236	235	237	239	239	234	233	235	236	236	235	234	234	97.5	
Texas	10	11	11	11	9	9	9	8	8	11	10	11	11	72.7	
Wisconsin	12	9	9	9	10	8	10	11	14	14	16	17	19	42.1	

# INK, WRITING

Description of the industry.—This industry is made also to a considerable extent as a secondary product by establishments engaged principally in the manufacture of other commodities. (See footnote 3, Table 1.)

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 <sup>1</sup>	Value added by manufacture <sup>2</sup>	Horsepower
1929	29	416	\$479,095	\$1,992,573	\$4,594,974	\$2,602,401	847
1927	24	491	576,091	2,208,835	5,342,027	3,133,192	743
1925	28	524	590,200	2,424,311	6,084,316	3,060,004	700
1923	31	578	634,874	2,653,456	6,107,379	3,453,893	695
1921	33	504	546,058	2,062,791	4,980,145	2,917,857	(*)
1919	61	702	596,168	3,320,346	6,433,941	3,113,595	610
1914	54	512	292,786	1,236,227	2,783,642	1,547,415	561
1909	47	505	203,165	1,078,008	2,505,414	1,427,490	104
1904	42	430	169,726	858,304	1,881,038	1,028,794	214
1899	44	285	113,979	573,226	1,292,759	719,533	359
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929	(*)	-15.3	-16.7	-9.8	-14.0	-10.9	14.0
1925-1927	(*)	-9.3	-3.4	-8.9	-12.2	-14.4	6.1
1923-1925	(*)	-0.3	-6.1	-8.6	-0.4	6.0	0.7
1921-1923	(*)	14.7	16.3	28.7	22.6	18.4	-----
1919-1921	(*)	-28.2	-8.4	-37.9	-22.6	-6.3	-----
1919-1929	(*)	-40.7	-19.5	-40.0	-28.6	-16.4	38.9
1909-1919	(*)	39.0	193.5	208.0	156.8	118.1	272.0
1899-1909	(*)	77.2	78.2	88.1	93.8	98.4	-51.6

<sup>1</sup> For 1929, manufacturers' sales (shipments or deliveries); for earlier years, production. See GENERAL EXPLANATIONS—Value of Products.  
<sup>2</sup> Value of products less cost of materials, containers for products, fuel, and purchased electric energy. See GENERAL EXPLANATION—Value Added by Manufacture.  
<sup>3</sup> Includes values of commodities other than writing ink made as secondary products by establishments in this industry as follows: 1929, \$1,673,588; 1927, \$2,040,016. No corresponding figures available for earlier years. Does not include the following values of writing ink made as a secondary product by establishments classified in other industries: 1929, \$1,748,602; 1927, \$1,431,351. No corresponding figures available for earlier years.  
<sup>4</sup> Not called for on schedule.  
<sup>5</sup> Per cent not computed where base is less than 100.

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

[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 <sup>1</sup>	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 <sup>2</sup>	Value added by manufacture <sup>3</sup>
					Total	Prime movers	Motors run by purchased energy			Total	Materials and containers	Fuel and purchased energy		
United States	1929	29	326	416	847	550	297	\$635,736	\$479,095	\$1,992,573	\$1,958,837	\$33,736	\$4,594,974	\$2,602,401
	<sup>4</sup> 1927	24	276	491	743	500	243	629,090	576,091	2,208,835	2,176,330	29,505	5,342,027	3,133,192
	<sup>5</sup> 1919	61	459	702	610	419	191	957,046	596,168	3,320,346	3,297,934	22,412	6,433,941	3,113,595
Missouri <sup>6</sup>	1929	3	11	13	2	-----	2	39,469	18,615	82,697	82,254	443	190,826	108,129
Groups of States:														
Calif., 2 est.; Wash., 1	1929	3	3	6	3	-----	3	7,350	8,359	31,656	31,395	261	58,189	26,633
Ind., 1 est.; Md., 1;														
Ohio, 1; Pa., 1; Va., 1	1929	5	13	33	36	10	26	24,776	21,616	159,002	157,357	1,646	287,421	128,419
Mich., 2 est.; Minn., 2;														
Wis., 1	1929	5	16	21	127	100	27	23,905	22,286	84,084	82,325	1,750	185,919	101,835
Other States (Ill., 6 est.;														
Mass., 2; N. Y., 5)	1929	13	283	343	679	440	229	540,236	409,119	1,635,134	1,605,500	29,628	3,872,619	2,237,485

<sup>1</sup> Not including proprietors and firm members, as follows: For 1929, 14; 1927, 20; 1919, 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, 756; 1927, 737; 1919, 1,216.  
<sup>2</sup> For 1929, manufacturers' sales (shipments or deliveries); for earlier years, production. See GENERAL EXPLANATIONS—Value of Products.  
<sup>3</sup> Value of products less cost of materials, containers for products, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.  
<sup>4</sup> California, 2 establishments; Illinois, 4; Kentucky, 1; Massachusetts, 2; Missouri, 3; New York, 5; Ohio, 2; Pennsylvania, 2; Virginia, 1; Washington, 1; Wisconsin, 1.  
<sup>5</sup> California, 1 establishment; Colorado, 2; Connecticut, 1; Indiana, 3; Illinois, 5; Kentucky, 1; Massachusetts, 6; Michigan, 3; Minnesota, 3; Missouri, 3; New Jersey, 3; New York, 15; Ohio, 8; Pennsylvania, 4; Tennessee, 1; Virginia, 1; Wisconsin, 1.  
<sup>6</sup> Missouri is the only State for which it is possible to give separate figures without disclosing, exactly or approximately, data for individual establishments. Illinois, Massachusetts, and New York reported larger values of products than Missouri.

## 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 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.....	176	Horse-power 847	130	Horse-power 743	106	Horse-power 700	117	Horse-power 610	52	Horse-power 561	100.0	100.0
Prime movers, total.....	8	550	6	500	6	520	8	419	8	433	64.9	68.7
Steam, total.....	7	535	5	485	5	505	4	381	5	396	63.2	62.5
Engines.....	7	535	5	485	3	405	4	351	(1)	(1)	63.2	62.5
Turbines.....					2	100			(1)	(1)		
Internal-combustion engines.....	1	15	1	15	1	15	4	38	3	37	1.8	6.2
Electric motors driven by purchased energy.....	168	297	124	243	100	180	109	191	44	128	35.1	31.3
Electric motors, total.....	309	524	290	615	215	526	169	450	87	383	100.0	100.0
Driven by purchased energy.....	168	297	124	243	100	180	109	191	44	128	56.7	41.9
Driven by energy generated in establishments reporting.....	141	227	136	372	115	346	60	265	43	255	43.3	58.1
Electric generators.....	4	Kilo-watts 230 Kilo-watt-hours 204, 811	3	Kilo-watts 239	3	Kilo-watts 246	(?)	(?)	(?)	(?)		
Electric energy purchased <sup>1</sup> .....				(?)		(?)		(?)		(?)		

<sup>1</sup> Not called for separately on schedule.

<sup>2</sup> Not called for on schedule.

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

<sup>4</sup> Data incomplete.

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

[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.....	416	380	394	394	425	430	433	442	435	445	436	405	378	84.9	
1925.....	524	482	453	461	513	525	535	549	547	579	581	679	533	74.4	
1919.....	702	660	638	695	668	684	670	720	768	728	763	745	710	84.7	
1914.....	512	462	494	502	522	552	519	498	544	570	521	493	457	80.2	
1909.....	505	382	426	499	542	530	472	507	556	579	578	538	458	66.0	
Missouri <sup>1</sup> .....	13	<i>12</i>	<i>12</i>	<i>12</i>	<i>12</i>	<i>12</i>	13	13	13	13	13	13	13	92.3	

<sup>1</sup> Missouri is the only State for which it is possible to give separate figures without disclosing, exactly or approximately, data for individual establishments. Illinois, Massachusetts, New York, and Virginia reported larger numbers of wage earners than Missouri.

# LIQUORS, VINOUS

Description of the industry.—This industry embraces establishments engaged primarily in the production of fermented wines for sacramental and medicinal purposes.

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 <sup>1</sup>	Value added by manufacture <sup>2</sup>	Horsepower
1929.....	24	186	\$277,063	\$608,857	\$2,447,912	\$1,839,055	1,188
1927.....	13	150	177,073	1,206,217	2,692,856	1,486,639	999
1925.....	27	265	262,343	1,764,023	3,485,657	1,671,034	1,499
1923.....	38	515	524,029	2,958,555	5,530,883	2,872,328	2,935
1921.....	72	415	417,005	1,692,750	4,757,334	3,054,534	( <sup>3</sup> )
1919.....	342	1,011	1,013,898	8,115,841	17,454,194	9,338,353	5,189
1914.....	318	2,292	1,194,433	8,489,428	16,618,378	7,128,960	9,359
1909.....	290	1,911	971,502	6,625,533	13,129,846	6,495,313	9,754
1904.....	435	1,913	1,001,594	5,093,394	11,097,353	5,404,459	6,691
1899.....	369	1,163	446,055	3,638,330	6,547,310	2,857,980	3,416
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929.....	( <sup>4</sup> )	24.0	57.0	-49.5	-9.1	23.7	18.9
1925-1927.....	( <sup>5</sup> )	-43.4	-32.5	-31.6	-21.6	-11.0	-33.4
1923-1925.....	( <sup>5</sup> )	-48.5	-49.9	-40.4	-41.1	-41.5	-48.9
1921-1923.....	( <sup>5</sup> )	24.1	25.7	74.8	22.6	-6.3	-----
1919-1921.....	-78.9	-59.0	-59.9	-79.1	-72.7	-67.2	-----
1919-1929.....	-93.0	-81.0	-72.0	-92.5	-86.0	-80.3	-77.1
1909-1919.....	17.9	-47.1	4.4	22.5	33.0	43.8	-28.2
1899-1909.....	-19.2	64.3	117.8	79.6	100.4	127.3	97.7

<sup>1</sup> For 1929, manufacturers' sales (shipments or deliveries); for earlier years, production. See GENERAL EXPLANATIONS—Value of Products.  
<sup>2</sup> Value of products less cost of materials, containers for products, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.  
<sup>3</sup> Includes \$908,074, value of commodities other than vinous liquors, made as secondary products by establishments in this industry; does not include \$261,044, value of vinous liquors made as secondary products by establishments in other industries. No corresponding figures for earlier years are available.  
<sup>4</sup> Not called for on schedule.  
<sup>5</sup> 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 the only two States 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 <sup>1</sup>	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 <sup>2</sup>	Value added by manufacture <sup>3</sup>
					Total	Prime movers	Motors run by purchased energy			Total	Materials and containers	Fuel and purchased energy		
United States.....	1929	24	55	186	1,188	267	921	\$282,393	\$277,963	\$608,857	\$578,827	\$30,030	\$2,447,912	\$1,839,055
	1927	13	87	150	999	101	898	294,211	177,073	1,206,217	1,186,649	19,568	2,692,856	1,486,639
	1919	342	280	1,011	5,189	1,487	3,702	1,370,088	1,013,898	8,115,841	8,021,765	94,076	17,454,194	9,338,353
California.....	1929	15	34	145	1,033	182	851	209,883	218,451	404,524	380,541	23,983	1,735,698	1,231,074
	1927	9	62	76	777	40	737	185,194	99,255	743,836	729,175	14,661	1,506,337	762,501
	1919	287	110	600	4,310	1,011	3,299	243,769	675,763	3,914,502	3,850,033	63,819	9,141,529	5,227,027
New York.....	1929	6	12	24	61	25	36	49,410	32,318	113,408	109,444	3,964	801,790	188,382
	1927	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )	( <sup>4</sup> )
	1919	29	152	370	753	385	368	1,034,185	339,688	3,945,107	3,917,299	27,808	7,079,398	3,784,291
Other States.....	<sup>5</sup> 1929	3	9	17	94	60	34	23,100	27,194	90,925	88,842	2,083	410,524	319,599
	<sup>6</sup> 1927	4	25	74	222	61	161	109,017	77,818	462,381	457,474	4,907	1,186,519	724,138
	<sup>7</sup> 1919	26	18	41	126	91	35	42,144	48,457	256,232	253,783	2,449	633,267	377,035

<sup>1</sup> Not including proprietors and firm members, as follows: For 1929, 13; 1927, 5; 1919, 364. 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, 254; 1927, 242; 1919, 1,661.  
<sup>2</sup> For 1929, manufacturers' sales (shipments or deliveries); for earlier years, production. See GENERAL EXPLANATIONS—Value of Products.  
<sup>3</sup> Value of products less cost of materials, containers for products, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.  
<sup>4</sup> Withheld from publication in order to avoid disclosing data for individual establishments.  
<sup>5</sup> New Jersey, 1 establishment; Ohio, 2.  
<sup>6</sup> New Jersey, 2 establishments; New York, 1; Ohio, 1.  
<sup>7</sup> Connecticut, 3 establishments; Illinois, 4; Minnesota, 1; Missouri, 1; New Jersey, 9; Ohio, 5; Pennsylvania, 2; Washington, 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 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.....	165	Horse-power 1,188	129	Horse-power 999	150	Horse-power 1,490	668	Horse-power 5,189	796	Horse-power 9,330	100.0	100.0
Prime movers, total.....	11	267	7	101	19	669	170	1,487	304	6,084	22.5	28.7
Steam engines.....	11	267	5	92	15	653	45	879	173	5,132	22.5	18.9
Internal-combustion engines.....			2	9	4	16	124	506	125	934		11.5
Water wheels and water turbines.....							1	12	6	18		0.2
Electric motors driven by purchased energy.....	154	921	122	898	131	830	498	3,702	492	3,255	77.5	71.3
Electric motors, total.....	160	929	122	898	131	830	516	3,722	503	3,507	100.0	100.0
Driven by purchased energy.....	154	921	122	898	131	830	498	3,702	492	3,255	99.1	99.5
Driven by energy generated in establishments reporting.....	6	8					18	20	11	252	0.9	0.5
Electric generators.....	1	Kilo-watts 110 Kilowatt-hours 408,285		Kilo-watts	2	Kilo-watts 7	(1)	(1)	(1)	(1)		
Electric energy purchased <sup>1</sup> .....				(1)		(2)		(1)		(1)		

<sup>1</sup> Not called for on schedule.

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

<sup>3</sup> 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 is of maximum	
		January	February	March	April	May	June	July	August	September	October	November	December		
United States:															
1929.....	186	178	186	189	174	161	<b>163</b>	178	172	199	208	218	201	75.0	
1925.....	265	236	263	254	237	219	<b>190</b>	200	291	298	334	340	316	55.9	
1919.....	1,011	824	840	924	831	820	<b>753</b>	671	875	1,385	1,951	1,380	872	34.4	
1914.....	2,292	2,056	1,901	2,608	2,037	1,976	<b>1,843</b>	1,769	1,640	3,309	3,627	2,666	2,299	48.8	
1909.....	1,911	1,498	1,474	1,503	1,477	1,419	<b>1,353</b>	1,382	1,538	3,134	3,726	2,535	1,878	36.6	
California.....	145	138	146	148	133	124	<b>122</b>	138	132	158	166	174	159	70.1	
New York.....	24	24	24	24	24	24	<b>24</b>	24	24	24	24	24	24		

# MUCILAGE, PASTE, AND OTHER ADHESIVES, EXCEPT GLUE AND RUBBER CEMENT

Description of the industry.—The principal products of establishments in this industry are mucilage, paste, mending cement, sealing wax, and other adhesives, except glue and rubber cement.

Because of the transfer of manufacturers of rubber

cement from this industry to the "Rubber goods other than tires, inner tubes, and boots and shoes" industry, no comparable statistics can be given for 1923 or earlier years.

TABLE 1.—SUMMARY FOR THE UNITED STATES: 1929, 1927, AND 1925<sup>1</sup>

[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 <sup>1</sup>	Value added by manufacture <sup>2</sup>	Horsepower
1929.....	84	414	\$546,926	\$3,668,707	\$9,638,387	\$2,969,680	2,564
1927.....	80	502	679,468	4,270,361	7,945,403	3,075,042	2,219
1925.....	84	561	766,251	6,562,740	9,853,302	4,230,562	2,674
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929.....	( <sup>3</sup> )	-17.5	-19.5	-14.1	-16.4	-10.2	15.5
1925-1927.....	( <sup>3</sup> )	-10.5	-11.3	-23.2	-19.4	-14.3	-13.8

<sup>1</sup> No comparable statistics are available for earlier years. See "Description of the industry," above.

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

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

<sup>4</sup> Includes \$470,397, value of commodities other than mucilage, paste, and other adhesives, made as secondary products by establishments in this industry; does not include \$2,560,597, value of mucilage, paste, and other adhesives made as secondary products by establishments in other industries. No corresponding figures for earlier years are available.

<sup>5</sup> Per cent not computed where base is less than 100.

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]

STATE	Census year	Number of establishments	Salaried officers and employees <sup>1</sup>	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 <sup>1</sup>	Value added by manufacture <sup>2</sup>
					Total	Prime movers	Motors run by purchased energy			Total	Materials and containers	Fuel and purchased energy		
United States.....	1929	84	237	414	2,564	420	2,144	\$712,860	\$546,926	\$3,668,707	\$3,581,035	\$87,672	\$9,638,387	\$2,969,680
	1927	80	341	502	2,219	481	1,738	817,712	679,468	4,270,361	4,179,357	91,004	7,945,403	3,075,042
Individual States:														
California.....	1929	9	8	20	23	8	15	23,749	25,182	241,487	239,903	1,584	441,841	200,354
Illinois.....	1929	10	51	83	293	-----	263	159,152	102,957	804,284	785,281	19,003	1,337,515	533,231
	1927	9	40	60	256	-----	256	93,770	102,963	571,034	556,742	15,292	991,341	420,307
Indiana.....	1929	4	6	7	880	-----	880	1,970	7,040	49,814	45,628	4,186	71,968	22,154
Massachusetts....	1929	7	18	27	146	-----	146	45,944	34,389	246,034	239,953	6,081	501,373	254,739
	1927	9	63	105	279	-----	279	128,515	122,603	674,290	662,494	11,796	1,238,987	564,697
Missouri.....	1929	4	5	10	29	9	20	16,066	12,023	40,030	39,322	708	95,254	55,224
New York.....	1929	18	75	101	704	261	443	255,111	133,811	830,240	805,923	24,323	1,518,392	688,146
	1927	21	80	143	843	250	593	265,109	211,027	1,227,445	1,192,035	35,410	2,394,526	1,167,081
Ohio.....	1929	8	17	50	67	10	57	69,242	70,161	470,933	462,141	8,792	559,581	388,648
	1927	8	28	49	238	10	248	90,885	62,767	547,885	537,180	10,705	1,003,788	455,903
Pennsylvania....	1929	7	19	25	73	23	45	46,399	29,571	181,763	178,372	3,391	346,277	164,514
	1927	7	20	22	91	43	48	40,559	26,752	180,338	178,143	2,195	332,454	152,116
Group of States:														
Conn., 1 est.;														
Mid., 1; N. J., 4;	1929	6	14	57	190	-----	190	46,442	87,943	439,490	433,742	5,748	912,409	473,009
Iowa, 1 est.;														
Kans., 1; S.														
Dak., 1; Tex., 1.	1929	4	4	6	18	6	12	3,882	6,100	28,588	23,535	5,053	49,774	21,186
Mich., 3 est.;														
Minn., 3; Wis., 1.	1929	7	20	28	171	98	73	44,903	37,683	335,438	327,235	8,203	503,913	163,475
States not shown separately.....	1927	26	101	123	492	178	314	193,814	153,356	1,069,369	1,053,763	15,606	1,934,307	914,938

<sup>1</sup> Not including proprietors and firm members, as follows: For 1929, 47; 1927, 42. 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, 693; 1927, 835.

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

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

<sup>4</sup> California, 5 establishments; Connecticut, 1; Indiana, 3; Iowa, 1; Maryland, 1; Michigan, 4; Minnesota, 2; Missouri, 2; New Jersey, 3; South Dakota, 2; Texas, 1; Wisconsin, 1.



## CENSUS OF MANUFACTURES: 1929

TABLE 3.—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 horsepower capacity, 1929	TYPE	1929		1927		1925		Per cent distribution of rated horsepower capacity, 1929
	Number	Capacity	Number	Capacity	Number	Capacity			Number	Capacity	Number	Capacity	Number	Capacity	
Prime movers and electric motors driven by purchased energy, aggregate	249	Horse-power 2,564	268	Horse-power 2,219	127	Horse-power 2,574	100.0	Electric motors, total	255	Horse-power 2,441	267	Horse-power 1,995	133	Horse-power 2,330	100.0
Prime movers, total	14	420	15	481	18	714	16.4	Driven by purchased energy	235	2,144	253	1,738	109	1,860	87.8
Steam, total	13	413	15	481	17	710	16.1	Driven by energy generated in establishments reporting	20	297	14	257	24	470	12.2
Engines	12	407	14	471	17	710	15.9	Electric generators	1	Kilowatts 150	1	Kilowatts 85	3	Kilowatts 305	
Turbines	1	6	1	10			0.2	Electric energy purchased <sup>1</sup>		Kilowatt-hours 1,140,028		(?)		(?)	
Internal-combustion engines	1	7			1	4	0.3								
Electric motors driven by purchased energy	235	2,144	253	1,738	109	1,860	83.6								

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

<sup>2</sup> Data incomplete.

TABLE 4.—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 of maximum
		January	February	March	April	May	June	July	August	September	October	November	December	
United States: 1929 <sup>1</sup>	414	<b>401</b>	413	418	406	408	417	420	424	422	430	408	403	93.3
California	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Illinois	83	77	82	86	84	83	82	85	85	84	83	84	83	89.5
Indiana	7	13	8	5	5	5	5	5	5	5	5	12	12	38.5
Massachusetts	27	27	27	27	27	27	27	27	27	27	27	27	27	
Missouri	10	10	10	10	10	10	11	12	11	10	10	10	10	83.3
New York	101	101	106	99	97	103	99	95	99	106	109	100	99	87.2
Ohio	50	55	46	58	51	47	58	60	55	48	51	47	40	60.0
Pennsylvania	25	26	26	26	25	25	25	25	25	24	24	25	24	92.3

No comparable data available for earlier years.

## OIL, CAKE, AND MEAL, COTTONSEED

Description of the industry.—This industry embraces establishments engaged primarily in the manufacture of products from cottonseed, but does not cover the activities of plants engaged in the further manufacture, from refined cottonseed oil, of lard substitutes and vegetable cooking oils. The statistics

relate to the 12-month period from August 1 to July 31, which coincides with the production cycle of the industry. The detailed statistics of products given in Table 3 were taken from "Bulletin No. 166—Cotton Production and Distribution, Season of 1928-1929," published by the Bureau of the Census.

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, containers for products, fuel, and purchased electric energy	Value of products <sup>1</sup>	Value added by manufacture <sup>2</sup>	Horsepower
1929.....	553	15,825	\$11,203,227	\$249,019,800	\$298,376,039	\$49,356,239	284,395
1927.....	547	18,434	14,268,555	220,038,437	276,333,488	56,300,051	270,500
1925.....	535	16,215	11,411,854	244,315,214	295,684,526	51,309,312	239,005
1923.....	511	12,745	7,908,305	197,514,913	220,357,758	28,372,845	223,742
1921.....	610	16,163	12,339,596	194,864,331	217,225,030	22,360,699	(3)
1919.....	711	20,766	20,615,193	495,192,294	551,244,798	80,052,504	280,981
1914.....	882	21,810	8,489,692	180,976,413	212,127,024	31,150,611	249,781
1909.....	817	17,071	5,835,249	119,833,475	147,867,894	28,034,419	191,872
1904.....	715	15,540	4,837,694	80,029,863	96,407,021	16,377,768	150,246
1899.....	369	11,007	3,143,459	45,165,823	58,726,032	13,560,809	72,906
PER CENT OF INCREASE OR DECREASE (-)							
1927-1929.....	1.1	-14.2	-21.4	13.2	8.0	-12.3	5.1
1925-1927.....	2.2	13.7	24.9	-9.9	-6.5	9.6	13.2
1923-1925.....	4.7	27.2	44.3	23.7	30.6	77.9	6.8
1921-1923.....	-16.2	-21.2	-35.9	1.4	4.2	29.1	-----
1919-1921.....	-14.2	-39.6	-40.1	-60.6	-62.6	-74.0	-----
1919-1929.....	-22.2	-40.9	-45.7	-40.7	-48.7	-42.6	-1.0
1909-1919.....	-13.0	56.8	253.3	313.2	293.1	207.0	51.1
1899-1909.....	121.4	55.1	85.6	165.3	161.8	106.7	163.2

<sup>1</sup> For 1929, manufacturers' sales (shipments or deliveries); for earlier years, production. See GENERAL EXPLANATIONS—Value of Products.  
<sup>2</sup> Value of products less cost of materials, containers for products, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.  
<sup>3</sup> Not called for on schedule.

## 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. One of the "Other States," namely, Kentucky, however, reported a larger value of products than several of the States shown separately]

STATE	Census year	Number of establishments	Salaried officers and employees <sup>1</sup>	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 <sup>2</sup>	Value added by manufacture <sup>3</sup>
					Total	Prime movers	Motors run by purchased energy			Total	Materials and containers	Fuel and purchased energy		
United States	1929	553	3,180	15,825	284,395	146,654	137,741	\$6,732,607	\$11,203,227	\$249,019,800	\$243,452,174	\$5,567,626	\$298,378,039	\$49,356,239
	1927	547	3,172	18,434	270,590	152,915	117,585	6,713,857	14,258,555	230,038,437	213,372,337	6,666,100	270,338,488	50,300,051
	1919	711	5,282	26,766	289,981	207,725	82,250	9,935,717	20,615,193	495,192,294	480,636,672	8,555,622	581,244,798	86,052,504
Alabama	1929	34	190	938	18,225	8,950	9,275	411,649	652,270	12,805,585	12,468,966	336,619	14,874,268	2,068,783
	1927	35	204	1,274	17,857	9,801	8,050	439,190	898,666	11,648,375	11,238,310	410,065	14,662,794	3,014,419
	1919	47	334	2,097	18,599	10,651	2,245	611,440	1,372,550	26,274,962	25,738,492	536,470	31,714,872	5,439,910
Arizona	1929	6	58	181	2,633	625	2,008	136,762	160,673	2,176,185	2,083,098	92,190	3,450,915	1,283,727
	1927	6	35	128	2,141	—	2,141	88,173	124,642	1,385,327	1,295,356	89,972	2,272,201	886,874
	1919	3	28	90	855	150	705	60,761	81,490	1,118,838	1,080,467	38,381	1,670,367	581,529
Arkansas	1929	31	250	1,233	21,178	10,845	10,333	430,220	808,490	18,537,464	18,075,377	462,087	21,451,731	2,914,267
	1927	30	216	1,348	19,546	12,750	6,796	424,382	1,041,940	13,615,547	13,116,399	499,148	17,268,606	3,683,148
	1919	35	284	1,661	18,358	15,819	2,539	652,838	1,238,629	21,509,951	20,996,636	514,321	25,304,034	3,794,083
California	1929	8	49	165	4,422	—	4,422	153,094	198,702	2,958,828	2,805,407	93,421	5,142,500	2,183,672
	1927	10	64	255	5,441	148	5,293	208,045	310,095	2,990,932	2,857,378	133,554	4,511,661	1,520,729
Georgia	1929	61	310	1,519	36,794	13,120	23,674	670,695	912,410	20,951,419	20,336,431	614,988	24,894,917	3,943,498
	1927	54	313	2,143	31,089	11,315	19,774	666,416	1,504,043	23,196,695	22,398,571	792,124	27,998,981	4,808,286
	1919	116	1,070	5,526	53,846	27,689	26,257	1,853,792	3,641,549	82,271,322	80,640,787	1,630,535	99,320,907	17,048,985
Illinois	1929	4	18	101	1,771	1,150	621	32,400	74,066	2,298,626	2,271,116	27,510	2,516,581	217,955
Louisiana	1929	23	155	764	11,709	7,020	4,689	401,975	518,975	18,043,019	17,848,072	194,947	21,296,279	3,253,260
	1927	22	147	697	10,713	7,010	3,703	311,207	530,131	18,221,708	17,994,785	220,923	21,338,810	3,117,042
	1919	28	328	1,605	13,028	10,507	2,521	715,134	1,240,532	50,164,444	49,593,293	571,151	57,161,578	6,997,134
Mississippi	1929	50	316	2,090	28,855	21,359	7,496	715,883	1,455,433	30,089,443	30,049,629	639,814	36,860,485	6,171,642
	1927	44	311	2,238	23,397	18,959	4,438	729,910	1,596,395	22,450,012	21,805,546	644,466	27,978,008	5,527,996
	1919	49	344	2,454	29,537	19,361	1,176	715,900	1,663,938	33,741,340	32,912,771	828,575	39,202,188	5,460,842
New Mexico	1929	4	17	73	1,453	1,155	298	23,100	41,229	802,499	783,421	19,078	1,133,500	331,091
North Carolina	1929	49	251	1,154	25,545	7,625	17,920	444,622	794,527	14,281,062	13,832,457	449,205	16,990,715	2,709,053
	1927	53	246	1,418	21,997	8,168	13,829	427,161	1,067,923	13,962,245	13,408,663	554,182	17,612,879	3,650,634
	1919	62	424	2,302	21,417	13,060	8,357	754,783	1,709,370	39,122,933	38,435,172	687,761	46,965,107	7,872,174
Oklahoma	1929	45	201	853	16,662	12,554	4,108	412,191	647,664	16,444,069	16,148,179	296,490	20,052,498	3,607,829
	1927	45	219	1,226	17,363	14,516	2,847	472,611	1,111,099	14,647,421	14,150,569	496,852	20,295,804	5,648,383
	1919	51	228	930	14,343	13,255	1,088	301,740	870,095	16,332,143	15,975,402	356,741	18,907,312	2,575,169
South Carolina	1929	38	215	899	21,345	7,270	14,075	367,230	508,245	9,772,092	9,437,552	335,440	11,405,489	1,632,497
	1927	41	184	1,126	10,661	6,785	12,876	350,595	652,667	9,985,170	9,593,789	391,381	12,608,931	2,623,761
	1919	81	479	2,480	28,097	17,622	10,475	869,863	1,804,790	31,570,607	30,890,526	680,081	38,674,794	7,164,187
Tennessee	1929	20	149	1,146	17,540	13,320	4,220	379,870	742,364	15,948,959	15,570,526	378,433	18,503,558	2,554,599
	1927	21	164	1,378	18,776	14,722	4,054	383,355	949,477	11,756,280	11,325,895	430,385	15,256,633	3,500,253
	1919	22	279	1,792	17,017	13,867	3,150	575,921	1,395,852	34,639,660	33,967,215	672,445	42,258,452	7,618,702
Texas	1929	179	961	4,480	74,468	40,709	33,759	2,100,237	3,474,890	79,284,707	77,680,210	1,574,497	95,351,198	16,096,491
	1927	175	951	4,675	73,656	45,391	28,295	1,963,229	3,903,169	61,937,294	60,184,313	1,752,981	78,324,499	16,387,205
	1919	200	1,105	4,472	70,743	55,811	14,932	1,796,719	3,336,601	87,132,985	85,628,467	1,504,521	102,111,850	14,978,862
Other States	1929	4	40	219	1,795	952	843	52,769	144,280	4,053,740	4,000,833	52,907	4,442,215	389,475
	1927	11	118	528	8,863	3,580	5,283	222,583	528,309	14,247,371	14,003,364	244,007	16,208,692	1,901,321
	1919	17	379	1,387	13,499	4,033	9,466	966,766	1,840,737	71,313,100	70,778,460	534,640	77,923,937	6,610,837

<sup>1</sup> Not including proprietors and firm members, as follows: For 1929, 34; 1927, 59; 1919, 145. 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, 19,039; 1927, 21,665; 1919, 32,193.

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

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

<sup>4</sup> 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.

<sup>5</sup> Florida, 1 establishment; Kentucky, 2; Missouri, 1.

<sup>6</sup> Florida, 1 establishment; Illinois, 3; Kentucky, 2; Missouri, 1; New Mexico, 3; Virginia, 1.

<sup>7</sup> California, 4 establishments; Florida, 3; Illinois, 3; Kentucky, 1; Missouri, 1; New Jersey, 1; New York, 1; Ohio, 1; Rhode Island, 1; Virginia, 1.

# OIL, CAKE, AND MEAL, COTTONSEED

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**TABLE 3.—COTTONSEED PRODUCTS,<sup>1</sup> BY CLASS, QUANTITY, AND VALUE, AND COTTONSEED CRUSHED, BY QUANTITY, FOR THE UNITED STATES: 1919 to 1929**

KIND	1929	1927	1925	1923	1921	1919
Cottonseed oil, cake, and meal industry, total value of products <sup>1</sup> .....	\$298,376,039	\$276,338,483	\$295,684,526	\$226,387,758	\$217,225,030	\$581,244,798
Crude cottonseed products, value <sup>2</sup> .....	\$265,247,000	\$240,284,000	\$256,027,000	\$182,137,000	\$136,974,000	\$352,138,000
<b>Oil—</b>						
Pounds.....	1,604,131,033	1,887,910,155	1,617,014,721	979,617,065	930,474,738	1,211,464,000
Value.....	\$133,006,000	\$142,242,000	\$138,652,000	\$88,093,000	\$71,508,000	\$209,668,000
<b>Cake and meal—</b>						
Tons.....	2,281,576	2,840,084	2,596,715	1,517,869	1,354,604	1,817,000
Value.....	\$90,706,000	\$72,476,000	\$81,508,000	\$59,300,000	\$49,898,000	\$119,039,000
<b>Hulls—</b>						
Tons.....	1,368,279	1,854,389	1,547,351	941,030	936,990	1,143,000
Value.....	\$12,842,000	\$8,882,000	\$12,649,000	\$12,737,000	\$8,949,000	\$11,095,000
<b>Linters—</b>						
Bales.....	1,085,766	1,041,864	1,044,405	639,540	382,375	584,146
Value.....	\$27,793,000	\$16,684,000	\$23,218,000	\$22,007,000	\$6,619,000	\$12,336,000
Cottonseed crushed, tons (2,000 pounds) <sup>3</sup> .....	5,061,058	6,305,775	5,558,243	3,307,598	3,007,717	4,012,704

<sup>1</sup> Based on data collected for the census of manufactures; figures include values of refined cottonseed oil and minor products reported by establishments classified in the industry. See GENERAL EXPLANATIONS—Classification of Establishments. The items for 1929 represent manufacturers' sales (shipments or deliveries); those for earlier years refer to production. See GENERAL EXPLANATIONS—Value of Products.

<sup>2</sup> From Census Bulletin No. 166, "Cotton Production and Distribution, Season of 1928-29," p. 72. Figures for 1919, 1921, 1923, and 1925 cover 12-month periods ended July 31 following the specified years and relate to products from crops grown in specified years; those for 1927 and 1929 cover 12-month periods ended July 31, 1927, and July 31, 1929, respectively.

**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.....	3,736	Horse-power 284,365	3,272	Horse-power 270,500	2,711	Horse-power 239,005	3,200	Horse-power 289,981	2,326	Horse-power 249,781	100.0	100.0
Prime movers, total.....	570	146,654	642	152,915	617	146,090	1,236	207,725	1,700	226,655	51.6	71.6
Steam, total.....	492	130,004	556	138,136	558	137,238	1,098	195,356	1,523	218,872	45.9	67.4
Engines.....	476	125,051	546	134,357	552	133,020	1,081	192,336	(1)	(1)	44.0	66.8
Turbines.....	16	5,653	10	3,779	6	4,218	17	3,020	(1)	(1)	2.0	1.1
Internal-combustion engines.....	78	16,050	85	14,779	58	8,602	126	10,857	159	6,748	5.6	3.7
Water wheels and water turbines.....			1	3	1	250	12	1,512	18	1,035	0.5	0.5
Electric motors driven by purchased energy.....	3,166	137,741	2,630	117,585	2,094	92,915	1,964	82,256	626	23,126	48.4	28.4
Electric motors, total.....	3,418	147,199	2,885	126,450	2,299	100,073	2,402	93,400	998	30,893	100.0	100.0
Driven by purchased energy.....	3,166	137,741	2,630	117,585	2,094	92,915	1,964	82,256	626	23,126	93.6	88.1
Driven by energy generated in establishments reporting.....	252	9,458	255	8,865	205	7,158	438	11,144	372	7,767	6.4	11.9
Electric generators.....	111	Kilowatts 11,732	166	Kilowatts 9,897	198	Kilowatts 8,351	(2)	(2)	(2)	(2)		
Electric energy purchased <sup>3</sup> .....		101,329,310		(4)		(4)		(2)		(2)		

<sup>1</sup> Not called for separately on schedule.

<sup>2</sup> Not called for on schedule.

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

<sup>4</sup> 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 shown 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 minimums of maximum	
		January	February	March	April	May	June	July	August	September	October	November	December		
United States:															
1929.....	15,825	22,028	18,521	14,525	10,953	7,300	<i>6,500</i>	6,670	8,880	18,068	26,155	26,109	24,378	24.1	
1925.....	16,215	22,099	19,445	15,923	11,586	8,172	6,682	<i>6,220</i>	8,886	18,417	25,120	26,437	25,599	23.5	
1919.....	26,766	33,890	32,183	28,073	23,000	19,535	16,705	<i>16,333</i>	17,159	20,456	35,382	36,537	35,903	44.7	
1914.....	21,810	32,459	28,065	21,368	13,561	8,421	<i>7,063</i>	7,361	10,015	24,787	35,478	36,838	30,304	19.2	
1909.....	17,071	25,667	22,388	18,032	11,190	7,445	<i>5,635</i>	5,174	6,038	10,958	28,293	29,334	28,077	17.6	
Alabama.....	988	1,300	1,092	911	725	460	<i>340</i>	393	596	1,135	1,694	1,600	1,555	20.1	
Arizona.....	181	252	250	207	68	94	71	67	99	222	261	278	305	22.0	
Arkansas.....	1,233	1,837	1,422	965	932	497	425	<i>408</i>	604	1,407	2,224	2,090	1,986	18.3	
California.....	165	216	217	171	136	114	56	<i>48</i>	68	146	247	279	281	17.1	
Georgia.....	1,519	2,009	1,722	1,305	1,001	640	<i>552</i>	551	900	1,926	2,652	2,635	2,318	19.5	
Illinois.....	161	183	122	122	66	25	37	43	37	54	176	179	169	13.7	
Louisiana.....	764	901	711	613	488	418	437	<i>401</i>	410	1,098	1,309	1,288	1,082	30.6	
Mississippi.....	2,080	2,682	2,289	1,805	1,597	1,242	1,110	1,253	1,131	2,782	3,172	2,985	2,905	35.0	
New Mexico.....	73	118	118	115	32	42	15	25	25	103	118	118	118	11.8	
North Carolina.....	1,154	1,801	1,622	1,153	733	468	362	<i>307</i>	434	783	2,034	2,145	1,999	14.3	
Oklahoma.....	853	1,241	1,057	903	507	239	221	237	275	994	1,524	1,531	1,400	15.1	
South Carolina.....	569	1,209	945	795	629	450	349	371	433	742	1,563	1,801	1,342	21.5	
Tennessee.....	1,146	1,799	1,374	1,298	1,202	537	471	441	388	881	1,834	1,841	1,690	21.1	
Texas.....	4,480	6,213	5,351	3,977	2,650	1,927	1,733	1,965	3,319	5,632	7,002	7,149	6,816	24.2	

## OIL, CAKE, AND MEAL, LINSEED

Description of the industry.—The establishments classified in this industry are those whose principal products are linseed oil and its natural by-products, cake and meal, and ground flaxseed.

Difference between biennial-census figures and those assembled from returns of quarterly census of animal and vegetable fats and oils.—The Bureau of the Census makes a quarterly canvass of producers of animal and vegetable fats and oils. The differences between the totals shown for the last four biennial-census years, assembled from the returns of this quarterly census, and the totals for the same years as given in Table 3 of this report are due to three causes, namely:

(1) The quarterly figures cover production by all establishments, including those which manufacture linseed oil, cake, and meal as secondary products, whereas the statistics in Table 3 of this report relate only to the industry proper.

(2) The totals for the four quarters of a given calendar year represent, of course, production within that

year; but the biennial-census figures are assembled from returns made in part on the calendar-year basis and in part on the basis of the manufacturers' fiscal years. (As many manufacturers would find it impracticable, or at least inconvenient, to report on the calendar-year basis, they are given the option of making their returns for their business or fiscal years most nearly coinciding with the calendar year.)

(3) The biennial census for 1929 covered manufacturers' sales (shipments or deliveries) instead of production, although the figures for preceding biennial-census years refer to production. The quarterly-census figures for all years refer to production.

The total production of linseed oil during the last four biennial-census years, calculated from the data collected in the quarterly census, was as follows: 1929, 763,576,494 pounds; 1927, 776,714,498 pounds; 1925, 763,822,379 pounds; 1923, 653,563,870 pounds.

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, containers for products, fuel, and purchased electric energy	Value of products <sup>1</sup>	Value added by manufacture <sup>2</sup>	Horsepower
1929	29	2,715	\$4,097,712	\$101,562,787	\$119,920,867	\$18,364,080	31,191
1927	33	2,718	4,324,938	97,750,350	111,543,845	13,793,495	28,273
1925	33	2,692	4,290,063	121,762,284	140,513,542	18,751,258	25,869
1923	34	2,631	3,783,510	102,650,790	113,221,318	10,531,510	21,674
1921	28	2,073	3,019,376	58,452,351	71,032,261	12,579,910	( <sup>3</sup> )
1919	26	2,173	3,052,269	100,577,538	120,638,100	20,060,562	17,621
1914	25	1,458	1,127,169	39,555,408	44,882,538	5,327,130	15,511
1909	29	1,452	892,612	31,034,576	36,738,694	5,704,118	13,211
1904	30	1,340	785,634	23,153,151	27,577,152	4,424,001	9,438
1899	48	1,328	693,311	24,395,775	27,184,331	2,788,556	8,491
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929	( <sup>4</sup> )	-0.1	-5.3	3.9	7.5	33.1	10.3
1925-1927	( <sup>4</sup> )	1.0	0.9	-19.7	-20.6	-26.4	9.3
1923-1925	( <sup>4</sup> )	2.3	13.4	18.6	24.1	78.0	19.4
1921-1923	( <sup>4</sup> )	20.9	25.3	75.7	59.4	-16.3	
1919-1921	( <sup>4</sup> )	-4.6	-1.1	-41.9	-41.1	-37.3	
1919-1929	( <sup>4</sup> )	24.9	34.3	1.0	-0.6	-8.5	77.0
1909-1919	( <sup>4</sup> )	49.7	241.9	224.1	228.4	251.7	33.4
1899-1909	( <sup>4</sup> )	9.3	28.7	27.2	35.1	104.6	55.6

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

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

<sup>3</sup> Not called for on schedule.

<sup>4</sup> 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. New Jersey, however, reported a larger value of products than any of the States shown separately]

STATE	Cen- sus year	Num- ber of estab- lish- ments	Sal- aried offi- cers and em- ploy- ees 1	Wage ear- ners (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 manu- facture 3
					Total	Prime mov- ers	Mo- tors run by pur- chased energy			Total	Materials and containers	Fuel and pur- chased energy		
United States	1929	29	232	2,715	31,191	11,240	19,951	\$637,214	\$4,097,712	\$101,562,787	\$100,571,093	\$991,094	\$119,926,867	\$18,364,080
	1927	33	306	2,718	28,273	7,393	20,880	924,430	4,324,938	97,750,360	96,704,484	1,045,806	111,543,845	13,733,495
	1919	26	574	2,173	17,621	9,425	8,196	1,409,403	3,052,269	100,577,538	99,908,059	669,479	120,638,100	20,060,562
Individual States:														
Illinois	1929	5	31	223	3,562	1,075	2,487	64,243	355,444	6,857,099	6,761,806	95,293	8,730,426	1,873,327
	1927	5	33	238	2,533	985	1,548	70,426	415,499	8,871,782	8,748,404	123,378	9,849,077	977,295
Minnesota	1929	6	41	575	7,023	1,950	5,073	101,027	824,620	21,883,691	21,635,690	248,101	28,611,825	6,728,134
	1927	7	99	516	5,221	950	4,271	371,242	733,878	17,457,459	17,251,217	206,242	20,352,293	2,894,834
	1919	6	134	483	4,102	2,480	1,622	467,742	646,813	28,795,984	28,623,392	172,652	33,237,740	4,441,766
New York	1929	5	32	459	5,802	815	4,987	101,005	659,626	16,991,402	16,844,617	146,785	18,080,039	1,997,637
	1927	6	42	523	7,458	778	6,680	133,363	890,452	19,161,073	18,987,712	174,261	21,543,452	2,381,479
	1919	6	170	582	5,951	1,956	3,995	337,531	888,347	29,387,061	29,216,719	170,342	35,594,760	6,207,699
Groups of States:														
Iowa 1 est.; Kansas, 1; Ore- gon, 2; Wisconsin, 3	1929	7	43	288	3,699		3,699	140,790	383,915	8,508,575	8,393,383	115,192	9,538,407	1,029,832
Mississippi, 1 est.; New Jer- sey, 2; Ohio, 2; Pennsyl- vania, 1	1929	6	85	1,170	11,105	7,400	3,705	230,149	1,874,107	47,322,020	46,936,267	385,753	54,057,170	6,735,150
States not shown separately	1927	15	132	1,441	13,061	4,680	8,381	349,399	2,285,109	52,259,136	51,717,151	541,985	59,799,023	7,530,887
	1919	14	270	1,108	7,568	4,989	2,579	604,130	1,517,109	42,394,493	42,068,008	326,485	51,805,600	9,411,107

1 Not including proprietors and firm members, as follows: For 1929, 2; 1927, 5; 1919, 4. 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, 2,949; 1927, 3,029; 1919, 2,751.  
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 California, 2 establishments; Iowa, 1; Kansas, 1; New Jersey, 3; Ohio, 2; Oregon, 2; Pennsylvania, 1; Wisconsin, 3.  
5 Illinois, 2 establishments; Iowa, 2; Kansas, 1; New Jersey, 2; Ohio, 3; Oregon, 1; Washington, 1; Wisconsin, 2.

TABLE 3.—PRODUCTS, BY KIND, QUANTITY, AND VALUE, 1923 TO 1929, AND QUANTITY AND COST OF FLAX-SEED CRUSHED, FOR THE UNITED STATES: 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]

	1929	1927	1925	1923
Linseed oil, cake, and meal industry, all products, total value	\$119,926,867	\$111,543,845	\$140,513,542	\$113,221,318
Oil, cake, and meal 1	\$111,687,741	\$105,751,240	\$126,422,534	\$106,011,000
Other products 2	\$8,239,126	\$5,792,605	\$14,091,008	\$7,210,318
Oil: 1				
Pounds	803,868,106	724,081,723	714,714,840	634,815,000
Value	\$75,340,611	\$73,581,514	\$94,049,549	\$76,752,000
Cake and meal: 1				
Tons	752,110	715,855	743,562	613,000
Value	\$36,347,130	\$32,169,726	\$32,372,985	\$29,259,000
Flaxseed crushed:				
Tons	1,095,080	(1)	(1)	(1)
Cost	\$92,795,754			

1 These figures represent production in the industry alone and therefore do not cover the output of linseed oil, cake, and meal made as secondary products by establishments classified in other industries. See "Difference between biennial-census figures and those assembled from returns of quarterly census of animal and vegetable fats and oils," p. 713.  
2 Principally oils other than linseed.  
3 The difference between this amount and the total cost of materials as given in Tables 1 and 2 is due to the fact that the amounts given in those tables include the cost of materials used in the production of commodities other than linseed oil, cake, and meal.  
4 Not called for on schedule.

# OIL, CAKE, AND MEAL, LINSEED

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**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.....	829	31,191	809	28,273	683	25,869	223	17,621	158	15,511	100.0	100.0
Prime movers, total.....	21	11,240	23	7,393	29	7,108	34	9,425	54	9,389	36.0	53.5
Steam, total.....	18	10,665	19	6,863	26	6,518	33	9,175	51	9,024	34.2	52.1
Engines.....	15	5,715	16	2,383	23	3,538	33	9,175	(1)	(1)	18.3	52.1
Turbines.....	3	4,950	3	4,480	3	2,980			(1)	(1)	15.9	
Internal-combustion engines.....	2	325	3	280	2	340			2	115	1.0	
Water wheels and water turbines.....	1	250	1	250	1	250	1	250	1	250	0.8	1.4
Electric motors driven by purchased energy.....	808	19,951	789	20,880	654	18,761	189	8,196	104	6,122	64.0	46.5
Electric motors, total.....	954	24,081	888	23,705	762	20,896	312	10,875	162	8,289	100.0	100.0
Driven by purchased energy.....	808	19,951	789	20,880	654	18,761	189	8,196	104	6,122	82.8	75.4
Driven by energy generated in establishments reporting.....	146	4,130	102	2,825	108	2,135	123	2,679	58	2,167	17.2	24.6
Electric generators.....	10	Kilowatts 3,521 Kilowatt-hours	8	Kilowatts 3,164	9	Kilowatts 2,071	(?)	(?)	(?)	(?)		
Electric energy purchased <sup>1</sup> .....		42,755,487		(?)		(?)		(?)		(?)		

<sup>1</sup> Not called for separately on schedule.  
<sup>2</sup> Not called for on schedule.  
<sup>3</sup> This item covers the consumption of purchased electric energy for all purposes—power, heat, light, etc.  
<sup>4</sup> 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.....	2,715	2,710	2,767	2,772	2,705	2,704	2,611	2,622	2,656	2,880	2,994	2,648	<i>2,512</i>	83.9
1925.....	2,692	2,884	2,945	2,934	2,596	2,466	2,611	2,276	<i>2,179</i>	2,478	2,810	3,054	3,188	68.8
1919.....	2,173	2,119	1,963	<i>1,825</i>	1,997	2,101	2,137	2,485	2,333	2,395	2,211	2,308	2,312	74.0
1914.....	1,438	1,770	1,080	1,014	1,352	1,274	<i>1,104</i>	1,118	1,236	1,289	1,733	1,853	1,833	59.0
1909.....	1,452	1,792	1,708	1,683	1,515	1,261	1,053	980	<i>874</i>	1,146	1,767	1,790	1,765	54.4
Illinois.....	223	216	218	236	225	215	206	208	233	249	257	180	233	70.0
Minnesota.....	575	649	617	614	565	497	408	411	518	675	758	664	625	53.8
New York.....	459	477	453	451	418	444	451	453	477	489	491	474	437	84.1



## OILS, NOT ELSEWHERE CLASSIFIED

**Description of the industry.**—This industry embraces those establishments engaged primarily in the production of animal oils, such as fish, lard, and neat's-foot, and of certain vegetable oils, such as castor, coconut, palm, and soya bean. It does not include the production of cottonseed and linseed oils, each of which has a separate industry classification.

**Change in classification.**—At previous censuses the "Oils, not elsewhere classified" industry included the

manufacture of lubricating oils not made in petroleum refineries, but at the census for 1929 such oils were treated as products of the "Lubricating oils and greases, not made in petroleum refineries" industry. Because of this change in classification no comparative figures for years prior to 1929 are available.

TABLE 1.—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. No data are available for years prior to 1929. See "Change in classification," above]

STATE	Number of establishments	Salaried officers and employees <sup>1</sup>	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 <sup>2</sup>	Value added by manufacture <sup>3</sup>
				Total	Prime movers	Motors run by purchased energy			Total	Materials and containers	Fuel and purchased energy		
United States.....	75	492	1,234	14,670	3,333	11,337	\$1,422,981	\$1,950,432	\$36,895,506	\$36,333,016	\$562,490	\$45,159,825	\$8,264,319
California.....	14	111	485	7,077	155	6,922	307,237	898,117	18,452,571	18,212,063	240,508	21,235,290	2,782,719
Delaware.....	3	7	35	361	270	91	28,850	20,994	173,144	189,362	3,782	271,530	98,186
Georgia.....	5	21	62	589	250	339	81,124	39,479	885,048	672,406	12,642	1,107,990	422,342
Illinois.....	5	22	54	343	65	278	52,319	67,093	696,779	676,510	20,269	1,064,488	367,709
Massachusetts.....	7	33	39	197	10	187	96,828	58,225	869,428	861,214	8,214	1,203,544	334,116
New Jersey.....	11	146	344	2,616	1,969	647	366,529	576,720	8,036,949	7,849,976	186,974	10,587,418	2,550,469
New York.....	6	19	15	259	215	44	45,360	21,696	534,153	529,427	4,726	762,688	228,535
Pennsylvania.....	8	72	66	430	219	211	278,936	101,750	1,545,846	1,522,962	22,884	2,319,714	778,868
Other States <sup>4</sup> .....	16	61	134	2,798	180	2,618	166,268	166,358	5,901,588	5,839,097	62,491	6,607,963	706,375

<sup>1</sup> Not including 16 proprietors and firm members. The total numbers of persons engaged—proprietors and firm members, salaried officers and employees, and wage earners—as reported for the industry, is 1,742.

<sup>2</sup> Sales (shipments or deliveries) by manufacturers. See GENERAL EXPLANATIONS—Value of Products.

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

<sup>4</sup> Alabama, 1 establishment; Indiana, 2; Kansas, 2; Maine, 1; Maryland, 3; Michigan, 1; Missouri, 1; Ohio, 1; Oregon, 1; Tennessee, 1; Washington, 1; Wisconsin, 1.

TABLE 2.—PRIME MOVERS, MOTORS, GENERATORS, AND CONSUMPTION OF PURCHASED ELECTRIC ENERGY: 1929

[No comparable statistics are available for years prior to 1929. See "Change in classification," above]

TYPE	Number	Capacity	Per cent distribution of rated horsepower capacity	TYPE	Number	Capacity	Per cent distribution of rated horsepower capacity
Prime movers and electric motors driven by purchased energy, aggregate.....	909	Horsepower 14,670	100.0	Electric motors, total.....	901	Horsepower 12,141	100.0
Prime movers, total.....	45	3,333	22.7	Driven by purchased energy.....	864	11,337	93.4
Steam, total.....	44	3,263	22.2	Driven by energy generated in establishments reporting.....	37	804	6.6
Engines.....	43	2,888	19.7	Electric generators.....	9	Kilowatts 1,187	-----
Turbines.....	1	375	2.6	Electric energy purchased <sup>1</sup> .....		Kilowatt-hours 14,418,311	-----
Internal-combustion engines.....	1	70	0.5				
Electric motors driven by purchased energy.....	864	11,337	77.3				

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

# OILS, NOT ELSEWHERE CLASSIFIED

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**TABLE 3.—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. No comparable statistics are available for years prior to 1929. See "Change in classification," p. 716.]

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.....	1,234	1,192	<i>1,161</i>	1,173	1,220	1,226	1,276	1,231	1,257	1,284	1,246	1,357	1,180	85.6
California.....	485	475	469	455	460	455	472	468	<i>443</i>	468	539	627	490	70.7
Delaware.....	35	<i>5</i>	<i>5</i>	<i>5</i>	<i>5</i>	<i>5</i>	59	99	117	105	<i>5</i>	<i>5</i>	<i>5</i>	4.3
Georgia.....	62	62	62	62	62	62	61	61	60	61	62	62	62	96.8
Illinois.....	54	61	63	63	52	53	53	<i>42</i>	43	45	52	63	63	66.7
Massachusetts.....	39	38	37	37	39	40	30	40	41	40	38	40	39	60.2
New Jersey.....	344	342	345	343	363	361	356	337	341	340	334	334	331	91.2
New York.....	15	<i>15</i>	<i>15</i>	<i>15</i>	<i>15</i>	<i>15</i>	<i>15</i>	<i>15</i>	<i>15</i>	16	16	16	17	88.2
Pennsylvania.....	66	67	67	67	67	67	67	67	66	66	66	65	65	97.0

# PAINTS AND VARNISHES

Description of the industry.—This industry designation is applied to establishments engaged primarily in the manufacture of pigments or colors (other than bone black, carbon black, and lampblack), paints in paste form, paints mixed ready for use, varnishes, lacquers, japans, enamels, fillers, stains, etc.

**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 <sup>1</sup>	Value added by manufacture <sup>2</sup>	Horsepower
1929	1,663	29,211	\$42,244,695	\$334,132,065	\$568,075,838	\$234,843,773	180,315
1927	1,066	25,061	40,184,732	307,724,370	519,009,842	211,285,472	163,187
1925	923	25,490	35,419,552	293,943,040	470,736,264	176,793,224	143,111
1923	826	22,818	29,871,195	248,954,692	404,134,231	155,179,530	114,281
1921	804	18,015	23,293,275	171,307,822	274,310,314	102,912,492	(3)
1919	830	21,507	24,118,159	217,112,372	340,346,803	123,234,431	84,827
1914	800	16,083	10,180,288	88,467,757	145,023,601	57,157,934	67,568
1909	791	14,240	8,270,713	79,016,555	124,889,422	45,873,867	55,301
1904	639	11,633	6,265,908	59,826,624	90,839,609	31,458,710	40,272
1899	600	9,697	4,925,590	44,738,517	69,562,235	24,823,718	29,522
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929	5.7	4.1	5.1	8.0	9.6	11.1	10.5
1925-1927	9.0	10.1	13.5	4.7	10.3	19.5	14.0
1923-1925	11.7	11.7	18.6	18.1	16.5	13.9	25.2
1921-1923	2.7	26.7	28.2	45.2	47.3	50.8	-----
1919-1921	-3.1	-16.2	-3.4	-21.1	-19.4	-16.5	-----
1910-1929	28.1	35.8	75.2	53.9	67.2	90.6	112.6
1909-1919	4.9	51.0	191.6	174.8	172.5	168.6	53.4
1899-1909	31.8	46.8	67.9	76.0	79.5	84.8	87.3

<sup>1</sup> For 1929, manufacturers' sales (shipments or deliveries); for earlier years, production. See GENERAL EXPLANATIONS—Value of Products.  
<sup>2</sup> Value of products less cost of materials, containers for products, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.  
<sup>3</sup> 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 employes <sup>1</sup>	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 <sup>2</sup>	Value added by manufacture <sup>3</sup>	
					Total	Prime movers	Motors run by purchased energy			Total	Materials and containers	Fuel and purchased energy			
United States	1929	1,663	12,888	29,211	180,315	38,991	141,324	\$38,033,695	\$42,244,695	\$334,132,065	\$327,271,797	\$6,860,268	\$568,075,838	\$234,843,773	
	1927	1,066	12,634	25,061	163,187	44,196	118,991	33,310,287	40,184,732	307,724,370	309,589,001	7,125,369	519,009,842	211,285,472	
	1919	830	12,225	21,507	84,827	41,559	43,268	27,522,628	24,118,159	217,112,372	212,900,221	4,122,151	340,346,803	123,234,431	
Individual States:															
	California	1929	82	650	1,414	9,786	30	9,756	1,558,775	2,198,041	16,115,687	15,859,080	256,607	26,393,866	10,278,179
	1927	78	542	1,269	8,048	-----	8,048	1,293,234	1,889,675	14,302,909	14,085,001	217,908	22,940,799	8,637,890	
1919	46	197	737	3,734	379	3,355	625,108	930,588	7,681,581	7,600,668	80,913	11,840,040	4,104,459		
Colorado	1929	5	17	65	393	-----	393	48,474	88,779	637,965	629,419	8,546	1,101,579	463,614	
1927	7	50	173	1,596	-----	1,596	122,932	224,588	1,465,263	1,281,976	183,284	2,131,261	665,998		
1919	7	78	76	228	-----	228	122,161	168,129	688,582	681,825	6,767	1,168,001	470,419		
Connecticut	1929	12	86	255	2,026	-----	2,026	207,688	333,200	2,508,904	2,481,657	27,247	4,812,279	2,303,375	
1927	10	136	262	1,675	-----	1,675	368,697	373,033	1,960,284	1,898,752	61,532	3,939,723	1,979,439		
Florida	1929	8	26	34	198	-----	198	61,442	44,238	294,575	292,569	2,069	547,059	262,484	
1927	5	9	13	152	-----	152	16,684	16,717	108,665	102,400	1,096	173,067	69,492		
Georgia	1929	13	67	212	1,914	700	1,214	145,140	191,006	677,331	620,583	50,748	1,489,497	812,106	
1927	10	31	115	1,276	415	-----	861	79,446	78,665	485,510	469,484	16,026	972,527	487,017	
1919	4	57	37	110	-----	110	110	70,375	36,410	207,231	204,486	2,745	302,476	155,246	
Illinois	1929	110	1,510	4,199	29,739	6,752	22,987	4,553,086	5,974,418	50,992,094	55,078,543	1,313,551	90,399,091	33,406,997	
1927	109	1,531	3,997	29,214	10,199	19,024	3,935,309	5,845,611	54,810,313	53,447,874	1,362,439	83,213,434	28,493,121		
1919	83	2,253	3,178	14,012	6,087	7,925	4,561,889	3,220,652	37,501,548	36,839,403	662,145	54,787,801	17,286,753		
Indiana	1929	27	304	572	4,801	10	4,851	920,585	771,242	7,132,875	6,988,629	194,246	11,689,829	4,506,954	
1927	24	314	482	4,508	133	4,375	712,910	777,743	6,229,535	6,063,541	165,604	9,676,328	3,446,793		
1919	23	236	257	944	93	-----	851	431,170	235,055	2,800,368	2,775,494	24,874	4,315,023	1,514,655	
Iowa	1929	4	7	37	114	-----	114	24,220	35,382	467,850	461,434	6,416	788,892	271,042	
1927	4	17	28	67	-----	67	65,122	81,240	21,240	401,106	397,372	3,734	675,920	274,814	
1919	4	20	10	96	-----	90	69,570	16,047	159,626	157,559	2,007	268,484	108,868		

See footnotes at end of table.

# PAINTS AND VARNISHES

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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- ploy- ees <sup>1</sup>	Wage earners (aver- age for the year)	HORSEPOWER (RATED CA- PACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, CONTAINERS FOR PRODUCTS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products <sup>2</sup>	Value add- ed by manu- facture <sup>3</sup>
					Total	Prime movers	Motors run by pur- chased energy			Total	Materials and containers	Fuel and purchased energy		
Individual States— Continued.														
Kentucky	1929	22	279	465	3,433	285	3,148	\$875,804	\$662,860	\$5,969,270	\$5,890,998	\$78,278	\$10,573,502	\$4,604,226
	1927	22	241	429	2,760	250	2,500	734,720	530,455	5,403,041	5,344,171	58,870	9,976,983	4,572,942
Louisiana	1929	10	59	116	618	—	618	148,907	129,976	1,079,327	1,065,129	14,198	2,456,314	1,406,987
	1927	9	67	87	432	—	432	151,615	107,760	1,036,290	1,024,882	11,408	1,713,054	676,764
Maryland	1929	21	148	480	2,481	370	2,111	416,860	609,103	3,321,548	3,120,011	195,537	5,877,347	2,555,799
	1927	20	138	300	1,014	350	1,504	338,442	425,766	2,571,830	2,457,721	114,109	4,295,758	1,723,928
	1919	17	103	263	711	273	438	230,839	278,926	2,453,307	2,391,779	61,528	3,460,120	1,012,753
Massachusetts	1929	44	526	789	3,918	620	3,298	1,449,677	1,086,812	8,394,907	8,243,857	151,050	15,825,855	7,430,948
	1927	40	497	666	3,560	1,001	2,559	1,173,271	872,685	7,025,148	6,891,264	123,884	12,919,022	5,894,774
	1919	33	378	501	1,644	664	980	928,808	591,559	5,673,378	5,600,969	72,409	9,806,874	4,133,496
Michigan	1929	47	926	1,865	11,184	344	10,840	2,716,275	2,719,175	24,809,299	24,464,562	344,737	43,692,920	18,883,621
	1927	35	821	1,851	9,223	400	8,823	2,213,837	2,757,370	20,592,716	20,316,237	277,479	35,613,592	15,020,870
	1919	30	1,033	1,212	4,403	2,039	2,364	1,892,615	1,544,612	11,708,081	11,576,030	133,051	20,527,096	8,810,015
Minnesota	1929	27	186	261	1,370	90	1,280	423,483	362,136	2,422,257	2,381,744	40,513	4,061,970	1,639,713
	1927	23	158	239	1,212	172	1,040	363,271	292,855	2,390,831	2,359,526	31,305	4,116,826	1,724,995
	1919	17	146	144	652	80	572	259,719	129,829	1,782,035	1,761,859	20,176	2,897,742	1,015,707
Missouri	1929	48	701	1,489	10,561	3,230	7,331	1,975,165	1,837,451	14,758,801	14,422,295	336,506	27,778,173	13,019,372
	1927	45	771	1,161	8,633	3,395	5,238	1,648,504	1,456,525	14,321,327	13,960,995	351,332	25,298,416	10,947,089
	1919	37	607	901	4,388	2,465	1,923	1,169,680	1,286,938	11,072,651	10,844,137	228,514	16,558,775	5,456,124
Nebraska	1929	7	36	93	1,061	—	1,061	90,544	115,349	734,436	707,432	27,004	1,272,440	588,094
	1927	6	46	70	1,037	—	1,037	89,143	103,664	661,298	632,485	28,813	1,175,020	514,322
	1919	5	61	58	234	—	234	118,692	54,176	682,218	677,718	4,505	1,307,556	625,338
New Jersey	1929	88	1,683	4,510	22,696	5,980	16,716	4,836,387	6,955,857	49,514,739	48,244,905	1,269,834	82,292,896	32,778,157
	1927	87	1,616	4,403	19,505	7,124	12,381	4,542,452	6,648,097	44,310,738	43,013,464	1,297,274	74,555,420	30,244,682
	1919	63	907	1,994	7,321	5,153	2,168	2,291,793	2,303,951	20,810,108	20,254,852	555,256	31,815,368	11,005,200
New York	1929	166	1,490	4,369	23,639	6,006	17,033	5,501,376	6,522,210	53,211,254	52,306,743	902,511	89,419,872	36,208,618
	1927	162	1,715	4,191	22,474	7,358	15,116	5,404,148	6,178,182	49,775,782	48,909,096	866,686	87,648,608	37,872,826
	1919	148	2,007	3,872	13,838	7,812	6,026	3,144,960	4,118,838	30,618,008	30,054,911	563,097	66,243,584	26,025,526
Ohio	1929	106	1,057	3,103	10,102	17,152	5,239,218	4,645,604	33,892,674	33,293,690	598,984	33,086,060	29,793,388	
	1927	104	1,504	3,221	18,725	2,240	16,485	4,129,981	4,508,175	33,885,715	33,141,678	741,037	60,453,980	26,568,245
	1919	94	1,883	2,920	10,450	2,002	7,848	3,663,472	3,185,957	32,306,851	31,966,458	340,393	50,477,810	18,170,959
Oregon	1929	12	23	128	442	—	442	40,082	163,326	943,372	935,588	7,784	1,450,738	507,366
	1927	11	33	68	452	—	452	62,236	92,242	642,978	635,776	7,202	1,170,841	527,863
Pennsylvania	1929	106	1,230	2,835	19,171	9,103	10,068	3,358,478	4,262,373	30,281,246	29,036,567	644,679	48,965,801	18,684,555
	1927	104	1,320	3,256	15,790	7,653	8,137	3,380,655	4,762,556	28,194,212	27,457,094	737,118	46,062,491	17,898,279
	1919	104	1,346	3,279	13,866	8,652	5,204	2,771,692	4,119,450	25,500,201	24,696,378	803,823	38,845,266	13,346,066
South Carolina	1929	3	17	16	156	—	156	50,860	11,390	148,320	146,305	2,015	269,169	120,849
Tennessee	1929	13	77	129	1,395	870	1,025	181,240	131,085	1,090,582	1,069,407	21,175	1,827,093	736,421
	1927	13	102	163	1,264	300	964	234,504	154,343	1,147,064	1,120,376	27,627	2,065,376	918,312
Texas	1929	18	99	173	790	—	790	257,412	174,374	1,870,294	1,845,830	24,455	3,118,219	1,247,925
	1927	11	82	101	585	—	585	216,041	121,336	1,416,817	1,393,508	23,309	2,801,613	884,796
	1919	8	35	52	316	—	316	71,910	54,335	514,580	508,944	5,636	1,019,969	404,489
Virginia	1929	7	24	66	486	150	336	97,271	77,031	324,848	313,272	11,576	611,808	287,020
	1927	8	30	63	381	50	331	63,551	70,080	394,940	380,207	14,733	681,526	286,586
Washington	1929	11	50	127	683	—	683	125,190	168,811	877,484	865,285	12,219	1,700,274	831,790
	1927	12	51	90	709	—	709	127,763	109,495	678,099	669,457	8,642	1,186,815	508,710
	1919	6	24	29	175	—	175	50,587	37,420	267,087	263,737	3,350	488,783	219,696
West Virginia	1929	6	50	232	2,524	150	2,374	235,369	297,512	2,730,589	2,629,810	100,779	3,726,014	995,425
	1927	6	51	194	2,599	325	2,274	101,098	260,164	2,446,255	2,370,224	76,031	3,592,264	1,146,009
	1919	4	48	132	790	390	400	180,500	101,767	305,674	384,866	10,808	864,447	468,773
Wisconsin	1929	18	738	622	2,330	888	1,451	1,692,654	921,019	8,550,116	8,454,088	90,028	13,555,554	5,005,438
	1927	17	500	657	2,525	1,465	1,060	1,183,975	832,178	6,359,243	6,184,564	174,679	12,647,881	4,288,638
Groups of States:														
Ala., 2 est.; Miss., 1; N. C., 3	1929	6	36	54	235	—	235	82,829	60,128	568,543	559,833	8,710	923,262	354,719
Del., 2 est.; Me., 1; R. I., 6	1929	9	163	432	2,704	1,343	1,361	533,860	612,476	3,132,649	3,023,712	108,937	6,577,271	3,444,622
Kans., 3 est.; Okla., 2; Utah, 2	1929	7	17	39	296	20	276	45,325	62,325	628,223	624,894	3,329	2,102,224	1,474,001
States not shown separately	1927	24	201	512	2,872	1,375	1,497	581,440	663,583	4,711,561	4,578,843	132,718	7,811,827	3,100,266
	1919	97	806	1,066	7,293	4,860	2,433	1,925,088	1,763,520	15,289,137	14,849,153	439,984	23,283,068	8,093,951

<sup>1</sup> Not including proprietors and firm members, as follows: For 1929, 234; 1927, 253; 1919, 298. 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, 42,333; 1927, 40,933; 1919, 34,030.

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

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

<sup>4</sup> 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.

<sup>5</sup> Alabama, 6 establishments; Delaware, 2; Kansas, 3; Maine, 1; North Carolina, 2; Oklahoma, 3; Rhode Island, 5; South Carolina, 1; Utah, 1.

<sup>6</sup> Alabama, 1 establishment; Connecticut, 9; Delaware, 3; District of Columbia, 1; Florida, 4; Kansas, 6; Kentucky, 17; Louisiana, 3; Maine, 3; New Mexico, 1; North Carolina, 2; Oklahoma, 1; Oregon, 4; Rhode Island, 6; South Carolina, 1; Tennessee, 12; Utah, 2; Virginia, 11; Wisconsin, 10.

## CENSUS OF MANUFACTURES: 1929

TABLE 3.—PRODUCTS, BY CLASS, QUANTITY, 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
1. Paint and varnish industry, all products, total value.....	\$568,975,838	\$519,009,842	\$470,736,264	\$404,134,231
2. Paints, varnishes, and related products.....	530,590,165	487,171,879	440,050,419	375,045,178
3. Other products (not normally belonging to the industry).....	38,385,673	31,837,963	30,685,845	28,489,053
4. Paints, varnishes, and related products made as secondary products in other industries, value.....	44,289,418	39,937,128	41,202,417	36,430,387
Paints, varnishes, and related products, all industries: Aggregate value (sum of 2 and 4).....	574,879,583	527,109,007	481,312,836	412,076,505
PIGMENTS (COLORS) FOR SALE:				
Total production.....	1,918,458,961	1,773,888,520	1,608,119,046	1,309,516,699
Total value.....	\$116,752,604	\$105,755,539	\$103,918,550	\$91,479,901
White lead, dry—				
Total production, pounds.....	330,117,064	331,617,056	342,131,591	301,083,224
Made and consumed in the same establishments, pounds.....	179,753,401	188,312,036	199,201,713	160,956,142
For sale—				
Pounds.....	150,364,563	143,305,020	142,929,873	140,127,082
Value.....	\$12,306,028	\$12,014,416	\$14,172,407	\$12,328,336
Lead oxides—				
Total production, pounds.....	267,851,565	235,463,026	253,861,168	223,062,983
Made and consumed in the same establishments, pounds.....	5,782,332	3,362,504	5,056,602	9,816,465
For sale—				
Litharge—				
Pounds.....	163,736,000	154,622,069	167,732,121	140,571,987
Value.....	\$12,964,987	\$12,815,967	\$18,022,460	\$13,241,277
Red lead—				
Pounds.....	94,275,832	75,285,537	80,280,719	72,805,694
Value.....	\$8,174,314	\$6,961,319	\$9,140,267	\$7,286,030
Other lead oxides—				
Pounds.....	4,057,401	2,192,856	791,726	498,837
Value.....	\$349,112	\$245,955	\$120,239	\$68,224
Zinc oxide—				
Pounds.....	436,714,982	348,210,576	318,691,611	322,550,810
Value.....	\$26,933,248	\$22,285,057	\$22,740,819	\$23,471,095
Lithopone—				
Pounds.....	410,638,583	359,759,077	246,402,248	210,520,766
Value.....	\$19,260,958	\$17,163,576	\$12,184,593	\$13,001,506
Iron oxides (ochre, sienna, umber, etc.)—				
Pounds.....	105,627,130	108,357,735	88,771,532	126,908,010
Value.....	\$3,374,800	\$3,357,895	\$2,384,148	\$3,133,953
Other mineral colors—				
Pounds.....	17,263,000	29,199,617	41,107,234	144,890,761
Value.....	\$254,373	\$343,884	\$858,307	\$2,349,092
Chrome yellow—				
Pounds.....	16,899,208	14,334,423	14,231,374	13,238,317
Value.....	\$2,392,790	\$2,351,111	\$2,414,938	\$2,379,338
Chrome orange—				
Pounds.....	9,954,493	4,652,209	1,844,541	
Value.....	\$1,449,629	\$751,408	\$340,047	
Chrome green—				
Pounds.....	16,354,788	14,114,248	12,610,178	13,078,252
Value.....	\$2,603,225	\$2,460,276	\$2,231,168	\$2,291,753
Prussian blue—				
Pounds.....	5,359,419	4,104,233	4,548,016	3,137,777
Value.....	\$1,612,817	\$1,864,537	\$1,534,950	\$1,464,645
Ultramarine—				
Pounds.....	9,111,994	8,347,893	8,366,920	7,094,134
Value.....	\$1,314,616	\$1,187,035	\$1,226,696	\$1,087,547
Vermillion (true)—				
Pounds.....	202,933	322,375	344,374	567,151
Value.....	\$326,709	\$371,608	\$345,293	\$512,572
Other fine colors—				
Pounds.....	7,933,609	7,643,275	7,133,310	4,697,919
Value.....	\$5,052,317	\$4,060,759	\$3,212,531	\$2,487,128
Mortar colors—				
Pounds.....	41,486,166	62,215,054	62,606,710	
Value.....	\$781,471	\$1,000,908	\$1,085,904	(1)
Whiting—				
Pounds.....	202,207,930	221,137,263	236,483,656	
Value.....	\$1,513,634	\$1,669,874	\$1,979,904	(1)
Other dry colors (including barytes)—				
Pounds.....	211,161,362	201,677,719	157,061,386	90,129,304
Value.....	\$14,697,886	\$13,348,441	\$8,536,358	\$5,133,266
Pulp colors, sold moist—				
Pounds.....	15,612,502	14,407,341	10,161,512	18,753,908
Value.....	\$1,389,690	\$1,301,858	\$1,381,461	\$1,244,146
PAINTS, total value.....	\$232,000,991	\$221,538,902	\$218,719,633	\$183,269,577
In paste form—				
Total pounds.....	401,546,094	408,722,058	434,583,529	425,879,838
Total value.....	\$46,685,995	\$49,553,502	\$55,706,427	\$50,569,832
White lead in oil—				
Pounds.....	232,938,353	252,743,419	260,193,429	
Value.....	\$24,591,319	\$28,083,217	\$32,045,906	
Combination whites—				
Pounds.....	61,762,830	53,927,072	48,923,460	272,493,875
Value.....	\$5,600,990	\$5,248,046	\$4,772,169	\$30,323,486
Red lead in oil—				
Pounds.....	6,980,118	4,671,988	4,787,224	5,153,883
Value.....	\$906,146	\$592,329	\$639,172	\$646,000

(1) Not reported separately.

# PAINTS AND VARNISHES

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

[See note at head of this table]

CLASS	1929	1927	1925	1923
<b>PAINTS—Continued.</b>				
In paste form—Continued.				
Zinc oxide in oil—				
Pounds.....	4,450,208	6,175,032	7,053,414	7,881,428
Value.....	\$488,317	\$783,155	\$907,803	\$989,764
Colors in oil—				
Pounds.....	33,194,913	32,819,211		
Value.....	\$6,900,814	\$6,442,477		
Colors in japan—				
Pounds.....				
Value.....	2,035,976	3,441,324	113,599,002	140,350,652
Other paints in paste form—				
Pounds.....	\$1,012,843	\$1,411,939	\$17,338,377	\$18,640,582
Value.....	59,583,696	54,944,012		
Water paints and kalsomines, dry and in paste form—				
Pounds.....				
Value.....	155,810,548	122,455,836	110,618,307	122,217,347
Mixed, ready for use—				
Total gallons.....	\$7,093,017	\$6,321,002	\$4,630,360	\$5,534,187
Total value.....	106,165,398	94,070,895	87,639,481	71,350,092
	\$178,241,979	\$165,684,398	\$158,370,846	\$127,155,568
Paints in oil—				
Gallons.....	59,054,219	53,108,389		
Value.....	\$96,732,014	\$97,760,426		
Undercoatings and primers—				
Gallons.....				
Value.....	12,059,640	7,198,418		
Wall paints and mill whites, flat and gloss—				
Gallons.....	\$17,315,189	\$11,343,928		
Value.....	19,400,773	15,357,299	(1)	(1)
Other ready-mixed and semipaste paints—				
Gallons.....	\$31,946,834	\$26,525,797		
Value.....	21,650,766	18,400,789		
	\$32,247,942	\$30,034,247		
<b>VARNISHES, JAPANS, AND LACQUERS (INCLUDING ENAMELS), total value.....</b>	<b>\$204,881,402</b>	<b>\$178,231,107</b>	<b>\$140,855,191</b>	<b>\$121,000,522</b>
Oleo-resinous varnishes—				
Gallons.....	38,843,280	33,859,282	38,418,014	40,424,349
Value.....	\$47,740,393	\$43,628,196	\$48,374,502	\$52,282,075
Spirit varnishes, not turpentine—				
Gallons.....	7,379,820	6,816,421	7,117,336	5,605,568
Value.....	\$13,534,920	\$12,440,814	\$13,381,769	\$10,584,374
Varnishes other than oleo-resinous and spirit—				
Gallons.....	8,476,266	8,936,448	4,051,234	3,802,643
Value.....	\$10,613,279	\$12,757,922	\$5,973,208	\$9,143,519
Pyroxylin products:				
Clear lacquers—				
Gallons.....	9,938,501	7,738,079		
Value.....	\$19,178,970	\$15,721,249		
Lacquer enamels—				
Gallons.....	15,150,807	10,757,852	12,265,206	\$3,255,867
Value.....	\$38,555,226	\$30,187,332	\$27,254,796	\$6,944,366
Thinners for pyroxylin lacquers—				
Gallons.....	17,870,548	12,340,237		
Value.....	\$19,151,462	\$14,361,092		
Other pyroxylin products, value	\$5,450,599	\$4,252,733		
Drying japans and driers—				
Gallons.....	5,187,797	6,562,074	5,764,468	7,511,108
Value.....	\$4,057,582	\$4,958,378	\$4,564,665	\$6,806,020
Baking japans—				
Gallons.....	4,039,344	4,988,589	6,057,408	6,470,773
Value.....	\$3,480,555	\$4,453,467	\$4,767,888	\$6,190,740
Enamels, oil and varnish base—				
Gallons.....	19,987,299	14,453,143	15,017,890	13,381,889
Value.....	\$40,198,979	\$32,070,436	\$32,173,742	\$27,529,425
Allied products, <sup>2</sup> value.....	\$2,919,467	\$3,309,488	\$4,364,021	\$4,512,967
<b>FILLERS:</b>				
Liquid—				
Gallons.....	495,361	565,991	722,317	846,329
Value.....	\$933,221	\$721,862	\$922,123	\$939,683
Paste—				
Pounds.....	20,838,050	19,940,061	18,262,373	16,586,878
Value.....	\$1,801,974	\$1,650,785	\$1,768,243	\$1,554,708
Dry—				
Pounds.....	9,775,004	21,546,014	23,741,150	17,947,082
Value.....	\$152,304	\$451,851	\$535,720	\$486,719
<b>PUTTY:</b>				
Pounds.....	99,163,239	102,702,810	101,208,891	92,744,565
Value.....	\$4,253,334	\$4,255,341	\$3,925,016	\$3,774,867
<b>BLEACHED SHELLAC:</b>				
Pounds.....	11,139,556	10,611,004	11,136,137	15,289,184
Value.....	\$5,431,349	\$5,014,823	\$5,990,559	\$9,070,598
<b>STAINS:</b>				
Varnish stains—				
Gallons.....	2,159,620	2,413,420		
Value.....	\$4,381,153	\$4,712,281	(1)	(1)
Other stains—				
Gallons.....	3,533,961	3,834,214	3,322,657	(1)
Value.....	\$4,541,251	\$4,770,516	\$4,677,201	

<sup>1</sup> Not reported separately.

<sup>2</sup> Does not include data for thinners, and therefore is not comparable with figures for later years.

<sup>3</sup> Asphalts, color and lithographic varnishes, etc.

## CENSUS OF MANUFACTURES: 1929

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

(These statistics refer to sales (shipments or deliveries) by manufacturers. Figures are given for each State which can be shown separately without disclosing data for individual establishments, and for the remaining States in groups)

PRODUCT AND STATE	Number of establishments	Quantity	Value	PRODUCT AND STATE	Number of establishments	Quantity	Value
<b>PIGMENTS (COLORS):</b>		<i>Pounds</i>		<b>PIGMENTS (COLORS)—Continued.</b>		<i>Pounds</i>	
White lead, dry, total.....	20	150,364,563	\$12,306,028	Mortar colors, total.....	15	41,486,166	\$781,471
Illinois.....	5	32,462,367	2,656,932	New York.....	3	8,592,400	132,647
Pennsylvania.....	4	10,237,372	901,969	Pennsylvania.....	4	12,177,000	245,721
Calif., 2 est.; Ind., 1; Ohio, 2.....	5	26,306,556	2,181,368	Tennessee.....	3	7,191,560	127,065
Mo., 2 est.; N. J., 1; N. Y., 3.....	6	81,358,268	6,565,729	Calif., 1 est.; Ill., 1; Minn., 1; Ohio, 1; Wis., 1.....	5	13,525,206	276,038
<b>Lead oxides—</b>				<b>Whiting, total.....</b>	<b>16</b>	<b>202,207,936</b>	<b>1,513,634</b>
Litharge, total.....	18	163,736,000	12,964,987	Massachusetts.....	3	31,384,000	260,935
Illinois.....	3	31,483,765	2,469,756	Calif., 3 est.; Ill., 1; Mo., 1; N. Y., 1; Pa., 2; Wash., 1.....	9	42,911,046	325,319
Calif., 4 est.; Colo., 1; Ohio, 1; W. Va., 1.....	7	39,865,871	3,010,108	Ga., 1 est.; Nebr., 1; N. J., 2.....	4	127,912,890	921,377
Mo., 2 est.; N. J., 1; N. Y., 1; Pa., 4.....	8	92,386,364	7,455,124	<b>Other dry colors (including barytes).....</b>	<b>57</b>	<b>211,161,362</b>	<b>14,097,886</b>
<b>Red lead, total.....</b>	<b>15</b>	<b>94,275,832</b>	<b>8,174,314</b>	California.....	3	8,540,300	304,499
Calif., 2 est.; Ind., 1; N. J., 1; N. Y., 1; Ohio, 1; W. Va., 1.....	7	33,801,747	2,820,121	Maryland.....	3	7,366,965	760,375
Ill., 3 est.; Mo., 2; Pa., 3.....	8	60,474,085	5,354,193	Missouri.....	5	110,438,697	3,631,924
<b>Other lead oxides (Calif., 2 est.; Kans., 1; Mo., 1; N. J., 1; N. Y., 1; Pa., 2).....</b>	<b>8</b>	<b>4,057,401</b>	<b>349,112</b>	New Jersey.....	10	6,746,438	2,620,642
<b>Zinc oxide, total.....</b>	<b>21</b>	<b>436,714,952</b>	<b>26,933,248</b>	New York.....	14	15,802,105	2,907,058
Illinois.....	4	27,926,894	2,129,707	New York.....	5	3,380,000	394,101
Colo., 1 est.; Kans., 1; Mont., 1.....	3	76,781,149	3,594,281	Ohio.....	6	47,630,823	3,250,660
Ind., 2 est.; Mich., 1; Ohio, 3; Wis., 2.....	8	114,651,732	7,220,576	Pennsylvania.....	5	1,409,833	230,544
N. J., 2 est.; Pa., 4.....	6	217,456,216	13,988,684	Ill., 3 est.; Ind., 1; Ky., 1.....	6	9,946,501	259,183
<b>Lithopone, total.....</b>	<b>12</b>	<b>410,638,583</b>	<b>19,260,958</b>	Mass., 2 est.; Mich., 1; Minn., 1; Tenn., 1; Wis., 1.....	6	16,612,502	1,389,690
Illinois.....	4	116,997,162	5,665,977	<b>Pulp colors sold moist, total.....</b>	<b>18</b>	<b>10,141,834</b>	<b>988,430</b>
Calif., 1 est.; Del., 1; Md., 1.....	3	106,879,316	5,352,686	Pennsylvania.....	7	3,432,120	178,604
N. J., 3 est.; Pa., 2.....	5	186,762,105	8,242,295	Calif., 1 est.; Ill., 1; Mich., 1; S. C., 1.....	4	154,855	17,814
<b>Iron oxides (ocher, sienna, umber, etc.), total.....</b>	<b>18</b>	<b>105,627,130</b>	<b>3,374,800</b>	Mass., 1 est.; N. J., 2.....	3	1,884,103	204,842
Georgia.....	3	23,683,520	292,290	<b>PAINTS:</b>			
Pennsylvania.....	6	34,911,262	1,170,345	<b>In paste form—</b>			
Calif., 1 est.; Ill., 1; Tenn., 2; Va., 1.....	5	30,928,600	933,637	<b>White lead in oil, total.....</b>	<b>104</b>	<b>232,938,353</b>	<b>24,561,319</b>
N. J., 1 est.; N. Y., 2; Ohio, 1.....	4	15,003,748	978,528	California.....	12	15,118,739	1,377,708
<b>Other mineral colors, total.....</b>	<b>7</b>	<b>17,263,000</b>	<b>254,373</b>	Illinois.....	11	73,437,860	7,172,528
Pennsylvania.....	3	8,610,000	137,760	Missouri.....	8	22,544,765	2,500,282
Ga., 1 est.; N. J., 1; Ohio, 1; Tenn., 1.....	4	8,653,000	116,563	New Jersey.....	5	12,942,146	1,433,530
<b>Chrome yellow, total.....</b>	<b>22</b>	<b>16,399,268</b>	<b>2,362,760</b>	New York.....	6	42,188,072	4,743,825
Illinois.....	5	3,313,230	476,162	Ohio.....	15	38,100,906	4,059,575
New Jersey.....	5	4,276,220	562,021	Pennsylvania.....	16	26,710,917	3,067,250
New York.....	4	7,112,065	1,063,580	Texas.....	5	405,607	67,998
Pennsylvania.....	3	711,642	97,193	Ala., 1 est.; La., 3; Tenn., 1.....	5	184,224	20,434
Calif., 1 est.; Ky., 1; Mich., 1; Ohio, 1; Wis., 1.....	5	986,211	163,804	Colo., 3 est.; Conn., 1; Kans., 1; Mass., 2; Oreg., 2.....	9	358,291	41,966
<b>Chrome orange, total.....</b>	<b>19</b>	<b>9,954,493</b>	<b>1,449,629</b>	Ind., 3 est.; Ky., 3; Va., 1.....	7	622,020	68,370
New Jersey.....	5	6,722,167	927,777	Minn., 2 est.; Nebr., 1; Wis., 2.....	5	315,910	38,133
New York.....	3	2,010,274	322,589	<b>Combination whites, total.....</b>	<b>223</b>	<b>61,762,830</b>	<b>5,660,990</b>
Calif., 1 est.; Ill., 4; Ky., 1; Wis., 1.....	7	1,082,857	167,064	California.....	36	4,397,309	478,977
Mich., 1 est.; Pa., 3.....	4	159,145	32,199	Illinois.....	16	20,188,034	1,826,542
<b>Chrome green, total.....</b>	<b>25</b>	<b>16,351,788</b>	<b>2,603,225</b>	Indiana.....	7	534,350	60,862
Illinois.....	5	2,680,926	418,437	Kentucky.....	9	730,005	54,648
New Jersey.....	6	4,612,999	698,513	Maryland.....	7	1,108,463	136,509
New York.....	5	5,259,558	970,601	Massachusetts.....	10	3,378,347	362,444
Pennsylvania.....	4	674,246	106,435	Michigan.....	6	2,488,821	265,941
Calif., 1 est.; Ky., 1; Mich., 1; Ohio, 1; Wis., 1.....	5	2,944,059	408,639	Minnesota.....	5	34,050	3,380
<b>Prussian blue, total.....</b>	<b>21</b>	<b>5,356,419</b>	<b>1,612,817</b>	Missouri.....	14	753,003	66,817
Illinois.....	4	212,661	50,640	New Jersey.....	9	4,571,177	312,428
New Jersey.....	5	2,184,282	626,689	New York.....	21	15,917,103	1,189,998
New York.....	6	2,329,656	759,560	Ohio.....	21	2,435,805	345,762
Ky., 1 est.; Mich., 1; Ohio, 1; Pa., 2; Wis., 1.....	6	632,820	175,928	Pennsylvania.....	18	2,628,372	252,656
<b>Ultramarine (Calif., 1 est.; Ind., 1; N. J., 1; N. Y., 1; Ohio, 1; W. Va., 1).....</b>	<b>6</b>	<b>9,111,994</b>	<b>1,314,616</b>	Tennessee.....	4	506,100	62,683
<b>Vermillion (true) (Ill., 1 est.; Mich., 1; N. J., 1; N. Y., 1; Pa., 1).....</b>	<b>5</b>	<b>202,933</b>	<b>326,709</b>	Texas.....	6	742,004	80,178
<b>Other fine colors, total.....</b>	<b>35</b>	<b>7,933,609</b>	<b>5,052,317</b>	Washington.....	4	358,500	33,423
Illinois.....	7	1,358,908	643,590	Wisconsin.....	4	163,526	19,554
New Jersey.....	7	2,368,170	1,349,024	Ala., 1 est.; Fla., 1; Ga., 2; La., 3; N. C., 1; S. C., 1.....	9	378,025	36,533
New York.....	12	3,050,474	2,372,641	Colo., 2 est.; Kans., 1; Nebr., 2; Okla., 1; Oreg., 2; Utah, 1.....	9	207,186	29,423
Pennsylvania.....	4	347,545	132,552	Conn., 1 est.; Del., 1; Me., 1; R. I., 2; Va., 2; W. Va., 1.....	8	252,650	24,207
Ky., 1 est.; Mass., 1; Ohio, 1; W. Va., 1; Wis., 1.....	5	810,512	554,510	<b>Red lead in oil, total.....</b>	<b>77</b>	<b>6,980,118</b>	<b>905,146</b>
				California.....	10	542,847	64,037
				Illinois.....	10	2,528,572	341,838
				Missouri.....	8	1,388,924	174,218
				New Jersey.....	3	79,150	10,762
				New York.....	5	764,976	102,456
				Ohio.....	7	169,185	21,488
				Pennsylvania.....	8	1,196,558	152,654
				Ala., 1 est.; Ga., 3; Ky., 1; La., 1; S. C., 1; Tex., 2.....	9	116,436	14,775
				Colo., 1 est.; Ind., 2; Kans., 1; Mich., 1; Minn., 3; Oreg., 2.....	10	80,848	8,750
				Md., 1 est.; Mass., 3; R. I., 1; Va., 2.....	7	118,122	14,168

PAINTS AND VARNISHES

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

[See note at head of this table]

PRODUCT AND STATE	Number of establishments	Quantity	Value	PRODUCT AND STATE	Number of establishments	Quantity	Value
<b>PAINTS—Continued.</b>				<b>PAINTS—Continued.</b>			
<b>In paste form—Continued.</b>				<b>In paste form—Continued.</b>			
Zinc oxide in oil, total.....	150	Pounds 4,450,208	\$486,317	<b>Other paints in paste form—Contd.</b>			
California.....	25	1,588,451	162,238	Conn., 3 est.; R. I., 2.....	5	1,697,094	\$171,846
Illinois.....	13	54,899	8,744	N. C., 1 est., Va. 2; W. Va., 1.....	4	180,126	20,658
Kentucky.....	8	139,321	14,346	Oreg., 3 est.; Utah, 1.....	4	224,396	24,448
Louisiana.....	3	111,767	12,872	<b>Water paints and kalsomines, dry and in paste form, total.....</b>			
Massachusetts.....	8	110,791	9,562	California.....	11	14,638,099	661,257
Minnesota.....	5	18,174	3,147	Illinois.....	13	23,471,270	1,164,662
Missouri.....	11	70,544	7,608	Massachusetts.....	3	2,007,724	298,865
New Jersey.....	8	313,939	43,376	Michigan.....	5	11,497,948	681,021
New York.....	11	605,033	62,640	Missouri.....	3	8,123,216	342,550
Ohio.....	17	842,670	92,254	New Jersey.....	7	44,973,030	1,535,063
Pennsylvania.....	16	306,617	33,347	New York.....	10	40,488,862	1,834,114
Wisconsin.....	8	14,131	2,819	Pennsylvania.....	3	107,500	6,834
Ala., 1 est.; Fla., 1; Ga., 2; S. C., 1; Tenn., 2; Tex., 3.....	10	81,654	11,193	Ala., 1 est.; Fla., 1; Ga., 2; La., 2; Tenn., 1.....	7	1,699,620	148,831
Colo., 2 est.; Kans., 2; Nebr., 1; Oreg., 2.....	7	24,210	2,979	Colo., 1 est.; Nebr., 1; Oreg., 2.....	4	197,000	11,200
Conn., 1 est.; Del., 1; Md., 3; R. I., 2; Va., 3.....	10	147,251	15,370	Conn., 1 est.; Md., 1; R. I., 1.....	3	1,208,850	66,740
Ind., 3 est.; Mich., 1.....	4	25,750	3,732	Ind., 1 est.; Minn., 2; Ohio, 2; Wash., 1; Wis., 3.....	9	7,392,299	341,220
Colors in oil, total.....	367	33,194,913	6,900,814	<b>Ready mixed and semipaste—</b>			
California.....	49	2,158,508	578,873	<b>Paints in oil, total.....</b>			
Illinois.....	34	4,110,573	912,211	California.....	64	8,257,725	6,210,019
Indiana.....	10	91,493	16,603	Colorado.....	5	275,787	612,607
Kentucky.....	11	603,384	95,337	Connecticut.....	6	183,623	243,069
Maryland.....	8	335,895	68,813	Florida.....	7	122,796	247,679
Massachusetts.....	18	1,056,249	191,225	Georgia.....	7	208,147	362,850
Michigan.....	10	708,525	221,960	Illinois.....	60	10,981,066	17,913,140
Minnesota.....	9	212,242	36,699	Indiana.....	16	558,374	1,072,717
Missouri.....	20	1,642,145	537,533	Iowa.....	4	327,887	516,628
New Jersey.....	12	4,045,365	854,374	Kansas.....	3	54,800	100,000
New York.....	40	5,826,546	1,606,147	Kentucky.....	15	1,246,372	2,069,626
Ohio.....	42	2,356,989	501,776	Louisiana.....	8	570,998	1,196,201
Pennsylvania.....	37	6,839,857	827,416	Maryland.....	12	605,221	1,308,086
Tennessee.....	5	34,906	10,508	Massachusetts.....	25	968,270	2,027,933
Texas.....	9	75,321	28,195	Michigan.....	21	2,105,481	4,046,144
Wisconsin.....	9	709,330	176,896	Minnesota.....	23	1,079,038	2,063,128
Ala., 1 est.; Fla., 1; Ga., 3; La., 4; Colo., 5 est.; Kans., 2; Nebr., 3; Okla., 1.....	11	94,877	25,021	Missouri.....	30	3,216,208	6,205,213
Conn., 5 est.; Del., 1; Me., 1; R. I., 2.....	9	801,975	86,305	Nebraska.....	6	376,188	753,669
N. C., 2 est.; S. C., 1; Va., 3; W. Va., 1.....	7	36,476	9,383	New Jersey.....	24	3,784,685	6,928,910
Oreg., 3 est.; Utah, 1; Wash., 4.....	8	123,973	45,061	New York.....	77	6,220,269	11,870,245
Colors in japan, total.....	149	2,635,976	1,012,843	Ohio.....	71	6,882,760	12,892,533
California.....	19	215,188	70,112	Oregon.....	8	311,381	495,150
Illinois.....	20	343,951	121,563	Pennsylvania.....	62	6,721,172	11,862,993
Indiana.....	4	24,380	11,501	Rhode Island.....	3	152,891	385,562
Kentucky.....	5	51,909	10,942	South Carolina.....	3	80,761	201,604
Maryland.....	4	3,140	1,501	Tennessee.....	9	372,846	795,366
Massachusetts.....	7	36,062	13,674	Texas.....	13	582,090	1,148,157
Michigan.....	10	468,228	211,639	Virginia.....	6	150,287	254,415
Missouri.....	9	43,706	11,782	Washington.....	7	295,100	536,996
New Jersey.....	6	46,340	12,181	Wisconsin.....	13	791,133	1,563,010
New York.....	13	978,577	417,065	Ala., 2 est.; N. C., 2.....	4	107,200	213,400
Ohio.....	15	205,322	68,501	Del., 1 est.; Me., 1; W. Va., 2.....	4	397,199	207,902
Pennsylvania.....	16	178,898	45,114	Okla., 1 est.; Utah, 2.....	3	267,604	418,042
Wisconsin.....	4	23,567	9,088	<b>Undercoatings and primers, total.....</b>			
Ala., 1 est.; Ga., 1; La., 1; Tenn., 1; Colo., 1 est.; Minn., 5; Oreg., 1; Tex., 1.....	4	4,304	1,906	California.....	52	751,400	1,206,400
Conn., 1 est.; Del., 1; R. I., 1; Va., 2.....	5	5,354	939	Colorado.....	5	8,639	17,652
Other paints in paste form, total.....	274	59,583,690	7,108,566	Connecticut.....	3	41,888	52,018
California.....	44	5,624,282	674,363	Illinois.....	42	965,852	1,359,812
Illinois.....	28	14,123,439	1,601,956	Indiana.....	11	89,785	159,982
Indiana.....	8	263,442	29,970	Kentucky.....	12	86,610	151,450
Kentucky.....	8	941,445	83,883	Louisiana.....	4	63,770	127,387
Maryland.....	8	972,048	146,852	Maryland.....	5	22,744	26,794
Massachusetts.....	13	1,822,338	223,447	Massachusetts.....	12	48,891	90,014
Michigan.....	12	5,743,914	620,205	Michigan.....	21	3,243,751	4,271,764
Minnesota.....	8	841,310	60,018	Minnesota.....	8	65,536	76,024
Missouri.....	7	1,085,494	108,271	Missouri.....	21	298,937	504,010
New Jersey.....	15	7,522,714	914,769	Nebraska.....	4	3,329	12,932
New York.....	20	3,863,149	534,133	New Jersey.....	20	871,224	1,159,770
Ohio.....	31	5,634,605	846,558	New York.....	40	1,533,798	2,267,835
Pennsylvania.....	26	5,112,318	560,381	Ohio.....	49	2,752,111	3,627,503
Texas.....	7	451,667	72,256	Oregon.....	6	31,443	58,736
Washington.....	6	1,598,678	126,033	Pennsylvania.....	33	488,716	829,548
Wisconsin.....	7	1,103,832	125,023	Tennessee.....	5	30,550	59,800
Ala., 2 est.; Ga., 2; La., 3; Tenn., 2; Colo., 1 est.; Kans., 1; Nebr., 1; Okla., 1.....	4	816,548	59,923	Texas.....	10	45,126	80,575
		60,807	8,573	Washington.....	5	22,400	29,860
				Wisconsin.....	10	254,987	488,350
				Ala., 2 est.; Fla., 1.....	3	36,835	51,140
				Iowa, 2 est.; Kans., 1; Okla., 1; Utah, 2.....	6	27,855	44,598
				Me., 1 est.; R. I., 2.....	3	240,767	666,661
				N. C., 1 est.; Va., 1; W. Va., 1.....	3	19,140	34,245



## CENSUS OF MANUFACTURES: 1929

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

[See note at head of this table]

PRODUCT AND STATE	Number of establishments	Quantity	Value	PRODUCT AND STATE	Number of establishments	Quantity	Value
<b>PAINTS—Continued.</b>				<b>VARNISHES, JAPANS, AND LACQUERS, INCLUDING ENAMELS—Continued.</b>			
Ready mixed and semipaste—Continued.				Oleo-resinous varnishes—Continued.		Gallons	
Wall paints and mill whites, flat and gloss, total	452	19,400,773	\$31,946,834	Wisconsin	3	624,050	\$1,021,315
California	44	575,001	982,066	Ala., 2 est.; Ga., 1	3	53,200	85,627
Colorado	5	39,280	80,645	Kans., 1 est.; Okla., 1; Oreg., 2	4	51,118	54,811
Connecticut	4	197,606	180,522	Me., 1 est.; R. I., 1; Va., 1; W. Va., 1	4	115,968	137,806
Georgia	3	42,443	62,049	Spirit varnishes, total	242	7,379,820	13,534,920
Illinois	46	3,484,725	5,679,389	California	28	523,046	720,694
Indiana	15	392,160	613,859	Colorado	3	3,374	9,113
Kentucky	12	244,423	399,453	Connecticut	4	320,945	538,976
Louisiana	4	102,352	174,081	Illinois	21	1,248,668	2,774,851
Maryland	10	128,361	224,762	Indiana	9	468,916	498,748
Massachusetts	17	402,801	652,781	Kentucky	7	138,196	193,183
Michigan	19	1,321,875	2,392,159	Maryland	5	54,915	83,486
Minnesota	11	327,102	558,730	Massachusetts	12	237,967	338,132
Missouri	23	718,984	1,150,339	Michigan	8	224,992	370,280
Nebraska	4	79,081	137,930	Minnesota	5	12,568	23,875
New Jersey	22	2,636,734	3,990,435	Missouri	8	118,698	162,519
New York	62	3,448,482	5,591,703	New Jersey	19	330,845	528,248
Ohio	54	2,296,548	3,588,489	New York	37	2,443,697	4,687,238
Oregon	6	33,225	55,160	Ohio	32	543,952	875,801
Pennsylvania	39	1,173,259	2,161,916	Pennsylvania	23	512,800	875,504
Tennessee	6	56,465	87,659	Tennessee	3	38,556	81,276
Texas	10	116,345	170,396	Del., 1 est.; R. I., 2; Va., 1	4	95,800	240,948
Washington	4	9,300	17,753	Iowa, 1 est.; Kans., 1; Okla., 1; Wis., 2	5	5,350	9,141
Wisconsin	10	797,778	1,243,304	La., 1 est.; N. C., 2; Tex., 2	5	41,685	85,266
Ala., 2 est.; Fla., 2	4	52,630	87,868	Oreg., 2 est.; Wash., 2	4	11,000	25,231
Del., 1 est.; Me., 1; R. I., 2	4	613,841	1,482,100	Varnishes other than oleo-resinous and spirit, total	156	8,476,266	10,613,270
Iowa, 2 est.; Kans., 2; Utah, 1	5	44,241	90,803	California	12	383,385	820,484
N. C., 2 est.; S. C., 2; Va., 3; W. Va., 2	9	71,151	120,998	Illinois	17	1,397,909	1,251,679
Other ready-mixed and semipaste paints, total	405	21,650,766	32,247,942	Indiana	6	514,449	362,475
California	39	1,203,684	1,737,310	Kentucky	3	355,285	367,343
Colorado	5	105,424	132,020	Massachusetts	5	77,770	162,885
Connecticut	6	168,141	344,701	Michigan	6	197,158	307,414
Georgia	4	36,215	68,009	Missouri	9	547,411	661,069
Illinois	36	1,876,492	3,011,311	New Jersey	19	1,241,942	1,405,327
Indiana	11	327,753	523,230	New York	22	1,772,249	2,538,751
Kentucky	10	424,310	643,625	Ohio	29	1,065,370	1,914,623
Louisiana	4	67,300	141,370	Pennsylvania	9	320,969	352,163
Maryland	11	924,680	1,081,901	Ala., 1 est.; La., 1; Tenn., 1	3	214,464	365,662
Massachusetts	24	854,032	1,439,919	Conn., 2 est.; Md., 2; R. I., 1; Va., 1	6	76,540	71,172
Michigan	16	1,982,732	2,602,108	Iowa, 1 est.; Kans., 1; Minn., 2; Wis., 1	5	224,824	368,330
Minnesota	8	113,077	163,528	Oreg., 2 est.; Tex., 2; Wash., 1	5	78,635	118,302
Missouri	22	1,189,412	1,972,869	Pyroxylin products—			
New Jersey	27	3,886,077	6,332,228	Clear lacquers, total	200	9,938,501	19,178,970
New York	37	1,904,225	2,996,633	California	19	206,138	353,948
Ohio	51	3,169,797	4,437,329	Illinois	25	2,001,875	3,047,260
Oregon	9	197,395	285,904	Indiana	12	614,412	1,102,203
Pennsylvania	29	716,349	1,066,447	Kentucky	7	1,023,403	1,917,367
Tennessee	4	70,050	122,196	Massachusetts	5	263,661	602,783
Texas	11	280,674	257,490	Michigan	9	508,444	995,663
Washington	6	191,600	260,143	Missouri	12	253,144	588,270
West Virginia	4	116,899	139,169	New Jersey	22	3,038,628	5,936,069
Wisconsin	8	1,345,424	1,749,741	New York	23	668,966	1,410,310
Ala., 2 est.; Fla., 3; Miss., 1	6	117,116	178,776	Ohio	31	1,113,894	2,191,657
Iowa, 1 est.; Kans., 2; Okla., 2	6	57,000	96,028	Pennsylvania	9	67,731	152,295
Utah, 1	6	136,983	283,832	Texas	4	11,065	24,659
Me., 1 est.; R. I., 3; Vt., 1	5	87,924	174,141	Washington	4	7,200	16,279
N. C., 2 est.; S. C., 2; Va., 2	6			Wisconsin	4	99,652	174,709
<b>VARNISHES, JAPANS, AND LACQUERS, INCLUDING ENAMELS:</b>				Colo., 2 est.; Minn., 2; Oreg., 2	6	15,331	34,470
Oleo-resinous varnishes, total	352	38,843,280	47,740,393	Conn., 1 est.; Md., 2; R. I., 2	5	47,871	108,293
California	34	2,008,900	1,986,172	La., 1 est.; N. C., 2; Va., 1	4	12,086	21,615
Colorado	3	29,955	44,137	Lacquer enamels, total	193	15,150,807	38,555,236
Connecticut	3	448,871	647,020	California	17	483,132	1,267,018
Illinois	28	7,026,848	6,058,417	Illinois	22	1,459,935	3,828,893
Indiana	6	1,111,459	1,148,306	Indiana	10	185,659	416,624
Kentucky	12	1,440,612	1,707,123	Kentucky	5	211,840	408,338
Louisiana	3	83,015	162,072	Massachusetts	4	118,681	263,807
Maryland	4	54,352	64,028	Michigan	10	4,043,225	9,862,640
Massachusetts	13	2,045,847	3,147,358	Missouri	11	179,740	372,553
Michigan	14	1,684,163	2,132,997	New Jersey	20	3,478,991	10,063,550
Minnesota	5	298,984	332,848	New York	21	715,005	1,835,553
Missouri	17	2,870,399	3,128,647	Ohio	34	2,290,141	4,900,756
Nebraska	3	13,675	32,254	Oregon	5	16,129	44,423
New Jersey	22	5,298,218	5,802,147	Pennsylvania	9	607,841	2,540,516
New York	48	6,594,633	10,287,104	Washington	3	16,800	89,876
Ohio	49	4,205,736	5,514,695	Wisconsin	3	238,403	593,561
Pennsylvania	33	2,471,212	2,996,095	Colo., 2 est.; Minn., 1; Tex., 2	5	21,035	58,243
Tennessee	3	52,565	95,195	Conn., 2 est.; R. I., 2	4	1,069,860	2,072,872
Texas	9	186,226	243,712	La., 1 est.; Md., 1; N. C., 1; Va., 1	4	5,490	12,603
Washington	7	82,250	89,938				

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

[See note at head of this table]

PRODUCT AND STATE	Number of establishments	Quantity	Value	PRODUCT AND STATE	Number of establishments	Quantity	Value
<b>VARNISHES, JAPANS, AND LACQUERS, INCLUDING ENAMELS—Continued.</b>				<b>VARNISHES, JAPANS, AND LACQUERS, INCLUDING ENAMELS—Continued.</b>			
<b>Pyroxylin products—Continued.</b>				<b>Enamels, oil and varnish base—Con.</b>			
Thinners for pyroxylin lacquers, total	221	Gallons 17,870,548	\$10,151,462	Ohio	46	Gallons 2,792,344	\$5,510,362
California	22	552,335	730,300	Pennsylvania	33	839,314	1,506,444
Colorado	3	6,450	6,555	Texas	9	130,835	317,810
Illinois	26	1,245,313	1,630,024	Wisconsin	8	544,528	1,410,832
Indiana	11	225,237	273,066	Conn., 2 est.; Del., 1; Mo., 1; R. I., 2	6	194,529	267,887
Kentucky	7	220,737	284,404	Fla., 2 est.; La., 2	4	44,144	114,740
Maryland	3	42,697	39,900	Iowa, 1 est.; Kans., 2	3	9,750	19,875
Massachusetts	6	403,870	376,153	N. C., 2 est.; Tenn., 2; Va., 3; W. Va., 1	8	51,465	89,817
Michigan	17	5,323,202	5,138,862	Oreg., 2 est.; Utah, 2; Wash., 3	7	39,921	110,110
Missouri	11	206,460	288,320	Allied products, total	45		2,919,467
New Jersey	21	4,326,644	4,834,489	California	4		48,968
New York	29	2,304,746	2,391,909	Illinois	5		539,182
Ohio	32	2,212,895	2,233,984	Missouri	5		123,402
Oregon	4	25,000	27,220	New Jersey	4		937,663
Pennsylvania	10	389,669	444,901	New York	7		363,833
Wisconsin	4	263,600	289,531	Ohio	7		520,707
Conn., 1 est.; R. I., 2	3	55,006	89,431	Pennsylvania	7		244,030
La., 1 est.; N. C., 2; Tex., 2; Va., 1	6	54,607	67,127	Fla., 1 est.; Ga., 1; Md., 1; Mass., 2	6		111,682
Minn., 2 est.; Nebr., 1; Tenn., 1	6	16,080	16,277	Mich., 1	6		
Wash., 2	6						
Other pyroxylin products, total	61	2,742,199	5,450,509	<b>FILLERS:</b>			
California	8	47,088	101,616	Liquid, total	187	495,361	683,221
Illinois	6	95,496	226,517	California	11	14,510	17,855
Indiana	3	1,581	5,198	Illinois	16	43,136	51,232
Michigan	9	500,893	701,689	Indiana	4	109,454	120,680
New Jersey	10	761,267	2,087,491	Kentucky	3	2,789	3,532
Ohio	11	414,607	743,015	Louisiana	3	3,100	3,566
Pennsylvania	3	4,510	14,142	Maryland	7	2,816	3,309
Ky., 2 est.; La., 1; Mo., 1; N. C., 1	5	148,374	283,744	Massachusetts	8	11,602	18,302
Mass., 2 est.; N. Y., 2; R. I., 1	6	763,097	1,337,157	Michigan	5	16,774	31,938
Wis., 1	6			Minnesota	5	8,362	13,270
Drying japans and driers, total	230	5,187,797	4,057,682	Missouri	12	6,838	8,344
California	30	274,153	208,873	New Jersey	12	72,599	158,271
Connecticut	4	23,312	21,873	New York	21	95,574	116,348
Illinois	22	539,992	279,033	Ohio	23	45,077	58,558
Indiana	3	39,674	39,914	Pennsylvania	22	35,948	48,494
Kentucky	5	121,330	75,681	Texas	5	2,639	2,913
Maryland	4	13,953	26,565	Wisconsin	5	10,228	17,392
Massachusetts	10	205,882	233,906	Colo., 2 est.; Conn., 3; Del., 1; Ga., 2	25	13,825	13,922
Michigan	10	363,420	242,635	Iowa, 1; Kans., 2; Me., 1; Nebr., 2			
Minnesota	5	32,994	29,525	N. C., 1; Oreg., 3; R. I., 2; S. C., 1			
Missouri	9	91,571	89,122	Tenn., 1; Va., 1; Wash., 1; W. Va., 1			
New Jersey	24	463,327	449,904	Paste, total	239	Pounds 20,638,050	1,801,974
New York	28	603,477	497,302	California	28	379,036	48,280
Ohio	23	1,229,190	1,063,188	Colorado	4	6,913	6,887
Pennsylvania	28	1,110,090	630,033	Connecticut	3	17,564	1,070
Texas	3	13,298	18,469	Illinois	23	2,472,161	273,922
Ala., 1 est.; Ga., 1; La., 2; Tenn., 1	5	26,849	18,678	Indiana	6	3,231,271	266,104
Colo., 2 est.; Kans., 1	3	1,800	1,730	Kentucky	4	47,613	4,431
Oreg., 1 est.; R. I., 1; Wash., 1; Wis., 1	4	33,535	34,251	Louisiana	3	44,368	2,990
Baking japans, total	99	4,039,344	3,480,555	Maryland	8	146,175	15,051
California	7	63,064	40,543	Massachusetts	7	810,055	82,222
Illinois	6	312,793	219,352	Michigan	9	1,023,362	81,737
Indiana	3	30,759	15,220	Minnesota	6	38,596	3,971
Kentucky	5	82,960	52,226	Missouri	14	240,742	26,230
Michigan	8	1,371,706	975,663	New Jersey	9	3,708,045	255,112
Missouri	5	174,880	182,201	New York	23	1,014,825	120,161
New Jersey	9	355,105	492,181	Ohio	27	2,296,681	191,444
New York	14	220,432	239,851	Pennsylvania	25	4,260,118	319,335
Ohio	19	1,034,415	901,743	Texas	7	68,925	7,682
Pennsylvania	12	283,564	214,149	Wisconsin	7	511,076	63,313
Conn., 1 est.; Md., 1; Mass., 1; R. I., 1	4	16,799	18,225	Ala., 1 est.; Ga., 2; S. C., 1; Tenn., 2	6	25,407	1,751
La., 1 est.; Minn., 1; Oreg., 2; Tex., 1	7	62,867	39,201	Del., 1 est.; R. I., 1; W. Va., 1	3	9,211	676
Wisc., 2	7			Iowa, 1 est.; Kans., 2; Nebr., 3	6	17,139	2,067
Enamels, oil and varnish base, total	372	19,987,299	40,198,979	N. C., 2 est.; Va., 1	3	448,775	31,540
California	43	844,077	2,065,268	Oreg., 2 est.; Wash., 1	3	27,613	1,998
Colorado	4	23,021	77,069	Dry, total	16	9,775,004	152,304
Georgia	4	11,246	24,867	Ohio	5	58,342	4,877
Illinois	37	3,686,816	6,561,107	Calif., 1 est.; Minn., 2; Mo., 2	5	29,047	2,189
Indiana	13	352,362	724,217	Mass., 1 est.; N. Y., 2; N. C., 1; Pa., 2	0	9,687,615	145,258
Kentucky	12	621,408	946,642	Putty, total	215	99,103,239	4,253,334
Maryland	8	48,456	102,780	California	27	7,160,092	287,085
Massachusetts	12	893,809	2,274,963	Colorado	5	213,729	10,248
Michigan	17	2,112,656	3,305,409	Illinois	9	6,214,372	285,934
Minnesota	8	149,240	278,071	Indiana	5	376,711	18,682
Missouri	13	898,209	1,414,771	Kentucky	9	1,454,365	54,664
Nebraska	3	11,891	23,063	Louisiana	3	178,197	7,047
New Jersey	18	1,523,723	3,123,442	Maryland	5	1,342,128	56,420
New York	40	4,252,561	9,927,923	Massachusetts	9	7,384,487	332,377
				Michigan	9	17,385,919	704,730
				Minnesota	7	2,732,118	92,373

## CENSUS OF MANUFACTURES: 1929

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

[See note at head of this table]

PRODUCT AND STATE	Number of establishments	Quantity	Value	PRODUCT AND STATE	Number of establishments	Quantity	Value
<b>PUTTY—Continued.</b>		<i>Pounds</i>		<b>VARNISH STAINS—Continued.</b>		<i>Gallons</i>	
Missouri.....	9	8,713,681	\$276,006	Pennsylvania.....	25	343,623	\$594,601
Nebraska.....	3	588,933	15,850	Tennessee.....	3	13,000	24,000
New Jersey.....	9	7,414,027	295,671	Texas.....	5	12,449	10,420
New York.....	20	9,363,190	501,585	Wisconsin.....	5	25,810	45,242
Ohio.....	18	11,970,733	599,632	Ala., 1 est.; Ga., 3; La., 2.....	6	21,774	47,227
Oregon.....	3	755,469	34,630	Del., 1 est.; N. C., 2; Va., 2; W. Va., 2.....	7	7,086	14,762
Pennsylvania.....	30	6,852,853	306,734	Kans., 1 est.; Nebr., 3; Ore., 1; S. C., 1; Utah, 1; Wash., 1.....	8	7,407	15,363
Tennessee.....	4	1,023,506	77,590	STAINS, OTHER THAN VARNISH STAINS, total.....	328	3,533,961	4,541,251
Texas.....	7	664,584	29,469	California.....	45	334,124	404,243
Washington.....	4	650,000	32,127	Colorado.....	4	3,752	0,897
Wisconsin.....	6	4,204,339	140,308	Connecticut.....	3	45,615	36,183
Ala., 2 est.; Ga., 2; S. C., 1; Va., 2; W. Va., 1, Conn., 1 est.; R. I., 2.....	8	1,627,176	60,656	Illinois.....	34	630,888	689,243
Iowa, 1 est.; Kans., 1; Utah, 1.....	3	501,456	21,551	Indiana.....	10	443,031	500,401
BLEACHED SHELLAC, total.....	13	11,159,556	5,431,349	Kentucky.....	12	35,044	64,648
Illinois.....	3	730,813	427,873	Louisiana.....	4	25,667	35,335
New York.....	5	6,189,519	3,083,900	Maryland.....	8	9,578	10,910
Conn., 1 est.; Mass., 1; Mich., 1; N. J., 2.....	5	4,219,224	1,919,516	Massachusetts.....	11	226,030	445,275
VARNISH STAINS, total.....	254	<i>Gallons</i>	4,381,153	Michigan.....	13	145,413	169,377
California.....	23	17,617	30,697	Minnesota.....	9	47,818	77,189
Colorado.....	5	5,817	16,987	Missouri.....	14	80,123	117,112
Connecticut.....	5	56,625	91,537	New Jersey.....	12	172,410	257,744
Illinois.....	28	271,822	401,732	New York.....	20	264,401	366,220
Indiana.....	6	24,002	59,974	Ohio.....	41	347,842	435,142
Kentucky.....	7	56,208	117,400	Oregon.....	6	22,800	38,423
Maryland.....	9	60,620	108,923	Pennsylvania.....	25	307,573	859,714
Massachusetts.....	9	52,079	112,771	Tennessee.....	5	20,285	20,667
Michigan.....	6	207,772	471,062	Texas.....	5	47,693	52,515
Minnesota.....	7	32,927	52,435	Washington.....	8	90,900	116,224
Missouri.....	15	183,470	363,819	Wisconsin.....	11	120,915	216,719
New Jersey.....	14	261,190	537,535	Ala., 1 est.; Fla., 1; Ga., 3.....	5	18,162	21,529
New York.....	28	304,560	853,436	Del., 1 est.; N. C., 3; Va., 2; W. Va., 2.....	8	61,099	69,479
Ohio.....	33	192,363	342,221	Iowa, 1 est.; Kans., 1; Nebr., 3; Okla., 1; Utah, 1.....	7	14,459	19,405
				Me., 1 est.; R. I., 2.....	3	7,694	11,157

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

[The difference between the sum of the costs of the several kinds of materials for which figures are given in this table and the total cost of materials consumed, as given in Tables 1 and 2, is due to the fact that this table covers only certain specified materials, whereas Tables 1 and 2 cover all materials]

MATERIAL AND STATE	Quantity	Cost	MATERIAL AND STATE	Quantity	Cost	MATERIAL AND STATE	Quantity	Cost
<b>Pig lead (Calif., Ill., Ky., Md., Mich., Minn., Mo., N. J., N. Y., Ohio, Pa., W. Va.).....</b>	<i>Tons</i> 200,013	\$27,301,036	<b>Lead oxides—Continued.</b>	<i>Pounds</i>		<b>Lithopone, total.....</b>	<i>Pounds</i> 281,433,133	\$15,308,274
<b>White lead, total.....</b>	<i>Pounds</i> 164,004,099	13,132,638	New Jersey.....	4,107,745	\$297,400	California.....	18,953,754	980,577
California.....	3,918,530	351,792	New York.....	6,322,589	546,605	Colorado.....	819,355	44,899
Colorado.....	4,742,847	449,383	Ohio.....	3,014,325	240,310	Connecticut.....	2,316,015	141,554
Connecticut.....	428,600	38,302	Pennsylvania.....	3,134,372	280,237	Georgia.....	812,279	18,453
Georgia.....	275,478	23,165	Oregon.....	233,205	22,150	Illinois.....	45,024,634	2,369,538
Illinois.....	23,341,497	1,981,987	Wisconsin.....	745,978	72,717	Indiana.....	4,074,705	213,246
Indiana.....	1,149,066	108,953	Ala., Fla., Ga., Ky., S. C., Tenn.....	1,035,526	84,042	Kentucky.....	4,690,439	227,674
Kentucky.....	2,764,946	224,367	Colo., Utah, Wash.....	10,185	10,688	Louisiana.....	1,787,492	89,826
Louisiana.....	671,953	63,904	Del., Md., R. I.....	61,185	6,302	Massachusetts.....	5,932,228	249,157
Maryland.....	1,316,368	116,536	Ill., Ind., Kans.....	30,780,980	2,010,217	Michigan.....	5,903,113	302,373
Massachusetts.....	4,742,847	449,383	Iowa, La., Nebr., Okla., Tex.....	427,313	41,463	Minnesota.....	17,469,499	919,034
Michigan.....	6,775,049	567,235	Zinc oxide, total.....	111,205,851	7,940,758	Missouri.....	3,704,160	198,587
Minnesota.....	2,736,739	249,967	California.....	8,746,940	630,312	New Jersey.....	13,486,198	744,169
Missouri.....	5,061,977	428,130	Colorado.....	492,899	34,343	New York.....	28,839,798	1,600,325
Nebraska.....	8,402,742	80,794	Connecticut.....	436,432	34,431	Ohio.....	49,333,963	2,986,111
New Jersey.....	46,622,969	3,373,951	Illinois.....	13,398,396	944,143	Illinois.....	29,496,525	1,576,364
New York.....	46,622,969	3,373,951	Indiana.....	1,639,868	120,320	Pennsylvania.....	23,874,166	1,316,508
Ohio.....	16,562,754	1,253,493	Georgia.....	333,868	23,076	Tennessee.....	713,560	45,739
Oregon.....	348,645	30,840	Kentucky.....	2,288,005	151,858	Texas.....	2,251,711	118,535
Pennsylvania.....	28,182,786	2,192,211	Louisiana.....	1,301,917	80,579	Washington.....	701,048	40,241
Rhode Island.....	852,777	75,128	Maryland.....	1,804,821	118,010	Wisconsin.....	9,473,086	497,674
Tennessee.....	518,169	45,042	Massachusetts.....	4,274,130	263,079	Ala., Del., Fla., Me., N. C., R. I., S. C., Va., W. Va.....	9,675,169	520,991
Texas.....	1,034,510	93,456	Michigan.....	3,705,969	290,760	Iowa, Kans., Nebr., Okla., Ore., Utah.....	983,887	61,890
Washington.....	381,750	36,855	Minnesota.....	1,975,324	134,967		1,111,043	57,957
Ala., Del., Fla., Me., N. C., S. C., Va., W. Va.....	1,811,410	161,329	Missouri.....	6,319,385	423,307	<b>Iron oxides, total.....</b>	69,506,374	1,649,544
Iowa, Kans., Utah, Wis.....	4,405,354	409,659	Nebraska.....	744,708	49,508	California.....	1,677,902	75,205
<b>Lead oxides, total.....</b>	53,427,219	3,940,184	New Jersey.....	11,059,654	901,779	Connecticut.....	249,255	9,016
California.....	632,028	56,153	New York.....	22,311,777	1,601,530	Illinois.....	27,724,822	349,570
Connecticut.....	84,078	2,780	Ohio.....	12,532,386	900,836	Indiana.....	139,592	10,292
Massachusetts.....	619,614	67,509	Oregon.....	629,461	40,438	Kentucky.....	1,080,306	32,896
Michigan.....	1,488,062	130,743	Pennsylvania.....	8,135,146	655,729	Louisiana.....	229,116	7,147
Minnesota.....	300,442	24,676	Texas.....	679,030	43,281	Maryland.....	316,027	17,927
Missouri.....	391,492	35,162	Washington.....	762,260	50,548	Michigan.....	767,603	43,107
			Ala., Del., Fla., Me., N. C., R. I., S. C., Va., W. Va.....	2,095,000	204,305	Massachusetts.....	3,845,530	245,274
			Iowa, Kans., Okla., Utah, Wis.....	4,462,757	301,609	Minnesota.....	693,555	29,863
						Missouri.....	2,210,491	87,186
						New Jersey.....	2,200,739	83,748

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

[See note at head of this table]

MATERIAL AND STATE	Quantity	Cost	MATERIAL AND STATE	Quantity	Cost	MATERIAL AND STATE	Quantity	Cost
<b>Iron oxides—Continued.</b>	<i>Pounds</i>			<i>Pounds</i>		<b>Shellac and resins—Contd.</b>		
New York	6, 149, 182	\$174, 172	Other oils, total	94, 416, 365	\$8, 626, 744	Bleached—Continued.	<i>Pounds</i>	
Ohio	6, 588, 438	144, 722	California	5, 598, 878	496, 291	New York	8, 568, 448	\$3, 977, 041
Oregon	71, 737	3, 199	Connecticut	490, 800	42, 577	Ohio	511, 357	172, 657
Pennsylvania	10, 219, 376	199, 734	Illinois	9, 523, 686	789, 291	Pennsylvania	791, 124	373, 026
Tennessee	2, 287, 960	8, 311	Indiana	685, 514	71, 393	Tennessee	75, 725	40, 156
Texas	520, 497	15, 237	Kentucky	795, 100	70, 070	Washington	15, 900	8, 364
Ala., Fla., Ga.	405, 910	20, 063	Louisiana	125, 444	11, 168	Conn., Del., Ga., Ky., La., N. C., R. I., Tenn., Va., Minn., Okla., Oreg., Wis.	983, 683	487, 749
Colo., Iowa, Kans., Nebr., Okla., Utah, Wash., Wis.	1, 022, 290	82, 708	Maryland	809, 827	64, 908	Other, total	79, 146, 788	7, 372, 299
Del., N. C., R. I., S. C., W. Va.	205, 746	10, 167	Massachusetts	641, 322	46, 118	California	2, 761, 949	256, 706
<b>Lampblack and carbon black, total.</b>	9, 585, 480	1, 122, 976	Michigan	6, 751, 327	615, 077	Connecticut	257, 542	49, 010
California	463, 949	57, 302	Minnesota	954, 424	79, 184	Illinois	9, 480, 446	618, 776
Connecticut	40, 396	8, 046	Missouri	8, 926, 539	693, 029	Indiana	1, 215, 185	100, 621
Georgia	27, 711	1, 121	Nebraska	317, 607	43, 398	Kentucky	1, 299, 845	74, 583
Illinois	1, 428, 535	151, 527	New Jersey	8, 174, 790	809, 677	Louisiana	262, 430	20, 654
Indiana	74, 893	13, 508	New York	11, 228, 068	1, 372, 219	Maryland	184, 844	58, 634
Kentucky	107, 704	17, 943	Ohio	13, 913, 372	1, 443, 768	Massachusetts	1, 823, 182	109, 742
Louisiana	47, 726	4, 990	Pennsylvania	20, 740, 340	1, 590, 494	Michigan	6, 782, 994	653, 893
Maryland	35, 282	6, 984	Tennessee	248, 318	23, 629	Missouri	6, 515, 717	496, 557
Massachusetts	248, 671	28, 051	Texas	406, 567	29, 217	New Jersey	11, 894, 399	2, 106, 077
Michigan	1, 377, 066	191, 035	Washington	257, 430	19, 477	New York	15, 138, 688	1, 214, 820
Minnesota	130, 420	10, 050	Ala., Fla., Ga., Miss.	126, 000	13, 825	Ohio	12, 330, 696	948, 342
Missouri	360, 017	40, 685	Colo., Iowa, Okla., Oreg., Wis.	1, 726, 025	110, 872	Pennsylvania	6, 758, 692	437, 103
New Jersey	442, 871	64, 279	Del., R. I., S. C., Va., W. Va.	1, 944, 927	180, 002	Rhode Island	627, 634	76, 228
New York	1, 695, 440	158, 511	<b>Turpentine, tung oil and dryers, total.</b>		16, 079, 339	Texas	225, 900	15, 361
Ohio	1, 184, 781	161, 679	California		1, 169, 104	Washington	166, 000	4, 601
Pennsylvania	1, 206, 600	110, 324	Connecticut		52, 010	Ala., Del., Ga., N. C., Tenn., Va.	339, 396	38, 193
Tennessee	226, 804	20, 560	Illinois		3, 737, 447	Colo., Kans., Minn., Okla., Oreg., Wis.	1, 081, 253	62, 398
Texas	171, 249	19, 500	Indiana		280, 050	<b>Nitrocellulose raw materials (solvents, gums, etc.), total.</b>		33, 609, 595
Ala., Del., Fla., Me., N. C., R. I., S. C., Va., W. Va.	58, 169	9, 617	Kentucky		547, 628	California		1, 401, 458
Colo., Oreg., Utah, Wash.	122, 471	14, 644	Louisiana		64, 764	Illinois		2, 344, 121
Kans., Nebr., Okla., Wis.	227, 925	31, 420	Maryland		52, 864	Indiana		601, 642
<b>Linseed oil, total.</b>	381, 755, 776	41, 210, 145	Massachusetts		845, 027	Kentucky		1, 305, 423
California	23, 128, 188	2, 734, 130	Michigan		1, 153, 411	Michigan		5, 800, 640
Connecticut	3, 018, 343	314, 816	Minnesota		280, 462	Minnesota		21, 115
Georgia	1, 040, 812	118, 250	Missouri		483, 247	Missouri		512, 708
Illinois	68, 521, 641	7, 129, 245	New Jersey		1, 321, 250	New Jersey		10, 528, 577
Indiana	5, 255, 030	673, 696	New York		1, 995, 034	New York		2, 598, 141
Kentucky	8, 723, 106	905, 004	Ohio		2, 095, 680	Ohio		4, 781, 192
Louisiana	2, 486, 467	281, 822	Pennsylvania		924, 523	Pennsylvania		1, 525, 741
Maryland	2, 960, 906	337, 498	Tennessee		70, 797	Texas		17, 956
Massachusetts	9, 539, 815	1, 018, 087	Texas		144, 021	Washington		10, 974
Michigan	21, 724, 929	2, 367, 916	Virginia		44, 114	Washington		738, 589
Minnesota	6, 502, 836	689, 817	Washington		42, 543	Wisconsin		
Missouri	29, 793, 569	3, 212, 126	Ala., Fla., Ga.		78, 252	Colo., Conn., Kans., Md., Mass., Okla., Oreg., N. C., R. I., Tenn., Va.		1, 476, 318
Nebraska	1, 431, 145	154, 308	Colo., Iowa, Kans., Nebr., Okla., Oreg., Utah		623, 136			
New Jersey	32, 038, 217	3, 572, 229	Del., Me., N. C., R. I., S. C., W. Va.		73, 995			
New York	56, 654, 010	6, 124, 837	<b>Shellac and resins: Bleached, total.</b>	17, 144, 455	8, 036, 544	California	759, 782	342, 197
Ohio	44, 930, 272	4, 667, 660	California		759, 782	Colorado	13, 059	7, 133
Oregon	1, 380, 440	155, 578	Illinois		3, 534, 059	Illinois		1, 726, 809
Pennsylvania	36, 502, 134	3, 917, 549	Indiana		257, 154	Indiana		111, 222
Tennessee	2, 074, 487	244, 814	Maryland		89, 160	Maryland		35, 950
Texas	3, 177, 628	362, 432	Massachusetts		223, 482	Massachusetts		102, 235
Washington	1, 199, 127	146, 624	Michigan		730, 690	Michigan		393, 953
Ala., Del., Fla., Me., N. C., R. I., S. C., Va., W. Va.	6, 218, 759	753, 200	Missouri		138, 163	Missouri		55, 475
Colo., Iowa, Kans., Okla., Utah, Wis.	13, 466, 945	1, 478, 407	New Jersey		262, 559	New Jersey		163, 024

CENSUS OF MANUFACTURES: 1929

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 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	17,259	Horsepower 150,315	13,292	Horsepower 163,157	9,913	Horsepower 143,111	3,613	Horsepower 84,827	2,159	Horsepower 67,568	100.0	100.0
Prime movers, total	258	33,991	285	44,196	300	46,334	445	41,559	578	43,533	21.6	49.0
Steam, total	217	36,596	246	42,139	249	44,358	352	37,937	439	43,881	20.3	44.8
Engines	195	26,478	230	32,358	223	33,891	339	34,047	(1)	(1)	14.7	40.8
Turbines	22	10,118	16	9,751	26	10,497	13	3,320	(1)	(1)	5.0	3.9
Internal-combustion engines	25	971	33	1,392	41	1,252	67	2,573	107	3,226	0.5	3.0
Water wheels and water turbines	14	1,424	6	665	10	664	26	1,019	32	1,426	0.8	1.2
Electric motors driven by purchased energy	17,003	141,324	13,007	118,991	9,613	96,777	3,108	43,268	1,581	19,035	78.4	51.0
Electric motors, total	19,919	171,288	16,267	155,788	12,276	128,266	4,090	64,241	2,804	34,917	100.0	100.0
Driven by purchased energy	17,003	141,324	13,007	118,991	9,613	96,777	3,108	43,268	1,581	19,035	82.5	67.4
Driven by energy generated in establishments reporting	2,916	29,964	3,260	36,777	2,663	31,489	1,522	20,973	1,223	15,882	17.5	32.6
Electric generators	65	Kilowatts 20,877 Kilowatt-hours	95	Kilowatts 27,269	94	Kilowatts 23,275	(1)	(1)	(1)	(1)		
Electric energy purchased		149,610,040		(1)		(1)		(1)		(1)		

1 Not called for separately on schedule.  
 2 Includes data for a small number of water motors.  
 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 7.—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	29,211	23,300	23,678	26,362	29,008	30,289	30,216	29,871	26,652	29,390	29,114	28,237	<b>27,530</b>	91.0	
1925	25,490	25,264	25,748	26,395	26,280	25,980	25,453	25,031	<i>24,799</i>	24,800	25,338	25,302	25,469	94.3	
1919	21,507	19,711	<i>19,707</i>	19,946	20,424	20,905	21,311	21,972	22,429	22,679	22,927	22,917	23,156	89.9	
1914	16,083	15,723	16,277	16,563	16,852	16,905	16,870	16,030	15,821	15,872	15,564	15,288	<i>15,201</i>	89.0	
1909	14,240	<i>13,233</i>	13,835	14,360	14,635	14,692	14,582	14,202	14,141	14,236	14,444	14,290	14,231	90.0	
California	1,414	1,347	<b>1,523</b>	1,360	1,397	1,401	1,402	1,400	1,475	1,606	1,444	1,415	1,415	87.9	
Colorado	65	<i>58</i>	62	66	69	71	71	68	60	63	63	58	59	81.7	
Connecticut	265	<i>241</i>	211	259	245	254	262	263	255	247	252	262	253	91.6	
Florida	34	35	<i>36</i>	35	35	35	32	32	33	33	32	33	33	88.9	
Georgia	212	219	217	278	218	197	212	209	220	196	196	186	190	66.9	
Illinois	4,199	4,132	<b>4,244</b>	4,306	4,477	4,496	4,431	4,283	4,244	4,034	4,038	3,884	<b>3,810</b>	84.7	
Indiana	372	344	349	363	378	369	364	369	361	373	363	345	<i>328</i>	87.4	
Iowa	57	<i>56</i>	56	37	37	37	37	37	37	37	37	37	37	97.3	
Kentucky	465	435	444	472	482	486	484	488	483	478	459	444	<i>429</i>	87.9	
Louisiana	116	122	121	119	121	126	131	129	125	130	128	72	68	61.9	
Maryland	480	482	471	491	474	481	<i>461</i>	476	471	486	487	486	489	93.9	
Massachusetts	789	765	754	764	787	820	812	812	801	814	806	773	777	91.8	
Michigan	1,865	1,809	1,889	1,961	1,957	2,023	1,966	1,918	1,885	1,810	1,820	1,717	<b>1,689</b>	80.5	
Minnesota	261	<i>237</i>	238	245	262	275	283	280	272	268	262	259	254	83.7	
Missouri	1,489	<b>1,595</b>	1,406	1,487	1,523	1,588	1,549	1,536	1,536	1,520	1,494	1,438	1,417	89.0	
Nebraska	93	<i>64</i>	83	102	103	82	109	101	99	101	92	91	93	88.7	
New Jersey	4,310	4,405	4,420	4,460	4,499	4,563	4,627	4,009	4,612	4,603	4,558	4,439	4,283	92.7	
New York	4,369	4,256	4,276	4,363	4,419	4,453	4,487	4,378	4,397	4,416	4,437	4,416	<b>4,168</b>	93.0	
Ohio	3,103	2,976	3,064	3,162	3,258	3,290	3,243	3,208	3,132	3,117	2,996	2,922	<b>2,895</b>	87.1	
Oregon	128	123	123	134	140	134	133	141	139	132	114	<i>108</i>	112	75.2	
Pennsylvania	2,835	<b>2,738</b>	2,750	2,775	2,817	2,848	2,908	2,839	2,850	2,897	2,895	2,850	2,823	93.6	
South Carolina	16	<i>14</i>	14	16	16	16	16	17	17	16	16	16	16	82.4	
Tennessee	129	128	126	127	138	140	137	130	138	134	132	111	111	79.3	
Texas	173	<i>160</i>	160	170	175	173	182	195	191	180	179	160	167	76.9	
Virginia	96	<i>87</i>	96	97	92	95	97	92	92	92	102	112	103	77.7	
Washington	127	120	124	122	135	137	137	142	133	125	122	114	114	80.3	
West Virginia	232	223	228	230	235	246	220	227	236	250	243	<i>207</i>	240	82.8	
Wisconsin	622	628	636	646	647	651	659	621	604	612	592	594	571	86.6	

## RAYON AND ALLIED PRODUCTS

Description of the industry.—This industry embraces establishments engaged primarily in the manufacture of rayon yarn and allied products in sheets or other forms. No establishments engaged primarily in the further manufacture of products from rayon as a

material are included. Prior to 1925 the statistics for the manufacture of rayon and allied products were included with those for "Chemicals, not elsewhere classified," but at the last three censuses this line of manufacture has been separately classified.

TABLE 1.—SUMMARY FOR THE UNITED STATES: 1925 TO 1929

[Statistics for this industry were included with those for the "Chemicals, not elsewhere classified" industry for 1923 and prior years]

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 <sup>1</sup>	Value added by manufacture <sup>2</sup>	Horse-power
1929	29	39,106	\$44,697,129	\$33,334,753	\$149,546,107	\$116,211,354	195,844
1927	19	26,341	28,649,441	25,747,792	109,888,336	84,140,544	122,406
1925	14	19,128	22,975,605	18,477,965	88,060,962	69,582,907	66,966
PER CENT OF INCREASE							
1927-1929	(3)	48.5	56.0	29.5	36.1	38.1	60.0
1925-1927	(5)	37.7	24.7	39.3	24.8	20.9	82.8

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

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

<sup>3</sup> Per cent not computed where base is less than 100.

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

STATE	Census year	Number of establishments	Salaried officers and employees <sup>1</sup>	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 <sup>2</sup>	Value added by manufacture <sup>3</sup>
					Total	Prime movers	Motors run by purchased energy			Total	Materials and containers	Fuel and purchased energy		
United States	1929	29	2,278	39,106	195,844	132,965	62,879	\$5,768,565	\$44,697,129	\$33,334,753	\$29,015,713	\$4,319,040	\$149,546,107	\$116,211,354
	1927	19	1,355	26,341	122,406	75,987	46,419	3,993,947	28,649,441	25,747,792	22,748,666	3,003,937	109,888,336	84,140,544
Tennessee <sup>4</sup>	1929	4	604	7,537	42,850	42,050	800	1,324,288	7,043,580	5,692,908	5,091,407	601,501	25,188,075	19,495,167
Groups of States: Conn., 1 est.; Del., 1; Ill., 1; Mass., 1; N. H., 1; Ohio, 2; Pa., 2; R. I., 1; W. Va., 1; Wis., 1.	1929	12	450	13,770	60,123	26,285	23,838	1,817,658	18,287,703	12,657,906	11,041,417	1,616,489	58,448,766	45,790,860
Ga., 1 est.; Md., 1; N. J., 2; N. Y., 3; N. C., 1; Va., 5.	1929	13	1,224	17,709	102,871	64,630	38,241	2,626,619	19,385,846	14,983,939	12,882,889	2,101,050	65,909,266	50,925,327

<sup>1</sup> No proprietors or firm members were reported for this industry. The total numbers of persons engaged are, therefore, the sums of the numbers of salaried officers and employees and of wage earners, as follows: For 1929, 41,384; for 1927, 27,696.

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

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

<sup>4</sup> Connecticut, 1 establishment; Delaware, 1; Maryland, 1; New Hampshire, 1; New Jersey, 3; New York, 3; Ohio, 2; Pennsylvania, 2; Tennessee, 2; Virginia, 2; West Virginia, 1.

<sup>5</sup> Tennessee is the only State for which it is possible to give separate figures without disclosing data for individual establishments, but Pennsylvania and Virginia reported larger values of products than Tennessee.

## CENSUS OF MANUFACTURES: 1929

TABLE 3.—PRODUCTS, BY KIND, QUANTITY, AND VALUE, 1925 to 1929, AND PRINCIPAL MATERIALS CONSUMED, BY KIND, QUANTITY, AND COST, 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]

	1929	1927	1925		1929	1927	1925
PRODUCTS				PRODUCTS—continued			
Rayon and allied products, total value.	\$149,546,107	\$109,888,336	\$88,007,873	Rayon and allied products—Con. Allied products (sheets, waste, etc.), value	\$8,609,512	\$3,419,584	
Yarns:				MATERIALS CONSUMED <sup>3</sup>			
Total pounds.....	116,632,378	75,555,439	51,902,401	Wood pulp:			
Total value.....	\$140,840,595	\$106,468,752	\$88,007,873	Tons.....	48,294		
Finer than 125 denier—				Cost.....	\$5,409,712		
Pounds.....	12,813,845			Cotton linters:			
Value.....	\$21,176,640			Pounds.....	61,135,526	( <sup>4</sup> )	( <sup>4</sup> )
125 to 150 denier—				Cost.....	\$5,843,723		
Pounds.....	85,528,539	( <sup>4</sup> )	( <sup>4</sup> )	Chemicals, cost.....	\$16,897,370		
Value.....	\$101,494,715						
Heavier than 150 denier—							
Pounds.....	18,269,994						
Value.....	\$18,175,240						

<sup>1</sup> In addition, miscellaneous products (not normally belonging to the industry) to the value of \$53,089 were made in 1925 by rayon manufacturers.<sup>2</sup> Not reported in detail.<sup>3</sup> 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 due to the fact that this table covers only certain specified materials, whereas the others cover all materials.<sup>4</sup> Not called for on schedule.

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.....	8,057	Horsepower 195,844	6,365	Horsepower 122,406	2,753	Horsepower 66,966	100.0
Prime movers, total.....	167	132,065	114	75,987	126	38,121	67.9
Steam, total.....	165	132,945	113	75,977	126	38,121	67.9
Engines.....	77	8,736	66	7,228	76	4,490	4.5
Turbines.....	88	124,209	47	68,749	50	33,631	63.4
Internal-combustion engines.....	2	20	1	10			( <sup>1</sup> )
Electric motors driven by purchased energy.....	7,890	62,879	6,251	46,419	2,627	28,845	32.1
Electric motors, total.....	21,043	151,348	10,400	79,816	3,912	51,524	100.0
Driven by purchased energy.....	7,890	62,879	6,251	46,419	2,627	28,845	41.5
Driven by energy generated in establishments reporting.....	13,153	88,469	4,149	33,397	1,285	22,679	58.5
Electric generators.....	34	Kilowatts 78,907 Kilowatt- hours	20	Kilowatts 49,825	14	Kilowatts 17,850	
Electric energy purchased <sup>2</sup> .....		152,364,940		( <sup>3</sup> )		( <sup>3</sup> )	

<sup>1</sup> Less than one-tenth of one per cent.<sup>2</sup> This item covers the consumption of purchased electric energy for all purposes—power, heat, light, etc.<sup>3</sup> Data incomplete.

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

[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.....	39,106	<b>35,000</b>	35,827	36,043	36,576	<i>34,970</i>	36,280	38,754	40,592	42,188	43,584	44,808	44,055	73.0		
1925.....	19,128	<b>16,890</b>	17,145	17,324	17,570	<i>18,124</i>	18,678	19,845	19,800	20,307	20,726	21,469	22,187	76.2		
Tennessee <sup>1</sup> .....	7,537	<b>7,323</b>	7,493	7,655	7,645	<i>6,628</i>	6,788	7,605	8,067	8,053	8,298	8,278	7,710	67.8		

<sup>1</sup> Tennessee is the only State for which it is possible to give separate figures without disclosing data for individual establishments, but Pennsylvania and Virginia reported larger numbers of wage earners than Tennessee.

## SALT

Description of the industry.—The salt industry embraces establishments engaged primarily in the manufacture of commercial salt, whether from rock salt or from natural or artificial brines. The greater part of the product is brine salt, which is obtained mainly by running fresh water into bore-holes in beds of rock salt, pumping the artificial brine to the surface, and evaporating it. In a few places natural brine is pumped to the surface and evaporated and in some cases salt is extracted from the ocean and from salt lakes. No data are included for the salt content of brine produced and used in the same plants in the manufacture of chemicals.

Difference between value of salt as reported to Census Bureau and as reported to Bureau of Mines.—The differences between the "Value of products" items as shown by the census figures in Tables 1 and 2 and the "Total value" items as shown by the Bureau of Mines figures in Table 3 are due principally to the fact that the census figures include data for the value of containers in which the salt is sold, whereas the Bureau of Mines figures represent the value of salt alone. Another but much less important cause of the differences is found in the fact that the census figures represent the total value of all products made by establishments engaged primarily in the production of salt, whereas the Bureau of Mines figures refer to salt alone.

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 <sup>1</sup>	Value added by manufacture <sup>2</sup>	Horsepower
1929.....	58	5,458	\$6,735,484	\$14,187,797	\$37,858,607	\$23,680,900	57,711
1927.....	58	5,991	7,117,454	14,664,126	34,329,336	19,665,110	55,928
1925.....	70	6,308	7,260,552	13,848,644	34,253,056	20,404,412	54,647
1923.....	75	6,899	8,129,492	16,476,623	36,837,102	20,369,539	58,101
1921.....	70	5,993	7,147,512	16,407,355	33,158,568	16,751,293	(3)
1919.....	86	6,495	7,358,420	16,027,791	37,513,821	21,486,030	42,051
1914.....	98	5,089	3,041,294	6,273,030	14,070,333	7,797,393	29,007
1909.....	124	4,936	2,531,446	5,203,354	11,327,834	6,124,480	27,249
1904.....	146	4,666	2,006,399	4,166,137	9,437,662	5,271,525	19,224
1899.....	159	4,774	1,911,140	3,335,922	7,966,897	4,630,975	23,840
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929.....		-8.4	-5.4	-3.2	10.3	20.4	3.2
1925-1927.....	(3)	-5.5	-2.0	5.9	0.2	-3.6	2.3
1923-1925.....	(3)	-7.4	-10.7	-15.9	-7.0	0.2	-5.9
1921-1923.....	(3)	13.6	13.7	0.4	11.1	21.5	-----
1919-1921.....	(3)	-7.7	-2.8	2.4	-11.6	-22.0	-----
1919-1929.....	(3)	-16.0	-8.4	-11.5	0.9	10.2	37.2
1909-1919.....	-30.6	31.6	190.5	208.0	231.2	250.8	54.3
1899-1909.....	-22.0	3.4	32.5	56.0	42.2	32.3	14.3

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

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

<sup>3</sup> Includes \$1,008,425, value of commodities other than salt made as secondary products by establishments in this industry; does not include \$220,044, value of salt made as a secondary product by establishments in other industries. No corresponding data for earlier years are available.

<sup>4</sup> Not called for on schedule.

<sup>5</sup> 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. Certain of the "Other States," however, reported larger values of products than West Virginia. 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 <sup>1</sup>	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 <sup>2</sup>	Value added by manufacture <sup>3</sup>
					Total	Prime movers	Motors run by purchased energy			Total	Materials and containers	Fuel and purchased energy		
United States..	1929	58	756	5,458	57,711	39,881	17,830	\$2,044,673	\$6,735,484	\$14,187,797	\$11,003,836	\$3,183,061	\$37,868,697	\$23,680,900
	1927	58	854	5,961	55,928	42,899	13,039	2,352,424	7,117,454	14,664,126	11,051,999	3,612,127	34,329,236	19,065,110
	1919	86	1,147	6,495	42,051	35,345	6,706	2,556,086	7,353,420	16,027,791	11,339,924	4,687,867	37,513,821	21,456,030
California.....	1929	11	55	441	5,519	1,350	4,169	100,463	657,863	1,088,567	946,864	141,703	3,608,108	2,579,541
	1927	12	64	540	3,933	552	3,386	120,116	658,050	1,000,451	926,124	134,327	2,608,167	1,547,716
	1919	24	74	446	2,976	1,783	1,193	133,000	537,358	1,084,460	959,415	126,045	2,285,927	1,201,467
Kansas.....	1929	10	125	801	10,525	6,303	4,222	249,350	885,249	1,741,320	1,226,179	515,141	5,201,703	3,460,383
	1927	10	165	882	10,507	7,783	2,754	333,017	869,421	1,779,350	1,222,934	556,416	4,495,860	2,716,510
	1919	12	258	1,072	8,719	7,277	1,442	498,185	1,144,736	2,206,519	1,540,197	666,322	6,192,693	3,086,174
Louisiana.....	1929	3	82	733	3,800	2,750	1,050	240,836	593,314	1,167,050	1,010,947	146,703	3,302,015	2,144,365
	1927	4	147	843	3,580	3,580	-----	434,150	452,220	1,733,312	1,563,637	169,775	3,705,883	1,972,571
Michigan.....	1929	11	192	1,499	16,727	14,120	2,607	432,540	2,152,730	4,757,504	3,683,166	1,174,338	11,821,606	7,064,102
	1927	10	174	1,502	18,656	16,200	2,456	468,177	2,094,150	4,638,856	3,369,886	1,208,970	10,492,881	5,854,025
	1919	12	450	2,063	10,321	7,283	3,038	903,830	2,539,653	6,338,919	4,207,499	2,131,420	14,053,799	7,714,880
New York.....	1929	8	178	1,101	10,453	6,435	4,018	564,573	1,295,434	2,907,540	2,341,489	566,051	7,858,141	4,950,601
	1927	9	152	1,346	9,802	6,391	3,411	604,207	1,736,601	2,839,706	2,051,417	788,239	7,306,002	4,466,296
	1919	16	218	1,728	7,219	7,064	155	658,914	1,784,269	3,910,502	2,877,244	1,083,258	9,098,775	5,188,273
Ohio.....	1929	5	81	526	7,145	7,105	40	273,640	743,063	1,570,714	1,150,963	419,811	3,968,163	2,397,449
	1927	5	99	588	6,808	6,733	75	270,021	982,664	1,865,741	1,304,534	501,207	4,224,838	2,358,597
	1919	5	56	525	8,259	7,885	374	185,422	675,207	1,380,389	932,947	447,442	2,667,780	1,287,861
West Virginia.....	1929	4	15	105	615	615	-----	28,232	105,138	169,827	60,440	109,378	347,658	177,831
	1927	3	20	83	690	690	-----	46,787	89,914	147,301	60,782	86,519	234,843	87,542
	1919	4	21	71	1,092	1,092	-----	30,966	65,802	121,121	68,538	52,583	212,832	91,711
Other States.....	* 1929	6	28	252	2,927	1,293	1,724	65,099	302,693	794,675	683,839	110,836	1,701,303	906,628
	* 1927	5	33	197	1,937	1,049	957	75,949	239,434	590,409	492,785	108,624	1,261,262	681,853
	* 1919	13	70	680	4,601	2,961	1,640	144,709	606,965	985,881	754,084	231,797	3,002,015	2,016,184

<sup>1</sup> Not including proprietors and firm members, as follows: For 1929, 2; 1927, 8; 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, 6,216; 1927, 6,823; 1919, 7,682.

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

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

<sup>4</sup> 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.

\* Minnesota, 1 establishment; Texas, 2; Utah, 3.

\* New Mexico, 1 establishment; Texas, 2; Utah, 2.

\* Louisiana, 2 establishments; Nevada, 1; New Mexico, 1; Texas, 3; Utah, 6.

TABLE 3.—MANUFACTURED (EVAPORATED) AND ROCK SALT SOLD OR USED BY PRODUCERS IN THE UNITED STATES: 1929, 1927, 1925, AND 1923

[The statistics given in this table are compiled from annual reports on "Salt, Bromine, and Calcium Chloride," published by the Bureau of Mines, Department of Commerce. See "Difference between value of salt as reported to Census Bureau and as reported to Bureau of Mines," p. 733]

	1929	1927	1925	1923		1929	1927	1925	1923
Total tons.....	4,669,400	4,406,860	4,577,810	4,343,474	Rock salt:				
Total value.....	\$25,049,603	\$22,963,382	\$24,495,540	\$18,386,181		Tons.....	2,113,010	2,143,860	2,342,640
Manufactured (evaporated):					Value.....	\$7,127,681	\$6,376,355	\$7,444,799	\$7,843,419
Tons.....	2,546,390	2,263,030	2,235,170	2,239,872					
Value.....	\$17,921,922	\$16,587,027	\$17,050,741	\$10,542,762					

SALT

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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 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.....	1,242	Horse-power 57,711	1,117	Horse-power 55,928	1,137	Horse-power 54,647	807	Horse-power 42,051	549	Horse-power 29,007	100.0	100.0
Prime movers, total.....	291	39,881	338	42,880	334	41,140	426	35,345	354	25,757	69.1	84.0
Steam, total.....	255	38,258	325	41,799	317	40,029	370	34,309	309	24,900	66.3	81.6
Engines.....	197	21,695	239	25,780	268	27,939	320	29,399	(1)	(1)	37.6	69.9
Turbines.....	58	16,563	86	16,013	49	12,090	50	4,910	(1)	(1)	28.7	11.7
Internal-combustion engines.....	36	1,623	11	1,080	16	1,115	49	981	42	779	2.8	2.3
Water wheels and water turbines.....			2	10	1	5	7	55	8	78		0.1
Electric motors driven by purchased energy.....	951	17,830	779	13,039	803	13,498	381	6,706	195	3,250	80.9	16.0
Electric motors, total.....	2,064	40,709	2,635	35,717	2,240	29,942	1,126	14,771	558	7,742	100.0	100.0
Driven by purchased energy.....	951	17,830	779	13,039	803	13,498	381	6,706	195	3,250	43.8	45.4
Driven by energy generated in establishments reporting.....	2,003	22,879	1,856	22,678	1,437	16,444	745	8,065	368	4,492	56.2	54.6
Electric generators.....	51	Kilowatts 18,985 Kilowatt-hours	51	16,729	58	16,627	(?)	(?)	(?)	(?)		
Electric energy purchased *.....		15,353,687		(?)		(?)		(?)		(?)		

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.....	5,458	5,361	5,401	5,390	5,259	<b>5,159</b>	5,258	5,588	5,661	5,669	5,776	5,603	5,394	89.0
1925.....	6,308	6,316	6,300	6,318	6,076	6,172	6,301	6,337	6,394	6,497	6,648	6,307	<b>6,083</b>	90.7
1919.....	6,495	6,433	6,220	6,179	6,161	<b>5,994</b>	6,114	6,443	6,900	6,771	7,110	6,826	6,789	84.3
1914.....	5,089	4,731	<b>4,654</b>	4,875	5,096	5,126	5,128	5,167	5,221	5,448	5,492	5,159	4,971	84.7
1909.....	4,936	<b>4,340</b>	4,462	4,846	4,977	4,984	5,132	5,229	5,198	5,192	5,158	5,070	4,636	83.0
California.....	441	368	363	391	395	370	415	489	505	542	537	493	428	67.0
Kansas.....	801	767	768	770	769	779	787	835	870	839	852	801	779	87.5
Louisiana.....	733	733	727	724	726	728	734	744	744	746	733	730	724	97.1
Michigan.....	1,499	1,517	1,580	1,588	1,457	<b>1,397</b>	1,385	1,509	1,502	1,526	1,581	1,534	1,476	84.2
New York.....	1,101	1,107	1,109	1,103	1,087	1,081	<b>1,044</b>	1,098	1,130	1,115	1,116	1,118	1,108	92.4
Ohio.....	526	551	538	490	482	492	525	539	537	535	548	544	532	87.5
West Virginia.....	105	80	81	83	99	106	117	116	116	119	118	117	113	67.2

## SOAP

**Description of the industry.**—This industry classification covers establishments engaged primarily in the manufacture of soap and soap products, together with the soap departments of large slaughtering and meat-packing plants.

The principal products are toilet soap, white and yellow laundry soap, soap chips, and other hard soaps; granulated and powdered soaps and soap powders;

shaving soap, cream, and powder; and soft, liquid, and paste soaps.

**Shaving soap, cream, and powder.**—Separate data on the production of shaving soap, shaving cream, and shaving powder were collected for the first time for 1929, but it was necessary to combine the totals to avoid disclosing the output of individual establishments engaged in the manufacture of shaving soap.

**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 <sup>1</sup>	Value added by manufacture <sup>2</sup>	Horsepower
1929	282	14,363	\$18,994,656	\$180,352,984	\$310,191,530	\$129,838,540	65,856
1927	256	13,432	19,715,931	172,244,130	287,059,935	114,815,805	62,025
1925	272	15,406	18,320,104	184,873,537	278,273,107	93,899,570	56,697
1923	270	17,002	20,776,443	173,545,981	276,402,838	102,866,857	74,820
1921	283	16,558	18,864,713	150,355,643	240,194,019	89,838,976	(3)
1919	348	20,436	21,228,063	238,518,858	316,740,115	78,221,257	33,706
1914	371	14,172	8,667,937	88,866,786	127,942,441	39,075,655	34,105
1909	420	12,969	6,226,882	72,179,418	111,357,777	39,178,359	27,012
1904	436	11,044	4,762,676	43,625,608	68,274,700	24,049,092	19,408
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929	10.2	6.9	-3.7	4.7	8.1	13.1	6.2
1925-1927	-5.9	-12.8	6.4	-6.8	3.2	22.9	9.4
1923-1925	0.7	-9.4	-10.8	6.5	0.7	-9.2	-24.2
1921-1923	-4.6	2.7	10.1	15.4	15.1	14.5	-----
1919-1921	-18.7	-19.0	-11.1	-37.0	-24.2	14.9	-----
1919-1929	-19.0	-29.7	-10.5	-24.4	-2.1	66.0	95.4
1909-1919	-17.1	57.2	240.9	230.5	184.4	99.7	24.8

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

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

<sup>3</sup> 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 included for 1919 but not for subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size.]

STATE	Census year	Number of establishments	Salaried officers and employees <sup>1</sup>	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 <sup>2</sup>	Value added by manufacture
					Total	Prime movers	Motors run by purchased energy			Total	Materials and containers	Fuel and purchased energy		
United States	1929	282	4,688	14,303	65,856	28,780	37,076	\$11,503,662	\$18,094,656	\$180,352,984	\$176,823,766	\$3,529,218	\$310,191,530	\$129,838,546
	1927	256	4,159	13,432	62,025	35,580	26,445	9,760,393	19,715,931	172,244,130	168,065,295	4,178,835	287,059,935	114,815,805
	1919	348	8,300	20,436	43,700	26,028	8,672	14,171,851	21,228,063	238,618,868	234,693,114	3,820,744	316,740,115	78,221,287
Individual States:														
California	1929	33	372	623	4,334	748	3,686	946,074	845,156	10,746,968	10,628,949	118,019	19,842,049	9,095,081
	1927	20	244	642	3,043	477	3,186	556,391	811,525	10,980,185	10,534,219	145,966	19,447,669	8,467,484
	1919	27	190	608	1,520	598	922	517,212	610,405	8,312,097	8,150,285	161,812	11,295,294	2,983,197
Illinois	1929	32	502	1,513	5,577	316	5,261	1,298,441	1,953,913	17,972,179	17,549,484	422,695	28,243,426	10,271,247
	1927	27	457	1,403	6,717	3,404	3,313	1,159,893	1,777,091	16,515,671	15,868,668	646,003	27,471,832	10,955,761
	1919	29	759	2,270	2,578	1,075	1,503	1,285,250	2,366,407	19,483,908	19,083,904	400,004	25,733,832	6,249,924
Minnesota	1929	6	24	36	115	40	75	55,403	37,703	258,687	252,994	5,693	522,111	203,424
	1927	3	36	74	524	340	184	71,562	109,116	842,514	830,401	12,113	1,468,878	626,364
	1919	7	35	46	203	130	73	50,656	40,615	622,174	614,129	8,045	822,363	200,189
New York	1929	44	737	1,882	14,061	7,726	6,335	1,651,256	2,572,328	25,683,054	24,981,051	702,003	38,404,027	12,720,973
	1927	39	759	2,140	14,303	10,783	3,520	1,856,512	3,469,471	26,205,784	25,352,743	853,041	41,611,115	15,405,331
	1919	56	2,389	4,159	8,142	7,372	770	3,276,678	4,318,587	37,784,204	36,901,901	882,303	50,843,837	13,059,633
Ohio	1929	22	755	2,723	14,485	4,000	10,485	1,444,031	3,691,126	30,055,155	29,339,053	716,102	45,241,298	15,186,143
	1927	20	368	1,655	9,671	2,680	7,091	1,042,702	3,245,141	28,318,012	27,617,451	700,561	40,129,058	11,811,046
Pennsylvania	1929	30	237	673	4,508	3,924	674	683,416	832,506	8,635,169	8,413,225	121,944	14,571,265	6,036,096
	1927	31	232	573	4,172	3,677	495	542,297	682,821	6,786,742	6,700,759	85,983	11,829,367	5,042,625
	1919	53	266	1,214	2,647	1,797	850	560,967	1,034,122	10,352,947	10,167,846	185,101	16,063,276	5,710,329
Rhode Island	1929	7	22	37	245	100	145	91,228	58,980	709,199	696,245	12,954	1,033,839	324,640
	1927	6	18	65	433	285	148	70,378	87,765	678,050	652,680	25,370	985,927	307,877
	1919	8	45	117	235	180	55	152,631	99,395	1,255,942	1,231,129	24,813	1,943,778	687,836
Washington	1929	4	14	36	344	80	264	33,730	47,792	415,512	412,566	2,946	569,941	154,429
	1927	4	15	28	265	4	261	29,794	38,933	272,050	269,940	2,110	367,751	95,704
	1919	5	6	10	125	100	25	7,812	12,047	48,109	46,218	1,894	98,247	50,138
Groups of States:														
Ala., 1 establishment; Fla., 1; La., 2	1929	4	4	18	62	20	42	12,053	17,617	36,389	35,684	705	104,236	67,847
Colo., 2 est.; Okla., 1; Tex., 3	1929	6	10	17	106	75	31	10,785	16,708	131,473	129,895	1,578	196,408	64,935
Conn., 3 est.; D. C., 1; Md., 2	1929	6	121	335	1,762	630	1,132	357,489	395,355	3,199,405	3,124,930	74,475	7,848,401	4,648,996
Ind., 6 est.; Iowa, 4; Mich., 3; Wis., 10	1929	23	337	1,109	4,504	2,141	2,453	743,625	1,257,297	12,571,459	12,372,800	198,659	22,978,479	10,406,990
Kans., 3 est.; Mo., 10; Nebr., 1	1929	14	278	1,387	7,075	4,018	3,057	570,833	1,708,126	23,304,597	22,912,772	391,825	34,389,008	11,084,411
Ky., 2 est.; N. C., 1; Tenn., 1	1929	4	9	25	407	305	102	14,462	25,515	129,642	119,346	10,296	172,427	42,837
Mass., 21 est.; N. J., 18	1929	42	1,252	3,931	7,887	4,042	3,245	3,503,418	5,427,295	46,278,452	45,537,455	740,997	95,522,296	49,243,814
Nev., 1 est.; Oreg., 3; Utah, 1	1929	5	14	35	204	15	189	67,428	47,239	325,614	317,317	8,297	552,267	226,653
States not shown separately.	1927	92	2,080	6,852	22,297	14,030	8,207	4,436,804	9,494,068	81,645,222	79,938,434	1,706,788	143,748,835	62,103,613
	1919	163	4,610	12,012	18,250	13,776	4,484	8,311,645	12,146,485	160,659,477	158,502,705	2,156,772	208,939,488	49,280,011

<sup>1</sup> 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, 19,137; proprietors and firm members, 86. For 1927, total, 17,631; proprietors and firm members, 90. For 1919, total, 23,916; proprietors and firm members, 133.

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

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

<sup>4</sup> 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.

<sup>5</sup> Alabama, 2 establishments; Colorado, 3; Connecticut, 3; Georgia, 1; Indiana, 5; Iowa, 4; Kansas, 3; Kentucky, 2; Louisiana, 1; Maryland, 2; Massachusetts, 23; Michigan, 3; Missouri, 5; Nebraska, 3; Nevada, 1; New Jersey, 11; Oklahoma, 1; Oregon, 2; Texas, 2; Utah, 1; Wisconsin, 11.

<sup>6</sup> Colorado, 6 establishments; Connecticut, 6; Florida, 1; Georgia, 1; Idaho, 1; Indiana, 10; Iowa, 7; Kansas, 3; Kentucky, 2; Louisiana, 6; Maryland, 1; Massachusetts, 27; Michigan, 4; Missouri, 7; Montana, 1; Nebraska, 4; Nevada, 1; New Hampshire, 2; New Jersey, 16; North Carolina, 1; Ohio, 23; Oregon, 4; Tennessee, 3; Texas, 4; Utah, 4; Virginia, 1; West Virginia, 1; Wisconsin, 11.

## CENSUS OF MANUFACTURES: 1929

TABLE 3.—SOAP—PRODUCTION,<sup>1</sup> BY CLASS, QUANTITY, AND VALUE, FOR THE UNITED STATES: 1923 TO 1929

CLASS	1929	1927	1925	1923	CLASS	1929	1927	1925	1923
1. Soap industry, all products, total value <sup>1</sup>	\$310,191,530	\$287,059,935	\$278,273,107	\$276,402,838	Soap, all industries—Continued.				
2. Soap.....	\$274,830,304	\$242,927,457	\$237,420,436	\$224,690,560	Granulated and powdered soap—				
3. Other products (not normally belonging to the industry).	\$35,352,226	\$44,132,478	\$40,852,671	\$51,712,278	Pounds.....	337,291,350	<sup>2</sup> 215,919,132	142,321,736	
4. Soap made as a secondary product in other industries.	<sup>3</sup> \$11,917,571	<sup>3</sup> \$6,291,791	\$4,454,488	\$4,891,936	Value.....	\$35,724,861	<sup>2</sup> \$21,016,580	\$15,789,485	
Soap, all industries: Aggregate value <sup>1</sup> (sum of 2 and 4).....	\$286,756,875	\$249,219,248	\$241,874,924	\$229,582,496	Soap powders (including commodities reported as cleansing powders and washing powders)—				
Hard soaps <sup>4</sup> —					Pounds.....	605,529,239	<sup>5</sup> 484,463,778	547,956,130	
Total pounds.....	2,250,663,402	2,219,228,479	2,109,133,309	2,000,340,573	Value.....	\$23,387,172	<sup>5</sup> \$24,023,606	\$25,858,113	
Total value.....	\$199,855,682	\$191,458,196	\$191,383,576	\$179,924,316	Liquid soap—				
Toilet soap <sup>2</sup> —					Pounds.....	35,263,195	24,933,523	22,047,417	17,879,054
Pounds.....	324,383,543	287,696,300	272,266,966	240,144,347	Value.....	\$3,497,384	\$3,240,285	\$2,122,358	\$1,668,495
Value.....	\$59,982,997	\$53,872,981	\$49,387,128	\$53,098,527	Soft soap—				
Foots soap—					Pounds.....	66,141,365	<sup>4</sup> 79,773,314	61,189,483	67,751,705
Pounds.....	21,829,276	15,788,153	13,062,084	25,159,676	Value.....	\$3,950,851	\$4,231,115	\$2,513,631	\$2,465,114
Value.....	\$1,916,077	\$1,368,051	\$1,102,171	\$1,831,840	Paste soap—				
Soap chips—					Pounds.....	40,525,581	30,458,681	30,085,038	40,584,256
Pounds.....	387,925,004	373,215,795	325,042,787	218,754,320	Value.....	\$3,009,945	\$2,259,306	\$2,200,911	\$3,670,198
Value.....	\$41,763,903	\$39,422,667	\$36,283,839	\$25,373,176	Shaving soap, cream, and powder, total value.....	\$10,793,908	( <sup>6</sup> )	( <sup>6</sup> )	( <sup>6</sup> )
Laundry soap—					Weight reported—				
White (made from vegetable oils, etc.)—					Pounds.....	11,093,665	( <sup>6</sup> )	( <sup>6</sup> )	( <sup>6</sup> )
Pounds.....	914,588,831	887,720,019	755,788,858	41,516,282,230	Value.....	\$7,791,016	( <sup>6</sup> )	( <sup>6</sup> )	( <sup>6</sup> )
Value.....	\$51,175,255	\$48,859,052	\$49,996,906	\$309,620,773	Weight not reported—				
Yellow (made from tallow, rosin, etc.)—					Value.....	\$3,002,292			
Pounds.....	550,593,948	598,675,316	675,167,863		Special soap articles <sup>7</sup> —				
Value.....	\$40,774,488	\$42,864,599	\$47,068,060		Pounds.....	6,444,377	33,249,520	22,750,253	15,685,401
Other hard soaps—					Value.....	\$766,252	\$2,642,904	\$1,781,105	\$1,600,242
Pounds.....	51,342,800	56,132,896	67,864,721		Soap stock or soap base, for sale—				
Value.....	\$4,242,962	\$5,370,846	\$7,465,471		Pounds.....	4,106,339	8,178,932	5,382,271	7,553,942
					Value.....	\$292,323	\$347,256	\$275,746	\$457,058
					Soap not reported by kind—				
					Pounds.....	49,513,181			
					Value.....	\$5,478,497			

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

<sup>2</sup> Reported by 314 establishments. Of this amount, \$9,787,462 is the value of 89,566,886 pounds reported by weight, and \$2,130,169 is the value of the remainder, not reported by weight.

<sup>3</sup> The figures for 1927 and earlier years are not strictly comparable with those for 1929 because of the fact that data for shaving soap (but not for shaving cream or shaving powder) are included in the figures for earlier years but are excluded from those for 1929.

<sup>4</sup> Includes data for 1,057,465,908 pounds of "tallow soap," valued at \$64,593,403.

<sup>5</sup> Revised.

<sup>6</sup> Not reported separately (see footnote 3).

<sup>7</sup> The figures for special soap articles for 1927 and earlier years are not strictly comparable with those for 1929 because of the fact that data were included for 1927 and earlier years for products for which a more detailed classification was obtained for 1929.

TABLE 4.—PRINCIPAL MATERIALS CONSUMED IN THE SOAP INDUSTRY, FOR THE UNITED STATES: 1929 AND 1919

[The difference between the sum of the cost of the several kinds of materials shown by this table and the cost of materials as given in other tables in this report is accounted for by the fact that the other tables cover all materials consumed, whereas this table covers only the principal materials, as specified]

KIND	1929	1919	KIND	1929	1919
Animal fats, tallow, grease, red oil, fish oil, etc.:			Abrasive materials:		
Pounds.....	754,912,310	<sup>1</sup> 462,033,771	Tons.....	77,802	( <sup>2</sup> )
Cost.....	\$61,735,884	<sup>1</sup> \$60,643,071	Cost.....	\$969,530	( <sup>2</sup> )
Vegetable oils:			Perfumes, cost.....	\$5,159,036	( <sup>2</sup> )
Gallons.....	104,712,586	<sup>1</sup> 43,761,476	Colors, cost.....	\$115,914	( <sup>2</sup> )
Cost.....	\$62,725,212	<sup>1</sup> \$50,477,830			
Alkalies:					
Tons.....	280,509	172,498			
Cost.....	\$9,794,821	\$9,091,287			

<sup>1</sup> In addition, the following were reported for 1919, but no data for these materials were called for on the schedule used for 1929: "Hydrogenated" oils—pounds, 17,816,625; cost, \$1,765,895. Cottonseed soap stock and olive-oil foots—pounds, 112,353,679; cost, \$5,773,182.

<sup>2</sup> Not called for on schedule.

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
Prime movers and electric motors driven by purchased energy, aggregate	4,799	<i>Horse-power</i> 65,856	3,272	<i>Horse-power</i> 62,025	3,078	<i>Horse-power</i> 56,697	1,360	<i>Horse-power</i> 33,700	846	<i>Horse-power</i> 34,105	100.0	100.0
Prime movers, total	171	28,780	223	35,580	209	33,141	263	25,028	414	30,691	43.7	74.3
Steam, total	169	28,720	216	35,445	201	33,028	240	24,787	399	29,805	43.6	73.6
Engines	196	19,057	199	22,586	274	26,665	229	22,352	(1)	(1)	28.9	66.3
Turbines	83	9,668	17	12,879	17	6,368	11	2,485	(1)	(1)	14.7	7.2
Internal-combustion engines	1	25	6	100	7	78	12	201	10	120	(2)	0.6
Water wheels and water turbines	1	35	1	35	1	35	1	40	5	166	0.1	0.1
Electric motors driven by purchased energy	4,628	37,076	3,049	26,445	2,779	23,556	1,097	8,672	432	4,014	56.3	25.7
Electric motors, total	8,487	61,883	7,504	55,788	7,365	52,141	4,177	30,649	1,902	16,960	100.0	100.0
Driven by purchased energy	4,628	37,076	3,049	26,445	2,779	23,556	1,097	8,672	432	4,014	56.9	28.3
Driven by energy generated in establishments reporting	3,859	24,807	4,455	29,343	4,586	28,585	3,080	21,977	1,470	12,946	40.1	71.7
Electric generators <sup>1</sup>	40	<i>Kilowatts</i> 10,909	72	<i>Kilowatts</i> 17,566	80	<i>Kilowatts</i> 17,106						
Electric energy purchased <sup>4</sup>		<i>Kilowatt-hours</i> 52,998,452										

<sup>1</sup> Not called for separately on schedule.  
<sup>2</sup> Less than one-tenth of 1 per cent.  
<sup>3</sup> Data for electric generators not called for on schedule prior to 1925.  
<sup>4</sup> This item covers the consumption of purchased electric energy for all purposes—power, heat, light, etc.

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	14,363	14,172	14,413	14,414	14,208	14,005	<b>13,825</b>	13,919	14,280	14,925	15,181	14,763	14,220	91.0
1925	15,406	15,187	15,573	15,639	15,687	15,145	15,168	<b>15,006</b>	15,011	15,349	15,669	15,874	15,573	94.5
1919	20,486	20,590	18,789	18,055	<b>17,963</b>	19,223	20,932	21,769	22,567	22,653	22,080	21,229	19,392	79.3
1914	14,172	14,212	14,325	14,427	14,461	14,418	14,138	13,893	13,927	14,160	14,286	14,100	13,711	94.8
1909	12,909	<b>12,337</b>	12,671	12,885	12,843	12,476	12,653	13,001	13,105	13,260	13,475	13,649	13,650	90.4
California	623	621	611	613	<i>602</i>	634	619	618	629	624	656	623	624	91.8
Illinois	1,513	<b>1,459</b>	1,468	1,501	1,482	1,472	1,465	1,482	1,493	1,541	1,617	1,642	1,584	88.9
Minnesota	86	<i>82</i>	82	84	84	88	89	89	89	88	86	80	89	82.1
New York	1,862	1,838	1,813	1,780	1,805	1,787	1,872	1,857	1,898	1,942	1,940	1,928	1,858	91.7
Ohio	2,723	2,659	2,664	2,631	2,724	2,710	2,668	<b>2,628</b>	2,735	2,783	2,918	2,861	2,691	90.1
Pennsylvania	673	<i>653</i>	657	657	664	663	668	664	672	680	681	710	702	92.0
Rhode Island	37	37	35	35	34	33	33	32	33	34	33	33	33	55.2
Washington	36	<i>32</i>	35	35	34	35	37	37	37	36	37	38	37	84.2

## TANNING MATERIALS, NATURAL DYESTUFFS, MORDANTS AND ASSISTANTS, AND SIZES

**Description of the industry.**—This industry embraces establishments engaged primarily in the manufacture of tanning extracts and solutions, natural dyestuffs, mordants and assistants, and sizes. Natural dyestuffs are made from woods, barks, leaves, berries, and other forest and vegetable products. (Artificial or synthetic dyes are products of the "Chemicals, not elsewhere classified" industry.)

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 <sup>1</sup>	Value added by manufacture <sup>2</sup>	Horsepower
1929	126	2,419	\$3,113,617	\$25,335,029	\$39,836,035	\$14,500,406	22,575
1927	122	2,414	2,971,477	23,073,025	35,677,033	12,603,108	29,172
1925	125	2,495	2,987,070	22,763,114	34,783,703	12,020,589	32,634
1923	125	3,243	3,800,783	24,033,018	35,971,612	11,938,594	32,833
1921	123	2,993	3,007,547	20,105,517	28,310,708	8,205,191	( <sup>3</sup> )
1919	144	4,342	4,734,614	34,592,698	53,744,283	19,151,585	34,295
1914	112	2,839	1,613,116	13,237,695	20,620,386	7,382,341	23,288
1909	107	2,397	1,291,379	9,683,651	15,954,574	6,270,923	22,211
1904	98	2,707	1,264,492	6,820,340	10,893,113	4,063,773	17,644
1899	77	1,647	787,942	4,745,912	7,350,748	2,604,836	11,153
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929	3.3	0.2	4.8	9.8	11.7	15.1	-22.6
1925-1927	-2.4	-3.2	-0.5	1.4	2.6	4.8	-10.6
1923-1925		-23.1	-21.4	-5.3	-3.3	0.7	-0.6
1921-1923	1.6	8.4	26.4	19.5	27.1	45.5	
1919-1921	-14.6	-31.1	-36.5	-41.9	-47.3	-57.2	
1919-1929	-12.5	-44.3	-34.2	-28.8	-25.9	-24.3	-34.2
1909-1919	34.6	81.1	266.6	257.2	236.9	205.4	54.4
1899-1909	( <sup>4</sup> )	45.5	63.9	104.0	117.0	140.7	99.1

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

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

<sup>3</sup> Not called for on schedule.

<sup>4</sup> Not computed where base is less than 100.

# TANNING MATERIALS, NATURAL DYESTUFFS, ETC.

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 shown in combination, however, reported larger values of products than some of the States for which separate figures are given. 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	Salar- ied officers and em- ploy- ees <sup>1</sup>	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 <sup>2</sup>	Value added by manufac- ture <sup>3</sup>
					Total	Prime movers	Motors run by pur- chased energy			Total	Materials and con- tainers	Fuel and purchased energy		
United States.....	1929	126	709	2,410	22,575	15,107	7,408	\$2,805,779	\$3,113,617	\$25,335,629	\$24,543,459	\$792,170	\$39,836,035	\$14,500,406
	1927	122	807	2,414	29,172	23,499	5,673	2,517,809	2,971,477	23,073,925	22,192,017	881,908	35,677,033	12,603,108
	1919	144	804	4,342	34,295	31,603	2,692	2,320,914	4,734,614	34,592,698	32,916,972	1,675,726	53,744,283	19,151,585
Individual States:														
Georgia.....	1929	4	12	29	129	60	69	46,323	17,071	208,069	201,825	6,274	360,770	152,671
	1927	5	17	46	520	470	50	22,019	36,589	265,048	247,069	17,979	437,266	172,218
Massachusetts.....	1929	25	88	300	1,060	225	835	348,898	318,358	3,195,402	3,137,188	58,214	4,849,556	1,654,154
	1927	24	91	199	1,008	240	768	248,385	296,221	3,001,945	2,946,193	55,752	4,260,988	1,259,043
	1919	27	93	165	773	352	421	209,759	199,918	4,475,830	4,422,910	52,920	5,811,567	1,385,737
New Jersey.....	1929	24	165	498	4,657	1,085	3,572	819,203	823,302	6,933,443	6,801,881	151,562	11,143,491	4,190,048
	1927	17	208	304	2,901	811	2,090	628,459	518,589	4,485,418	4,383,821	101,597	7,081,523	3,196,105
	1919	17	69	385	2,312	1,585	727	418,715	497,274	3,548,967	3,443,082	105,885	5,924,057	2,375,090
New York.....	1929	10	103	254	1,475	365	1,110	366,800	464,890	3,086,570	2,965,367	121,203	4,798,497	1,711,927
	1927	8	148	250	2,600	978	1,622	548,067	460,804	3,124,851	2,992,422	132,429	5,459,105	2,334,254
	1919	27	102	593	3,615	3,049	566	652,641	754,700	5,933,118	5,765,125	167,993	9,560,583	3,027,465
North Carolina.....	1929	7	21	249	4,862	3,846	1,016	38,417	188,567	1,036,204	951,129	85,075	1,638,130	601,926
	1927	7	19	234	5,812	5,238	574	39,402	156,927	874,304	774,704	99,540	1,278,064	403,760
	1919	5	15	335	3,138	3,138	-----	39,803	306,330	1,661,527	1,467,013	194,514	2,443,899	782,372
Pennsylvania.....	1929	15	94	236	1,431	1,190	241	374,040	306,704	2,736,689	2,690,367	46,322	4,544,638	1,807,949
	1927	15	106	250	3,512	3,275	237	354,832	339,263	2,917,784	2,862,956	54,828	4,168,332	1,250,548
	1919	12	89	428	4,145	4,050	95	190,786	445,579	2,862,522	2,793,103	69,419	3,806,246	937,724
Rhode Island.....	1929	12	41	84	373	207	166	159,828	104,345	803,137	790,138	12,999	1,359,981	556,844
	1927	12	44	84	371	253	118	148,872	125,585	831,611	811,253	20,358	1,345,663	514,057
	1919	14	24	66	680	374	312	53,213	74,616	666,171	642,001	24,170	1,024,287	358,116
Tennessee.....	1929	3	10	209	2,220	2,220	-----	48,983	185,437	589,151	506,066	83,085	916,705	327,554
	1927	6	25	315	4,040	4,036	4	60,782	259,611	1,061,356	920,461	140,895	1,526,105	464,749
	1919	10	72	1,037	7,643	7,614	29	189,501	894,619	3,673,130	3,257,765	415,365	7,561,944	3,888,814
Virginia.....	1929	9	50	270	2,405	2,330	75	159,952	263,667	1,299,809	1,129,096	170,713	1,979,115	679,806
	1927	13	51	464	5,738	5,693	45	140,401	447,976	2,193,321	1,988,827	204,494	3,314,797	1,121,478
	1919	17	105	1,002	10,038	9,783	255	264,311	1,089,676	4,932,483	4,428,378	504,105	9,425,657	4,493,174
Groups of States:														
Ala., 2 est.; Fla., 2; La., 1; S. C., 2.....	1929	7	25	130	1,784	1,712	72	81,263	126,073	1,789,706	1,763,955	25,751	2,429,361	639,655
Other States (Calif., 1 est.; Conn., 1; Del., 1; Ill., 1; Md., 2; Mich., 2; Okla., 1; Wis., 1).....	1929	10	94	251	2,179	1,867	312	361,172	315,173	3,637,419	3,606,447	30,972	5,815,791	2,178,372
States not shown sepa- rately.....	1927	15	98	268	2,670	2,505	165	296,500	329,922	4,318,287	4,264,251	54,036	6,205,185	1,886,893
	1919	15	115	333	1,970	1,658	312	272,185	471,552	6,838,950	6,697,595	141,355	8,192,043	1,353,093

<sup>1</sup> Not including proprietors and firm members, as follows: For 1929, 34; 1927, 28; 1919, 59. 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, 3,162; 1927, 3,249; 1919, 5,206.

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

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

<sup>4</sup> 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.

<sup>5</sup> Alabama, 2 establishments; California, 1; Connecticut, 1; Delaware, 1; Florida, 2; Illinois, 1; Indiana, 1; Maryland, 1; Michigan, 2; South Carolina, 2; Wisconsin, 1.

<sup>6</sup> California, 2 establishments; Georgia, 1; Illinois, 3; Louisiana, 2; Maryland, 1; Michigan, 2; West Virginia, 3; Wisconsin, 1.



## CENSUS OF MANUFACTURES: 1929

TABLE 3.—PRODUCTS, BY CLASS, KIND, QUANTITY, AND VALUE: 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. The only State statistics which it is possible to present without disclosing an approximation of the data for individual establishments are those for liquid chestnut extracts]

	1929	1927	1925	1923
1. Tanning materials and dyestuffs industry, all products, total value.....	\$39,836,035	\$35,077,033	\$34,783,703	\$35,971,012
2. Tanning materials, natural dyestuffs, mordants and assistants, and sizes.....	31,135,085	29,412,928	29,729,163	30,515,083
3. Other products (not normally belonging to the industry).....	8,700,950	6,264,105	5,054,540	5,456,529
4. Tanning materials, natural dyestuffs, etc., made as secondary products in other industries, value.....	2,479,896	1,516,353	1,404,423	2,894,067
Tanning materials, natural dyestuffs, mordants and assistants, and sizes, all industries: Aggregate value (sum of 2 and 4).....	\$33,614,801	\$30,929,261	\$31,223,586	\$33,409,750
TANNING MATERIALS <sup>1</sup>				
Total value.....	\$9,957,809	\$11,431,396	\$10,742,176	\$15,133,695
Extracts—				
Chestnut, value.....	\$4,001,327	\$5,312,807	\$5,065,347	\$8,410,259
Number of establishments.....	17	23	21	36
Liquid—				
Pounds, total.....	236,020,840	260,902,854	246,148,153	321,154,855
North Carolina.....	74,502,431	69,693,109	61,411,185	113,696,849
Tennessee.....	57,024,805	66,993,127	91,253,954	92,999,694
Other States.....	104,493,544	124,246,621	93,483,014	114,558,310
Value.....	\$3,615,882	\$4,414,155	\$4,011,954	\$6,099,107
Solid—				
Pounds.....	34,141,240	48,775,613	48,276,940	112,356,921
Value.....	\$385,445	\$898,052	\$1,053,393	\$2,341,092
Quebracho—				
Number of establishments.....	7	10	8	11
Pounds (liquid).....	100,066,938	124,557,358	82,385,107	103,980,859
Value.....	\$3,229,073	\$3,010,125	\$2,395,123	\$3,349,472
Oak—				
Number of establishments.....	6	8	7	10
Pounds (liquid and solid).....	7,826,993	9,476,629	8,604,005	11,721,746
Value.....	\$295,084	\$358,473	\$287,880	\$464,234
Sumac—				
Number of establishments.....	6	4	6	5
Pounds (liquid).....	5,279,069	5,524,944	4,211,892	7,012,229
Value.....	\$343,680	\$276,553	\$261,407	\$309,379
Other extracts, including chrome tannage, value.....	\$1,936,773	\$2,064,023	\$2,323,568	\$2,473,066
Other tanning materials, value.....	\$151,932	\$409,415	\$408,851	\$136,085
NATURAL DYESTUFFS				
Total value.....	\$2,425,984	\$2,068,893	\$2,015,258	\$2,938,970
Logwood extract—				
Number of establishments.....	5	7	7	8
Pounds (liquid and solid).....	19,337,708	18,156,825	13,697,714	26,149,907
Value.....	\$1,843,448	\$1,468,045	\$1,205,005	\$1,973,529
Fustic extract—				
Number of establishments.....	3	5	6	6
Pounds (liquid and solid).....	2,632,816	2,783,359	3,601,252	4,022,910
Value.....	\$253,896	\$219,353	\$293,500	\$323,692
Quercitron extract—				
Number of establishments.....	4	6	5	7
Pounds (liquid and solid).....	2,419,874	4,069,449	4,174,435	5,074,734
Value.....	\$171,702	\$211,782	\$251,352	\$322,699
Osage-orange extract—				
Number of establishments.....	3	3	4	4
Pounds (liquid and solid).....	561,515	699,823	650,658	319,140
Value.....	\$44,546	\$44,397	\$47,456	\$44,546
Other extracts and ground, chipped, and dry product, value.....	\$112,482	\$125,316	\$217,945	
MORDANTS				
Total value.....	\$1,173,427	\$959,195	\$985,288	\$800,821
Tannic acid—				
Pounds.....	1,449,375	1,297,232	1,439,957	969,541
Value.....	\$503,567	\$593,465	\$585,951	\$357,023
Other, value.....	\$669,860	\$365,730	\$399,337	\$443,798
ASSISTANTS				
Total value.....	\$6,893,561	\$5,182,479	\$4,776,364	\$5,457,081
Turkey-red oil—				
Pounds.....	24,260,669	15,579,781	14,338,241	23,740,633
Value.....	\$2,642,042	\$1,560,366	\$1,552,182	\$2,309,469
Softeners—				
Pounds.....	31,612,775	23,330,942	25,341,010	29,034,353
Value.....	\$2,248,448	\$1,797,543	\$2,008,641	\$2,203,656
Other, value.....	\$2,103,071	\$1,824,570	\$1,215,541	\$943,926
SIZES				
Total value.....	\$13,164,050	\$11,287,298	\$12,704,500	\$9,079,183
Rosin sizes—				
Pounds.....	201,289,758	157,690,794	146,858,732	103,702,087
Value.....	\$6,108,467	\$5,869,298	\$5,498,011	\$2,765,588
Dextrin sizes—				
Pounds.....	33,506,764	31,917,325	56,350,539	57,571,407
Value.....	\$2,042,926	\$2,092,880	\$3,335,876	\$3,286,906
Gum sizes other than rosin—				
Pounds.....	20,138,178	16,042,060	44,357,864	12,716,394
Value.....	\$1,400,566	\$919,939	\$2,279,011	\$843,239
Other sizes (made of starch, glue, etc.)—				
Pounds.....	42,360,549	30,980,240	28,422,387	45,341,834
Value.....	\$3,612,301	\$2,405,181	\$1,591,602	\$2,183,455

<sup>1</sup> Not including tanning materials made and consumed in the same establishments.

<sup>2</sup> Includes 1,071,440 pounds of solid product the value of which was not separately reported.

# TANNING MATERIALS, NATURAL DYESTUFFS, ETC.

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TABLE 4.—CRUDE FOREST PRODUCTS CONSUMED IN THE TANNING-MATERIALS AND NATURAL-DYE-STUFFS INDUSTRY, BY KIND, QUANTITY, AND COST: 1929

[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 due to the fact that this table covers only certain specified materials, whereas the others cover all materials.]

KIND	Quantity	Cost	KIND	Quantity	Cost
Woods:	<i>Cords</i>		Barks—Continued.	<i>Tons</i>	
Chestnut.....	321,068	\$2,314,337	Black oak.....	3,891	\$63,383
Logwood.....	28,903	726,606	Wattle.....	2,641	145,272
Quebracho, fustic, Osage-orange, and brazilwood and other redwoods.....	74,839	1,724,155	Hemlock, mangrove, and tanbark oak.....	5,422	137,669
Barks:			Other:		
Chestnut oak.....	26,176	360,434	Myrobalans.....	2,316	127,751
			Sumac.....	3,210	156,303
			Gallnuts, gambier, and divi-divi.....	759	152,202

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 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.....	1,030	<i>Horse-power</i> 22,575	782	<i>Horse-power</i> 29,172	641	<i>Horse-power</i> 32,634	562	<i>Horse-power</i> 34,295	306	<i>Horse-power</i> 23,258	100.0	100.0
Prime movers, total.....	120	15,107	174	23,499	167	26,976	268	31,603	224	22,543	66.9	92.2
Steam, total.....	116	14,918	167	23,294	158	26,737	256	31,289	218	22,032	66.1	91.3
Engines.....	106	12,003	156	20,876	144	24,018	232	28,316	(1)	(1)	55.9	82.6
Turbines.....	10	2,310	11	2,418	14	2,739	24	2,973	(1)	(1)	10.2	8.7
Internal-combustion engines.....	4	189	6	145	7	139	9	201	4	455	0.8	0.6
Water wheels and water turbines.....			1	60	2	80	3	113	2	56		0.3
Electric motors driven by purchased energy.....	910	7,468	608	5,673	474	5,658	294	2,692	82	745	33.1	7.8
Electric motors, total.....	1,261	13,890	1,046	11,629	892	12,500	539	8,341	195	2,750	100.0	100.0
Driven by purchased energy.....	910	7,468	608	5,673	474	5,658	294	2,692	82	745	53.8	32.3
Driven by energy generated in establishments reporting.....	351	6,422	438	5,956	418	6,842	245	5,649	113	2,005	46.2	67.7
Electric generators.....	34	<i>Kilowatts</i> 5,124	44	<i>Kilowatts</i> 6,556	44	<i>Kilowatts</i> 5,748	(1)	(1)	(1)	(1)		
Electric energy purchased <sup>1</sup> .....		<i>Kilowatt-hours</i> 5,411,391		(1)		(1)		(1)		(1)		

<sup>1</sup> Not called for separately on schedule.  
<sup>2</sup> Not called for on schedule.  
<sup>3</sup> This item covers the consumption of purchased electric energy for all purposes—power, heat, light, etc.  
<sup>4</sup> 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.....	2,419	2,370	2,411	2,434	2,465	2,419	2,489	2,425	2,397	<i>2,564</i>	2,441	2,386	2,417	94.6		
1925.....	2,495	2,538	2,566	2,438	2,493	<i>2,409</i>	2,503	2,505	2,493	2,531	2,468	2,524	2,479	94.2		
1919.....	4,342	4,278	4,285	4,165	<i>4,103</i>	4,214	4,336	4,511	4,472	4,454	4,360	4,488	4,438	91.0		
1914.....	2,839	2,719	<i>2,662</i>	2,779	2,838	2,848	2,849	2,798	2,785	2,917	2,989	2,967	2,917	89.1		
1909.....	2,397	<i>2,295</i>	2,351	2,351	2,430	2,344	2,399	2,432	2,478	2,453	2,324	2,450	2,439	92.5		
Georgia.....	29	29	29	29	29	29	29	29	29	29	29	29	29			
Massachusetts.....	200	<i>195</i>	195	198	199	195	200	197	205	204	207	200	206	94.2		
New Jersey.....	498	498	493	498	487	<i>481</i>	493	492	495	503	513	508	511	93.8		
New York.....	254	263	270	255	259	258	250	249	249	<i>244</i>	250	245	251	90.4		
North Carolina.....	249	285	296	273	321	295	314	213	213	<i>198</i>	202	<i>193</i>	<i>193</i>	60.1		
Pennsylvania.....	236	<i>206</i>	238	240	240	240	243	240	240	237	240	235	237	84.8		
Rhode Island.....	84	86	86	85	84	80	81	79	83	88	87	84	86	89.8		
Tennessee.....	209	184	179	<i>177</i>	189	189	188	221	222	220	222	231	233	75.0		
Virginia.....	270	<i>250</i>	233	298	266	260	267	290	270	266	288	287	287	77.2		

## WOOD DISTILLATION AND CHARCOAL MANUFACTURE

**Description of the industry.**—This industry embraces three classes of establishments: (1) Those engaged in hardwood distillation; (2) those engaged in softwood distillation; (3) those engaged in charcoal manufacture by means of kilns or pits. The principal products of hardwood distillation are methanol, acetate of lime and its derivatives, charcoal, and tar. The principal products of softwood distillation are turpentine, rosin, pine

oil, tar, tar oils, and charcoal. Two distinct processes are employed in wood distillation, namely, destructive distillation and the steam process.

In the manufacture of charcoal by the carbonizing of wood in kilns or by the pit method the volatile substances are driven off and lost, leaving charcoal and wood tar as the only 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, containers for products, fuel, and purchased electric energy	Value of products <sup>1</sup>	Value added by manufacture <sup>2</sup>	Horsepower
1929	91	4,648	\$5,293,240	\$14,701,111	\$29,595,072	\$14,802,501	25,509
1927	88	4,537	4,739,153	15,422,575	27,030,487	12,207,912	16,833
1925	106	4,217	4,304,904	15,824,055	25,283,432	9,459,377	17,907
1923	123	4,123	4,324,848	17,263,950	29,695,423	12,420,473	14,910
1921	108	2,130	1,913,503	6,727,787	9,677,552	2,949,765	(3)
1919	156	5,155	5,465,761	20,319,973	38,134,732	12,814,759	15,320
1914	142	3,010	1,645,335	6,728,188	10,284,597	3,556,409	10,179
1909	196	3,352	1,716,245	6,323,428	10,699,520	4,280,092	10,019
1904	215	3,195	1,409,660	5,489,548	9,105,237	3,015,689	4,955
1899	285	3,342	1,131,865	3,800,364	7,134,661	3,274,307	(4)
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929	(5)	2.4	11.7	-4.1	7.1	21.3	51.5
1925-1927	-17.0	7.6	10.1	-2.5	9.8	29.1	-8.0
1923-1925	-13.8	2.3	-0.5	-8.4	-14.9	-23.9	20.1
1921-1923	13.9	93.6	126.0	156.7	206.8	321.3	-----
1919-1921	-30.8	-58.7	-65.0	-66.9	-70.8	-77.0	-----
1919-1929	-41.7	-9.8	-3.2	-27.2	-10.7	15.5	66.5
1909-1919	-20.4	53.8	218.5	221.3	212.3	199.0	52.9
1899-1909	-31.2	0.3	51.6	63.8	48.7	30.9	-----

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

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

<sup>3</sup> Not called for on schedule.

<sup>4</sup> Data not available.

<sup>5</sup> Per cent not computed where base is less than 100.

# WOOD DISTILLATION AND CHARCOAL MANUFACTURE

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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 <sup>1</sup>	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 <sup>2</sup>	Value added by manufacture <sup>3</sup>
					Total	Prime movers	Motors run by purchased energy			Total	Materials and containers	Fuel and purchased energy		
United States-----	1929	91	566	4,048	25,509	15,560	9,949	\$1,479,926	\$5,293,240	\$14,791,111	\$12,968,550	\$1,802,561	\$29,593,672	\$14,802,561
	1927	88	565	4,537	10,833	13,505	3,328	1,421,379	4,739,153	15,422,575	13,120,111	2,302,464	27,630,487	12,207,912
	1919	156	694	5,155	15,320	13,689	1,031	1,369,475	5,465,761	20,319,973	17,969,779	2,350,194	33,134,732	12,814,769
Hardwood distillation.	1929	55	291	2,838	17,510	8,350	9,160	813,803	3,441,701	10,946,043	9,414,222	1,531,821	19,477,874	8,631,831
	1927	57	311	2,898	9,755	6,785	2,970	743,655	3,248,754	10,821,568	8,757,186	2,064,382	17,414,311	6,592,743
Softwood distillation.	1929	25	265	1,752	7,897	7,192	705	610,093	1,788,758	3,764,048	3,501,517	262,531	9,841,867	6,077,819
	1927	19	232	1,535	6,793	6,707	86	604,804	1,380,333	4,382,343	4,167,811	224,532	9,799,903	5,417,650
Charcoal manufacture.	1929	11	10	58	102	18	84	59,030	62,781	81,020	72,811	8,209	273,931	192,911
	1927	12	22	104	285	13	272	72,920	110,066	218,664	205,114	13,550	416,183	197,519
Individual States:														
Florida-----	1929	9	76	509	1,884	1,504	320	136,522	476,369	793,279	680,326	112,953	2,241,928	1,448,649
	1927	( <sup>4</sup> )	( <sup>5</sup> )	( <sup>6</sup> )	( <sup>7</sup> )	( <sup>8</sup> )	( <sup>9</sup> )	( <sup>10</sup> )	( <sup>11</sup> )	( <sup>12</sup> )	( <sup>13</sup> )	( <sup>14</sup> )	( <sup>15</sup> )	( <sup>16</sup> )
	1919	6	67	412	1,837	1,837		133,679	400,086	1,095,507	966,441	129,066	2,004,931	969,424
Michigan-----	1929	8	50	897	8,154	3,713	4,441	131,354	1,269,559	2,699,985	2,285,803	414,182	6,365,848	3,665,863
	1927	10	70	1,097	4,654	2,993	1,661	175,863	1,538,502	4,159,641	3,282,638	877,063	6,535,715	2,370,074
	1919	16	178	1,586	5,985	3,979	2,006	364,389	1,988,414	5,793,448	5,056,143	737,305	10,651,181	4,857,733
Mississippi-----	1929	5	56	449	2,391	2,270	115	149,084	449,211	1,025,347	972,394	52,953	2,433,713	1,408,366
	1927	4	44	321	1,883	1,818	65	103,809	252,145	934,769	879,702	55,067	1,926,572	991,803
New York-----	1929	14	90	327	1,449	1,277	172	209,881	453,383	4,136,393	3,915,683	220,710	4,865,515	729,122
	1927	12	50	355	565	443	122	117,899	336,070	2,070,868	1,870,400	200,468	2,845,238	774,370
Pennsylvania-----	1929	22	73	648	1,743	1,602	141	146,899	710,269	2,162,690	1,695,850	566,840	3,654,306	1,491,616
	1927	27	88	674	1,825	1,655	170	179,555	736,941	2,746,012	2,093,230	652,782	4,348,059	1,602,047
	1919	44	174	1,211	2,569	2,405	74	302,905	1,273,417	3,253,925	2,604,226	649,699	5,542,215	2,288,290
Tennessee-----	1929	3	88	665	5,265	1,390	3,875	266,215	674,449	1,323,054	1,118,884	204,170	3,371,319	2,048,265
	1927	3	93	567	2,404	1,398	1,006	252,050	447,262	1,331,533	1,139,578	192,065	2,893,666	1,532,083
Groups of States:														
Ala., 3 est.; Ga., 3; La., 3	1929	9	119	825	3,810	3,540	270	296,715	902,624	1,979,822	1,874,562	105,320	5,286,499	3,306,677
Calif., 3 est.; Wash., 3	1929	6	16	86	479	18	461	35,564	113,167	192,609	159,972	32,637	333,611	141,002
Del., 1 est.; Mass., 1; Wis., 2	1929	4	4	41	136	63	73	13,445	51,465	144,858	129,301	15,557	276,357	131,499
Ill., 2 est.; Mo., 1; Okla., 1	1929	4		12					8,667	22,040	21,741	299	50,082	28,042
Ky., 1 est.; N. C., 2; Ohio, 2 est.; W. Va., 2	1929	3	12	72	54	37	17	25,192	60,840	110,499	78,161	32,338	256,970	146,471
	1929	4	12	117	144	80	64	68,155	123,237	200,535	155,933	44,602	457,524	256,989
States not shown separately.	1927	32	220	1,523	5,602	5,198	304	592,242	1,428,233	4,179,702	3,854,563	325,139	9,111,237	4,931,535
	1919	90	275	1,940	5,679	5,378	301	598,502	1,803,844	10,177,093	9,342,989	834,124	14,936,405	4,759,312

<sup>1</sup> Not including proprietors and firm members, as follows: For 1929, 9; 1927, 13; 1919, 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, 5,223; 1927, 5,115; 1919, 5,907.

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

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

<sup>4</sup> 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.

<sup>5</sup> Withheld from publication in order to avoid disclosing data for individual establishments.

<sup>6</sup> Alabama, 4 establishments; California, 2; Delaware, 1; Florida, 4; Georgia, 4; Illinois, 1; Kentucky, 1; Louisiana, 3; Massachusetts, 1; North Carolina, 2; Ohio, 1; Oklahoma, 1; Washington, 3; West Virginia, 2; Wisconsin, 2.

<sup>7</sup> Alabama, 14 establishments; Arkansas, 1; California, 1; Delaware, 1; Georgia, 3; Illinois, 5; Indiana, 1; Kentucky, 1; Louisiana, 4; Massachusetts, 2; Michigan, 2; Mississippi, 2; Missouri, 8; New Jersey, 1; New Mexico, 1; New York, 21; North Carolina, 2; Ohio, 2; Oklahoma, 3; Pennsylvania, 1; Tennessee, 2; Texas, 1; Washington, 2; West Virginia, 1; Wisconsin, 3.

## CENSUS OF MANUFACTURES: 1929

TABLE 3.—PRODUCTS, BY KIND, QUANTITY, 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)

	1929	1927	1925	1923
1. Wood-distillation and charcoal-manufacture industry, all products, total value.....	\$29,593,672	\$27,630,487	\$25,283,432	\$29,695,423
2. Wood-distillation products and charcoal.....	\$29,569,864	\$27,564,074	\$25,207,592	\$29,676,302
3. Other products (not normally belonging to the industry).....	\$23,808	\$66,413	\$75,840	\$19,031
4. Wood-distillation products and charcoal made as secondary products in other industries, value.....	\$718,718	\$6,420	\$20,013	\$84,522
Wood-distillation products and charcoal, all industries: Total value (sum of 2 and 4).....	\$30,288,582	\$27,570,503	\$25,237,505	\$29,760,924
Methanol (wood alcohol)—				
Number of establishments.....	53	57	67	77
Crude, total production, gallons.....	8,355,189	8,008,838	8,643,848	9,128,852
Number of establishments.....	51	55	62	74
For sale—				
Gallons.....	5,101,077	5,732,609	5,848,645	7,037,433
Value.....	\$1,794,392	\$2,072,101	\$2,025,680	\$4,108,512
Made and consumed in the same establishments, gallons.....	3,254,112	2,276,139	2,795,203	2,091,419
Refined—				
Number of establishments.....	11	9	13	11
Gallons.....	6,678,321	5,001,832	5,870,658	5,037,245
Value.....	\$3,907,111	\$2,951,793	\$3,390,223	\$4,818,695
Acetate of lime, total production, tons.....	64,960	78,140	81,723	80,788
Number of establishments.....	49	53	63	72
For sale—				
Tons.....	58,163	69,016	72,652	72,294
Value.....	\$4,695,449	\$4,021,202	\$3,437,384	\$4,763,408
Made and consumed in the same establishments, tons.....	6,797	9,124	9,071	8,494
Methyl acetone—				
Number of establishments.....	7	6	6	5
Pounds.....	4,675,140	2,003,520	3,044,272	6,307,386
Value.....	\$574,736	\$352,947	\$457,589	\$878,779
Miscellaneous chemicals—Acetic acid, <sup>1</sup> ethyl acetate, <sup>1</sup> etc., value.....	\$3,840,576	\$1,432,112	\$1,355,155	\$1,221,196
Tar, total production, gallons.....	10,518,016	8,440,847	8,000,347	5,493,420
Number of establishments.....	25	19	22	21
For sale—				
Gallons.....	6,904,363	4,576,843	5,517,937	3,145,097
Value.....	\$878,688	\$798,099	\$830,578	\$461,403
Made and consumed in the same establishments, gallons.....	3,613,653	3,864,004	3,382,410	2,348,413
Tar oils—				
Number of establishments.....	19	16	18	21
Gallons.....	996,582	1,560,730	1,425,086	1,192,607
Value.....	\$200,507	\$322,926	\$329,022	\$217,209
Pitch—				
Number of establishments.....	8	9	7	( <sup>2</sup> )
Pounds.....	8,587,287	19,604,571	26,437,865	
Value.....	\$102,370	\$375,608	\$327,810	
Turpentine, wood—				
Number of establishments.....	25	15	15	21
Gallons.....	4,019,253	4,333,176	8,169,548	2,607,364
Value.....	\$1,714,139	\$1,674,601	\$2,078,879	\$2,014,666
Pine oil—				
Number of establishments.....	20	15	17	11
Gallons.....	2,722,172	2,892,962	2,029,833	1,264,211
Value.....	\$1,271,641	\$1,250,496	\$826,643	\$587,283
Rosin, wood—				
Number of establishments.....	11	10	8	8
Barrels (500 pounds).....	478,555	452,187	286,088	200,771
Value.....	\$5,443,214	\$5,232,361	\$3,378,343	\$1,368,085
Charcoal—				
Number of establishments.....	76	77	92	109
Total production for sale, bushels.....	45,356,001	42,806,506	43,535,846	46,966,598
Value.....	\$5,472,606	\$6,274,151	\$5,885,630	\$8,986,665
Hardwood distillation—				
Number of establishments.....	52	55	64	
Bushels.....	40,828,944	39,221,730	40,373,183	
Value.....	\$4,922,591	\$5,690,767	\$6,293,735	
Softwood distillation—				
Number of establishments.....	13	9	10	45,102,823
Bushels.....	3,056,051	1,601,626	1,983,590	\$8,601,923
Value.....	\$386,743	\$290,684	\$303,101	
Kiln or pit plants—				
Number of establishments.....	11	13	18	20
Bushels.....	870,006	1,483,144	1,479,088	1,863,775
Value.....	\$163,272	\$292,700	\$288,704	\$384,742
Other wood products, value.....	\$393,174	\$811,956	\$905,564	\$335,028

<sup>1</sup> Acetic acid and ethyl acetate are made primarily by establishments in other industries. For total production of these commodities, see report for the "Chemicals, not elsewhere classified" industry.<sup>2</sup> Not reported separately.<sup>3</sup> Only small amounts of turpentine and rosin are produced in the wood-distillation industry, these commodities being distilled mainly from crude gum by establishments in the "Turpentine and rosin" industry. Such production for the crop year ended March 31, 1930, amounted to 31,320,871 gallons of turpentine and 1,975,631 barrels of rosin.

# WOOD DISTILLATION AND CHARCOAL MANUFACTURE

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**TABLE 4.—PRINCIPAL PRODUCTS, BY KIND, QUANTITY, AND VALUE, BY STATES: 1929**

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

PRODUCT AND STATE	Quantity	Value	PRODUCT AND STATE	Quantity	Value
Methanol (wood alcohol), refined, for sale, total.....	<i>Gallons</i> 6, 678, 321	\$3, 907, 111	Acetate of lime, for sale—Continued.	<i>Tons</i>	
Michigan.....	1, 529, 301	839, 920	New York.....	6, 054	\$514, 508
New York and Pennsylvania.....	4, 254, 377	2, 586, 566	Pennsylvania.....	17, 147	1, 458, 483
Tennessee and Wisconsin.....	892, 643	480, 625	Tennessee.....	11, 375	909, 705
			Ky., Miss., Mo., N. J., W. Va., and Wis.....	5, 851	464, 067
Methanol, crude, for sale, total.....	5, 101, 077	1, 794, 392	Charcoal, for sale, total.....	<i>Bushels</i> 45, 355, 001	5, 472, 000
Michigan.....	1, 080, 327	343, 377	Michigan.....	15, 635, 823	1, 813, 503
New York.....	844, 080	289, 100	New York.....	4, 678, 653	518, 872
Pennsylvania.....	1, 873, 594	675, 158	Pennsylvania.....	8, 832, 935	981, 874
Calif., Ky., Miss., Tenn., W. Va., and Wis.....	1, 303, 067	486, 757	Tennessee.....	8, 311, 840	1, 117, 790
Acetate of lime, for sale, total.....	<i>Tons</i> 58, 163	4, 695, 449	Ala., Ky., La., and Miss.....	2, 802, 650	301, 432
Michigan.....	17, 736	1, 348, 086	Calif., Mont., and Wash.....	805, 138	151, 715
			Del., N. H., Ohio, and W. Va.....	1, 351, 600	160, 735
			Fla., Ga., and N. C.....	2, 160, 731	288, 627
			Ill., Mo., Okla., and Wis.....	925, 598	108, 058

**TABLE 5.—WOOD CONSUMED IN DISTILLATION, BY STATES: 1929 AND 1927**

[This table presents statistics for all States for which separate figures can be given without disclosing data for individual establishments]

	WOOD CONSUMED (QUANTITY, CORDS)			WOOD CONSUMED (QUANTITY, CORDS)	
	1929	1927		1929	1927
United States.....	1, 308, 323	1, 264, 721	Softwoods, total.....	495, 937	442, 418
Hardwoods, total.....	812, 386	822, 303	Florida.....	141, 512	108, 295
Michigan.....	263, 624	370, 586	Louisiana.....	105, 985	100, 878
New York.....	137, 768	60, 908	Mississippi.....	78, 885	227, 245
Pennsylvania.....	220, 500	209, 629	Other States <sup>1</sup> .....	169, 555	
Tennessee.....	188, 864	118, 008			
Other States <sup>2</sup> .....	61, 034	63, 172			

<sup>1</sup> Kentucky, Mississippi, Missouri, West Virginia, Wisconsin.

<sup>2</sup> Alabama, Georgia, New York, North Carolina.

**TABLE 6.—EQUIPMENT OF WOOD-DISTILLATION ESTABLISHMENTS, BY NUMBER AND CAPACITY, BY STATES: 1929**

	Number	Total capacity, cords per day		Number	Total capacity, cords per day
RETORTS (NOT STEAM) AND OVENS			RETORTS (NOT STEAM) AND OVENS—continued		
Aggregate.....	628	3, 461	Softwood distillation—Continued.		
Hardwood distillation, total.....	430	3, 166	Florida.....	55	161
Kentucky.....	4	36	Georgia.....	30	26
Michigan.....	116	963	Louisiana.....	48	48
Mississippi.....	6	60	New York.....	8	10
Missouri.....	3	2	North Carolina.....	30	34
New York.....	93	585	STEAM EXTRACTORS (SOFTWOOD DISTILLATION)		
Pennsylvania.....	142	857	Total.....	151	1, 286
Tennessee.....	44	415	Alabama.....	16	135
West Virginia.....	16	182	Florida.....	36	400
Wisconsin.....	12	96	Georgia.....	30	275
Softwood distillation, total.....	192	295	Louisiana.....	22	257
Alabama.....	21	16	Mississippi.....	47	219

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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.....	987	<i>Horsepower</i> 25,509	443	<i>Horsepower</i> 16,833	508	<i>Horsepower</i> 17,007	412	<i>Horsepower</i> 15,320	261	<i>Horsepower</i> 10,179	100.0	100.0
Prime movers, total.....	150	15,500	148	13,505	170	13,539	257	13,689	242	9,244	61.0	89.4
Steam, total.....	132	15,083	125	13,157	144	12,938	209	12,736	190	8,330	59.1	83.1
Engines.....	110	9,368	109	7,467	127	7,579	198	10,254	(1)	(1)	36.7	66.9
Turbines.....	22	5,715	16	5,690	17	5,359	11	2,482	(1)	(1)	22.4	16.2
Internal-combustion engines.....	8	330	12	305	15	513	38	844	35	763	1.3	5.5
Water wheels and water turbines.....	10	147	11	43	11	85	10	109	17	161	0.6	0.8
Electric motors driven by purchased energy.....	837	9,949	295	3,328	338	4,368	155	1,631	19	935	30.0	10.6
Electric motors, total.....	1,517	22,643	1,116	16,538	830	13,425	290	4,909	128	2,630	100.0	100.0
Driven by purchased energy.....	837	9,949	295	3,328	338	4,368	155	1,631	19	935	43.9	33.2
Driven by energy generated in establishments reporting.....	680	12,694	821	13,210	492	9,057	144	3,278	109	1,695	56.1	66.8
Electric generators.....	45	<i>Kilowatts</i> 8,428	51	<i>Kilowatts</i> 7,967	58	<i>Kilowatts</i> 8,491	(?)	(?)	(?)	(?)		
Electric energy purchased <sup>1</sup> .....		<i>Kilowatt-hours</i> 16,990,591		(4)		(4)		(?)		(?)		

<sup>1</sup> Not called for separately on schedule.

<sup>2</sup> Not called for on schedule.

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

<sup>4</sup> 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 totals 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.....	4,648	4,539	4,544	4,013	4,524	<i>4,465</i>	4,051	4,588	4,575	4,627	4,788	4,908	4,929	4,929	91.2
1925.....	4,217	4,545	4,419	4,198	4,179	4,284	4,153	4,285	4,057	4,061	<i>4,052</i>	4,162	4,217	4,217	89.2
1919.....	5,155	8,082	5,939	5,555	4,847	4,689	4,939	4,699	4,748	4,896	5,192	5,288	5,569	5,569	72.1
1914.....	3,010	3,733	3,551	3,123	2,783	2,719	2,681	2,661	2,840	2,907	2,902	3,012	3,148	3,148	71.3
1909.....	3,352	3,422	3,502	3,420	3,381	3,240	3,109	2,998	3,012	3,287	3,425	3,576	3,783	3,783	79.2
Hardwood distillation:															
1929.....	2,838	2,809	2,802	2,849	2,782	<i>2,700</i>	2,821	2,762	2,765	2,808	2,882	2,994	3,081	3,081	87.8
1925.....	2,866	3,219	3,146	2,904	2,861	2,933	2,819	2,949	2,664	<i>2,641</i>	2,668	2,792	2,791	2,791	82.0
Softwood distillation:															
1929.....	1,752	<i>1,685</i>	1,686	1,703	1,695	1,736	1,770	1,765	1,754	1,761	1,848	1,848	1,787	1,787	90.1
1925.....	1,192	1,174	<i>1,185</i>	1,135	1,167	1,195	1,214	1,217	1,210	1,220	1,208	1,190	1,258	1,258	89.4
Charcoal manufacture:															
1929.....	53	65	55	61	47	53	60	61	56	58	58	68	61	61	71.2
1925.....	159	150	148	159	151	156	120	119	183	200	170	170	168	168	59.5
States: 1929															
Florida.....	509	<i>445</i>	448	472	468	456	499	491	500	513	591	605	587	587	73.6
Michigan.....	897	<i>844</i>	853	888	912	854	923	897	882	912	931	922	949	949	88.9
Mississippi.....	449	439	456	448	446	447	451	459	466	<i>432</i>	444	444	441	441	92.7
New York.....	327	403	397	409	320	307	290	284	291	<i>274</i>	300	316	335	335	67.0
Pennsylvania.....	648	677	685	656	656	656	653	632	585	<i>576</i>	642	601	700	700	82.3
Tennessee.....	665	<i>599</i>	573	589	582	<i>569</i>	607	641	705	742	739	821	811	811	69.3

## Group 7.—PRODUCTS OF PETROLEUM AND COAL

### THE GROUP AS A WHOLE

This group comprises five industries, namely: "Coke, not including gas-house coke"; "Fuel, manufactured"; "Gas, manufactured, illuminating and heating"; "Lubricating oils and greases, not made in petroleum refineries"; and "Petroleum refining."

The "Lubricating oils and greases, not made in petroleum refineries" industry as at present constituted differs from the "Lubricating greases, not made in petroleum refineries" industry as constituted at the censuses for 1927 and prior years, in that it includes

the manufacture of lubricating oils by establishments other than petroleum refineries, such establishments having formerly been assigned to the "Oils, not elsewhere classified" industry, in Group 6.

Summary statistics for the group, by industries, are given in the table below, and detailed statistics for the several industries will be found on pages 748 to 775. These reports have been published separately in pamphlet form.

#### SUMMARY FOR GROUP 7.—PRODUCTS OF PETROLEUM AND COAL: 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, containers for products, fuel, and purchased electric energy	Value of products	Value added by manufacture <sup>1</sup>	Horsepower
Total for the group-----	1920	1,407	147,216	\$229,050,010	\$2,546,840,193	\$3,647,747,957	\$1,100,907,764	1,755,258
	1927	1,418	141,655	217,485,282	2,262,698,554	3,060,225,699	797,527,145	1,513,314
	1925	1,582	136,866	210,033,811	2,356,583,404	3,230,008,511	873,425,107	1,241,877
	1923	1,650	138,330	212,881,574	1,981,370,216	2,778,888,167	707,517,861	1,092,914
	1921	1,560	115,006	180,452,175	1,760,804,612	2,372,039,178	611,294,566	(2)
	1919	1,681	131,759	185,599,027	1,635,919,806	2,289,170,161	653,250,355	709,597
	1914	1,782	90,882	60,881,700	474,558,358	721,656,198	247,097,840	464,659
Coke, not including gas-house coke-----	1929	153	20,552	33,389,425	281,592,430	416,848,458	134,756,028	393,211
	1927	171	21,082	31,167,092	236,728,701	392,012,617	65,289,916	461,874
	1925	237	23,191	36,762,401	277,750,075	378,639,527	100,882,852	466,552
	1923	262	28,364	48,107,894	354,030,441	516,922,808	162,882,457	332,560
	1921	176	16,070	23,832,946	165,790,564	221,818,868	52,522,499	(2)
	1919	278	20,319	42,299,292	224,266,674	316,516,838	92,249,164	224,879
	1914	231	21,107	14,288,952	69,138,828	99,275,020	30,136,692	117,127
Fuel: Briquettes and boulets-----	1929	23	426	584,029	5,918,790	9,497,657	3,578,858	14,893
	1927	20	274	445,511	4,873,195	7,203,410	2,330,215	9,594
	1925	14	246	369,280	3,935,503	6,019,310	2,063,807	6,573
	1923	15	364	510,604	3,907,197	5,584,070	1,676,873	7,623
	1921	14	371	454,423	2,280,374	3,177,742	897,308	(2)
	1919	11	171	221,545	1,386,394	1,973,877	587,483	5,180
	1914	14	141	111,774	609,068	862,904	253,836	3,444
Gas, manufactured, illuminating and heating-----	1929	754	43,065	60,160,926	188,416,183	512,652,695	324,236,412	544,024
	1927	828	48,497	68,356,448	211,785,523	510,705,170	304,919,647	496,014
	1925	919	46,998	67,436,443	178,423,145	455,460,053	277,036,908	428,132
	1923	930	42,282	59,600,334	191,120,082	450,097,161	258,977,079	368,605
	1921	954	34,956	53,306,407	202,253,479	411,195,803	208,942,024	(2)
	1919	1,022	42,908	52,758,628	157,550,882	329,278,008	171,728,026	238,454
	1914	1,284	43,792	26,801,664	76,779,288	220,237,700	143,458,502	213,303
Lubricating oils and greases, not made in petroleum refineries <sup>3</sup> -----	1929	177	2,577	3,738,637	39,571,373	69,584,246	30,012,873	13,281
Petroleum refining-----	1929	390	80,596	131,176,963	2,031,341,408	2,639,605,001	608,323,593	789,849
	1927	354	71,234	113,716,705	1,752,997,043	2,142,648,603	389,651,460	552,651
	1925	359	65,324	104,615,391	1,889,678,019	2,376,656,556	486,978,537	393,753
	1923	382	66,717	103,833,760	1,425,052,861	1,793,700,087	365,617,226	349,154
	1921	366	63,189	102,294,108	1,382,170,431	1,727,440,157	345,269,723	(2)
	1919	320	58,889	89,749,637	1,247,908,355	1,632,532,766	384,624,411	238,906
	1914	176	25,366	19,397,466	325,264,509	396,361,466	71,066,597	128,100

<sup>1</sup> Value of products less cost of materials, containers for products, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

<sup>2</sup> Not called for on schedule.

<sup>3</sup> Because of the transfer of establishments engaged primarily in the manufacture of lubricating oils from the "Oils, not elsewhere classified" industry, Group 6, to the "Lubricating oils and greases, not made in petroleum refineries" industry, the figures for the latter industry for prior years are not comparable with those for 1929 and therefore are not presented separately in this table. They are, however, included in the totals for the group.

<sup>4</sup> Revised; revision not carried into total for group.



## FUEL: BRIQUETTES AND BOULETS

Description of the industry.—This industry embraces establishments engaged primarily in the manufacture of fuels made by pressing into briquettes or boulets such materials as anthracite culm, bituminous slack, petroleum coke, charcoal, etc., mixed with asphaltic pitch, coal-tar pitch, or other suitable material as

binders. In addition, briquettes and boulets are manufactured by some establishments classified in other industries.

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

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. No comparable data are available for years prior to 1909]

YEAR OR PERIOD	Number of establishments	Wage earners (average for the year)	Wages	Cost of materials, fuel, and purchased electric energy	Value of products <sup>1, 2</sup>	Value added by manufacture <sup>3</sup>	Horsepower
1929.....	23	429	\$584,029	\$5,918,799	\$9,497,657	\$3,578,858	14,893
1927.....	20	274	445,511	4,873,195	7,203,410	2,330,215	9,694
1925.....	14	240	309,280	3,935,503	6,019,310	2,083,807	6,673
1923.....	15	364	510,604	3,907,197	5,584,070	1,070,873	7,023
1921.....	14	371	484,423	2,280,374	3,177,742	897,368	(1)
1919.....	11	171	221,545	1,386,394	1,973,877	587,483	5,180
1914.....	14	141	111,774	609,063	892,004	253,839	3,444
1909.....	11	88	49,874	154,648	311,010	156,362	1,290
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929.....	(4)	55.5	31.1	21.5	31.8	53.6	55.2
1925-1927.....	(4)	11.4	20.6	23.8	19.7	11.8	46.0
1923-1925.....	(4)	-32.4	-27.7	0.7	7.8	24.3	-13.8
1921-1923.....	(4)	-1.9	5.4	71.3	76.7	86.9	-----
1919-1921.....	(4)	117.0	118.7	64.5	61.0	52.7	-----
1919-1929.....	(4)	149.1	163.6	326.2	381.2	509.2	187.5
1909-1919.....	(4)	(4)	344.2	796.5	534.7	276.7	301.6

<sup>1</sup> The items for 1929 and 1927 represent the values of 1,186,577 tons (of 2,000 pounds) and 917,262 tons, respectively, of manufactured fuel made by establishments classified in the industry. In addition, manufactured fuel was reported as a secondary product by establishments classified in other industries, as follows: For 1929, 43,799 tons, valued at \$683,464; for 1927, 64,867 tons, valued at \$389,174. No quantity figures were reported for years prior to 1927. The values of manufactured fuel made as secondary products in other industries were reported for 1925, 1921, and 1919 as follows: For 1925, \$763,753; for 1921, \$80,148; for 1919, \$334,779. No corresponding value was reported for 1923, 1914, or 1909.

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

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

<sup>4</sup> Not called for on schedule.

<sup>5</sup> Per cent not computed where base is less than 100.

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

[Data for establishments with products under \$5,000 in value are included for 1929 but not for subsequent years. See GENERAL EXPLANATIONS—Establishments Covered—Size]

Census year	Number of establishments	Salaries officers and employees <sup>1</sup>	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 <sup>2</sup>	Value added by manufacture <sup>3</sup>
				Total	Prime movers	Motors run by purchased energy			Total	Materials	Fuel and purchased energy		
United States <sup>4</sup> .....													
6 1929	23	89	426	14,893	990	13,903	\$265,252	\$584,029	\$5,918,799	\$3,352,669	\$2,566,130	\$9,497,657	\$3,578,858
7 1927	20	57	274	9,694	280	9,314	152,748	445,511	4,873,195	4,634,185	239,010	7,203,410	2,330,215
7 1919	11	57	171	5,180	1,845	3,335	134,110	221,545	1,386,394	1,296,171	90,223	1,973,877	687,483

<sup>1</sup> The total numbers of persons engaged, as reported for this industry, are as follows: For 1929, 515; for 1927, 331; for 1919, 228. (No proprietors and firm members were reported.)

<sup>2</sup> The figures for all census years refer to production, not sales. See GENERAL EXPLANATIONS—Value of Products. See also footnote 1, Table 1.

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

<sup>4</sup> Statistics for States can not be presented without disclosing data for individual establishments.

<sup>5</sup> California, 1 establishment; Indiana, 1; Massachusetts, 2; Missouri, 1; Nebraska, 1; New Jersey, 2; New York, 1; North Dakota, 1; Oklahoma, 1; Pennsylvania, 3; Virginia, 2; Washington, 3; West Virginia, 1; Wisconsin, 3.

<sup>6</sup> California, 2 establishments; Indiana, 1; Maryland, 1; Massachusetts, 1; Missouri, 1; New Jersey, 2; New York, 1; Pennsylvania, 3; Virginia, 2; Washington, 2; West Virginia, 2; Wisconsin, 2.

<sup>7</sup> Indiana, 2 establishments; Missouri, 1; New Jersey, 1; New York, 1; Pennsylvania, 2; Virginia, 1; Washington, 1; Wisconsin, 2.

FUEL: BRIQUETTES AND BOULETS

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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	572	Horse-power 14,893	350	Horse-power 9,594	198	Horse-power 6,573	168	Horse-power 5,150	114	Horse-power 3,444	100.0	100.0
Prime movers, total	9	990	4	280	5	685	14	1,845	12	1,085	6.7	35.6
Steam, total	9	990	4	280	5	685	14	1,845	11	1,073	6.7	35.6
Engines	4	380	4	280	5	685	14	1,845	(1)	(1)	2.6	36.6
Turbines	5	610							(1)	(1)	4.1	
Internal-combustion engines									1	12		
Electric motors driven by purchased energy	563	13,903	346	9,314	193	5,888	154	3,335	102	2,359	98.3	64.4
Electric motors, total	568	14,083	346	9,314	195	6,063	162	3,555	105	2,426	100.0	100.0
Driven by purchased energy	563	13,903	346	9,314	193	5,888	154	3,335	102	2,359	98.7	98.8
Driven by energy generated in establishments reporting	5	180			2	175	8	220	3	67	1.3	6.2
Electric generators	1	Kilowatts 100 Kilowatt-hours 12,788,492		Kilowatts	1	Kilowatts 200	(1)	(1)	(1)	(1)		
Electric energy purchased <sup>1</sup>				(1)		(1)		(1)		(1)		

<sup>1</sup> Not called for separately on schedule.

<sup>2</sup> Not called for on schedule.

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

<sup>4</sup> Data incomplete.

TABLE 4.—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: <sup>1</sup>															
1929	426	445	414	409	381	409	346	<b>536</b>	372	439	548	518	499	499	61.3
1925	246	377	354	262	204	150	159	<b>153</b>	189	224	257	309	307	307	40.6
1919	171	185	121	115	<i>111</i>	133	133	162	149	167	207	270	289	289	37.1
1914	141	129	98	125	112	106	<b>93</b>	110	123	177	193	205	221	221	42.1
1909	88	94	92	85	75	70	<b>69</b>	72	75	83	98	121	132	132	44.7

<sup>1</sup> Statistics for States can not be presented without disclosing data for individual establishments.

# THE GAS AND COKE INDUSTRIES

Establishments engaged primarily in the manufacture of gas for illuminating and heating and those engaged primarily in the manufacture of coke are assigned to separate classifications for census purposes. The two industries are closely related, however, the

products of both being gas, coke, and by-products resulting from distillation of coal. For this reason statistics for the two industries are here brought together and are preceded by tables giving combined summary statistics and combined statistics for products.

## COMBINED SUMMARY FOR THE GAS AND COKE 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	Value of products <sup>1</sup>	Value added by manufacture <sup>2</sup>	Horsepower
1929	907	63,617	\$93,550,351	\$470,008,613	\$929,001,053	\$458,992,440	937,235
1927	909	69,570	102,524,140	498,514,224	898,717,787	400,203,563	947,888
1925	1,156	70,189	104,198,844	456,173,820	834,093,580	377,919,760	837,684
1923	1,201	70,646	107,708,228	545,150,523	967,020,059	421,809,536	691,166
1921	1,130	51,026	77,139,853	371,044,343	632,508,866	261,494,523	( <sup>3</sup> )
1919	1,300	72,227	95,057,920	381,817,556	645,794,740	263,977,190	463,333
1914	1,515	64,899	41,090,616	145,917,616	319,512,810	173,695,194	330,430
1909	1,611	66,488	36,385,042	116,452,371	262,510,993	146,058,622	189,896
1904	1,297	49,547	26,362,415	67,064,598	176,873,592	109,808,994	139,345
1899	1,118	39,458	19,522,032	40,270,888	111,302,138	71,031,250	66,544
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929	-9.2	-8.6	-8.8	-5.7	3.4	14.7	-1.1
1925-1927	-13.6	-0.9	-1.6	9.3	7.7	5.9	13.2
1923-1925	-3.7	-0.6	-3.3	-16.3	-13.7	-10.4	21.2
1921-1923	6.3	38.5	39.6	46.9	52.0	61.3	-----
1919-1921	-13.1	-29.4	-18.9	-2.8	-2.1	-1.0	-----
1919-1929	-30.2	-11.9	-1.6	23.1	48.9	73.9	102.3
1909-1919	-19.3	8.6	161.3	227.9	140.0	80.7	144.0
1899-1909	44.1	65.5	86.4	189.2	135.9	105.6	185.4

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

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

<sup>3</sup> Not called for on schedule.

## COMBINED STATISTICS OF PRODUCTS, BY CLASS, QUANTITY, AND VALUE, FOR THE GAS AND COKE INDUSTRIES, FOR THE UNITED STATES: 1929 AND 1927

PRODUCT	TOTAL		GAS INDUSTRY		COKE INDUSTRY	
	1929	1927	1929	1927	1929	1927
Aggregate value of products	\$874,151,033	\$853,951,009	\$479,005,985	\$485,099,542	\$395,085,048	\$368,851,467
Gas:						
Total production, M cu. ft.	1,237,910,978	1,112,618,521	450,717,410	445,457,144	787,193,562	667,161,377
Sales—						
M cu. ft.	849,645,105	767,784,515	408,401,395	412,236,133	441,243,710	355,548,382
Value	\$499,342,136	\$499,969,340	\$438,242,970	\$446,244,677	\$61,099,166	\$53,724,663
Coke:						
Total production, short tons	62,265,668	53,937,332	5,614,130	4,805,119	56,651,538	49,132,213
For sale—						
Short tons	60,095,277	52,109,519	3,443,739	2,977,306	56,651,538	49,132,213
Value	\$283,427,029	\$272,701,918	\$26,868,182	\$25,514,288	\$256,568,847	\$247,187,630
Screenings and breeze:						
Total production, short tons	5,330,250	4,602,442	553,596	562,060	4,776,654	4,039,773
Sales—						
Short tons	1,017,151	837,539	72,026	85,627	945,155	751,912
Value	\$2,849,384	\$2,435,587	\$232,208	\$321,554	\$2,617,176	\$2,114,033
Tar:						
Total production, gallons	845,794,885	730,558,244	209,408,472	211,179,704	636,386,413	519,378,540
Sales—						
Gallons	454,598,157	440,643,794	163,694,890	162,169,846	290,903,267	278,473,948
Value	\$22,821,639	\$22,787,761	\$8,169,807	\$8,217,635	\$14,651,832	\$14,570,126
Ammonia (NH <sub>3</sub> equivalent of all forms), sales: <sup>1</sup>						
Pounds	437,657,103	378,433,348	36,216,150	28,814,232	401,440,953	349,619,116
Value	\$29,034,931	\$27,993,272	\$2,173,491	\$1,753,432	\$26,861,440	\$26,239,840
Crude light oil:						
Total production, gallons	203,497,484	169,829,737	5,272,006	7,873,042	198,225,478	161,956,695
Sales—						
Gallons	10,783,188	9,714,215	505,954	1,449,672	10,277,234	8,264,543
Value	\$1,311,629	\$1,070,427	\$40,294	\$115,792	\$1,271,335	\$954,635
Light-oil derivatives:						
Total production, gallons	171,022,095	135,775,211	9,270,077	7,782,920	161,752,018	127,992,291
Sales—						
Gallons	154,076,479	127,581,068	4,414,324	3,759,894	149,662,155	123,821,774
Value	\$30,227,917	\$24,642,176	\$944,628	\$660,410	\$29,283,289	\$23,881,757
Drip and holder oil, sales: <sup>1</sup>						
Gallons	4,740,977	4,614,884	4,746,977	4,614,884	-----	-----
Value	\$375,896	\$351,580	\$375,896	\$351,580	-----	-----
Naphthalene, crude:						
Total production, pounds	22,745,229	11,200,182	3,063,738	2,971,782	19,684,491	8,228,400
Sales—						
Pounds	22,577,597	9,588,573	2,995,121	1,814,794	19,582,476	7,773,779
Value	\$399,648	\$113,752	\$50,529	\$28,760	\$319,119	\$84,992
Other by-products, value	\$4,390,824	\$1,984,896	\$1,967,980	\$1,891,105	\$2,422,844	\$93,791

<sup>1</sup> Products of the gas industry sold and available for sale from the production of the specified year; products of the coke industry sold within the specified year.

<sup>2</sup> Includes data for some refined naphthalene.

## GAS, MANUFACTURED, ILLUMINATING AND HEATING

Description of the industry.—This industry designation covers establishments, both private and municipal, engaged primarily in the commercial manufacture of gas to be delivered through mains, for illuminating, household, and industrial purposes. It does not cover establishments which merely distribute gas not of their own manufacture. Blast-furnace gas and, with a few exceptions, gas resulting from by-product coke-oven operation, are not treated as products of this industry. A considerable amount of by-product coke-oven gas is, however, purchased by commercial gas plants and used as an ingredient of manufactured gas.

The products of the gas industry comprise not only gas, but also the by-products resulting from its manufacture, such as coke, tar, ammonia, naphthalene, and light oil and its derivatives. Only a few gas plants break up tar and light oil for the recovery of their derivatives.

Pintsch-gas plants.—Data for Pintsch-gas plants were included with those for the "Gas, manufactured, illuminating and heating" industry for 1925 and prior years, but for 1927 and 1929 they were included with those for the "Compressed and liquefied gases" industry. At the census for 1925 data were received for 44 of these plants, with an aggregate value of products of

\$1,911,369, less than one-half of 1 per cent of the total value of products for the gas industry as constituted for that year.

Purchased gas.—The total output of gas in 1929, as shown in this report, included 103,209,185 M cubic feet purchased by establishments reporting. (See Tables 5 and 6.) Of this amount, 5,281,902 M cubic feet, representing gas made within the gas industry (coal gas, water gas, etc.), is duplicated in the figures for the total output. Similar duplication appears in the figures for earlier years.

Decrease in number of establishments.—As will be seen by reference to Table 1, the number of establishments classified in this industry has been decreasing from census to census since 1909. The decline from 1925 to 1927 was due to the omission of data for Pintsch-gas plants for 1927 (see "Pintsch-gas plants" above); to the use of natural gas; and to the tendency shown for recent census periods toward centralization, as a result of which establishments formerly manufacturing independently find it to their advantage to cease manufacturing and to purchase gas from other establishments for distribution, or to sell or lease their plants to public-service corporations which operate them as distributing stations.

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 <sup>1</sup>	Value added by manufacture <sup>2</sup>	Horsepower
1929	754	43,065	\$60,160,926	\$188,416,183	\$512,652,595	\$324,236,412	544,024
1927	828	48,497	68,350,448	211,755,523	516,705,170	304,619,647	496,014
1925	919	46,998	67,436,443	178,423,145	455,460,053	277,036,908	428,132
1923	939	42,282	59,600,334	191,120,082	450,097,161	258,077,079	358,606
1921	954	34,950	53,306,407	202,253,479	411,195,503	208,942,024	(3) 238,454
1919	1,022	42,908	52,768,628	157,550,832	329,278,908	171,728,026	213,303
1914	1,284	43,792	26,801,694	76,776,288	220,237,790	143,458,502	128,179
1909	1,296	37,215	20,630,697	52,427,844	166,814,371	114,386,527	72,676
1904	1,019	30,566	17,037,917	37,180,066	125,144,945	87,064,879	31,777
1899	877	22,469	12,436,296	20,605,856	75,716,693	55,111,337	
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929	-8.9	-11.2	-12.0	-11.0	-0.8	6.3	9.7
1925-1927	-9.9	3.2	1.4	18.7	13.4	10.1	15.9
1923-1925	-2.1	11.2	13.1	-6.6	1.2	7.0	16.4
1921-1923	-1.6	21.0	11.8	-6.5	9.5	23.9	
1919-1921	-6.7	-18.5	1.0	28.4	24.9	21.7	
1919-1929	-26.2	0.4	14.0	19.6	55.7	88.8	128.1
1909-1919	-21.1	15.3	152.1	200.5	97.4	50.1	86.0
1899-1909	47.8	65.7	68.3	154.4	120.3	107.6	303.4

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

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

<sup>3</sup> Not called for on schedule.

## 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 employes <sup>1</sup>	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 <sup>2</sup>	Value added by manufacture <sup>3</sup>
					Total	Prime movers	Motors run by purchased energy			Total	Materials	Fuel and purchased energy		
United States	1929	754	22,559	43,065	544,024	365,412	178,612	\$40,774,202	\$60,160,926	\$188,416,183	\$85,987,494	\$102,428,689	\$512,652,595	\$324,236,412
	1927	828	26,788	48,497	496,014	334,935	161,079	45,514,425	68,356,448	211,785,523	87,240,955	124,585,568	510,705,170	304,919,647
	1919	1,022	20,393	42,908	238,454	207,091	33,363	25,172,453	62,758,628	157,550,882	42,038,890	114,911,980	320,278,908	171,728,026
Individual States:														
Alabama	1929	10	107	267	1,365	1,115	250	159,144	263,717	462,547	104,138	298,409	1,525,714	1,068,167
	1927	9	91	304	704	454	250	121,353	285,379	613,045	280,219	323,820	1,339,438	726,393
	1919	12	46	622	333	296	37	70,684	544,427	761,755	127,474	634,281	1,646,047	884,232
Arizona	1929	10	62	156	2,204	1,524	680	78,396	207,971	554,929	118,750	430,179	1,456,970	902,041
	1927	11	73	131	1,443	1,121	322	99,239	154,432	515,906	156,597	359,309	1,277,907	762,091
	1919	9	59	63	590	460	130	65,671	84,651	349,927	92,414	257,513	691,160	341,242
California	1929	38	713	2,044	50,609	27,464	23,186	1,197,735	2,450,890	7,107,118	2,941,197	4,165,921	20,230,047	10,123,629
	1927	40	929	2,167	43,176	22,243	20,933	1,486,247	3,083,674	7,928,511	1,804,893	6,033,618	24,544,051	16,615,540
	1919	57	1,276	2,444	24,545	8,965	15,580	1,645,905	2,754,113	8,000,063	1,723,896	6,276,167	20,440,682	12,440,619
Colorado	1929	7	39	78	281	175	106	71,323	103,186	243,803	124,785	118,518	622,683	379,389
	1927	9	340	500	1,601	247	1,354	1,195,293	625,848	1,621,009	526,892	1,094,117	3,655,607	2,034,598
	1919	10	80	448	736	567	169	118,387	565,866	1,000,815	112,447	888,308	2,649,135	1,048,320
Connecticut	1929	17	623	1,180	9,187	4,127	5,060	1,120,959	1,496,077	5,084,826	2,921,416	2,163,410	18,102,389	8,017,613
	1927	20	658	1,447	10,229	4,547	2,350	1,195,293	1,486,247	5,184,363	1,444,260	3,740,103	13,319,693	8,135,270
	1919	22	515	1,270	3,071	2,556	515	643,615	1,687,991	3,189,614	547,692	2,641,922	8,340,845	5,167,231
Florida	1929	21	207	476	7,370	4,841	2,729	386,998	631,272	1,501,175	500,779	1,000,398	4,906,634	3,408,459
	1927	19	225	652	7,598	5,248	2,350	439,945	833,252	1,772,198	458,523	1,313,675	5,288,948	3,514,750
	1919	14	91	418	1,074	1,074	—	148,615	421,893	982,950	309,671	673,279	1,959,238	1,000,388
Georgia	1929	15	209	711	5,310	3,555	1,755	497,233	845,117	1,676,520	601,093	1,075,437	5,179,226	3,502,696
	1927	15	200	619	2,343	1,230	1,113	337,361	570,677	1,862,908	648,393	1,214,613	5,123,730	3,259,824
	1919	17	176	486	1,344	1,009	386	224,727	498,461	1,619,246	322,205	1,197,035	3,005,168	1,486,928
Illinois	1929	46	3,007	2,944	68,190	42,701	25,459	5,802,490	4,697,771	20,296,369	9,940,647	10,355,712	57,309,312	37,012,953
	1927	58	3,265	2,798	51,138	37,568	19,570	6,021,395	4,239,644	20,790,936	11,400,130	9,390,806	52,147,493	31,356,890
	1919	70	3,307	4,430	21,912	21,282	630	4,046,095	5,372,255	17,592,162	3,178,894	14,713,268	30,930,726	10,038,261
Indiana	1929	36	496	1,306	16,922	8,461	8,461	761,566	1,714,179	4,697,771	2,582,485	4,775,479	10,660,639	9,302,575
	1927	40	669	1,405	14,686	7,135	7,551	1,009,616	1,793,450	7,626,858	2,337,898	5,288,960	16,125,553	8,498,965
	1919	53	730	1,902	8,378	3,966	4,382	710,789	2,137,567	6,011,671	1,683,628	5,018,048	12,454,200	5,842,636
Iowa	1929	53	395	648	8,124	5,282	2,842	602,669	756,099	2,826,760	954,008	1,871,852	8,191,611	5,364,751
	1927	54	472	708	7,349	4,341	3,008	701,769	917,583	2,759,088	843,982	1,915,100	7,718,084	4,958,966
	1919	68	324	727	5,316	4,620	096	401,978	846,497	2,641,273	874,171	1,767,102	5,737,027	3,080,354
Kentucky	1929	8	27	94	8,089	3,981	4,108	36,274	104,004	374,646	73,349	801,297	860,443	485,797
	1927	9	35	73	5,492	1,532	3,960	45,708	69,277	198,497	37,129	161,668	534,024	335,627
	1919	10	28	90	312	261	51	27,598	78,803	159,924	42,302	117,622	339,894	179,920
Maine	1929	9	96	227	1,483	570	913	168,610	348,898	1,091,564	572,226	610,338	2,056,191	964,627
	1927	10	88	284	618	190	428	161,162	330,108	773,073	226,801	546,772	1,874,662	1,101,619
	1919	13	89	220	463	378	85	119,926	266,584	647,075	138,455	508,620	1,380,980	733,855
Maryland	1929	11	663	565	10,834	8,175	2,659	1,174,621	823,712	3,020,989	1,661,644	1,359,345	11,314,576	8,293,587
	1927	13	657	694	9,134	7,578	1,556	1,109,509	931,323	3,651,058	1,844,012	1,807,046	11,072,185	7,421,127
	1919	16	626	875	2,831	2,816	15	736,394	1,272,374	2,868,317	689,524	2,268,793	6,447,980	3,680,663
Massachusetts	1929	39	2,115	4,096	31,543	23,557	7,986	3,838,345	6,516,333	15,835,388	7,505,740	8,329,448	41,264,782	25,429,894
	1927	41	2,020	4,079	31,083	22,710	8,323	3,440,578	6,046,546	16,201,703	6,992,818	9,208,885	38,657,688	22,465,985
	1919	51	660	2,054	18,827	15,875	2,952	3,555,507	3,557,468	10,773,564	1,907,331	8,866,233	24,231,095	13,457,931
Michigan	1929	53	1,977	3,096	49,269	35,796	13,463	3,204,477	4,871,321	15,375,758	6,712,515	8,663,243	40,704,848	25,389,090
	1927	56	2,068	2,547	48,371	35,068	13,303	3,448,249	4,007,666	14,547,434	6,998,847	7,548,587	34,263,079	19,715,645
	1919	59	1,196	2,846	13,563	12,788	805	1,643,778	3,965,259	8,270,332	2,514,834	5,755,498	17,993,314	9,722,982
Minnesota	1929	21	332	479	7,977	5,931	2,046	634,029	720,793	2,823,265	631,014	2,192,251	6,848,234	4,024,969
	1927	20	404	784	8,148	6,764	1,384	663,075	957,955	4,349,698	2,006,878	2,343,620	8,497,408	4,147,410
	1919	23	321	707	5,908	5,479	429	458,747	868,656	2,407,821	668,994	1,748,827	5,517,882	3,110,661
Mississippi	1929	7	47	120	517	375	142	61,114	133,737	276,614	146,823	129,791	814,640	538,326
	1927	8	33	142	520	395	125	65,309	152,788	318,216	119,042	199,174	787,198	468,982
	1919	7	38	122	228	167	61	38,828	99,946	203,971	37,264	106,717	411,344	207,373
Missouri	1929	22	945	1,573	13,862	9,643	3,719	1,530,891	2,097,759	5,115,122	1,761,863	3,353,769	14,240,360	9,125,238
	1927	24	989	1,418	12,941	9,332	3,099	1,690,485	1,847,022	6,071,195	1,820,210	4,244,979	14,311,860	8,240,674
	1919	26	847	1,318	8,772	8,455	817	590,773	1,539,087	2,966,118	553,571	2,442,547	11,113,872	8,117,254
Nebraska	1929	17	159	253	3,045	2,063	682	289,642	323,472	1,228,852	410,920	817,926	3,487,142	2,268,290
	1927	18	179	201	3,152	2,239	913	327,901	298,018	1,234,522	234,436	950,086	3,004,025	2,370,103
	1919	20	159	291	1,639	1,229	413	214,303	277,894	1,134,333	272,438	801,895	2,445,794	1,311,461
New Hampshire	1929	11	89	296	1,305	699	600	166,104	366,204	902,685	308,055	594,630	2,137,054	1,234,369
	1927	11	100	280	1,449	1,091	358	168,756	350,171	907,113	234,491	672,622	2,137,054	1,206,360
	1919	13	93	209	298	217	81	103,844	227,764	529,019	102,684	426,335	1,194,779	665,760
New Jersey	1929	22	429	1,266	38,110	35,629	2,481	804,363	1,931,221	11,444,866	6,000,819	5,375,047	38,488,281	27,043,415
	1927	24	1,393	2,661	30,369	33,872	2,497	2,713,145	3,091,690	14,043,738	8,034,70			

# MANUFACTURED GAS

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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 <sup>1</sup>	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 prod- ucts <sup>2</sup>	Value added by manufac- ture <sup>3</sup>
					Total	Prime movers	Motors run by pur- chased energy			Total	Materials	Fuel and purchased energy		
<b>Individual States—Continued.</b>														
New York	1929	51	5,403	10,938	112,826	78,405	34,421	\$10,284,263	\$14,854,078	\$48,740,446	\$23,276,853	\$25,472,593	\$112,876,140	\$64,126,694
	1927	69	6,057	13,578	112,962	73,846	39,116	11,143,535	19,244,004	52,017,194	18,141,495	33,875,699	118,930,982	66,913,788
	1919	96	4,354	8,409	54,291	53,009	682	5,640,742	10,867,701	41,170,109	11,772,134	29,397,975	69,339,351	28,109,242
North Carolina	1929	24	141	436	2,955	848	2,107	215,358	426,598	1,140,083	511,774	628,309	3,346,502	2,206,419
	1927	23	149	342	2,463	871	1,592	207,757	381,388	1,295,718	414,502	881,210	3,104,253	1,808,535
	1919	22	76	341	1,086	925	101	101,023	329,355	677,490	178,526	498,964	1,521,490	844,000
North Dakota	1929	5	27	57	444	180	314	35,259	83,185	401,452	132,268	269,184	815,836	414,384
	1927	5	32	76	184	105	79	62,472	102,800	312,219	64,832	247,387	763,490	451,271
	1919	5	26	43	66	66	-----	32,298	60,076	155,209	7,373	147,830	384,407	226,288
Ohio	1929	10	140	203	3,287	1,035	2,252	204,449	235,249	624,259	220,184	404,075	2,720,225	2,095,066
	1927	12	163	225	4,659	1,155	3,504	213,811	328,026	835,536	377,238	458,295	2,966,115	2,130,579
	1919	15	59	162	822	817	5	75,051	225,483	357,738	82,078	274,820	887,297	529,500
Oregon	1929	10	433	410	5,865	1,390	4,475	784,039	683,001	1,818,949	1,198,666	620,283	6,055,627	4,236,678
	1927	10	470	458	4,760	1,531	3,229	762,797	749,395	1,926,374	517,895	1,408,479	6,139,053	4,212,679
	1919	11	206	334	1,910	1,833	77	270,806	353,324	818,475	214,566	603,907	2,927,374	2,108,899
Pennsylvania	1929	64	1,471	3,296	34,030	25,415	8,615	2,976,076	4,648,394	12,556,966	5,610,381	6,946,585	38,241,814	25,684,848
	1927	67	1,677	3,684	28,711	22,821	5,890	2,909,285	5,211,247	21,630,377	12,156,683	9,473,694	45,888,043	24,257,666
	1919	86	1,497	3,324	16,671	16,217	454	1,654,501	4,240,772	17,329,971	8,951,978	8,377,993	31,598,371	14,268,169
Rhode Island	1929	4	406	769	6,524	4,371	2,153	724,779	1,228,132	2,979,279	1,360,258	1,599,021	8,127,072	5,147,793
	1927	4	344	766	2,581	1,071	1,510	568,441	1,088,837	3,204,288	1,133,002	2,071,286	7,512,477	4,308,189
	1919	4	236	670	2,335	1,600	735	323,664	834,074	2,073,037	186,944	1,886,093	4,877,592	2,404,555
South Carolina	1929	9	74	202	1,569	1,004	556	113,090	189,007	520,696	194,815	325,881	1,655,156	1,134,460
	1927	8	78	181	1,200	915	375	136,022	187,233	639,133	249,563	380,570	1,506,987	957,864
	1919	10	84	219	650	908	42	91,424	194,905	474,450	92,463	381,987	946,732	427,282
South Dakota	1929	8	36	70	404	108	296	68,920	99,447	304,831	135,313	169,518	801,811	496,980
	1927	9	43	70	501	283	218	69,919	76,039	292,625	70,173	221,852	730,874	438,849
	1919	12	37	80	473	440	33	56,702	82,866	319,747	64,952	254,795	618,376	293,629
Tennessee	1929	7	208	575	3,477	2,099	778	338,293	566,036	1,054,469	611,450	443,010	3,700,270	2,645,810
	1927	7	199	579	2,645	1,976	669	311,577	594,910	973,358	235,767	737,591	3,352,310	2,378,952
	1919	10	70	474	1,868	828	1,040	153,729	420,788	840,784	133,521	707,263	1,800,579	950,825
Vermont	1929	9	24	97	506	117	449	47,835	131,968	303,930	102,927	201,063	996,638	692,768
	1927	9	48	81	565	87	478	65,931	127,953	343,340	101,925	241,415	870,830	526,990
	1919	9	50	87	136	110	26	48,660	89,914	222,007	63,203	158,804	485,761	263,744
Virginia	1929	14	148	490	4,392	1,444	2,948	274,308	593,439	1,577,879	701,105	876,774	5,396,834	3,818,955
	1927	14	154	437	3,920	1,774	2,146	321,620	626,707	1,668,449	411,348	1,257,101	5,094,882	3,426,433
	1919	17	108	475	1,875	1,000	275	161,686	667,166	1,456,627	139,997	1,316,630	3,149,476	1,692,849
Washington	1929	10	257	532	6,363	5,668	695	375,479	666,784	1,735,345	822,139	913,206	4,627,322	2,891,977
	1927	10	271	666	6,260	4,649	1,611	464,030	862,147	1,648,019	678,372	969,647	4,505,512	2,858,493
	1919	12	221	637	2,969	2,371	598	291,062	838,340	1,605,966	506,043	1,099,923	3,680,464	2,074,498
Wisconsin	1929	31	667	1,671	17,543	9,887	7,656	1,163,482	2,362,111	6,148,850	3,087,445	3,061,405	16,059,539	9,910,689
	1927	34	758	1,635	15,771	9,869	6,402	967,660	2,215,539	5,937,347	2,537,217	3,400,130	14,505,715	8,568,368
	1919	34	454	1,294	7,869	7,847	22	544,748	1,550,142	3,575,296	1,179,351	2,395,945	8,152,860	4,577,564
<b>Groups of States:</b>														
Del., 3 est.; D. C., 1; W. Va., 3	1929	7	200	1,188	7,040	6,619	421	525,954	1,501,965	3,234,521	988,633	2,245,588	8,192,734	4,968,213
Ark., 1 est.; Kans., 1; La., 2	1929	4	17	39	406	80	326	33,855	30,019	97,566	38,279	59,287	261,136	163,570
Mont., 3 est.; Wyo., 2	1929	5	19	51	311	230	81	30,361	70,244	146,624	34,941	111,683	316,816	170,192
N. Mex., 2 est.; Tex., 2	1929	4	37	107	438	314	124	69,859	128,416	237,088	130,254	106,834	654,023	416,935
Idaho, 2 est.; Nev., 2; Utah, 1	1929	5	25	59	447	164	283	42,627	88,523	182,699	105,837	76,962	401,674	218,975
<b>States not shown separately</b>														
	1927	38	831	1,965	11,248	8,442	2,806	1,481,925	2,841,226	6,090,770	1,554,782	4,525,997	15,783,846	9,693,067
	1919	71	778	2,234	10,219	8,684	1,535	996,325	2,482,083	6,169,305	639,004	5,282,701	14,029,785	7,860,483

<sup>1</sup> The total numbers of persons engaged, as reported for this industry, are as follows: For 1929, 65,624; for 1927, 75,285; for 1919, 63,328, including 27 reported as proprietors and firm members. (No proprietors or firm members reported for 1927 or 1929.)

<sup>2</sup> The figures for all census years refer to production, not sales. See GENERAL EXPLANATIONS—Value of products.

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

<sup>4</sup> 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.

<sup>5</sup> Arkansas, 1 establishment; Delaware, 3; District of Columbia, 1; Idaho, 4; Kansas, 6; Louisiana, 3; Montana, 4; Nevada, 2; New Mexico, 2; Texas, 6; Utah, 2; West Virginia, 3; Wyoming, 1.

<sup>6</sup> Arkansas, 1 establishment; Delaware, 7; District of Columbia, 2; Idaho, 4; Kansas, 7; Louisiana, 4; Montana, 6; Nevada, 2; New Mexico, 2; Oklahoma, 2; Texas, 25; Utah, 4; West Virginia, 3; Wyoming, 2.

## CENSUS OF MANUFACTURES: 1929

TABLE 3.—PRODUCTS, BY CLASS, QUANTITY, AND VALUE, FOR THE UNITED STATES: 1919 TO 1929

[Combined statistics for products of the gas and coke industries may be found on p. 750. The figures for all census years refer to production, not sales. See GENERAL EXPLANATIONS—Value of Products]

PRODUCT	1929	1927	1925	1923	1921	1919
Gas industry, all products, total value.....	\$512,652,596	\$516,705,170	\$455,460,053	\$450,097,161	\$411,195,503	\$329,278,908
Gas and by-products.....	\$479,065,985	\$485,099,542	\$426,851,205	\$425,983,358	\$398,464,341	\$308,832,339
Other products (not normally belonging to the industry).....	\$1,663,772	\$1,945,950	\$1,422,301	\$476,573	\$149,064	\$3,038,227
Receipts from lamps and appliances—						
Rents.....	\$297,714	\$390,193	\$2,306,089	\$2,602,659	\$2,833,059	\$1,763,187
Sales.....	\$31,625,124	\$29,269,485	\$24,880,368	\$21,034,571	\$9,740,039	\$15,595,155
Gas and by-products, total value.....	\$479,065,985	\$485,099,542	\$426,851,205	\$425,983,358	\$398,464,341	\$308,832,339
<i>Gas</i>						
Total produced and purchased, M cubic feet.....	450,717,416	445,457,144	395,520,627	386,547,471	333,997,626	344,119,611
For sale—						
M cubic feet.....	408,401,395	412,236,133	359,401,849	356,553,990	306,058,339	308,440,473
Value.....	\$438,242,970	\$446,244,077	\$395,968,562	\$394,506,469	\$372,032,009	\$282,288,778
Plant consumption and loss, M cubic feet.....	42,316,021	33,221,011	36,118,778	29,993,481	27,939,287	35,679,338
<i>By-products</i>						
Total produced for sale, value.....	\$40,823,015	\$38,854,865	\$30,882,703	\$31,476,889	\$26,432,332	\$26,543,561
Coke:						
Total production, short tons.....	5,614,130	4,805,119	4,032,187	3,728,945	3,305,052	4,278,333
For sale—						
Short tons.....	3,443,739	2,977,306	2,398,391	2,174,518	2,031,239	2,458,166
Value.....	\$26,868,182	\$25,514,288	\$20,721,381	\$21,532,541	\$17,603,289	\$17,822,894
Consumed in plant, short tons.....	2,170,391	1,827,813	1,633,796	1,554,427	1,263,813	1,820,367
Screenings and breeze:						
Total production, short tons.....	553,596	562,669	475,080	399,119	( <sup>1</sup> )	( <sup>1</sup> )
For sale—						
Short tons.....	72,026	85,627	62,697	88,752		
Value.....	\$232,203	\$321,554	\$169,455	\$343,404		
Consumed in plant, short tons.....	481,570	477,042	412,383	310,367		
Tar:						
Total production, gallons.....	209,408,472	211,179,704	179,633,672	167,234,477	107,729,959	171,142,621
For sale—						
Gallons.....	163,694,890	162,169,846	125,274,215	108,867,435	113,765,945	120,527,624
Value.....	\$8,169,807	\$8,217,635	\$6,140,784	\$5,040,346	\$5,395,635	\$4,660,336
Coal-gas tar—						
Gallons.....	88,149,260	78,690,507	63,803,001	58,876,615	60,333,000	61,969,577
Value.....	\$4,810,008	\$4,449,171	\$3,540,759	\$3,038,983	\$3,203,620	\$2,647,813
Water-gas tar—						
Gallons.....	74,466,951	82,528,822	61,219,427	49,750,153	52,923,588	58,557,047
Value.....	\$3,269,381	\$3,637,017	\$2,580,743	\$1,986,769	\$2,170,653	\$2,012,723
Oil-gas tar—						
Gallons.....	1,078,679	950,517	251,697	240,667	509,357	\$2,012,723
Value.....	\$87,418	\$81,447	\$13,282	\$14,594	\$21,362	
Consumed in plant, gallons.....	45,713,582	49,009,858	54,359,457	58,367,042	53,964,014	50,615,097
Ammonia products:						
Total ammonia (NH <sub>3</sub> ) content—						
Pounds.....	36,216,150	28,814,232	24,339,955	22,749,956	( <sup>2</sup> )	( <sup>3</sup> )
Value.....	\$2,173,461	\$1,753,432	\$1,810,092	\$1,625,580	\$1,667,851	\$2,030,146
Reported as—						
Ammonium sulphate—						
Pounds.....	92,826,531	56,078,150	13,439,204	8,050,598	3,901,442	5,073,945
Value.....	\$1,727,540	\$1,255,739	\$351,235	\$278,158	\$101,245	\$205,101
Ammonia (NH <sub>3</sub> )—						
Pounds.....	13,009,518	14,791,695	20,980,154	20,737,307	( <sup>2</sup> )	( <sup>3</sup> )
Value.....	\$445,951	\$497,693	\$1,464,857	\$1,647,422	\$1,566,606	\$1,825,045
Crude light oil:						
Total production, gallons.....	5,272,066	7,873,042	9,693,925	5,690,524	3,340,959	6,491,113
For sale—						
Gallons.....	595,954	1,449,672	1,901,864	1,373,964	1,565,769	285,071
Value.....	\$40,294	\$115,792	\$116,534	\$116,393	\$111,641	\$34,369
Plant consumption and loss, gallons.....	4,766,062	6,423,370	7,792,061	4,316,560	1,775,190	6,206,042
Light-oil derivatives:						
Total production, gallons.....	9,270,077	7,782,920	2,654,910	1,028,411	2,059,636	8,683,660
For sale—						
Gallons.....	4,414,324	3,759,894	2,109,847	1,035,976	2,015,512	4,811,608
Value.....	\$944,623	\$690,419	\$400,712	\$234,293	\$354,012	\$851,065
Plant consumption and loss, gallons.....	4,855,753	4,023,026	545,063	592,435	44,174	3,872,152
Drip and holder oil:						
For sale—						
Gallons.....	4,746,977	4,614,884	4,354,206	3,924,318	2,950,214	2,669,080
Value.....	\$375,866	\$351,880	\$295,394	\$269,018	\$180,118	\$137,957
Naphthalene, crude:						
Total production, pounds.....	3,063,738	2,971,782	6,158,678	3,563,337	795,282	1,767,317
For sale—						
Pounds.....	2,995,121	1,814,794	446,791	405,016	795,282	521,459
Value.....	\$60,529	\$28,780	\$2,537	\$4,752	\$33,248	\$6,841
Plant consumption and loss, pounds.....	68,617	1,156,988	5,711,887	3,097,471		1,245,858
Other by-products, value.....	\$1,967,980	\$1,891,105	\$1,219,814	\$2,016,622	\$1,180,538	\$909,753

<sup>1</sup> Includes data for screenings and breeze.<sup>2</sup> Included above in figure for coke.<sup>3</sup> No data.<sup>4</sup> Represents the ammonia content of the following: Ammonia liquors, 5,039,223 gallons, valued at \$376,352; anhydrous ammonia, 182,676 pounds, \$17,811; ammonia reported in terms of NH<sub>3</sub>, 14,634,055 pounds, \$1,253,259.<sup>5</sup> Represents the following: For 1921—Ammonia liquors, 12,027,799 gallons, valued at \$1,076,755; anhydrous ammonia, 6,509,955 pounds, \$489,851; for 1919—Ammonia liquors, 23,393,320 gallons, valued at \$1,674,449; anhydrous ammonia, 1,846,024 pounds, \$150,590. The ammonia (NH<sub>3</sub>) content of these products can not be estimated because an indefinite amount of NH<sub>3</sub> is included in other forms. It is probable, however, that a large part of the anhydrous ammonia reported was the NH<sub>3</sub> content of liquors.

MANUFACTURED GAS

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TABLE 4.—PRODUCTS MADE FOR SALE, BY KIND, QUANTITY, AND VALUE, BY STATES: 1929

[The figures refer to production, not sales. 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]

STATE	Total value	Gas (quantities in M cubic feet)	BY-PRODUCTS					Gross receipts from rents and sales of lamps and appliances	
			Coke (quantities in short tons)	Screenings and breeze (quantities in short tons)	Tar (quantities in gallons)				Other by-products
					Coal-gas tar	Water-gas tar	Oil-gas tar		
United States:									
Quantity.....		408,401,395	3,443,739	72,026	88,149,260	74,466,951	1,078,679		
Value.....	\$512,652,595	\$438,242,970	\$26,898,182	\$232,208	\$4,816,008	\$3,266,381	\$87,418	\$31,922,838	
Individual States:									
Alabama—									
Quantity.....		608,585	23,260	1,270	593,863				
Value.....	\$1,525,714	\$1,142,896	\$116,399	\$1,514	\$38,360		\$3,658	\$222,837	
Arizona—									
Quantity.....		850,702					2,282		
Value.....	\$1,456,970	\$1,399,455					\$492	\$16,168	
California—									
Quantity.....		25,495,138				308,379	239		
Value.....	\$26,230,647	\$25,189,290				\$17,655	\$17	\$54,708	
Colorado—									
Quantity.....		315,968	6,374		180,009	994			
Value.....	\$622,083	\$467,356	\$35,793		\$8,201	\$50		\$3,545	
Connecticut—									
Quantity.....		9,668,718	29,080	813	960,339	2,381,268			
Value.....	\$13,102,339	\$11,755,793	\$269,768	\$3,094	\$62,934	\$105,792		\$9,182	
Florida—									
Quantity.....		2,531,619	4,468		209,000	677,289			
Value.....	\$4,909,634	\$4,002,867	\$30,910		\$11,495	\$27,353		\$11,510	
Georgia—									
Quantity.....		3,076,069	23,945	4,446	1,025,263	1,080,163			
Value.....	\$5,179,226	\$4,510,470	\$118,829	\$13,095	\$54,378	\$45,980		\$8,860	
Illinois—									
Quantity.....		56,351,119	490,728		9,271,161	9,566,569			
Value.....	\$57,309,312	\$50,858,020	\$3,664,224		\$464,792	\$343,373		\$634,559	
Indiana—									
Quantity.....		12,047,358	435,340	2,470	5,605,542	2,437,675			
Value.....	\$16,660,639	\$12,082,363	\$3,007,167	\$5,478	\$308,694	\$116,617		\$251,183	
Iowa—									
Quantity.....		5,389,229	24,841		738,803	2,129,109			
Value.....	\$8,191,511	\$7,295,641	\$195,210		\$27,977	\$93,733		\$9,966	
Kentucky—									
Quantity.....		1,217,051	6,435		168,060	154,338			
Value.....	\$860,443	\$731,063	\$37,803		\$13,693	\$3,347		\$63,068	
Maine—									
Quantity.....		1,103,016	23,426	495	720,445	93,777			
Value.....	\$2,056,191	\$1,509,421	\$283,779	\$6,471	\$42,746	\$2,957		\$431	
Maryland—									
Quantity.....		12,567,225	702		18,825	2,027,574			
Value.....	\$11,314,676	\$10,252,758	\$8,112		\$1,317	\$77,207		\$2,344	
Massachusetts—									
Quantity.....		27,602,949	263,698	10,517	6,758,040	5,441,643			
Value.....	\$41,264,782	\$33,406,914	\$2,873,054	\$64,127	\$395,935	\$285,792		\$426,528	
Michigan—									
Quantity.....		37,505,413	357,975	3,619	11,891,091	5,903,384			
Value.....	\$40,704,848	\$34,125,450	\$2,732,159	\$18,104	\$607,715	\$268,324		\$233,167	
Minnesota—									
Quantity.....		5,484,343	22,216		699,550	3,150,341			
Value.....	\$6,848,234	\$5,633,679	\$236,679		\$31,257	\$182,422		\$20,430	
Mississippi—									
Quantity.....		402,702	7,035	162	97,636	85,525			
Value.....	\$814,940	\$726,389	\$38,393	\$162	\$4,747	\$4,258		\$40,991	
Missouri—									
Quantity.....		10,489,803	274,529	12,328	4,132,465	1,103,042			
Value.....	\$14,240,360	\$10,093,837	\$1,801,983	\$32,698	\$229,061	\$60,392		\$363,259	
Nebraska—									
Quantity.....		2,858,817				99,687			
Value.....	\$3,487,142	\$3,117,888				\$5,921		\$6,902	
New Hampshire—									
Quantity.....		1,097,622	33,481	1,915	778,565	54,634			
Value.....	\$2,137,054	\$1,618,497	\$285,947	\$5,075	\$42,483	\$2,598		\$12,627	
New Jersey—									
Quantity.....		30,148,708	6,977		215,546	12,671,684			
Value.....	\$38,488,281	\$37,123,538	\$77,648		\$13,749	\$616,990		\$201,311	
New York—									
Quantity.....		84,512,818	766,459	19,992	27,278,265	10,355,410			
Value.....	\$112,876,140	\$94,718,545	\$6,321,507	\$50,943	\$1,539,806	\$429,255		\$1,381,550	
North Carolina—									
Quantity.....		1,572,302	33,938	281	999,410	124,202			
Value.....	\$3,346,502	\$2,760,808	\$249,356	\$662	\$55,134	\$9,186		\$436	
North Dakota—									
Quantity.....		345,504	9,119		543,445				
Value.....	\$815,836	\$661,494	\$83,713		\$15,995			\$54,634	
Ohio—									
Quantity.....		2,650,260	9,256		281,217	23,000			
Value.....	\$2,720,225	\$2,005,649	\$53,289		\$19,942	\$2,219		\$1,535	
Oregon—									
Quantity.....		4,238,428	469		10,772	1,076,158			
Value.....	\$6,055,627	\$4,216,597	\$7,407		\$1,426	\$86,909		\$1,267,608	
Pennsylvania—									
Quantity.....		30,728,423	122,776		3,659,507	4,014,330			
Value.....	\$38,241,814	\$33,814,178	\$194,001		\$182,647	\$110,639		\$1,665,006	
Rhode Island—									
Quantity.....		4,886,129	167,559	6,064	3,273,103	729,042			
Value.....	\$8,127,072	\$5,262,942	\$1,979,329	\$23,910	\$192,363	\$32,683		\$38,866	
South Carolina—									
Quantity.....		893,288	14,576		246,872	409,125			
Value.....	\$1,655,166	\$1,442,094	\$68,993		\$13,772	\$18,521		\$111,776	
South Dakota—									
Quantity.....		434,062				183,169			
Value.....	\$801,811	\$699,744				\$12,071		\$89,966	



## CENSUS OF MANUFACTURES: 1929

TABLE 4.—PRODUCTS MADE FOR SALE, BY KIND, QUANTITY, AND VALUE, BY STATES: 1929—Continued

[See note at head of this table]

STATE	Total value	Gas (quantities in M cubic feet)	BY-PRODUCTS					Gross receipts from rents and sales of lamps and appliances	
			Coke (quantities in short tons)	Screenings and breeze (quantities in short tons)	Tar (quantities in gallons)				Other by-products
					Coal-gas tar	Water-gas tar	Oil-gas tar		
<b>Individual States—Continued.</b>									
Tennessee—									
Quantity.....		2,328,081	25,680	171	807,054	706,507			
Value.....	\$3,700,270	\$3,117,609	\$172,780	\$86	\$49,576	\$34,048	\$8,369	\$317,802	
Vermont—									
Quantity.....		472,438	1,536		35,000	70,721			
Value.....	\$906,638	\$873,259	\$24,378		\$2,800	\$3,224	\$9,515	\$83,462	
Virginia—									
Quantity.....		3,738,021	9,242		897,111	863,661			
Value.....	\$5,396,834	\$4,977,298	\$61,145		\$20,316	\$44,234	\$33,402	\$260,389	
Washington—									
Quantity.....		3,053,005	12,135	8	824,659	1,168,156			
Value.....	\$4,627,322	\$3,932,310	\$108,141	\$83	\$50,553	\$50,236	\$13,248	\$472,801	
Wisconsin—									
Quantity.....		13,449,981	217,791	1,230	5,509,525	1,513,255			
Value.....	\$16,059,530	\$12,149,571	\$1,671,641	\$5,968	\$294,674	\$66,489	\$415,895	\$1,455,301	
<b>Groups of States:</b>									
Del., D. C., W. Va.—									
Quantity.....		7,296,800	1,954		63,208	4,739,204			
Value.....	\$8,192,734	\$7,012,051	\$8,704		\$3,646	\$189,667	\$40,543	\$938,123	
Ark., Kans., La.—									
Quantity.....		162,273				624			
Value.....	\$261,136	\$244,735				\$31	\$384	\$15,986	
Mont., Wyo.—									
Quantity.....		137,596	2,219	245	64,020	9,429			
Value.....	\$310,816	\$244,979	\$21,472	\$918	\$6,929	\$608	\$5,633	\$30,277	
N. Mex., Tex.—									
Quantity.....		370,070	2,261		70,783	99,151			
Value.....	\$654,023	\$583,252	\$7,348		\$1,416	\$2,479	\$584	\$68,944	
Idaho, Nev., Utah—									
Quantity.....		230,202	3,269		130,201				
Value.....	\$401,674	\$372,170	\$20,701		\$5,559			\$3,244	

TABLE 5.—GAS PRODUCED AND PURCHASED, BY KIND AND QUANTITY, FOR THE UNITED STATES, 1929 AND 1927, AND BY GEOGRAPHIC DIVISIONS, 1929

GEOGRAPHIC DIVISION	Total (M cubic feet)	Water gas (M cubic feet)	Coal gas, including coke-oven gas (M cubic feet)	Oil gas (M cubic feet)	Natural gas (M cubic feet)	Other gas (M cubic feet)
<b>United States:</b>						
<i>1929</i>						
Total.....	450,717,416	226,600,975	181,763,830	27,937,279	11,306,295	3,109,037
Produced.....	347,508,231	224,172,017	95,088,355	27,891,530		406,329
Purchased.....	103,209,185	2,428,958	86,725,475	45,749	11,306,295	2,702,708
<i>1927</i>						
Total.....	445,457,144	251,558,877	156,919,315	31,537,820	1,931,430	3,509,693
Produced.....	343,838,735	233,241,841	82,193,944	31,490,022		1,012,878
Purchased.....	96,618,409	18,317,036	74,725,371	47,807	1,931,430	1,596,815
<i>Geographic Divisions, 1929</i>						
<b>New England:</b>						
Total.....	47,878,580	22,383,006	25,468,564	26,957		53
Produced.....	37,463,283	22,337,351	15,098,945	26,957		
Purchased.....	10,415,297	45,625	10,369,619			53
<b>Middle Atlantic:</b>						
Total.....	164,259,055	106,856,007	55,510,472	645,952	330,589	916,035
Produced.....	137,928,647	104,868,095	32,414,600	645,952		
Purchased.....	26,330,408	1,987,912	23,095,872		330,589	916,035
<b>East North Central:</b>						
Total.....	130,933,331	48,507,658	79,696,865	22,729	2,042,084	603,695
Produced.....	83,509,855	48,172,683	35,314,443	22,729		
Purchased.....	47,423,476	394,975	44,382,422		2,042,084	603,695
<b>West North Central:</b>						
Total.....	26,372,433	19,070,533	6,969,341	3,600		1,588,954
Produced.....	24,725,470	19,070,092	5,243,449	3,600		406,329
Purchased.....	1,646,963	440	665,892			1,182,625
<b>South Atlantic:</b>						
Total.....	34,231,315	22,860,424	11,370,891			
Produced.....	26,019,645	22,860,424	8,159,221			
Purchased.....	8,211,670		3,211,670			
<b>East South Central:</b>						
Total.....	5,510,181	3,523,910	1,986,271			
Produced.....	5,510,181	3,523,910	1,986,271			
Purchased.....						
<b>West South Central:</b>						
Total.....	499,420	499,420				
Produced.....	499,420	499,420				
Purchased.....						
<b>Mountain:</b>						
Total.....	1,944,717	137,716	651,333	1,134,178	21,490	
Produced.....	1,923,227	137,716	651,333	1,134,178		
Purchased.....	21,490				21,490	
<b>Pacific:</b>						
Total.....	38,918,384	2,732,296	1,170,093	26,103,863	8,912,132	
Produced.....	29,960,503	2,732,296	1,170,093	20,058,114		
Purchased.....	8,957,881			45,749	8,912,132	

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TABLE 6.—GAS: SOURCE AND DISPOSITION, FOR THE UNITED STATES, 1929 AND 1927, AND FOR STATES, 1929

STATE	Total	SOURCE		DISPOSITION		
		Made in plant	Purchased from other establishments	Sold	Consumed on premises	Unaccounted for
M CUBIC FEET						
United States:						
1929.....	450,717,416	347,508,231	103,209,185	408,401,395	13,255,721	29,060,300
1927.....	445,487,144	348,838,735	96,618,409	412,236,133	3,062,088	30,158,923
Individual States:						
Alabama.....	866,678	866,678		698,585	11,255	156,838
Arizona.....	1,024,458	1,024,458		850,762	6,957	166,739
California.....	30,806,026	21,848,745	8,957,881	25,495,138	2,568,754	2,742,734
Colorado.....	371,313	349,823	21,490	315,968	2,062	53,283
Connecticut.....	10,270,671	5,974,504	4,296,167	9,668,718	54,107	547,846
Florida.....	2,931,198	2,931,198		2,531,619	5,949	393,630
Georgia.....	3,412,922	3,412,922		3,076,069	22,364	314,489
Illinois.....	59,729,434	32,923,379	26,806,055	56,351,119	137,685	3,240,630
Indiana.....	14,055,371	11,869,496	2,185,875	12,047,358	481,050	1,526,963
Iowa.....	5,984,760	5,984,760		5,389,229		497,271
Kentucky.....	1,490,130	1,490,130		1,217,051	33,728	239,351
Maine.....	1,232,293	1,232,293		1,103,016	12,518	116,759
Maryland.....	12,979,363	4,767,693	8,211,670	12,567,225	29,367	382,771
Massachusetts.....	29,352,583	23,233,453	6,119,130	27,602,949	188,951	1,560,683
Michigan.....	38,884,812	26,578,311	12,306,501	37,505,413		1,300,835
Minnesota.....	5,651,697	5,651,697		5,484,343	28,575	138,779
Mississippi.....	519,823	519,823		402,702	3,366	113,755
Missouri.....	10,972,950	9,123,987	1,848,963	10,489,363	30,310	453,337
Nebraska.....	3,098,424	3,098,424		2,858,817	3,427	236,180
New Hampshire.....	1,200,592	1,200,592		1,097,622	5,571	97,399
New Jersey.....	33,321,341	20,805,775	12,515,566	30,148,768	229,904	2,942,729
New York.....	97,318,611	92,240,598	5,078,013	84,512,518	7,662,857	5,142,036
North Carolina.....	1,868,730	1,868,730		1,572,302	9,283	287,145
North Dakota.....	384,030	384,030		345,504	252	38,274
Ohio.....	2,792,708	2,519,452	273,256	2,650,260	18,729	123,719
Oregon.....	4,665,318	4,665,318		4,238,428	45,383	381,507
Pennsylvania.....	33,619,103	24,882,274	8,736,829	30,728,423	97,047	2,793,633
Rhode Island.....	5,295,262	5,295,262		4,886,129	156,285	252,848
South Carolina.....	1,041,362	1,041,362		893,288	8,402	144,672
South Dakota.....	461,535	461,535		434,062	1,911	25,562
Tennessee.....	2,633,550	2,633,550		2,328,081	26,096	279,373
Vermont.....	527,179	527,179		472,438	2,642	52,098
Virginia.....	4,247,869	4,247,869		3,738,021	20,667	489,181
Washington.....	3,446,440	3,446,440		3,053,065	17,669	375,706
Wisconsin.....	15,471,066	9,619,217	5,851,789	18,449,981	1,110,675	910,350
Groups of States:						
Del., D. C., W. Va.....	7,749,871	7,749,871		7,296,800	36,937	416,134
Ark., Kans., La.....	196,839	196,839		162,273	4,922	29,674
Mont., Wyo.....	170,400	170,400		137,596	1,325	31,479
N. Mex., Tex.....	400,693	400,693		370,070	2,658	27,968
Idaho, Nev., Utah.....	269,471	269,471		230,202	4,189	35,080

<sup>1</sup> Coke-oven gas, 86,288,612 M cubic feet; carbureted water gas, 2,428,958; coal gas 430,863; natural gas 11,306,295; oil gas, 45,749; other gases, 2,702,708.  
<sup>2</sup> Coke-oven gas, 74,550,486 M cubic feet; carbureted water gas, 18,317,636; coal gas, 174,835; natural gas, 1,931,430; oil gas, 47,807; other gases, 1,596,815.

## CENSUS OF MANUFACTURES: 1929

TABLE 7.—GAS SOLD—SALES, BY QUANTITY AND VALUE, AND NUMBER OF CUSTOMERS, ACCORDING TO CLASS OF CONSUMER, BY STATES: 1929

STATE	Total	CLASS OF CONSUMER						
		Domestic	House heating	Industrial	Commercial	Municipal and Federal		Other gas companies
						Street lighting	All other	
United States:								
Number of customers.....	10,346,864	9,808,891	52,080	70,675	411,712	121	3,269	110
M cubic feet.....	408,401,395	285,552,123	13,198,511	44,187,990	47,743,942	1,669,416	672,108	15,413,890
Value.....	\$438,242,970	\$333,878,172	\$10,714,128	\$35,760,553	\$47,560,753	\$1,821,693	\$547,666	\$7,954,115
Individual States:								
Alabama—								
Number of customers.....	19,408	18,979	44	33	352			
M cubic feet.....	698,585	643,245	5,067	29,712	20,561			
Value.....	\$1,142,896	\$1,079,372	\$7,893	\$26,503	\$20,128			
Arizona—								
Number of customers.....	25,960	24,183	80	16	1,061		19	1
M cubic feet.....	850,762	665,999	1,172	15,320	165,969		1,252	1,080
Value.....	\$1,399,455	\$1,143,642	\$3,282	\$17,958	\$231,497		\$1,969	\$1,107
California—								
Number of customers.....	566,259	522,434	390	1,957	41,407	2	67	2
M cubic feet.....	25,495,138	18,443,834	417,048	1,131,883	5,021,436	50,550	93,496	336,891
Value.....	\$25,189,290	\$19,290,573	\$462,712	\$783,621	\$4,375,204	\$49,772	\$65,931	\$161,477
Colorado—								
Number of customers.....	12,545	11,498	34	656	357			
M cubic feet.....	315,968	234,148	14,838	51,405	15,577			
Value.....	\$467,256	\$380,736	\$9,062	\$53,777	\$23,781			
Connecticut—								
Number of customers.....	276,237	262,850	881	5,558	6,790	5	121	2
M cubic feet.....	9,668,718	6,948,476	441,042	1,604,446	411,068	16,617	8,455	238,614
Value.....	\$11,765,793	\$9,273,157	\$364,254	\$1,438,580	\$520,550	\$10,302	\$8,171	\$141,749
Florida—								
Number of customers.....	124,938	121,249	103	1,457	2,094	2	2	1
M cubic feet.....	2,531,619	2,129,381	4,106	319,694	72,730	76	480	5,162
Value.....	\$4,602,867	\$4,064,040	\$8,142	\$358,889	\$136,162	\$136	\$802	\$4,636
Georgia—								
Number of customers.....	82,658	80,578	200	630	1,250			
M cubic feet.....	3,076,969	2,675,288	12,000	301,667	87,114			
Value.....	\$4,610,470	\$4,084,894	\$19,920	\$290,970	\$114,686			
Illinois—								
Number of customers.....	1,137,230	1,062,782	9,906	7,483	56,979	2	69	9
M cubic feet.....	56,851,119	31,186,667	2,791,162	7,675,623	7,835,082	120,590	4,013	6,734,982
Value.....	\$50,853,020	\$34,069,428	\$2,191,855	\$6,047,832	\$6,828,415	\$67,750	\$4,610	\$2,708,080
Indiana—								
Number of customers.....	254,531	244,419	490	1,842	7,644		131	5
M cubic feet.....	12,047,358	7,071,875	117,961	3,620,851	944,472		10,433	281,716
Value.....	\$12,082,363	\$8,505,020	\$141,296	\$2,272,233	\$1,005,865		\$12,131	\$145,828
Iowa—								
Number of customers.....	180,023	172,276	143	2,726	4,855		22	1
M cubic feet.....	5,389,229	4,293,164	47,161	553,374	428,650		7,333	59,611
Value.....	\$7,295,641	\$6,137,761	\$40,197	\$548,569	\$520,498		\$8,723	\$39,803
Kentucky—								
Number of customers.....	87,332	86,697	150	15	469	1		
M cubic feet.....	1,217,051	1,134,834	39,108	12,677	29,673	760		
Value.....	\$731,063	\$664,657	\$30,500	\$8,940	\$26,736	\$330		
Maine—								
Number of customers.....	37,493	34,222	168	832	2,222	6	42	1
M cubic feet.....	1,103,016	619,259	84,666	134,535	169,755	11,870	1,108	81,823
Value.....	\$1,609,421	\$1,010,614	\$68,915	\$141,343	\$209,604	\$18,883	\$1,904	\$58,168
Maryland—								
Number of customers.....	213,841	197,639	2,323	183	13,686	1	7	2
M cubic feet.....	12,567,225	7,740,018	960,665	1,720,923	1,720,171	271,814	50,806	102,806
Value.....	\$10,252,758	\$6,989,364	\$622,068	\$831,169	\$1,410,967	\$202,233	\$39,492	\$57,465
Massachusetts—								
Number of customers.....	859,531	828,890	5,620	2,538	22,325	6	122	30
M cubic feet.....	27,602,949	19,621,595	1,612,952	2,719,604	1,619,564	193,574	10,672	1,824,918
Value.....	\$33,406,914	\$26,061,351	\$1,336,407	\$2,633,296	\$1,949,479	\$166,742	\$12,468	\$1,248,171
Michigan—								
Number of customers.....	710,656	689,924	1,363	2,010	17,028			1
M cubic feet.....	37,505,413	29,438,010	827,702	5,623,662	4,553,579			62,463
Value.....	\$34,125,450	\$25,796,940	\$627,563	\$3,789,742	\$3,870,159			\$41,056
Minnesota—								
Number of customers.....	161,098	131,283	2,497	103	27,204		9	2
M cubic feet.....	5,484,343	4,279,561	108,979	49,709	1,036,102		66	9,926
Value.....	\$5,633,679	\$4,434,009	\$99,645	\$54,377	\$1,037,943		\$1,795	\$6,507
Mississippi—								
Number of customers.....	11,475	10,210		25	1,240			
M cubic feet.....	402,702	338,864		18,888	44,950			
Value.....	\$726,389	\$635,051		\$24,355	\$66,983			
Missouri—								
Number of customers.....	269,029	253,151	1,219	2,553	12,999		1	
M cubic feet.....	10,489,303	7,118,938	544,812	1,254,762	1,472,269		98,409	113
Value.....	\$10,993,837	\$8,205,737	\$402,182	\$912,925	\$1,388,301		\$84,520	\$172
Nebraska—								
Number of customers.....	85,443	82,670	335	310	2,228			
M cubic feet.....	2,858,817	2,284,222	92,873	262,108	229,668			
Value.....	\$3,117,858	\$2,647,692	\$56,043	\$160,918	\$253,235			
New Hampshire—								
Number of customers.....	39,871	37,633	164	1,137	998	11	28	
M cubic feet.....	1,097,622	759,437	91,432	206,610	38,334	614	1,195	
Value.....	\$1,618,497	\$1,227,987	\$98,487	\$225,122	\$65,002	\$950	\$1,849	
New Jersey—								
Number of customers.....	879,270	818,306	1,719	6,716	52,332	14	112	31
M cubic feet.....	30,148,708	21,640,147	652,816	3,298,061	3,918,007	152,609	3,355	483,713
Value.....	\$37,123,538	\$27,128,815	\$753,037	\$3,877,535	\$4,826,802	\$199,286	\$5,575	\$332,488
New York—								
Number of customers.....	2,429,670	2,387,452	2,120	10,343	28,180	33	1,527	15
M cubic feet.....	84,512,818	66,187,651	1,103,837	5,860,175	8,849,115	2,646	290,936	2,218,508
Value.....	\$94,718,645	\$77,292,320	\$1,066,856	\$5,786,167	\$8,975,378	\$2,000	\$230,372	\$1,355,452

MANUFACTURED GAS

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TABLE 7.—GAS SOLD—SALES, BY QUANTITY AND VALUE, AND NUMBER OF CUSTOMERS, ACCORDING TO CLASS OF CONSUMER, BY STATES: 1929—Continued

STATE	Total	CLASS OF CONSUMER						
		Domestic	House heating	Industrial	Commercial	Municipal and Federal		Other gas companies
						Street lighting	All other	
<b>Individual States—Continued.</b>								
<b>North Carolina—</b>								
Number of customers.....	44,756	43,259	2	105	1,363	13	14	
M cubic feet.....	1,572,302	1,456,070	676	14,987	97,330	1,832	1,707	
Value.....	\$2,760,808	\$2,552,893	\$383	\$22,893	\$179,505	\$2,348	\$2,786	
<b>North Dakota—</b>								
Number of customers.....	13,000	12,539	0	0	1,051	0	4	
M cubic feet.....	345,504	267,223	0	2,323	75,775	0	178	
Value.....	\$601,494	\$526,373	0	\$2,995	\$131,913	0	\$213	
<b>Ohio—</b>								
Number of customers.....	52,602	51,931	24	172	463	11	1	
M cubic feet.....	2,650,280	2,537,076	0,086	46,213	49,319	2,284	6,282	
Value.....	\$2,605,649	\$2,492,795	\$6,527	\$44,589	\$53,404	\$2,216	\$6,118	
<b>Oregon—</b>								
Number of customers.....	98,320	81,910	11,826	3,613	971	0	0	
M cubic feet.....	4,238,428	2,117,629	1,347,631	720,462	43,706	0	0	
Value.....	\$4,210,697	\$2,725,086	\$825,305	\$620,985	\$45,221	0	0	
<b>Pennsylvania—</b>								
Number of customers.....	779,184	697,126	2,393	11,960	66,860	4	833	
M cubic feet.....	30,728,423	21,391,654	602,057	3,318,461	4,384,573	554,141	66,114	
Value.....	\$33,814,478	\$24,466,327	\$483,978	\$2,981,852	\$4,601,181	\$955,004	\$57,409	
<b>Rhode Island—</b>								
Number of customers.....	117,384	112,873	582	388	3,537	1	3	
M cubic feet.....	4,886,129	3,041,588	294,066	389,572	616,542	22,600	520,921	
Value.....	\$5,262,942	\$3,863,760	\$224,260	\$296,104	\$560,158	\$12,100	\$306,534	
<b>South Carolina—</b>								
Number of customers.....	23,355	21,909	4	48	1,394	0	0	
M cubic feet.....	893,288	754,042	191	14,904	124,151	0	0	
Value.....	\$1,442,094	\$1,233,691	\$249	\$16,650	\$191,795	0	0	
<b>South Dakota—</b>								
Number of customers.....	16,490	15,452	47	15	976	0	0	
M cubic feet.....	434,662	330,620	7,363	14,440	81,610	0	0	
Value.....	\$699,744	\$559,940	\$5,919	\$17,512	\$116,373	0	0	
<b>Tennessee—</b>								
Number of customers.....	57,726	62,920	110	1,294	3,364	1	37	
M cubic feet.....	2,828,081	1,710,744	37,608	268,359	295,108	13,737	2,495	
Value.....	\$3,117,609	\$2,426,420	\$30,495	\$294,881	\$347,006	\$16,110	\$3,607	
<b>Vermont—</b>								
Number of customers.....	21,221	19,966	81	239	981	0	4	
M cubic feet.....	472,435	349,986	16,160	42,098	64,064	0	130	
Value.....	\$879,259	\$604,537	\$13,898	\$53,465	\$111,230	0	\$129	
<b>Virginia—</b>								
Number of customers.....	100,235	96,750	54	318	3,077	0	35	
M cubic feet.....	3,738,021	3,323,048	14,555	149,846	226,342	0	7,314	
Value.....	\$4,977,398	\$4,495,010	\$12,415	\$137,027	\$311,024	0	\$8,807	
<b>Washington—</b>								
Number of customers.....	94,214	84,556	2,754	1,153	5,684	0	7	
M cubic feet.....	3,053,005	1,721,500	326,806	199,041	805,285	0	373	
Value.....	\$3,932,310	\$2,632,516	\$245,930	\$193,083	\$660,329	0	\$452	
<b>Wisconsin—</b>								
Number of customers.....	288,101	271,721	568	1,838	13,667	0	7	
M cubic feet.....	13,449,981	8,578,572	422,181	2,243,299	1,362,393	0	843,536	
Value.....	\$12,149,571	\$8,757,276	\$297,343	\$1,407,845	\$1,270,199	0	\$416,908	
<b>Groups of States:</b>								
<b>Del., D. C., W. Va.—</b>								
Number of customers.....	141,584	140,107	306	187	1,245	2	34	
M cubic feet.....	7,266,800	4,807,743	104,564	238,782	715,055	149,063	108,917	
Value.....	\$7,012,051	\$5,212,893	\$101,452	\$226,608	\$730,978	\$32,911	\$76,263	
<b>Ark., Kans., La.—</b>								
Number of customers.....	4,034	3,638	50	47	288	0	11	
M cubic feet.....	162,273	135,351	1,000	7,394	18,028	0	500	
Value.....	\$244,735	\$207,468	\$1,750	\$10,421	\$24,201	0	\$875	
<b>Mont., Wyo.—</b>								
Number of customers.....	6,201	5,563	41	86	500	0	11	
M cubic feet.....	137,596	96,389	6,712	7,544	26,384	0	567	
Value.....	\$244,979	\$179,955	\$5,445	\$11,750	\$46,828	0	\$1,001	
<b>N. Mex., Tex.—</b>								
Number of customers.....	13,353	10,150	3,000	0	203	0	0	
M cubic feet.....	370,070	297,420	32,500	0	40,150	0	0	
Value.....	\$583,252	\$484,165	\$46,500	0	\$52,587	0	0	
<b>Idaho, Nev., Utah—</b>								
Number of customers.....	8,566	7,336	9	23	1,138	0	0	
M cubic feet.....	230,202	180,834	3,070	14,853	81,409	0	0	
Value.....	\$372,170	\$305,181	\$2,520	\$13,043	\$61,426	0	0	

CENSUS OF MANUFACTURES: 1929

TABLE 8.—GAS SOLD—QUALITY ACCORDING TO HEATING VALUE (BRITISH THERMAL UNITS PER CUBIC FOOT), BY NUMBER OF ESTABLISHMENTS AND QUANTITY, BY GEOGRAPHIC DIVISIONS: 1929 AND 1927

GEOGRAPHIC DIVISION	TOTAL		LESS THAN 500 B. T. U.		500 TO 549 B. T. U.		550 TO 574 B. T. U.		575 TO 624 B. T. U.		625 TO 649 B. T. U.		650 AND OVER B. T. U.	
	Number of establishments	M cubic feet	Number of establishments	M cubic feet	Number of establishments	M cubic feet	Number of establishments	M cubic feet	Number of establishments	M cubic feet	Number of establishments	M cubic feet	Number of establishments	M cubic feet
United States:	754	408,401,395	18	1,521,347	476	314,476,465	213	70,850,738	35	17,435,803	4	81,832	8	3,985,210
1929	828	412,236,133	27	9,382,736	471	300,904,724	255	66,085,735	65	20,069,154	4	62,927	0	6,780,857
1927														
New England:	89	44,830,872	2	39,065	78	43,712,010	6	999,637	3	80,160				
1929	95	41,618,140	2	37,504	75	38,751,791	13	2,737,777	5	91,068				
1927														
Middle Atlantic:	137	145,389,049			123	140,940,560	4	101,224	8	446,421			2	3,841,744
1929	160	102,542,452	1	746,271	140	156,919,236	6	254,650	11	371,624			2	4,260,671
1927														
East North Central:	176	122,004,131			88	96,696,971	81	24,256,790	4	961,974			3	88,396
1929	200	108,430,927	1	3,368,193	92	82,095,354	97	19,690,002	9	838,719			1	2,438,669
1927														
West North Central:	127	25,015,858	1	28,153	71	4,385,715	45	11,642,588	8	8,923,647	2	35,753		
1929	136	26,326,267	2	29,353	61	3,746,450	54	13,606,014	18	8,916,550	1	27,000		
1927														
South Atlantic:	101	31,676,324	2	129,086	69	21,510,154	18	2,981,532	10	7,017,105	1	27,280	1	10,167
1929	99	29,707,423	1	13,558	53	21,058,684	28	1,608,144	15	6,997,463	1	9,499	1	20,075
1927														
East South Central:	32	4,646,419	1	83,318	23	4,281,148	7	258,091	1	23,862			1	10,000
1929	33	3,711,258	5	153,312	16	3,250,301	9	279,963	2	17,622				
1927														
West South Central:	5	422,770			3	117,314	2	305,456		2,719,795				
1929	10	3,876,629			4	168,580	5	988,254	1					
1927														
Mountain:	29	1,629,593	7	348,201	11	545,205	8	650,919	1	32,634	1	18,799	1	33,745
1929	35	5,414,683	10	4,201,954	13	628,359	7	522,847	2	24,143	2	26,428	1	11,452
1927														
Pacific:	58	32,786,571	5	893,524	10	2,287,888	42	29,594,501		92,170			1	11,158
1929	60	30,608,354	5	832,591	17	3,285,909	36	26,397,684	2					
1927														

TABLE 9.—CONSUMPTION OF GAS-MAKING MATERIALS AND FUELS, PRODUCED IN PLANT AND PURCHASED, FOR THE UNITED STATES, 1923 TO 1929, AND FOR STATES, 1929

STATE	COAL					COKE AND BREEZE (SHORT TONS)						OIL (BARRELS, 42 GALLONS)			GAS TARS (BARRELS, 42 GALS.)
	Anthracite (long tons)		Bituminous (short tons)			Produced in plant			Purchased			Material		Fuel	
	Material	Fuel	Material	Boiler	Retort and bench	Material	Boiler	Retort and bench	Material	Boiler	Retort and bench	Gas-making	Carbureting		
United States:	68,072	110,422	8,917,607	849,234	270,643	1,223,444	522,510	878,386	1,248,111	74,590	139,224	4,683,358	16,024,302	1,243,182	747,288
1929	112,919	151,902	8,101,623	880,759	52,700	892,555	524,731	851,939	1,938,997	129,360	84,869	5,493,550	16,263,051	1,178,396	1,016,284
1927	619,402	202,958	6,870,570	1,059,374	(?)	782,046	1,203,980	(?)	1,865,360	225,604	(?)	5,052,650	16,175,694	1,327,171	(?)
1925	982,693	262,979	6,237,693	1,039,276	(?)	793,492	1,040,472	(?)	1,752,454	126,007	(?)	4,208,669	16,606,434	1,341,066	(?)
1923															
Individual States:															
Alabama			59,644	288	359	1,487	5,247	5,938				181,762	8,186	23,800	3,582
Arizona				53									10,789	605,826	5,342
California			5,224						1,189	49		3,550,660	4,110		102,507
Colorado			19,656	1,830		610	2,591	4,058	51,266	10,233			350,324		13,027
Connecticut	201	1,995	94,173	17,710		13,676	4,857	13,098					200,190	10,971	6,925
Florida	633		32,949	10,466		1,921	2,075	3,749	30,212	436			184,511		1,026
Georgia			99,712	16,474		19,817	0,218	14,259	5,606	389			1,449,702		25,947
Illinois			1,136,013	164,048	6,338	140,116	54,192	81,168	43,315	1,430	41,530		890,735		1,899
Indiana			731,075	60,720	4,093	31,238	39,647	25,367	22,492	641	43,271		386,446		6,023
Iowa			108,851	41,325		485	853	5,604	16,841	59					
Kentucky			23,099	11,888	1,967		273	1,297	5,707	378			36,091		92
Maine	15	1,768	60,585	2,721	200	1,581	5,599	7,834	4,228	98			36,848		996
Maryland	5,243		8,919	10,956			178	381	63,983	18,021			294,258		19,422
Massachusetts	609	0,457	716,583	42,708		60,886	70,764	80,293	132,589	3,643	8,086	970	1,130,608	90,667	4,084
Michigan			892,216	129,026	235,587	95,452	102,208	147,282	2,573				951,788		
Minnesota			81,936	36,186	404	34	1,608	5,767	37,667	2,173	1,308		426,039		559
Mississippi			19,106	8,517		1,376	180	2,929	3,504				22,132		2,016
Missouri	382	1,076	524,588	8,303	270	47,969	18,093	25,120	23,801	803			270,622		3,162
Nebraska			2,820	19,445					40,630	13			225,544	150	4,976
New Hampshire			64,066	3,021	636	517	2,187	5,837	3,955		2,631	714	35,064		326
New Jersey	1,868	28,077	77,830	37,728	1,259	2,566	625	2,746	227,909	8,057			1,413,309		1,951
New York	27,502	25,646	2,600,858	59,997	4,058	686,689	133,674	272,992	163,612	10,915	41,134		4,976,540		514,207
North Carolina	1,066	710	86,656	5,487	1,163	5,225	3,793	10,923	5,007	605	1,264		68,098		1,794
North Dakota			21,280	1,923		437	279	3,655	309				7,858		
Ohio			22,375	11,716		816	893	4,805	28,314	15			13,187		170
Oregon			6,490	400	150		81	915	335			916,656	12,799	93,995	
Pennsylvania	30,165	31,799	182,939	19,651		48,009	1,234	17,604	184,193	4,792		2,234	1,431,343	404,802	4,883
Rhode Island			311,519	1,771	3,749	12,926	9,628	16,579	9,302				98,733		566
South Carolina			40,682	2,047		1,789	2,590	5,375	2,276				46,166		2,555
South Dakota			6,819	4,169	85				1,538				36,068		415
Tennessee			77,185	10,914	410		5,689	7,941	11,595				113,354		200
Vermont	5		9,884	3,416			1,162	25	1,089				81,308		1,147
Virginia			68,021	16,017	85		3,793	4,115	4,262				207,594	9,334	4,122
Washington	483		122,508	29,612	1,600	29,184	8,523	16,759	10				130,255	2,580	166
Wisconsin			453,288	43,224	7,228	7,977	29,948	63,673	18,666	671			256,513		1,674
Groups of States:															
Del., D. C., W. Va.		729	54,620	14,344			411	1,033	70,485	9,665			649,586		7,738
Ark., Kans., La.			1,123	400					2,565	351			19,966		27
Mont., Wyo.			12,838	603	664		922	1,949					8,258		
N. Mex., Tex.			6,153	250			365	1,287	4,882	809			29,027	9	3,192
Idaho, Nev., Utah			12,924	40	500		107	802	2,069				16,188	88	

1 Includes data for retort and bench fuel.

\* Included in figure for boiler fuel.

2 No data.

MANUFACTURED GAS

TABLE 10.—NUMBER OF ACTIVE METERS AND SERVICES; STORAGE AND DAILY PLANT CAPACITY; AND MILES OF MAINS; FOR THE UNITED STATES, 1929 AND 1927, AND FOR STATES, 1929

STATE	Number of active meters	Number of active services	Rated capacity of gas storage holders	Rated daily plant capacity	Miles of mains	STATE	Number of active meters	Number of active services	Rated capacity of gas storage holders	Rated daily plant capacity	Miles of mains
United States:			(M cu. ft.)	(M cu. ft.)		Individual States—			(M cu. ft.)	(M cu. ft.)	
1929	10,694,032	8,088,260	1,318,945	2,259,124	88,693	Continued.					
1927	10,254,460	7,569,913	1,225,930	2,238,666	87,556	New Jersey	893,242	889,714	88,625	125,525	6,152
Individual States:						New York	2,628,347	1,190,407	329,163	551,567	13,238
Alabama	19,408	19,203	2,679	6,000	381	North Carolina	44,793	45,899	4,289	12,157	1,105
Arizona	26,769	26,414	3,017	8,216	340	North Dakota	13,625	12,929	974	2,215	142
California	567,362	501,480	89,833	147,851	6,999	Ohio	53,278	60,553	2,125	5,820	1,627
Colorado	13,309	14,235	915	2,000	172	Oregon	110,703	103,348	12,157	31,300	2,121
Connecticut	277,468	196,827	34,306	52,675	2,063	Pennsylvania	770,529	807,535	66,284	162,096	5,761
Florida	128,840	125,553	14,891	44,725	1,633	Rhode Island	118,486	78,211	19,510	30,630	938
Georgia	84,434	78,327	8,599	19,005	1,481	South Carolina	23,355	26,321	2,868	7,675	364
Illinois	1,205,724	819,050	159,202	254,108	7,610	South Dakota	10,551	16,332	887	2,312	201
Indiana	260,709	282,098	85,293	63,882	3,577	Tennessee	57,782	57,676	7,153	14,100	802
Iowa	183,069	189,154	18,528	34,854	2,187	Vermont	21,223	16,169	4,169	4,169	192
Kentucky	87,332	78,815	600	1,984	851	Virginia	101,933	99,247	14,017	28,569	1,186
Maine	37,681	37,631	4,375	8,789	345	Washington	94,252	91,307	8,927	22,720	1,652
Maryland	224,789	201,076	32,836	76,755	1,538	Wisconsin	290,678	232,950	35,718	56,007	3,151
Massachusetts	872,588	562,588	107,904	171,769	6,886	Groups of States:					
Michigan	713,463	622,676	87,323	143,291	6,960	Del., D. C., W. Va.	141,871	112,307	14,957	42,951	1,028
Minnesota	161,124	129,986	17,423	43,070	1,825	Ark., Kans., La.	4,065	4,034	440	1,820	73
Mississippi	11,619	13,220	995	3,598	305	Mont., Wyo.	6,222	6,046	810	1,163	106
Missouri	270,081	206,953	29,772	53,227	2,085	N. Mex., Tex.	13,191	12,307	1,460	4,069	162
Nebraska	85,760	81,187	7,183	17,225	909	Idaho, Nev., Utah	9,527	9,246	914	1,952	157
New Hampshire	39,874	30,229	4,157	7,809	388						

TABLE 11.—MUNICIPAL ESTABLISHMENTS—SUMMARY STATISTICS AND DETAILED STATISTICS FOR PRODUCTS AND MATERIALS, BY GEOGRAPHIC DIVISIONS: 1929, 1927, 1925, AND 1923

	UNITED STATES				NEW ENGLAND				MIDDLE ATLANTIC			
	1929	1927	1925	1923	1929	1927	1925	1923	1929	1927	1925	1923
Number of establishments	42	46	52	48	3	3	5	5	3	3	4	4
Persons engaged	985	1,130	1,050	1,154	182	179	211	226	22	21	18	17
Salaried employees	312	360	301	291	60	56	52	54	7	9	8	7
Wage earners (average for the year)	673	770	749	803	122	123	159	172	15	12	10	10
Salaries and wages	\$1,377,745	\$1,614,476	\$1,435,195	\$1,388,858	\$293,596	\$275,196	\$295,496	\$310,319	\$21,293	\$25,702	\$22,927	\$20,890
Salaries	\$407,884	\$569,903	\$431,798	\$355,312	\$75,429	\$64,536	\$63,856	\$50,714	\$5,800	\$12,992	\$11,742	\$6,920
Wages	\$969,861	\$1,044,573	\$1,003,457	\$1,033,546	\$218,167	\$210,660	\$231,640	\$259,605	\$15,493	\$12,770	\$11,185	\$13,470
Cost of materials	\$647,661	\$410,071			\$127,030	\$136,211	\$396,237	\$390,401	\$7,772	\$2,453	\$55,568	\$43,842
Cost of fuel and purchased electric energy	\$1,994,139	\$2,116,423	\$2,483,249	\$2,546,069	\$298,396	\$285,370			\$32,460	\$35,634		
Value of products	\$7,082,806	\$7,427,786	\$7,242,409	\$6,593,772	\$922,130	\$887,123	\$962,122	\$919,297	\$95,829	\$101,772	\$124,931	\$95,604
Value added by manufacture	\$4,521,106	\$4,901,242	\$4,759,160	\$4,047,103	\$496,704	\$465,542	\$565,885	\$528,896	\$55,607	\$60,685	\$69,363	\$51,762
Miles of mains	1,817	1,799	1,643	1,377	184	172	233	230	33	33	39	29
PRODUCTS												
Total value	\$7,082,806	\$7,427,786	\$7,242,409	\$6,593,772	\$922,130	\$887,123	\$962,122	\$919,297	\$95,829	\$101,772	\$124,931	\$95,604
Gas:												
For sale, M cubic feet	5,444,462	5,223,762	5,077,257	4,463,148	621,549	591,039	610,832	564,695	50,210	73,086	80,375	59,768
Value	\$6,542,202	\$6,876,702	\$6,707,920	\$6,070,367	\$788,028	\$767,358	\$854,087	\$822,179	\$95,519	\$101,547	\$124,563	\$95,604
Coke:												
For sale—												
Short tons	27,651	24,975	26,873	25,924	11,405	9,261	9,761	7,196				
Value	\$199,067	\$186,038	\$161,666	\$198,224	\$93,488	\$77,047	\$45,728	\$70,575				
Made and consumed, short tons	22,672	22,677	22,539	25,452	11,487	10,465	9,989	12,016				
Tar:												
For sale, gallons	933,744	2,505,362	2,147,277	1,840,224	325,977	243,861	429,608	435,201				
Value	\$62,961	\$126,194	\$87,619	\$87,875	\$17,914	\$10,597	\$21,974	\$23,543				
Other products, value	\$40,406	\$55,097	\$7,775	\$5,610	\$940	\$331	\$482	\$3,000				
Receipts from rents and sales of lamps and appliances	\$228,170	\$184,705	\$277,529	\$231,696	\$21,760	\$31,790	\$39,851		\$310	\$225	\$368	
PRINCIPAL MATERIALS												
Coal used for gas making:												
Anthracite, long tons	3,055	2,165	1,698	1,481					1,024	1,490	1,478	967
Bituminous, short tons	101,220	105,227	96,444	83,684	34,519	31,811	28,065	28,428				399
Coke used for gas making:												
Purchased, short tons	43,172	34,206	48,718	60,384	38		893	2,910	369	375	357	
Made and consumed in plant, short tons	4,461	5,523	6,952	7,416	2,028	2,271	5,076	5,472				
Oil used for gas making and enriching, gallons	16,324,751	15,471,596	16,132,294	13,086,241	902,609	867,768	1,414,124	839,369	228,758	240,833	324,430	231,800

See footnotes at end of table.

## CENSUS OF MANUFACTURES: 1929

TABLE 11.—MUNICIPAL ESTABLISHMENTS—SUMMARY STATISTICS AND DETAILED STATISTICS FOR PRODUCTS AND MATERIALS, BY GEOGRAPHIC DIVISIONS: 1929, 1927, 1925, AND 1923—Continued

	EAST CENTRAL				WEST NORTH CENTRAL			
	1929	1927	1925	1923	1929	1927	1925	1923
Number of establishments.....	7	6	9	9	9	10	10	10
Persons engaged.....	117	95	127	121	293	233	290	390
Salaried employees.....	27	26	32	34	120	115	110	107
Wage earners (average for the year).....	90	69	95	87	173	118	180	283
Salaries and wages.....	\$116,414	\$112,810	\$165,148	\$146,035	\$418,092	\$409,213	\$420,865	\$419,109
Salaries.....	\$29,399	\$40,276	\$54,913	\$33,289	\$196,399	\$214,889	\$138,306	\$128,020
Wages.....	\$87,015	\$72,534	\$110,235	\$112,746	\$221,693	\$194,824	\$282,559	\$291,089
Cost of materials.....	\$60,208	\$36,890	\$249,196	\$244,299	\$120,729	\$63,092	\$700,055	\$777,908
Cost of fuel and purchased electric energy.....	\$178,792	\$151,038	\$684,292	\$575,246	\$637,835	\$660,518	\$2,235,948	\$2,259,120
Value of products <sup>1</sup> .....	\$497,469	\$466,037	\$684,292	\$575,246	\$2,155,679	\$2,450,253	\$2,235,948	\$2,259,120
Value added by manufacture <sup>2</sup> .....	\$258,469	\$278,114	\$435,096	\$330,947	\$1,397,115	\$1,726,643	\$1,535,893	\$1,481,212
Miles of mains.....	138	112	144	139	664	505	525	460
<b>PRODUCTS</b>								
Total value.....	\$497,469	\$466,037	\$684,292	\$575,246	\$2,155,679	\$2,450,253	\$2,235,948	\$2,259,120
Gas:								
For sale, M cubic feet.....	290,905	252,187	379,636	304,639	2,035,734	1,825,524	1,774,758	1,630,933
Value.....	\$399,474	\$373,512	\$588,272	\$463,777	\$1,968,531	\$2,249,190	\$2,023,876	\$2,033,175
Coke:								
For sale—								
Short tons.....	11,017	7,967	9,051	11,879				1,846
Value.....	\$73,193	\$1,107	\$70,530	\$86,143				\$11,052
Made and consumed, short tons.....	2,812	2,485	2,897	3,239				1,000
Tar:								
For sale, gallons.....	259,324	205,629	244,658	210,918	20,600	1,111,291	619,146	605,648
Value.....	\$17,900	\$13,929	\$13,227	\$14,134	\$1,033	\$59,759	\$24,765	\$23,933
Other products, value.....	\$5,016	\$848	\$261	\$150	\$815	\$13,863	\$611	\$600
Receipts from rents and sales of lamps and appliances.....	\$1,881	\$10,641	\$12,002	\$11,042	\$185,750	\$122,441	\$180,696	\$185,310
<b>PRINCIPAL MATERIALS</b>								
Coal used for gas making:								
Bituminous, long tons.....	20,268	16,300	17,774	22,666	1,449	4,560	3,096	8,641
Coke used for gas making:								
Purchased, short tons.....	2,502	2,451	2,569	2,826	28,905	18,158	23,901	24,530
Made and consumed in plant, short tons.....	33		247	106				
Oil used for gas making and enriching, gallons.....	356,080	287,641	1,333,943	392,525	6,913,884	6,153,693	5,852,040	5,407,756

  

	SOUTH ATLANTIC				MOUNTAIN AND PACIFIC			
	1929	1927	1925	1923	1929	1927	1925	1923
Number of establishments.....	16	18	18	15	4	6	6	6
Persons engaged.....	819	519	542	372	52	83	62	28
Salaried employees.....	81	144	91	80	17	10	8	9
Wage earners (average for the year).....	238	375	251	292	35	73	54	19
Salaries and wages.....	\$431,938	\$684,300	\$440,032	\$402,343	\$66,412	\$107,195	\$81,727	\$30,662
Salaries.....	\$125,243	\$223,407	\$148,856	\$126,436	\$35,014	\$14,303	\$14,065	\$9,933
Wages.....	\$306,695	\$460,893	\$300,176	\$335,907	\$60,798	\$92,892	\$67,662	\$20,729
Cost of materials.....	\$208,995	\$157,815	\$972,713	\$1,036,253	\$22,827	\$14,110	\$109,480	\$53,966
Cost of fuel and purchased electric energy.....	\$732,916	\$888,763	\$2,916,258	\$2,648,521	\$63,760	\$92,105	\$318,858	\$95,984
Value of products <sup>1</sup> .....	\$3,069,100	\$3,190,137	\$2,916,258	\$2,648,521	\$332,414	\$332,414	\$209,378	\$42,018
Value added by manufacture <sup>2</sup> .....	\$2,107,159	\$2,144,059	\$1,943,545	\$1,612,268	\$206,022	\$220,199	\$209,378	\$42,018
Miles of mains.....	807	814	605	482	91	103	97	47
<b>PRODUCTS</b>								
Total value.....	\$3,069,100	\$3,190,137	\$2,916,258	\$2,648,521	\$292,599	\$332,414	\$318,858	\$95,984
Gas:								
For sale, M cubic feet.....	2,280,100	2,306,020	2,060,912	1,850,651	165,964	175,896	170,744	52,467
Value.....	\$3,025,249	\$3,081,893	\$2,814,146	\$2,559,648	\$295,401	\$302,202	\$302,976	\$95,984
Coke:								
For sale—								
Short tons.....	2,441	4,610	5,337	5,303	2,788	3,137	2,724	
Value.....	\$14,147	\$20,434	\$31,688	\$30,454	\$18,234	\$21,450	\$13,620	
Made and consumed, short tons.....	5,213	7,444	6,808	9,197	3,060	2,183	2,845	
Tar:								
For sale, gallons.....	227,908	861,709	771,867	582,457	90,935	82,872	82,000	
Value.....	\$11,123	\$37,463	\$25,603	\$4,941	\$4,446	\$2,215	\$2,050	
Other products, value.....	\$30,216	\$30,739	\$6,209	\$1,800	\$3,919	\$4,316	\$212	
Receipts from rents and sales of lamps and appliances.....	\$18,365	\$13,608	\$38,612	\$35,344	\$104			
<b>PRINCIPAL MATERIALS</b>								
Coal used for gas making:								
Anthracite, long tons.....	2,031	675	220	514				
Bituminous, short tons.....	35,992	44,346	39,162	23,550	8,997	8,150	8,347	
Coke used for gas making:								
Purchased, short tons.....	11,368	13,222	20,998	30,118				
Made and consumed in plant, short tons.....	2,090	2,386	1,189	1,838	310	866	460	
Oil used for gas making and enriching, gallons.....	7,388,345	6,961,999	6,446,418	5,471,442	534,985	959,662	701,324	743,349

<sup>1</sup> Alabama, 1 municipal establishment; Arizona, 1; California, 2; Colorado, 1; Connecticut, 1; Florida, 4; Georgia, 4; Iowa, 3; Kentucky, 1; Maryland, 1; Massachusetts, 2; Michigan, 3; Minnesota, 2; Nebraska, 2; New Jersey, 1; New York, 1; North Carolina, 2; Ohio, 2; Pennsylvania, 1; South Dakota, 2; Virginia, 5.

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

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

# MANUFACTURED GAS

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**TABLE 12.—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.....	11,980	<i>Horsepower</i> 644,024	11,186	<i>Horsepower</i> 496,014	9,108	<i>Horsepower</i> 428,132	5,095	<i>Horsepower</i> 238,454	4,975	<i>Horsepower</i> 213,303	100.0	100.0
Prime movers, total.....	4,099	365,412	4,190	334,935	4,078	289,319	3,682	205,091	3,634	194,032	67.2	86.0
Steam, total.....	3,947	344,725	4,099	323,891	3,991	281,115	3,518	197,321	3,352	179,878	63.4	82.7
Engines.....	2,786	192,540	2,933	193,769	3,176	203,310	2,869	148,398	(1)	(1)	35.4	62.2
Turbines.....	1,211	152,185	1,163	130,122	815	77,796	649	48,923	(1)	(1)	28.0	20.5
Internal-combustion engines.....	150	18,857	90	11,028	82	7,696	151	7,574	268	13,729	3.5	3.2
Water wheels and water turbines.....	2	1,830	1	16	5	608	13	196	14	425	0.3	0.1
Electric motors driven by purchased energy.....	7,881	178,612	6,996	161,079	5,030	138,813	1,413	33,363	1,341	19,271	32.8	14.0
Electric motors, total.....	9,763	222,222	8,240	178,607	6,257	155,309	3,235	55,403	2,349	37,881	100.0	100.0
Driven by purchased energy.....	7,881	178,612	6,996	161,079	5,030	138,813	1,413	33,363	1,341	19,271	80.4	60.2
Driven by energy generated in establishments reporting.....	1,882	43,610	1,250	17,528	1,227	16,496	1,822	22,040	1,008	18,610	19.6	39.8
Electric generators.....	56	<i>Kilowatts</i> 15,911 <i>Kilowatt-hours</i> 282,464,292	85	<i>Kilowatts</i> 11,192	94	<i>Kilowatts</i> 12,076	(1)	(1)	(1)	(1)		
Electric energy purchased <sup>1</sup> .....				(1)		(1)		(1)		(1)		

<sup>1</sup> Not called for separately on schedule.

<sup>2</sup> Not called for on schedule.

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

<sup>4</sup> Data incomplete.

**TABLE 13.—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.....	43,065	42,359	42,261	<i>41,916</i>	42,866	43,117	43,472	43,912	43,973	43,660	43,514	43,206	42,489	42,489	95.4
1925.....	46,998	46,379	45,506	<i>45,505</i>	46,430	46,074	47,197	47,455	47,197	47,342	48,136	48,028	47,826	47,826	94.5
1919.....	42,908	43,793	42,220	<i>41,549</i>	41,750	42,122	42,338	43,237	43,231	42,554	43,754	44,068	44,280	44,280	93.8
1914.....	43,792	41,603	41,017	<i>41,488</i>	44,276	47,204	47,672	46,962	45,772	44,213	42,999	41,404	<i>40,094</i>	40,094	86.2
1909.....	37,215	33,115	<i>32,662</i>	34,314	37,422	39,456	40,412	40,225	38,486	37,800	38,065	37,566	37,122	37,122	80.6
Alabama.....	267	258	244	<i>243</i>	246	267	272	268	274	255	299	286	287	287	81.3
Arizona.....	156	171	161	160	154	153	153	147	149	150	151	161	167	167	86.0
California.....	2,044	<i>1,915</i>	1,933	1,957	2,090	2,085	2,103	2,164	2,124	2,062	2,055	2,023	2,021	2,021	88.5
Colorado.....	78	70	68	70	72	84	85	86	85	84	77	81	78	78	79.1
Connecticut.....	1,180	1,183	1,136	<i>1,157</i>	1,212	1,253	1,230	1,239	1,214	1,181	1,139	1,106	<i>1,099</i>	1,099	87.7
Florida.....	476	678	630	508	503	482	468	437	<i>418</i>	422	430	452	480	480	72.3
Georgia.....	711	790	805	790	786	<i>613</i>	628	546	628	792	786	780	785	785	63.7
Illinois.....	2,944	2,910	3,193	2,872	<i>2,849</i>	2,943	3,044	2,938	2,919	2,936	2,910	2,912	2,900	2,900	89.2
Indiana.....	1,806	1,219	<i>1,198</i>	1,224	1,290	1,290	1,329	1,345	1,379	1,347	1,402	1,367	1,312	1,312	85.4
Iowa.....	648	622	<i>621</i>	631	630	641	654	666	678	661	688	656	630	630	90.3
Kentucky.....	94	112	100	107	99	<i>61</i>	64	65	66	70	124	126	125	125	48.4
Maine.....	227	215	<i>198</i>	204	234	262	258	260	249	214	211	202	216	216	75.0
Maryland.....	565	611	614	582	538	520	530	522	<i>511</i>	522	578	591	661	661	77.3
Massachusetts.....	4,096	3,830	<i>3,826</i>	3,828	4,037	4,241	4,272	4,318	4,293	4,187	4,136	4,141	4,044	4,044	83.6
Michigan.....	3,086	<i>2,918</i>	2,959	3,327	3,327	3,081	3,121	3,209	3,209	3,186	3,167	3,038	2,950	2,950	87.7
Minnesota.....	479	477	468	468	471	467	<i>463</i>	499	500	488	481	477	492	492	92.6
Mississippi.....	120	117	113	114	122	136	120	117	<i>104</i>	109	129	116	145	145	71.7
Missouri.....	1,573	1,485	<i>1,475</i>	1,487	1,492	1,533	1,631	1,746	1,747	1,693	1,551	1,589	1,509	1,509	84.4
Nebraska.....	253	251	<i>250</i>	251	256	256	257	256	255	253	252	252	252	252	97.3
New Hampshire.....	296	<i>275</i>	279	280	284	310	308	323	339	304	291	289	276	276	81.4
New Jersey.....	1,266	1,295	1,235	<i>1,210</i>	1,252	1,222	1,204	1,297	1,305	1,283	1,303	1,303	1,222	1,222	92.7
New York.....	10,938	10,981	10,895	10,907	<i>10,860</i>	10,920	10,911	10,964	10,935	10,952	10,942	11,027	10,956	10,956	98.5
North Carolina.....	436	427	421	422	439	446	429	430	449	475	462	423	407	407	85.7
North Dakota.....	57	<i>62</i>	<i>62</i>	<i>62</i>	65	61	63	64	64	62	55	52	53	53	81.3
Ohio.....	203	210	212	212	213	220	213	<i>188</i>	134	221	227	230	219	219	55.7
Oregon.....	410	410	408	406	407	404	399	412	420	437	417	415	403	403	89.0
Pennsylvania.....	3,296	3,420	3,270	3,207	3,213	3,312	3,278	3,361	3,366	3,350	3,338	3,296	<i>3,144</i>	3,144	91.9
Rhode Island.....	769	724	714	722	771	781	785	785	779	794	813	780	780	780	79.9
South Carolina.....	202	184	183	186	177	212	206	202	215	222	214	206	206	206	57.9
South Dakota.....	70	66	67	63	67	68	72	84	69	68	69	71	74	74	75.0
Tennessee.....	575	549	<i>546</i>	<i>546</i>	548	576	601	615	621	627	568	550	558	558	87.1
Vermont.....	97	88	<i>83</i>	88	93	118	111	102	104	98	96	94	91	91	70.3
Virginia.....	490	489	480	487	488	528	506	506	507	488	467	474	461	461	87.3
Washington.....	532	<i>502</i>	532	526	516	527	557	539	565	534	520	527	527	527	88.8
Wisconsin.....	1,671	1,572	1,590	1,621	1,694	1,698	1,700	1,715	1,768	1,742	1,718	1,670	1,571	1,571	89.3



## COKE, NOT INCLUDING GAS-HOUSE COKE

**Description of the industry.**—This industry designation covers establishments engaged primarily in the manufacture of coke by the distillation of coal either in (A) "beehive" ovens or in (B) "by-product" ovens. The volatile constituents of the coal escape from the former class of ovens and are wasted, but are retained by the latter.

Establishments which, although they operate coke ovens, are engaged primarily in the production and distribution of gas for illuminating and heating, are classified under "Gas, manufactured, illuminating and heating."

No detailed data as to the quantities and values of the various classes of coke-oven products are compiled by the Census Bureau, as such data are published annually by the United States Bureau of Mines. The detailed statistics for coke and by-products in Table 3 of this report are based on those compiled by the Bureau of Mines, adjusted to exclude figures for 21 establishments for 1929, 17 for 1927, 13 for 1925, and 7 each for 1923 and 1921, which are classified as by-product coke-oven plants by the Bureau of Mines, but which operate as public utilities in the distribution of gas and are therefore classified as gas plants for census purposes.

**Assignment of establishments to industries.**—Although the coke industry, as defined for census purposes, consists primarily in the manufacture of coke and by-products as an independent operation, it also includes the operation of coke plants in conjunction with blast furnaces and other affiliated establishments, where such plants are reported as separate industrial units. Data for coal-mining operations, which are sometimes included in reports made by establishments operating their own mines, have been eliminated, so far as possible, and the cost of materials includes in all cases the total cost of the coal laid down at the ovens.

**Comparison of Census and Bureau of Mines production statistics.**—The differences between the Census totals and the Bureau of Mines totals, as shown in Table 3, are due in part to the fact that the Census figures represent production whereas the Bureau of Mines figures represent sales, which always differ more or less from production, and in part to the inclusion in the Census figures, but not in the Bureau of Mines figures, of data for some coal sold by the coking plants and for miscellaneous items of income.

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 <sup>1</sup>	Value added by manufacture <sup>2</sup>	Horsepower
1929	153	20,552	\$33,380,425	\$281,592,430	\$416,348,458	\$134,756,028	395,211
1927	171	21,082	34,167,692	286,728,701	382,012,617	95,283,916	451,874
1925	237	23,191	36,762,401	277,750,675	378,633,527	100,882,852	409,552
1923	262	28,364	48,107,894	354,030,441	516,922,898	162,892,457	332,560
1921	176	16,070	23,832,946	168,700,864	221,313,363	52,522,409	( <sup>3</sup> )
1919	278	29,319	42,299,292	224,266,674	316,515,838	92,249,164	224,879
1914	231	21,107	14,288,952	69,138,328	99,275,020	30,136,692	117,127
1909	315	29,273	15,454,345	64,024,527	95,690,622	31,672,005	61,717
1904	278	18,981	9,304,498	29,884,532	51,728,647	21,844,115	66,669
1899	241	16,999	7,085,736	19,665,532	35,585,445	15,919,913	34,767
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929	-10.5	-2.5	-2.3	-1.8	9.0	41.4	-13.0
1925-1927	-27.8	-9.1	-7.1	3.2	0.9	-5.6	10.3
1923-1925	-9.5	-18.2	-23.6	-21.5	-26.8	-38.1	23.2
1921-1923	48.9	76.5	101.9	109.7	133.6	210.1	-----
1919-1921	-36.7	-45.2	-43.7	-24.7	-30.1	-43.1	-----
1919-1929	-45.0	-29.9	-21.1	25.6	31.5	46.1	74.9
1909-1919	-11.7	0.2	173.7	250.3	230.7	191.3	264.4
1899-1909	30.7	72.2	118.1	225.6	168.9	98.9	77.5

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

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

<sup>3</sup> Not called for on schedule.

# COKE, NOT INCLUDING GAS-HOUSE COKE

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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	ESTABLISHMENTS			Salaried offi- cers and em- ploy- ees <sup>1</sup>	Wage car- ners (av- erage for the year)	HORSEPOWER (RATED CAPACITY) OF POWER EQUIPMENT			Salaries	Wages	COST OF MATERIALS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products <sup>2</sup>	Value added by manufac- ture <sup>3</sup>
		Total num- ber	(A) Bee- hive	(B) By- prod- uct			Total	Prime movers	Motors run by pur- chased energy			Total	Materials	Fuel and purchased energy		
United States: The industry...	1929	153	86	67	2,951	20,562	393,211	281,680	111,525	\$7,451,438	\$33,359,425	\$281,592,430	\$14,266,223	\$267,320,207	\$416,348,458	\$134,756,028
	1927	171	109	62	2,727	21,082	451,874	352,107	99,767	7,290,470	34,167,692	280,728,701	27,517,965	259,210,736	382,012,617	95,283,916
	1919	278	222	56	3,522	29,319	224,879	150,328	74,551	7,605,785	42,299,292	224,266,674	23,497,210	200,769,464	316,515,858	92,249,164
(A) Beehive plants...	1929	86	86	—	237	2,706	25,150	12,875	12,276	410,250	3,025,834	17,984,140	551,714	17,432,426	22,782,746	4,798,006
	1927	109	109	—	328	3,284	23,977	12,613	11,364	780,084	4,070,573	23,336,086	1,267,828	22,068,258	30,891,944	7,555,258
	1919	222	222	—	1,393	18,766	39,761	26,669	13,192	2,771,731	16,298,770	78,155,895	7,405,378	70,750,517	112,023,466	38,867,571
(B) By-prod- uct plants...	1929	67	—	67	2,714	17,846	368,061	268,811	99,250	7,041,188	30,363,591	263,608,290	13,714,509	249,893,781	393,565,712	129,957,422
	1927	62	—	62	2,399	17,798	427,887	339,494	88,403	6,410,786	30,097,119	263,392,015	20,250,137	237,141,878	351,120,673	87,728,658
	1919	56	—	56	2,189	15,553	185,118	123,759	61,369	4,834,054	20,060,822	146,110,779	16,091,832	130,018,947	204,492,372	68,881,593
Individual States:																
Alabama.....	1929	8	—	8	267	1,606	37,580	28,973	8,607	738,887	2,219,825	17,795,356	978,669	16,816,717	24,937,794	7,142,408
	1927	8	—	8	294	1,750	46,508	32,687	13,911	808,837	2,459,179	17,991,036	1,079,397	16,911,639	25,510,423	7,519,387
	1919	28	—	28	295	3,533	13,147	10,775	2,372	641,267	3,483,825	18,628,416	1,098,866	16,920,550	24,669,105	6,040,089
Illinois.....	1929	6	—	6	277	1,723	34,890	19,368	15,528	844,727	2,698,042	22,358,640	841,861	21,516,779	34,305,080	11,946,440
	1927	5	—	5	376	1,734	31,820	22,314	9,506	981,381	3,034,460	23,148,179	1,047,982	21,500,197	32,607,710	9,459,581
	1919	4	—	4	244	1,396	9,915	9,915	—	494,602	2,399,848	12,627,715	854,561	11,773,154	16,837,024	4,209,309
Indiana.....	1929	4	—	4	160	1,001	14,811	7,795	7,016	444,891	2,745,824	38,486,693	775,128	37,711,555	53,261,243	14,774,580
	1927	4	—	4	159	1,052	38,100	38,100	—	361,417	2,670,244	38,516,492	2,948,776	35,567,716	50,310,812	11,794,320
New York.....	1929	4	—	4	176	1,019	30,146	20,701	9,445	493,135	1,841,848	18,127,836	600,590	17,467,237	28,058,895	9,931,059
	1927	4	—	4	170	1,059	32,674	18,999	13,978	518,613	1,995,841	18,917,047	1,123,454	17,793,593	24,726,656	5,809,608
	1919	3	—	3	40	043	8,475	5,700	2,775	87,416	1,167,323	5,115,681	529,455	4,586,226	7,212,747	2,097,066
Ohio.....	1929	16	1	15	408	2,967	43,488	34,316	9,172	1,109,580	5,462,549	45,134,194	2,363,411	42,770,783	61,884,849	16,760,655
	1927	15	1	14	305	2,983	57,272	48,625	8,647	988,442	5,227,992	46,996,294	4,860,092	42,136,202	57,007,963	10,011,689
	1919	13	—	13	440	3,407	43,119	29,637	13,582	923,869	6,559,347	33,171,946	2,783,735	30,388,211	46,514,213	13,342,267
Pennsylvania...	1929	69	58	11	877	5,836	149,342	133,647	15,795	1,844,977	9,372,943	76,722,573	4,872,812	71,849,761	115,345,477	38,622,904
	1927	84	75	9	780	5,736	104,303	144,172	20,131	1,954,598	8,662,733	75,924,258	9,301,430	66,622,828	100,086,571	24,162,313
	1919	123	—	123	1,476	11,536	72,752	58,043	14,709	3,242,386	15,553,532	80,353,721	10,500,096	69,793,625	119,730,589	39,376,868
Virginia.....	1929	7	—	7	15	352	1,552	—	1,552	10,084	219,426	855,550	50,899	804,651	1,304,493	448,943
	1927	7	—	7	10	265	1,558	—	1,558	22,384	220,089	1,057,288	68,815	990,473	1,420,783	363,495
	1919	13	—	13	73	849	1,243	233	1,010	143,194	1,084,572	3,935,420	190,992	3,744,428	5,524,215	1,588,795
West Virginia...	1929	10	13	3	92	800	16,925	6,337	10,588	186,411	1,497,140	6,868,525	745,657	6,122,868	9,932,334	3,083,809
	1927	20	17	3	81	1,178	14,470	5,485	8,955	169,101	1,777,044	8,413,984	1,121,091	7,292,893	11,443,807	3,029,823
	1919	57	—	57	154	1,283	9,493	3,829	5,064	225,687	1,419,567	6,037,238	547,551	5,489,687	8,368,608	2,331,400
Groups of States:																
Conn., 1 est.; Ky., 1; Md., 1; Mass., 1; N. J., 2; Penn., 3.....	1929	9	2	7	361	2,155	33,748	18,907	14,841	955,470	3,668,049	25,495,915	1,896,654	23,599,261	39,965,180	14,469,265
Mich., 3 est.; Minn., 3; Wis., 1.....	1929	7	—	7	243	1,982	20,318	8,455	11,863	628,618	3,071,342	24,096,534	700,288	23,396,246	38,664,644	14,568,110
Colo., 4 est.; Utah., 2; Wash., 1.....	1929	7	5	2	75	412	10,405	3,287	7,118	185,058	592,428	5,650,614	350,245	5,270,369	8,668,469	3,017,855
States not shown separately.....	1927	24	9	15	556	4,686	65,079	42,025	23,054	1,395,287	8,114,110	55,764,123	4,768,028	50,995,195	78,897,873	23,133,750
	1919	37	—	37	800	6,672	66,735	32,290	34,439	1,847,364	10,631,278	64,396,537	6,331,954	58,064,583	87,659,247	23,262,710

<sup>1</sup> 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, 23,508; proprietors and firm members, 5. For 1927, total, 23,809; proprietors and firm members, none. For 1919, total, 32,882; proprietors and firm members, 41.

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

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

<sup>4</sup> Colorado, 4 establishments, 3 (A), 1 (B); Georgia, 1 (A); Kentucky, 2, 1 (A), 1 (B); Maryland, 1 (B); Massachusetts, 1 (B); Michigan, 3 (B); Minnesota, 3 (B); New Jersey, 2 (B); Tennessee, 3, 2 (A), 1 (B); Utah, 2, 1 (A), 1 (B); Washington, 1 (A); Wisconsin, 1 (B).

<sup>5</sup> Colorado, 3 establishments; Georgia, 1; Indiana, 5; Kentucky, 4; Maryland, 1; Massachusetts, 1; Michigan, 2; Minnesota, 3; New Jersey, 2; New Mexico, 2; Oklahoma, 1; Tennessee, 6; Utah, 1; Washington, 3; Wisconsin, 2.

## CENSUS OF MANUFACTURES: 1929

TABLE 3.—PRODUCTS,<sup>1</sup> BY KIND, QUANTITY, AND VALUE, FOR THE UNITED STATES: 1919 TO 1929

[The figures for all census years refer to production, not sales. See GENERAL EXPLANATIONS—Value of Products. Combined statistics for products of the coke and gas industries may be found on p. 760]

KIND	1929	1927	1925	1923	1921	1919
Coke-oven products, value <sup>1</sup> .....	\$395, 085, 048	\$368, 851, 467	\$365, 526, 544	\$408, 380, 472	\$195, 475, 004	\$314, 332, 360
Coke:						
Total production, short tons.....	56, 651, 538	49, 132, 213	50, 141, 774	56, 017, 325	24, 583, 940	43, 110, 644
Made in—						
Beehive ovens, short tons.....	6, 472, 019	7, 207, 417	11, 354, 784	19, 379, 870	5, 538, 042	19, 042, 926
By-product ovens, short tons.....	50, 179, 519	41, 924, 796	38, 786, 990	36, 637, 455	19, 045, 898	24, 067, 708
Value.....	\$256, 558, 847	\$247, 187, 630	\$253, 650, 656	\$303, 822, 102	\$142, 240, 070	\$251, 299, 712
Screenings and breeze:						
Total production, short tons.....	4, 776, 654	4, 039, 773	3, 700, 587	3, 562, 055	1, 817, 388	1, 824, 890
Sales—						
Short tons.....	945, 155	751, 912	907, 055	733, 712	211, 551	(3)
Value.....	\$2, 617, 176	\$2, 114, 033	\$3, 203, 801	\$2, 863, 141	\$498, 818	(3)
By-products:						
Gas—						
Production, M cubic feet.....	757, 193, 562	667, 161, 377	621, 407, 582	585, 041, 458	299, 094, 737	415, 655, 098
Sales—						
M cubic feet.....	441, 243, 710	355, 548, 382	325, 080, 045	277, 058, 388	136, 048, 717	102, 824, 094
Value.....	\$61, 099, 166	\$53, 724, 663	\$49, 050, 966	\$42, 711, 689	\$19, 788, 841	\$16, 650, 195
Tar—						
Production, gallons.....	636, 886, 413	519, 378, 540	467, 344, 530	429, 929, 749	245, 261, 119	288, 901, 739
Sales—						
Gallons.....	290, 603, 267	278, 473, 948	225, 533, 574	200, 702, 985	128, 436, 242	217, 707, 157
Value.....	\$14, 651, 832	\$14, 570, 126	\$11, 107, 150	\$8, 675, 485	\$5, 270, 774	\$6, 918, 549
Ammonia—						
NH <sub>3</sub> equivalent of all forms—						
Pounds.....	401, 440, 953	349, 619, 116	310, 744, 721	287, 681, 592	162, 492, 887	191, 019, 937
Value.....	\$26, 861, 440	\$26, 239, 840	\$26, 850, 266	\$31, 094, 119	\$16, 143, 170	\$26, 751, 694
Liquor (NH <sub>3</sub> content)—						
Production, pounds.....	52, 802, 845	49, 825, 891	57, 425, 326	51, 825, 359	27, 023, 829	50, 535, 639
Sales—						
Pounds.....	51, 762, 440	49, 011, 372	47, 128, 790	50, 986, 906	30, 009, 918	51, 646, 744
Value.....	\$2, 687, 053	\$2, 335, 047	\$4, 385, 501	\$5, 139, 706	\$3, 052, 433	\$5, 092, 950
Sulphate—						
Production, pounds.....	1, 396, 552, 434	1, 172, 643, 719	1, 013, 277, 580	915, 926, 762	528, 547, 798	544, 303, 827
Sales—						
Pounds.....	1, 350, 154, 000	1, 225, 624, 782	956, 179, 337	884, 952, 912	529, 931, 877	557, 492, 773
Value.....	\$24, 174, 387	\$23, 904, 793	\$22, 404, 765	\$25, 954, 413	\$13, 090, 787	\$21, 058, 744
Crude light oil—						
Production, gallons.....	198, 225, 478	161, 956, 695	145, 285, 887	133, 976, 047	75, 158, 488	92, 478, 409
Sales—						
Gallons.....	10, 277, 234	8, 264, 543	9, 719, 092	6, 233, 952	2, 261, 437	.....
Value.....	\$1, 271, 335	\$954, 635	\$1, 002, 813	\$642, 438	\$213, 572	.....
Light-oil derivatives—						
Production, gallons.....	161, 752, 018	127, 992, 291	115, 885, 817	103, 880, 182	58, 633, 096	66, 724, 012
Sales—						
Gallons.....	149, 662, 155	123, 821, 774	112, 552, 884	102, 467, 452	59, 706, 746	68, 184, 761
Value.....	\$29, 283, 289	\$23, 881, 757	\$20, 431, 928	\$18, 127, 269	\$11, 141, 203	\$12, 570, 846
Naphthalene, crude—						
Production, pounds.....	7 19, 684, 491	8, 228, 400	9, 154, 771	11, 535, 107	2, 603, 330	3, 579, 998
Sales—						
Pounds.....	7 19, 582, 476	7, 773, 779	9, 008, 066	9, 710, 527	1, 428, 040	4, 038, 455
Value.....	\$319, 119	\$84, 062	\$91, 368	\$170, 482	\$37, 967	\$52, 244
Other by-products, value.....	\$2, 422, 844	\$93, 791	\$137, 590	\$279, 747	\$140, 489	\$109, 120
The coke industry, total value of products <sup>2</sup> .....	\$416, 348, 458	\$382, 012, 617	\$378, 633, 527	\$516, 922, 598	\$221, 313, 393	\$316, 515, 838

<sup>1</sup> Statistics are based on data compiled and published by the U. S. Bureau of Mines, revised to exclude figures for 21 establishments for 1929, 17 for 1927, 13 for 1925, and 7 for prior years, classified as gas plants by the Census Bureau and as by-product coke-oven plants by the Bureau of Mines.

<sup>2</sup> See "Comparison of Census and Bureau of Mines production statistics," p. 764.

<sup>3</sup> Included in figure for coke.

<sup>4</sup> Includes data for a small amount reported as "Other forms."

<sup>5</sup> Includes data for an indefinite quantity of NH<sub>3</sub> reported as "Anhydrous ammonia."

<sup>6</sup> Includes data for an unknown quantity of sulphate sold on the basis of NH<sub>3</sub> content.

<sup>7</sup> Includes data for some refined naphthalene.

<sup>8</sup> From reports of Census of Manufactures. See "Comparison of Census and Bureau of Mines production statistics," p. 764.

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 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	5,186	Horse-power 393,211	4,768	Horse-power 451,874	4,453	Horse-power 409,652	2,897	Horse-power 224,879	1,762	Horse-power 117,127	100.0	100.0
Prime movers, total	1,262	281,636	1,377	352,107	1,463	312,149	947	150,328	751	79,437	71.6	66.8
Steam, total	1,248	281,011	1,364	336,118	1,452	301,228	941	148,478	739	77,367	71.5	66.0
Engines	904	103,045	1,030	110,782	1,139	118,349	786	75,255	(1)	(1)	27.0	33.4
Turbines	344	174,966	334	225,336	313	182,879	155	73,222	(1)	(1)	44.5	32.6
Internal-combustion engines	7	205	13	15,989	11	10,921	6	1,850	12	2,120	0.1	0.8
Water wheels and water turbines	7	470									0.1	
Electric motors driven by purchased energy	3,924	111,525	3,391	99,767	2,990	97,403	1,950	74,551	1,011	37,640	28.4	33.2
Electric motors, total	12,585	366,561	10,634	327,643	9,367	311,064	5,919	209,163	2,735	88,409	100.0	100.0
Driven by purchased energy <sup>1</sup>	3,924	111,525	3,391	99,767	2,990	97,403	1,950	74,551	1,011	37,640	30.4	35.6
Driven by energy generated in establishments reporting	8,661	255,036	7,243	227,876	6,377	213,661	3,969	134,612	1,724	50,769	69.6	64.4
Electric generators	139	Kilowatts 127,324	106	Kilowatts 122,054	157	Kilowatts 122,853	(1)	(1)	(1)	(1)		
Electric energy purchased <sup>4</sup>		Kilowatt-hours 170,027,067		(1)		(1)		(1)		(1)		

<sup>1</sup> Not called for separately on schedule.  
<sup>2</sup> Includes data for motors driven by energy generated in power plants of blast furnaces or steel works in connection with which coke plants were operated.  
<sup>3</sup> Not called for on schedule.  
<sup>4</sup> This item covers the consumption of purchased electric energy for all purposes—power, heat, light, etc.  
<sup>5</sup> 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	20,552	19,870	20,534	20,607	20,435	20,787	20,905	21,122	21,039	20,601	20,753	20,264	<i>19,595</i>	19,595	92.8
1925	23,191	24,996	24,685	24,010	22,912	21,404	20,969	<i>20,651</i>	20,734	21,800	23,723	26,023	28,488	28,488	78.0
1919	29,319	34,557	32,159	30,479	28,452	26,579	<i>26,434</i>	27,917	30,418	30,378	26,317	28,186	20,452	20,452	76.5
1914	21,107	22,339	22,845	24,205	23,257	22,072	21,476	21,386	20,759	20,255	19,077	17,003	<i>17,710</i>	17,710	73.2
1909	29,273	27,668	27,121	27,003	<i>26,461</i>	27,022	28,301	29,106	29,475	30,852	32,300	32,789	33,094	33,094	80.0
Alabama	1,606	1,606	1,688	1,613	1,604	1,612	1,601	1,621	1,609	1,571	<i>1,544</i>	1,592	1,556	1,556	91.5
Illinois	1,723	<i>1,610</i>	1,657	1,709	1,766	1,761	1,772	1,799	1,800	1,788	1,734	1,705	1,649	1,649	89.4
Indiana	1,601	1,486	1,671	1,662	1,644	1,648	1,664	1,665	1,653	1,590	1,536	1,501	<i>1,475</i>	1,475	87.6
New York	1,019	995	1,002	977	992	1,016	1,035	1,060	1,042	1,065	1,059	1,018	<i>972</i>	972	91.3
Ohio	2,967	2,950	2,998	3,004	2,990	<i>3,013</i>	3,002	2,997	3,001	2,986	2,992	2,899	2,770	2,770	91.9
Pennsylvania	5,836	5,431	5,792	5,877	5,787	6,011	5,981	6,114	6,112	5,371	6,004	5,698	<i>5,352</i>	5,352	87.5
Virginia	352	<i>266</i>	290	237	239	317	388	438	378	370	421	408	358	358	61.0
West Virginia	899	861	857	830	902	909	914	924	901	908	920	905	900	900	92.7

# LUBRICATING OILS AND GREASES, NOT MADE IN PETROLEUM REFINERIES

**Description of the industry.**—At the census for 1929, for the first time, all establishments, other than petroleum refineries, engaged in the manufacture of either lubricating oils or lubricating greases have been classified in this industry. These establishments are engaged primarily in the manufacturing and compounding of lubricating oils and greases from mineral,

animal, and vegetable oils and fats. The chief material is partly-refined petroleum, used alone or in combination with animal or vegetable oils and fats.

At previous censuses the classification covered only the manufacture of lubricating greases, therefore, no comparative figures for years prior to 1929 are available.

TABLE 1.—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, and for the remaining States in groups. No data are available for prior years. See "Description of the industry," above]

STATE	Number of establishments	Salaried officers and employees <sup>1</sup>	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 <sup>2</sup>	Value added by manufacture <sup>3</sup>
				Total	Prime movers	Motors run by purchased energy			Total	Materials and containers	Fuel and purchased energy		
United States..	177	1,482	2,377	13,281	7,204	0,077	\$4,167,049	\$3,738,637	\$30,571,373	\$30,044,702	\$526,611	\$60,584,246	\$30,012,873
Individual States:													
California.....	13	35	65	288	—	288	72,674	89,958	421,201	410,939	10,352	970,792	540,501
Colorado.....	4	4	19	66	33	33	12,700	13,287	103,445	102,104	1,341	183,045	80,500
Illinois.....	16	99	121	604	110	494	254,992	190,734	4,519,917	4,482,503	37,414	6,617,018	2,097,101
Kansas.....	6	33	35	174	80	94	114,269	47,590	610,259	600,875	9,384	1,132,182	521,623
Maryland.....	7	73	59	176	5	171	136,946	85,616	1,692,852	1,685,004	7,848	2,388,724	695,872
Michigan.....	7	81	80	778	20	758	216,403	129,441	2,170,487	2,141,828	28,659	4,011,220	1,840,753
Minnesota.....	3	18	35	101	—	101	67,453	46,827	147,376	137,884	9,492	338,393	161,017
Missouri.....	7	40	104	353	35	318	150,655	147,567	994,966	981,696	13,270	1,858,802	863,636
New Jersey.....	16	176	934	2,073	1,449	624	609,214	1,370,232	12,213,499	12,072,730	140,769	21,847,476	9,633,977
New York.....	17	148	317	2,463	2,069	394	359,724	450,127	4,598,473	4,514,584	83,889	7,333,164	2,734,691
Ohio.....	28	182	232	1,732	540	1,183	551,245	347,241	3,440,760	3,378,749	62,011	6,521,588	3,080,828
Pennsylvania.....	32	408	421	3,782	2,634	1,148	1,092,611	591,443	6,294,389	6,202,268	92,131	12,030,241	5,735,852
Groups of States:													
D. C., 1 est.; Mass., 3; R. I., 3; Ky., 1 est.; Okla., 3; Tex., 5; Ind., 2 est.; Oreg., 1; Wis., 2.....	7	70	54	254	140	114	222,640	70,228	943,485	932,633	10,852	1,494,853	551,368
	9	70	60	275	80	195	230,724	85,148	752,133	739,007	13,126	1,555,013	802,880
	5	27	41	162	—	162	74,790	67,198	668,041	661,968	6,073	1,300,835	632,794

<sup>1</sup> 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: Total, 4,063; proprietors and firm members, 34.

<sup>2</sup> Manufacturers' sales (shipments or deliveries). See GENERAL EXPLANATIONS—Value of Products.

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

<sup>4</sup> Value of lubricating oils, \$47,077,021; lubricating greases, \$17,349,837; other products, \$5,157,388. In addition, lubricating oils and greases valued as follows were made as secondary products by establishments in other industries: Petroleum refineries—oils, \$304,672,655; greases (including axle grease), \$14,098,327. (See Table 3, report on Petroleum Refining.) Other industries—oils, \$1,341,905; greases, \$1,333,306.

TABLE 2.—PRIME MOVERS, MOTORS, GENERATORS, AND CONSUMPTION OF PURCHASED ELECTRIC ENERGY—NUMBER AND RATED CAPACITY OF PRIME MOVERS, ELECTRIC MOTORS, AND GENERATORS, AND QUANTITY OF ELECTRIC ENERGY PURCHASED: 1929

TYPE	1929		TYPE	1929	
	Number	Capacity		Number	Capacity
Prime movers and electric motors driven by purchased energy, aggregate.....	1,061	Horsepower 13,281	Electric motors, total.....	1,410	Horsepower 10,743
Prime movers, total.....	87	7,204	Driven by purchased energy.....	974	6,077
Steam, total.....	79	7,106	Driven by energy generated in establishments reporting.....	436	4,666
Engines.....	67	6,088	Electric generators.....	10	Kilowatts 2,508
Turbines.....	12	1,018	Electric energy purchased <sup>1</sup> .....		Kilowatt- hours 2,969,328
Internal-combustion engines.....	8	98			
Water wheels and water turbines.....					
Electric motors driven by purchased energy.....	974	6,077			

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

# LUBRICATING OILS AND GREASES, NOT MADE IN PETROLEUM REFINERIES 769

TABLE 3.—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..	2,577	2,530	2,487	2,478	2,485	2,698	2,704	2,742	2,690	2,648	2,549	2,509	2,460	87.5
California.....	65	59	<i>58</i>	59	<i>58</i>	63	66	68	68	71	72	71	72	80.6
Colorado.....	19	19	19	19	19	19	20	20	20	19	19	17	17	85.0
Illinois.....	121	113	<i>110</i>	116	120	122	122	121	128	128	128	124	124	85.0
Kansas.....	35	35	35	36	36	37	37	37	<i>34</i>	<i>34</i>	<i>34</i>	<i>34</i>	<i>34</i>	91.0
Maryland.....	59	59	60	58	60	<i>57</i>	58	61	59	59	<i>57</i>	58	61	93.4
Michigan.....	80	<i>68</i>	76	79	84	83	90	88	78	84	79	71	70	73.1
Minnesota.....	35	34	34	38	39	37	36	36	38	36	<i>32</i>	<i>32</i>	33	82.0
Missouri.....	104	<i>84</i>	85	97	121	114	116	123	118	107	95	99	92	68.3
New Jersey.....	934	924	970	950	941	972	970	995	974	950	900	857	805	80.9
New York.....	317	487	358	341	312	309	309	306	296	293	281	289	<i>248</i>	51.8
Ohio.....	232	219	221	<i>216</i>	227	234	237	236	243	242	237	240	220	88.0
Pennsylvania.....	421	300	312	313	313	485	483	488	476	470	466	470	476	61.5

## PETROLEUM REFINING

Description of the industry.—This industry consists in the refining of crude petroleum by distillation. It does not, therefore, include the compounding of refined or partly refined petroleum products nor the production of gasoline from natural gas at the wells. The principal products, named in the order of their importance as measured by value, are gasoline, fuel oils, lubricating oils, and illuminating oils.

Detailed statistics of products.—The total value of products for this industry includes a comparatively small amount of duplication due to the fact that the "partially refined oils, sold for rerunning," and to some extent the "tops," reported as products by some establishments, become materials for others.

The production of natural gasoline, as reported by the Bureau of Mines, is shown in footnote 3, Table 3.

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 <sup>1</sup>	Value added by manufacture <sup>2</sup>	Horsepower
1929	390	80,596	\$131,176,993	\$2,031,341,408	\$2,639,665,001	\$608,323,593	789,849
1927	354	71,234	113,718,705	1,752,997,043	2,142,648,503	399,651,460	552,651
1925	359	65,324	104,645,391	1,889,673,019	2,376,656,556	496,978,537	398,753
1923	332	66,717	103,833,760	1,425,052,861	1,793,700,087	368,647,226	<sup>3</sup> 349,154
1921	366	63,189	102,294,108	1,382,170,434	1,727,440,157	345,269,723	(4)
1919	320	58,889	89,749,637	1,247,908,355	1,632,532,766	384,624,411	238,906
1914	176	25,396	19,397,466	325,294,599	396,361,406	71,096,897	128,190
1909	147	13,929	9,830,078	199,273,402	236,097,659	37,724,257	89,983
1904	93	16,770	9,989,367	139,337,213	175,005,320	35,618,107	46,019
1899	67	12,199	6,717,087	102,859,341	123,929,384	21,070,043	36,127
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929	10.2	13.1	15.4	15.9	23.2	56.1	42.9
1925-1927	-1.4	9.0	8.7	-7.2	-0.8	-20.0	40.4
1923-1925	-6.0	-2.1	0.8	32.6	32.5	32.1	12.8
1921-1923	4.4	5.6	1.5	3.1	3.8	6.8	-----
1919-1921	14.4	7.3	14.0	10.8	5.8	-10.2	-----
1919-1929	21.9	36.9	46.2	62.8	61.7	58.2	230.6
1909-1919	117.7	322.8	813.0	526.2	588.8	919.6	165.5
1899-1909	(*)	14.2	46.3	93.7	91.2	78.0	149.1

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

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

<sup>3</sup> Revised.

<sup>4</sup> Not called for on schedule.

\* Per cent not computed where base is less than 100.

# PETROLEUM REFINING

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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 <sup>1</sup>	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 <sup>2</sup>	Value added by manufacture <sup>3</sup>
					Total	Prime movers	Motors run by purchased energy			Total	Materials and containers <sup>4</sup>	Fuel and purchased energy <sup>5</sup>		
United States	1929	390	13,797	80,598	780,849	486,806	302,933	\$33,577,874	\$131,176,993	\$2,031,341,408	\$2,000,963,517	\$30,377,891	\$2,639,665,001	\$608,323,598
	1927	354	12,059	71,234	552,651	388,647	164,004	30,900,277	113,716,705	1,752,997,043	1,649,288,323	103,708,723	2,142,648,503	389,651,400
	1919	320	14,525	58,889	238,906	187,521	51,385	26,619,024	89,749,637	1,247,908,355	1,194,403,246	63,505,109	1,632,532,786	384,624,411
Arkansas	1929	10	167	681	3,706	2,116	1,500	326,902	1,089,249	14,704,632	14,222,490	482,136	18,906,361	4,201,729
	1927	8	111	350	1,458	961	407	357,464	508,772	10,313,177	10,039,405	273,772	12,726,342	2,412,105
California	1929	54	2,039	8,133	146,401	60,780	85,021	4,850,920	16,096,007	300,062,461	357,319,104	3,643,357	484,756,207	123,793,746
	1927	45	1,777	7,686	100,997	40,479	60,518	4,300,824	14,314,173	267,432,950	260,078,927	6,754,023	356,910,953	89,478,003
	1919	54	1,307	5,132	60,307	39,671	20,636	2,865,577	8,179,397	141,876,645	136,823,769	5,052,876	213,292,194	71,415,549
Illinois	1929	12	740	4,068	39,546	26,673	12,873	1,713,968	6,429,625	79,446,694	78,274,281	1,172,418	104,130,272	24,633,578
	1927	9	509	3,614	33,055	25,049	8,006	1,293,351	5,621,101	68,138,461	63,479,242	4,659,219	84,858,430	16,719,969
	1919	13	482	2,448	5,106	3,760	1,316	1,074,356	3,483,872	54,053,358	50,550,881	3,502,477	64,648,442	10,495,284
Kansas	1929	15	484	3,113	26,409	14,325	12,084	1,282,572	4,818,074	66,043,995	64,985,360	1,058,635	98,329,442	32,285,447
	1927	15	373	2,579	23,997	13,721	10,276	888,572	3,806,013	61,242,097	57,633,505	3,608,592	73,878,325	12,636,228
	1919	29	431	2,221	10,950	8,604	2,346	1,014,542	3,065,412	51,335,769	48,118,618	3,217,151	63,785,520	12,449,751
Kentucky	1929	8	86	578	5,415	3,679	1,736	244,056	824,120	15,034,357	14,800,533	173,854	17,311,979	2,277,692
	1927	5	94	253	4,798	4,497	301	249,021	339,798	6,878,844	6,530,022	348,242	8,240,366	1,807,622
Louisiana	1929	13	884	6,982	39,736	35,859	3,877	2,557,725	11,837,372	127,708,730	124,733,957	2,974,773	151,966,142	24,257,412
	1927	12	1,065	5,093	30,698	29,427	1,271	2,748,332	8,186,966	115,966,567	109,188,073	6,778,494	138,249,752	22,283,185
	1919	10	302	2,841	7,138	7,071	67	793,377	4,888,047	49,603,353	48,638,652	964,731	75,023,726	25,420,343
Maryland	1929	4	243	1,021	17,659	15,631	2,028	615,740	1,675,799	34,749,241	34,708,789	42,452	43,450,428	8,707,187
Massachusetts	1929	3	313	1,071	8,224	5,401	2,823	544,688	1,883,946	25,628,621	25,468,122	160,499	31,283,847	5,655,226
	1927	3	318	1,077	8,776	6,884	1,892	718,374	1,614,822	32,185,436	29,843,018	2,342,418	40,291,442	8,106,066
Montana	1929	17	79	168	956	547	400	182,760	270,787	7,036,255	6,978,426	57,859	8,409,230	1,372,945
	1927	15	61	181	1,204	875	339	147,438	233,819	7,636,529	7,365,440	271,089	8,714,956	1,078,427
New Jersey	1929	10	1,041	8,167	56,006	51,253	5,353	2,731,872	15,191,714	205,380,422	204,586,115	794,307	297,151,470	91,771,048
	1927	10	1,491	8,300	41,165	39,143	2,022	3,815,204	14,316,960	231,820,625	217,353,392	14,476,233	273,341,828	41,612,203
	1919	9	1,813	10,178	36,040	36,040	-----	3,745,633	18,023,734	222,886,375	214,618,316	8,268,059	280,994,558	58,108,178
New Mexico	1929	4	21	55	109	50	59	36,795	57,805	1,510,693	1,502,747	7,946	2,048,485	537,792
	1927	4	8	44	154	-----	154	16,368	59,046	1,220,273	1,176,665	43,608	1,554,472	334,199
New York	1929	5	265	2,186	21,839	20,890	949	816,683	3,572,939	41,040,745	39,868,995	1,171,750	46,270,269	5,229,524
	1927	5	289	1,035	20,857	20,848	139	738,447	3,074,238	36,072,923	34,077,347	1,995,576	40,327,492	4,254,599
Ohio	1929	12	379	2,510	18,557	9,190	9,367	911,688	3,863,448	59,364,858	57,861,722	1,503,131	68,470,077	9,105,224
	1927	12	331	2,400	14,871	9,537	5,334	840,061	3,505,878	42,074,322	39,779,554	2,294,768	52,892,071	10,817,749
	1919	11	2,459	2,431	7,333	5,500	1,883	2,301,612	3,245,939	31,958,077	29,997,014	1,961,063	43,282,801	11,324,724
Oklahoma	1929	43	1,174	5,164	53,595	27,775	25,820	3,085,201	7,914,449	142,843,950	139,998,564	2,875,386	183,681,931	40,837,981
	1927	46	864	5,207	35,969	25,006	10,063	2,271,565	7,749,884	131,031,534	124,325,198	6,706,336	153,278,576	22,247,042
	1919	66	1,000	4,612	24,477	18,375	6,102	3,653,723	5,909,064	127,149,722	122,435,363	4,714,359	150,673,458	33,523,736
Pennsylvania	1929	48	1,600	7,895	72,784	30,802	35,932	4,027,916	12,830,298	105,043,211	101,491,156	3,562,055	243,258,869	48,215,653
	1927	48	1,557	9,126	49,011	34,191	15,720	3,706,695	14,185,370	154,448,650	144,344,149	10,104,501	186,593,709	32,120,119
	1919	53	2,352	8,235	22,606	19,997	2,609	4,094,623	11,960,122	134,981,205	130,071,762	4,909,443	178,825,632	43,844,427
Texas	1929	83	2,811	19,434	182,640	107,631	75,009	5,785,967	27,288,414	578,755,654	577,405,457	6,649,803	629,005,136	91,590,479
	1927	62	1,922	13,720	103,880	76,234	27,646	4,681,038	19,683,149	364,640,509	338,004,947	26,635,562	519,001,524	64,861,015
	1919	39	1,633	8,224	27,543	15,842	11,701	2,105,675	11,787,668	192,877,963	184,617,478	8,260,485	241,757,313	48,879,360
West Virginia	1929	5	98	581	3,623	1,416	2,207	268,952	772,010	14,760,820	14,316,123	434,697	15,268,590	2,517,770
	1927	5	87	508	3,000	1,108	1,892	247,397	754,597	11,669,460	10,815,116	854,344	14,827,454	3,157,994
Wyoming	1929	17	259	1,679	23,240	20,251	2,989	738,912	3,226,217	47,213,394	45,541,228	1,672,166	69,846,821	21,633,427
	1927	15	268	1,612	20,690	18,794	1,866	898,403	3,249,634	48,457,968	46,218,238	2,239,730	60,834,758	12,376,790
Groups of States:														
Del., 1 est.; Ga., 1; R. I., 2; S. C., 1; Va., 1	1929	6	84	678	10,536	6,313	4,272	178,249	1,130,024	18,650,440	18,626,385	54,545	18,974,982	294,542
Ind., 4 est.; Ia., 1; Mich., 3; Mo., 2	1929	10	897	5,913	55,273	39,304	15,969	2,425,814	10,360,154	140,229,395	138,427,134	1,802,261	205,516,168	65,236,773
Ariz., 1 est.; Colo., 4; Utah, 1	1929	6	136	519	2,946	980	1,066	353,555	816,536	6,562,982	6,479,116	83,866	10,622,205	4,059,313
States not shown separately.	1927	26	994	7,533	57,541	41,493	16,048	2,801,783	12,511,854	161,757,718	148,435,412	13,322,306	205,645,908	43,888,275
	1919	45	2,156	12,507	37,856	32,661	4,895	4,469,970	19,735,762	241,185,858	228,531,893	12,654,465	320,348,927	79,163,069

<sup>1</sup> 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, 94,405; proprietors and firm members, 12. For 1927, total, 83,305; proprietors and firm members, 12. For 1919, total, 73,473; proprietors and firm members, 59.

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

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

<sup>4</sup> Ark., 1 establishment; Colo., 4; Del., 1; Idaho, 1; Ind., 3; Ky., 3; Md., 4; Minn., 1; Mo., 4; N. Y., 6; R. I., 1; Tenn., 1; Utah, 1; Va., 1; Wash., 2.

<sup>5</sup> The figures for "Fuel and purchased energy" for 1927 and 1919 include the cost of fuel oil produced and consumed in the same refineries, and therefore are not comparable with those for 1929, which do not include the cost of such fuel oil. Since the cost of the crude oil used as a material in the production of this fuel oil is included directly in the "Materials and containers" items and indirectly in the "Fuel and purchased energy" items for 1927 and 1919, it is duplicated in the totals, but the refiners' returns for those years do not show separately the cost of fuel oil consumed, and therefore it is impossible to avoid this duplication—probably amounting to less than 5 per cent—in the totals for 1927 and 1919. The totals for 1929 include no duplication.



## CENSUS OF MANUFACTURES: 1929

TABLE 3.—PRODUCTS, BY KIND, QUANTITY, 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)

PRODUCT	1929	1927	1925	1923
Petroleum-refining industry, all products, total value.....	\$2,639,665,001	\$2,142,648,503	\$2,376,656,556	\$1,793,700,087
Refinery products, not including oils sold in condition in which purchased.....	\$2,627,533,212	\$2,133,922,688	\$2,364,069,067	\$1,774,304,019
Other products <sup>1</sup> .....	\$12,131,789	\$8,725,815	\$12,587,489	\$19,396,068
Refinery products, not including oils sold in condition in which purchased, aggregate value <sup>2</sup> .....	\$2,627,533,212	\$2,133,922,688	\$2,364,069,067	\$1,774,304,019
Light products of distillation:				
Total gallons.....	18,406,526,510	13,391,340,090	11,278,871,093	7,799,554,742
Total value.....	\$1,610,044,440	\$1,102,154,007	\$1,265,284,305	\$924,356,364
Gasoline <sup>3</sup> —				
Number of establishments.....	354	318	320	336
Gallons.....	17,538,788,709	12,720,586,213	10,726,262,144	7,332,329,194
Value.....	\$1,531,242,047	\$1,048,471,338	\$1,218,235,713	\$870,732,346
Naphtha—				
Number of establishments.....	82	94	85	115
Gallons.....	662,642,001	451,343,947	204,946,777	399,492,628
Value.....	\$64,904,197	\$42,483,571	\$20,938,400	\$38,761,417
Benzine—				
Number of establishments.....	7	14	10	23
Gallons.....	49,940,970	50,556,058	41,714,476	67,732,920
Value.....	\$5,276,195	\$4,625,309	\$4,992,842	\$8,862,581
Tops—				
Number of establishments.....	16	22	26	( <sup>4</sup> )
Gallons.....	155,154,830	159,903,872	215,947,098	
Value.....	\$8,622,001	\$6,573,789	\$12,117,360	
Illuminating oils:				
Number of establishments.....	261	249	252	273
Gallons.....	2,338,928,885	2,217,590,680	2,365,301,739	2,238,809,998
Value.....	\$104,835,912	\$147,925,073	\$161,880,676	\$146,941,897
Fuel oils:				
Total gallons.....	16,390,954,087	15,415,859,725	14,004,037,579	11,076,396,147
Total value.....	\$384,630,297	\$466,959,052	\$488,957,806	\$345,666,436
Distillates—				
Number of establishments.....	200	174	150	178
Gallons.....	1,024,364,025	976,669,534	1,204,936,795	854,800,722
Value.....	\$39,338,451	\$44,286,925	\$51,743,145	\$32,106,661
Gas oils—				
Number of establishments.....	229	212	189	204
Gallons.....	2,882,958,643	2,576,590,816	1,812,644,984	1,591,950,506
Value.....	\$66,094,037	\$99,327,960	\$79,601,622	\$62,530,377
Residual fuel oils—				
Number of establishments.....	278	250	235	285
Gallons.....	12,483,631,419	11,862,599,375	11,586,455,800	9,529,644,919
Value.....	\$249,197,809	\$313,344,168	\$357,613,039	\$251,629,366
Partially refined oils, sold for rerunning:				
Number of establishments.....	88	93	72	44
Total gallons.....	1,466,861,399	1,583,726,709	1,497,878,920	1,300,803,932
Above fuel oil, gallons.....	809,055,523	821,590,896	787,402,238	610,668,708
Fuel oil, gallons.....	567,533,199	724,090,305	692,440,284	218,017,266
Below fuel oil, gallons.....	30,272,677	38,036,508	18,036,404	14,081,428
Value.....	\$49,142,865	\$62,210,130	\$65,306,001	\$54,977,467
Lubricating oils: <sup>5</sup>				
Total gallons.....	1,553,710,762	1,381,901,726	1,361,071,547	1,150,653,387
Total value.....	\$304,672,655	\$244,629,175	\$252,104,578	\$204,494,849
Pale or paraffin; viscosity less than 100° Universal, or flash under 400° F., closed cup—				
Number of establishments.....	71	88	75	65
Gallons.....	157,669,411	227,197,875	270,344,631	215,563,080
Value.....	\$19,652,920	\$30,616,659	\$35,763,249	\$28,051,342
Red or neutral; viscosity 100° Universal or higher, or flash 400° F., or over, closed cup (not including cylinder oils)—				
Number of establishments.....	84	87	81	78
Gallons.....	564,640,109	531,627,360	523,755,778	311,391,462
Value.....	\$90,602,524	\$87,243,433	\$92,403,658	\$68,778,369
Cylinder oils—				
Number of establishments.....	86	95	93	95
Gallons.....	218,500,891	219,073,302	206,883,675	234,410,497
Value.....	\$59,109,268	\$43,036,477	\$47,225,926	\$44,719,768
Other lubricating oils, including compounded and undistributed (except cylinder) oils—				
Number of establishments.....	100	86	77	63
Gallons.....	612,840,351	403,403,159	355,087,463	389,268,408
Value.....	\$136,307,934	\$83,732,066	\$78,711,745	\$72,945,310
Liquid asphaltic road oils:				
Number of establishments.....	66	47	38	43
Gallons.....	323,061,799	204,768,873	274,316,694	198,919,676
Value.....	\$11,041,285	\$9,307,838	\$12,511,739	\$7,864,990
Residuum or tar:				
Gallons.....	104,111,494	118,467,420	125,114,608	80,066,120
Value.....	\$3,148,630	\$5,117,722	\$5,581,758	\$3,190,668

<sup>1</sup> Crude oil and oil products sold in condition in which purchased, receipts for refining for others, etc.<sup>2</sup> These aggregates are the sums of all value items in the columns beneath except those which are underscored.<sup>3</sup> The production of natural gasoline, not covered by the census, was reported by the U. S. Bureau of Mines, as follows:

	1929	1927	1925	1923
Number of plants.....	1,087	1,119	1,080	1,667
Gallons.....	2,233,688,000	1,641,144,000	1,127,437,000	816,226,000
Value.....	\$158,410,000	\$118,688,000	\$120,378,000	\$77,268,000

<sup>4</sup> Revised.<sup>5</sup> Data incomplete; see footnote 6.<sup>6</sup> Includes 106,261,656 gallons reported as "tops," production by petroleum refineries only. Lubricating oils are produced to a considerable extent by establishments other than petroleum refineries. The value of the total production of lubricating oils in 1929, regardless of class of establishment in which produced, so far as separately reported to the Bureau of the Census, was \$353,091,581. Corresponding values for earlier years not available, nor data as to quantity.

PETROLEUM REFINING

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

[See note at head of this table]

PRODUCT	1929	1927	1925	1923
<b>Greases:</b>				
Total gallons.....	62,017,128	44,011,851	45,920,361	35,024,082
Total value.....	\$10,645,858	\$12,661,205	\$13,920,627	\$10,784,789
<b>Petrolatum, mineral jelly, etc.—</b>				
Number of establishments.....	28	37	30	28
Gallons.....	13,663,503	15,334,428	13,862,235	12,913,170
Value.....	\$2,547,531	\$2,974,472	\$3,359,207	\$2,786,967
<b>Lubricating greases, other than axle grease<sup>1</sup>—</b>				
Number of establishments.....	53	46	41	29
Gallons.....	34,605,242	26,524,534	26,301,450	13,982,250
Value.....	\$12,729,391	\$9,051,121	\$8,262,744	\$5,362,741
<b>Axle grease<sup>2</sup>—</b>				
Number of establishments.....	23	21	22	19
Gallons.....	3,748,383	3,052,889	5,656,686	8,128,062
Value.....	\$1,368,936	\$935,612	\$2,098,676	\$2,635,081
<b>Paraffin wax:</b>				
Gallons.....	84,639,316	94,257,228	89,761,623	69,536,104
Value.....	\$22,328,375	\$23,432,260	\$30,590,404	\$12,800,125
<b>Acid oil:</b>				
Gallons.....	34,766,976	90,607,047	59,550,136	67,359,662
Value.....	\$662,611	\$1,848,797	\$1,139,310	\$1,471,725
<b>Asphalt, other than liquid asphalt:</b>				
Tons (2,000 pounds).....	3,115,197	2,642,324	2,275,803	2,133,573
Value.....	\$34,506,067	\$37,884,108	\$30,460,927	\$23,338,014
<b>Coke, petroleum:</b>				
Tons (2,000 pounds).....	1,264,576	1,243,510	923,763	647,457
Value.....	\$5,461,210	\$7,169,596	\$6,437,483	\$4,795,794
<b>Other refinery products, value<sup>3</sup>.....</b>	\$20,413,007	\$22,323,725	\$29,894,338	\$33,611,071

<sup>1</sup> Revised.  
<sup>2</sup> Production by petroleum refineries only. Total production of lubricating greases, including axle grease, regardless of class of establishment in which produced, was valued as follows: 1929, \$32,781,470; 1927, \$29,119,059; 1925, \$27,704,707; 1923, \$22,454,005. Corresponding values for 1919 and 1921 not available.  
<sup>3</sup> Oils in process, still gas, wax tailings, etc.

TABLE 4.—PRODUCTS, BY KIND, QUANTITY, 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)

STATE	Value of products, total	Gasoline	Naphtha, benzine, and tops	Illuminating oils	Fuel oils	Lubricating oils	Greases	All other products <sup>1</sup>
<b>United States:</b>								
Gallons.....	17,533,788,709	67,737,801	2,338,928,885	16,390,954,087	1,553,710,762	52,017,128		
Value.....	\$2,039,665,001	\$1,531,242,047	\$78,802,393	\$164,835,912	\$384,630,297	\$304,672,655	\$16,645,858	\$158,835,839
<b>Arkansas:</b>								
Gallons.....	161,568,200	2,184,042	8,673,589	242,117,240	1,978,281			
Value.....	\$18,906,361	\$12,097,229	\$163,374	\$490,377	\$5,610,519	\$61,564		\$483,307
<b>California:</b>								
Gallons.....	3,664,007,403	129,255,659	408,693,627	5,914,997,183	105,501,951	5,378,392		
Value.....	\$484,756,207	\$309,432,363	\$6,937,612	\$27,475,870	\$103,673,786	\$20,443,829	\$2,325,375	\$14,467,372
<b>Illinois:</b>								
Gallons.....	789,440,843	12,266,824	53,426,543	319,962,229	46,465,957	1,205,091		
Value.....	\$104,130,272	\$73,688,079	\$1,193,533	\$3,901,900	\$10,090,225	\$9,206,797	\$241,026	\$5,808,712
<b>Kansas:</b>								
Gallons.....	875,718,176	9,009,905	118,367,959	343,441,362	34,761,131	1,740,727		
Value.....	\$98,329,442	\$72,786,965	\$551,179	\$7,252,576	\$8,587,394	\$7,442,990	\$709,253	\$1,025,085
<b>Kentucky:</b>								
Gallons.....	129,949,223	1,710,648	10,550,381	57,429,938	952,860			
Value.....	\$17,311,979	\$12,459,780	\$205,631	\$746,618	\$1,943,779	\$165,804		\$1,790,367
<b>Louisiana:</b>								
Gallons.....	751,822,876	298,138,140	235,673,247	1,015,027,850	35,181,186	1,461,748		
Value.....	\$151,966,142	\$59,502,547	\$26,560,165	\$16,101,271	\$22,271,408	\$5,937,267	\$570,496	\$21,002,988
<b>Maryland:</b>								
Gallons.....	239,691,735	2,068,398	17,123,947	273,515,933	3,168,158	1,785,011		
Value.....	\$43,456,428	\$25,108,831	\$120,680	\$1,291,203	\$9,066,449	\$1,337,342	\$645,216	\$5,886,707
<b>Massachusetts:</b>								
Gallons.....	189,489,671				349,625,168	4,121,154	268,929	
Value.....	\$31,283,847	\$17,586,892			\$11,776,758	\$986,463	\$52,253	\$881,481
<b>Montana:</b>								
Gallons.....	39,656,520	2,997,043	1,876,228	74,452,462				
Value.....	\$8,409,230	\$4,781,493	\$261,032	\$156,652	\$2,845,576			\$364,477
<b>New Jersey:</b>								
Gallons.....	1,211,952,877	176,662,647	177,211,638	1,724,387,415	325,396,231	3,903,724		
Value.....	\$297,151,470	\$109,448,366	\$23,535,554	\$10,756,952	\$52,154,087	\$78,863,972	\$1,044,990	\$17,847,549
<b>New Mexico:</b>								
Gallons.....	17,684,368	10,093	729,756	15,551,130	29,822	2,300		
Value.....	\$2,048,485	\$1,432,048	\$2,867	\$40,066	\$336,411	\$10,704	\$1,209	\$225,000
<b>New York:</b>								
Gallons.....	108,193,637		80,396,718	83,149,470	66,283,613	1,672,291		
Value.....	\$46,270,269	\$18,747,560	\$7,367,686	\$3,690,206	\$13,293,183	\$673,912		\$2,497,772
<b>Ohio:</b>								
Gallons.....	462,492,031	9,695,124	57,015,040	265,547,737	40,970,614	865,585		
Value.....	\$68,470,077	\$44,494,413	\$1,105,988	\$4,176,831	\$9,060,430	\$6,405,648	\$404,016	\$1,922,741
<b>Oklahoma:</b>								
Gallons.....	1,624,403,284	92,267,456	234,645,927	901,123,469	100,912,000	1,066,301		
Value.....	\$183,681,931	\$6,379,901	\$12,772,641	\$10,522,016	\$20,113,509	\$358,195		\$2,701,729
<b>Pennsylvania:</b>								
Gallons.....	1,121,262,288	8,887,168	195,011,363	941,686,588	310,235,533	13,441,418		
Value.....	\$243,268,869	\$106,371,094	\$543,682	\$15,195,967	\$29,362,168	\$70,776,547	\$2,812,146	\$17,896,675
<b>Texas:</b>								
Gallons.....	3,864,163,395	58,865,533	553,076,721	3,138,176,026	335,273,911	9,753,137		
Value.....	\$519,005,136	\$322,683,087	\$4,490,901	\$34,840,862	\$71,869,679	\$45,084,069	\$3,300,811	\$36,725,727
<b>West Virginia:</b>								
Gallons.....	87,039,177	4,077,135	19,339,771	25,913,164	20,914,200	446,250		
Value.....	\$17,268,590	\$8,053,996	\$492,538	\$1,307,321	\$671,727	\$5,879,789	\$33,129	\$530,000

See footnote at end of table.

CENSUS OF MANUFACTURES: 1929

TABLE 4.—PRODUCTS, BY KIND, QUANTITY, AND VALUE, BY STATES: 1929—Continued

[See note at head of this table]

STATE	Value of products, total	Gasoline	Naphtha, benzine, and tops	Illuminating oils	Fuel oils	Lubricating oils	Greases	All other products <sup>1</sup>
Wyoming:								
Gallons.....		513,248,226		58,105,804	141,663,647	24,166,152	921,799	
Value.....	\$98,846,821	\$43,975,119		\$3,371,236	\$3,586,919	\$5,199,913	\$312,714	\$12,400,920
Groups of States:								
Ariz., Colo., and Utah:								
Gallons.....		81,319,511	32,909	3,180,229	15,602,401	1,894,730	163,965	
Value.....	\$10,622,295	\$9,124,455	\$5,124	\$280,432	\$629,811	\$323,221	\$39,766	\$339,986
Ind., Iowa, Mich., and Mo.:								
Gallons.....		1,400,921,142	44,002,895	90,500,288	475,751,942	90,292,768	7,909,460	
Value.....	\$205,516,168	\$144,395,457	\$4,686,004	\$7,211,153	\$17,400,159	\$18,047,401	\$3,120,451	\$10,656,543
Other States (Del., Ga., R. I., S. C., and Va.):								
Gallons.....		114,764,146	15,597,211	15,324,114	71,841,833	710,910		
Value.....	\$18,974,982	\$10,283,742	\$1,268,418	\$1,118,308	\$2,381,290	\$61,703		\$3,881,521

<sup>1</sup> Includes partially refined oils sold for rerunning, liquid asphaltic road oils, residuum or tar, paraffin wax, acid oil, asphalt (other than liquid), petroleum coke, and other refinery products.

TABLE 5.—PRINCIPAL MATERIALS CONSUMED IN THE PETROLEUM-REFINING INDUSTRY, BY KIND, QUANTITY, AND COST, FOR THE UNITED STATES, 1929, 1927, AND 1919, AND BY STATES, 1929

[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 other tables, is due to the fact that this table covers only certain specified materials, whereas the others cover all materials consumed]

MATERIAL	Year	Quantity	Cost	MATERIAL	Quantity	Cost
<i>United States</i>				<i>States, 1929—Continued</i>		
Crude petroleum.....	1929	Barrels (42 gals.)		Partially refined oils, waxes, tops, etc.—Contd.	Barrels (42 gals.)	
	1927	1,039,921,589	\$1,614,874,599	Kentucky.....	83,844	\$169,154
	1919	831,331,822		Louisiana.....	4,005,425	4,530,617
Partially refined oils, waxes, tops, etc.....	1929	51,549,133	107,950,817	Maryland.....	875,220	1,688,523
	1927	33,939,307		Ohio.....	832,548	1,783,736
	1919	43,074,982		Oklahoma.....	2,647,092	2,952,387
Natural gasoline, total.....	1929	42,381,002	135,065,728	Pennsylvania.....	7,688,342	24,377,119
	1927	26,388,114		Texas.....	9,108,740	17,874,362
	1919	7,242,215		Wyoming.....	6,848,220	9,185,590
Purchased.....	1929	37,098,978	119,915,319	Natural gasoline:		
	1927	24,779,504		Purchased—		
	1919	6,952,215		Arkansas.....	732,093	2,294,926
Extracted and used.....	1929	5,282,044	15,150,409	California.....	10,275,094	35,368,286
	1927	1,603,610		Illinois.....	942,041	3,290,403
	1919	290,000		Kansas.....	2,851,288	4,078,042
Soda ash.....	1929	Tons (2,000 lbs.)	655,464	Kentucky.....	155,181	571,952
	1927	18,441		Louisiana.....	1,098,103	3,305,567
	1919	21,221		Maryland.....	1,251,458	5,084,081
Sulphuric acid, total.....	1929	( <sup>1</sup> )	19,603,475	Montana.....	135,071	760,187
	1927			New Jersey.....	1,523,718	6,962,351
	1919			Ohio.....	496,502	2,012,093
Purchased and produced in plant.....	1929	1,607,590	15,786,037	Oklahoma.....	3,073,195	9,283,425
	1927	872,956		Pennsylvania.....	652,803	2,676,981
	1919	522,060		Texas.....	10,689,195	35,084,981
Reclaimed and reused.....	1929	476,273	3,817,438	West Virginia.....	138,152	555,755
	1927	343,787		Wyoming.....	1,340,490	4,278,814
	1919	( <sup>1</sup> )		Extracted and used—		
Caustic soda, purchased.....	1929	134,054	7,731,218	California.....	2,460,747	6,573,546
	1927	95,026		Oklahoma.....	504,014	1,204,429
	1919	22,635		Texas.....	433,935	1,434,210
<i>States, 1929</i>				Soda ash:	Tons (2,000 lbs.)	
Crude petroleum:		Barrels (42 gals.)		California.....	344	12,796
Arkansas.....		10,953,126	11,153,843	Illinois.....	1,183	36,001
California.....		245,891,377	285,464,545	Kansas.....	858	46,501
Illinois.....		37,604,309	68,701,691	Ohio.....	934	28,558
Kansas.....		34,884,861	57,921,162	Oklahoma.....	1,317	47,485
Kentucky.....		6,161,614	13,588,171	Texas.....	5,694	227,711
Louisiana.....		64,418,841	104,958,279	Sulphuric acid:		
Maryland.....		13,954,490	21,938,877	Purchased and produced in plant—		
Massachusetts.....		14,998,539	22,821,270	Arkansas.....	6,725	114,513
Montana.....		2,994,902	5,852,624	California.....	203,270	3,959,410
New Jersey.....		81,516,554	152,086,100	Illinois.....	31,322	494,430
New Mexico.....		798,465	1,419,688	Kansas.....	26,167	398,522
New York.....		10,520,713	30,613,773	Kentucky.....	2,519	43,902
Ohio.....		21,393,567	49,508,565	Ohio.....	12,321	210,374
Oklahoma.....		77,283,307	120,662,158	Oklahoma.....	12,321	1,274,386
Pennsylvania.....		72,481,824	151,874,753	Pennsylvania.....	75,888	67,237
Texas.....		256,157,845	346,615,403	Texas.....	218,095	1,068,053
West Virginia.....		4,026,721	11,906,956	Wyoming.....		2,680,188
Wyoming.....		18,875,734	29,379,210	Reclaimed and reused—		
Partially refined oils, waxes, tops, etc.:				Pennsylvania.....	31,853	301,959
California.....		6,781,727	11,603,422	Texas.....	239,422	1,244,933
Illinois.....		505,657	1,603,356	Caustic soda, purchased:		
Kansas.....		411,651	1,293,040	Arkansas.....	936	58,902
				California.....	17,516	1,011,770
				Illinois.....	6,632	328,853
				Kansas.....	2,919	186,414
				Kentucky.....	392	24,812
				Louisiana.....	12,937	762,061
				Montana.....	388	27,434
				Ohio.....	2,525	184,508
				Oklahoma.....	4,761	318,408
				Pennsylvania.....	15,679	820,282
				Texas.....	37,189	2,346,789
				West Virginia.....	132	7,807
				Wyoming.....	924	67,365

<sup>1</sup> No data.

PETROLEUM REFINING

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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	18,474	Horse-power 789,849	11,813	Horse-power 552,651	7,530	Horse-power 333,753	6,703	Horse-power 233,906	2,499	Horse-power 123,190	100.0	100.0
Prime movers, total	5,307	486,866	4,208	388,647	2,871	290,271	3,127	187,621	2,130	113,837	61.6	78.5
Steam, total	4,821	433,072	3,735	347,466	2,461	255,470	2,460	144,743	1,818	94,052	54.8	60.6
Engines	3,360	123,265	2,624	109,195	1,877	85,976	2,250	95,020	(1)	(1)	15.0	39.8
Turbines	1,461	309,807	1,211	238,271	584	169,494	204	49,723	(1)	(1)	39.2	20.8
Internal-combustion engines	486	53,794	472	40,981	410	34,801	647	42,647	300	18,298	6.8	17.8
Water wheels and water turbines			1	200			20	131	12	1,487		0.1
Electric motors driven by purchased energy	13,167	302,988	7,605	164,004	4,659	103,482	3,576	51,385	399	14,353	38.4	21.5
Electric motors, total	24,244	603,962	17,666	420,769	11,484	279,723	6,655	108,625	1,464	38,614	100.0	100.0
Driven by purchased energy	13,167	302,988	7,605	164,004	4,659	103,482	3,576	51,385	399	14,353	60.2	47.3
Driven by energy generated in establishments reporting	11,077	300,979	10,061	256,765	6,825	176,241	3,089	57,240	1,065	24,261	49.8	52.7
Electric generators <sup>2</sup>	251	Kilowatts 180,664	292	Kilowatts 155,506	288	Kilowatts 130,515						
Electric energy purchased <sup>3</sup>		Kilowatt-hours 660,625,238										

<sup>1</sup> Not called for separately on schedule.  
<sup>2</sup> Data for electric generators not called for on schedule prior to 1925.  
<sup>3</sup> This item covers the consumption of purchased electric energy for all purposes—power, heat, light, etc. No comparable figures for years prior to 1929.

TABLE 7.—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		
<b>United States:</b>															
1929	80,596	<i>74,444</i>	75,913	77,093	79,001	80,641	82,662	82,972	84,176	82,969	82,551	82,191	82,571	82,571	88.4
1925	65,324	<i>62,190</i>	62,744	63,784	64,439	64,977	66,955	67,825	67,168	66,647	65,955	65,402	65,738	65,738	91.7
1919	58,830	<i>54,842</i>	54,883	54,822	55,935	57,705	59,018	61,079	60,550	61,489	62,507	61,739	62,599	62,599	80.8
1914	25,366	<i>25,063</i>	25,053	25,333	25,138	25,372	25,849	24,946	25,516	25,773	25,211	24,803	24,803	90.2	
1909	13,929	<i>13,819</i>	13,079	<i>12,952</i>	13,076	13,206	13,617	14,150	14,221	14,434	15,032	15,249	14,805	84.9	
Arkansas	681	676	673	696	649	682	684	716	715	725	602	<i>612</i>	687	687	84.4
California	8,133	7,810	7,774	7,800	7,902	8,222	8,535	8,393	8,639	8,167	8,017	8,172	8,163	90.0	
Illinois	4,068	3,892	3,831	<i>3,326</i>	4,011	4,020	4,156	4,247	4,313	4,204	4,115	4,115	4,070	88.7	
Kansas	3,113	2,962	3,078	3,067	3,152	3,226	3,349	3,209	3,210	3,148	3,138	2,967	<i>2,853</i>	85.2	
Kentucky	578	<i>474</i>	498	475	478	530	785	646		582	570	657	689	64.5	
Louisiana	6,982	6,778	7,003	7,218	7,060	7,125	6,961	6,993	7,116	7,136	6,939	<i>6,702</i>	6,755	92.9	
Maryland	1,021	989	989	1,057	1,058	1,087	1,075	1,033	850	1,020	1,011	1,060	1,076	78.2	
Massachusetts	1,071	1,254	1,273	1,104	1,064	1,015	1,104	1,048	1,056	993	984	983	<i>872</i>	76.4	
Montana	168	133	<i>128</i>	141	174	176	172	188	202	191	182	169	157	63.4	
New Jersey	8,167	7,710	7,826	7,839	8,055	8,149	8,305	8,416	8,414	8,388	8,299	8,325	8,277	91.0	
New Mexico	55	54	58	58	59	61	56	63	61	57	51	45	<i>42</i>	66.7	
New York	2,186	1,015	1,848	<i>1,635</i>	1,970	2,031	2,102	2,120	2,170	2,239	2,038	2,090	2,003	63.2	
Ohio	2,610	<i>2,371</i>	2,425	2,427	2,433	2,754	2,677	2,663	2,680	2,420	2,466	2,449	2,453	86.5	
Oklahoma	5,164	4,755	<i>4,718</i>	4,828	4,908	5,137	5,505	5,582	5,641	5,305	5,208	5,167	5,308	84.5	
Pennsylvania	7,895	7,536	7,524	<i>7,434</i>	7,598	7,850	8,115	8,182	8,137	8,033	8,057	8,057	8,032	91.3	
Texas	19,434	<i>16,741</i>	17,620	18,026	18,982	19,030	19,480	19,680	20,601	20,732	20,452	20,870	21,212	78.9	
West Virginia	581	592	568	597	589	598	581	582	597	588	575	548	<i>547</i>	91.3	
Wyoming	1,670	1,685	1,722	1,695	1,767	1,798	1,811	1,729	1,704	1,601	1,573	1,535	<i>1,524</i>	84.2	

## Group 8.—RUBBER PRODUCTS

### THE GROUP AS A WHOLE

This group comprises three industries, namely (1) Rubber tires and inner tubes; (2) Rubber boots and shoes; and (3) Rubber goods, other than tires, inner tubes, and boots and shoes. These industries embrace establishments using india rubber or gutta-percha as an important constituent in the manufacture of their products of chief value.

**Description of the industries.**—The "Rubber tires and inner tubes" industry embraces those establishments which are engaged primarily in the manufacture of pneumatic tires, inner tubes, and solid and cushion rubber tires, for any class of vehicles.

The establishments assigned to the "Rubber boots and shoes" industry are those whose leading products are rubber boots, shoes, overshoes, and canvas rubber-soled shoes. (Statistics for the manufacture of boots and shoes from materials other than rubber are presented in a separate report.)

The principal products of the "Rubber goods, other than tires, inner tubes, and boots and shoes" industry are rubber belting and hose, rubber heels and soles, reclaimed rubber, rubberized fabrics, and hard-rubber goods. (The rubber-goods industry does not include the manufacture of rubber-insulated wire and

cable, which are treated as products of the "Electrical machinery, apparatus, and supplies" industry.)

**Changes in classification.**—At censuses prior to that for 1921, all manufacturers of rubber products other than boots and shoes, belting, and hose were classified under a single industry designation, "Rubber tires, tubes, and rubber goods not elsewhere specified," but at the census for 1921 and subsequent censuses the manufacture of rubber tires and inner tubes has been treated as a separate industry.

The manufacture of rubber belting and hose, classified separately for 1921 and prior years, is now treated as a part of the "Rubber goods, other than tires, inner tubes, and boots and shoes" industry. This change was made because of the fact that considerable quantities of belting and hose are made as secondary products by establishments whose chief products are other classes of rubber goods, so that the total value of rubber belting and hose made either as primary or as secondary products by establishments in the several industries in the rubber group differs considerably from the total value of products reported by establishments engaged primarily in the manufacture of rubber belting and hose.

# RUBBER PRODUCTS

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## SUMMARY FOR GROUP 8.—RUBBER PRODUCTS: 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 <sup>1</sup>	Value added by manufacture <sup>2</sup>	Horsepower
<b>TOTAL FOR THE GROUP</b>							
1929	525	140,148	\$207,305,857	\$578,677,681	\$1,117,460,252	\$538,782,571	821,312
1927	516	141,907	198,073,743	600,370,209	1,225,077,114	564,706,905	790,622
1925	530	141,869	191,285,520	721,720,675	1,260,805,063	539,075,888	659,691
1923	529	137,868	182,084,056	601,192,708	958,517,634	457,354,866	605,634
1921	496	103,273	123,612,873	377,870,372	704,963,133	327,023,701	( <sup>3</sup> )
1919	477	158,549	193,763,089	504,343,590	1,138,216,019	543,872,429	429,273
1914	342	74,022	44,167,402	163,034,713	300,993,796	137,959,083	199,242
1909	267	49,264	25,136,976	122,745,102	197,394,638	74,649,536	124,725
1904	265	43,873	20,084,166	80,002,476	148,015,391	68,012,915	85,940
1899	301	36,660	15,426,573	60,240,559	99,880,693	39,640,134	70,630
Per cent of increase or decrease (—):							
1927-1929	1.7	5.0	4.7	-12.4	-8.8	-4.6	3.9
1925-1927	-2.0	0.1	3.5	-8.5	-2.8	4.8	19.8
1923-1925	0.2	2.9	5.1	44.0	31.5	17.9	8.9
1921-1923	6.7	33.5	47.3	32.6	36.0	39.9	
1919-1921	4.0	-34.9	-36.2	-30.4	-38.1	-39.9	
1919-1929	10.1	-5.9	7.0	-2.6	-1.8	-0.9	91.3
1909-1919	78.7	221.8	670.8	384.2	476.6	628.6	244.2
1899-1909	-11.3	34.7	62.9	103.8	97.6	88.3	76.8
<b>RUBBER TIRES AND INNER TUBES<sup>4</sup></b>							
1929	91	83,263	\$127,081,975	\$429,606,971	\$770,176,890	\$340,569,619	463,257
1927	109	78,256	120,053,854	493,220,642	869,088,063	370,467,421	451,724
1925	126	81,640	120,614,081	559,939,811	925,061,520	365,061,700	463,227
1923	160	73,963	108,623,102	365,165,016	644,193,697	279,028,681	370,551
1921	178	55,496	75,054,148	261,554,377	496,123,335	204,568,958	( <sup>5</sup> )
Per cent of increase or decrease (—):							
1927-1929	-16.5	6.4	5.8	-13.9	-11.4	-8.1	2.6
1925-1927	-13.5	-4.1	-0.5	-10.8	-6.0	1.5	12.0
1923-1925	-21.3	10.4	11.0	53.3	43.6	30.8	8.8
1921-1923	-10.1	33.3	44.7	25.2	29.8	30.4	
<b>RUBBER BOOTS AND SHOES</b>							
1929	22	25,659	\$20,945,265	\$34,396,406	\$102,537,625	\$68,141,159	62,603
1927	22	26,848	32,673,955	43,372,916	124,607,801	81,234,885	68,359
1925	23	24,999	28,057,948	40,569,085	115,934,554	75,368,469	59,413
1923	25	29,435	33,670,810	45,268,958	131,739,742	86,470,754	56,184
1921	24	23,888	25,428,115	32,192,942	94,032,534	61,899,582	( <sup>6</sup> )
1919	25	32,875	30,882,722	50,246,830	116,017,434	66,570,554	49,400
1914	23	18,987	9,980,454	23,956,086	63,822,123	29,866,087	24,561
1909	22	17,612	8,544,252	20,577,176	49,720,567	20,143,391	25,888
1904	22	18,991	8,866,806	32,000,464	70,065,296	38,064,832	25,484
1899	22	14,391	6,426,579	22,682,543	41,089,819	18,407,276	25,017
Per cent of increase or decrease (—):							
1927-1929	( <sup>5</sup> )	-4.4	-6.7	-20.7	-17.7	-16.1	-8.4
1925-1927	( <sup>5</sup> )	7.4	14.3	6.9	7.5	7.8	15.1
1923-1925	( <sup>5</sup> )	-15.1	-16.7	-10.4	-12.0	-12.8	5.7
1921-1923	( <sup>5</sup> )	23.2	43.7	40.9	40.1	39.7	
1919-1921	( <sup>5</sup> )	-27.3	-24.1	-36.2	-19.6	-7.0	
1919-1929	( <sup>5</sup> )	-21.9	-3.0	-31.7	-12.3	2.4	26.7
1909-1919	( <sup>5</sup> )	86.7	261.4	70.2	135.1	230.5	90.8
1899-1909		22.4	33.0	30.4	21.0	9.4	3.5
<b>RUBBER GOODS, OTHER THAN TIRES, INNER TUBES, AND BOOTS AND SHOES<sup>4</sup></b>							
1929	412	40,226	\$50,278,617	\$114,674,244	\$244,745,737	\$130,071,493	295,452
1927	385	36,893	45,930,034	117,770,651	230,781,250	113,004,599	270,539
1925	381	35,230	42,613,491	121,223,779	219,868,989	98,645,210	197,051
1923	344	34,470	39,790,144	90,728,764	182,584,195	91,855,431	178,899
1921	294	23,889	25,130,610	54,192,053	114,747,274	60,555,221	( <sup>7</sup> )
Per cent of increase or decrease (—):							
1927-1929	7.0	9.0	9.5	-2.6	6.1	15.1	9.2
1925-1927	1.0	4.7	7.8	-2.8	5.0	14.6	37.3
1923-1925	10.8	2.2	7.1	38.6	20.4	7.4	10.1
1921-1923	17.0	44.3	58.3	67.4	59.1	51.7	

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

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

<sup>3</sup> Not called for on schedule.

<sup>4</sup> No comparable data are available for years prior to 1921 for "Rubber tires and inner tubes" or for "Rubber goods, other than tires, inner tubes, and boots and shoes."

<sup>5</sup> 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, CONTAINERS FOR PRODUCTS, FUEL, AND PURCHASED ELECTRIC ENERGY			Value of products <sup>1</sup>	Value added by manufacture <sup>1</sup>
					Total	Prime movers	Motors run by purchased energy			Total	Materials and containers	Fuel and purchased energy		
<b>THE GROUP AS A WHOLE</b>														
United States.....	1929	525	22,834	149,148	821,312	248,049	572,303	\$65,352,581	\$207,305,857	\$578,677,681	\$550,000,306	\$10,677,375	\$1,117,460,252	\$538,782,571
	1927	516	26,596	141,907	790,622	272,904	517,718	60,688,841	198,073,743	650,370,209	639,934,922	20,435,287	1,225,077,114	604,705,905
	1919	477	47,555	158,549	429,273	235,926	193,347	85,228,456	193,763,089	594,343,590	579,474,754	14,869,836	1,138,216,010	643,872,429
<b>RUBBER TIRES AND INNER TUBES</b>														
United States.....	1929	91	12,081	83,253	463,257	184,288	278,969	31,097,602	127,081,976	429,606,971	419,283,058	10,323,913	770,176,890	340,569,919
	1927	109	17,162	78,236	451,724	200,317	251,407	40,430,102	120,063,854	499,220,642	488,167,931	11,052,711	869,688,063	370,467,421
<b>Individual States:</b>														
California.....	1929	7	1,004	5,339	40,311	2,305	38,006	2,380,714	8,171,784	33,718,123	32,870,189	847,934	50,287,535	22,569,715
Iowa.....	1929	3	40	183	1,929	-----	1,929	97,062	101,506	706,078	854,189	1,284,166	1,284,077	-----
New Jersey.....	1929	6	443	2,000	12,292	-----	12,292	122,494	292,850	1,803,979	1,220,480	74,531	1,907,688	603,709
Ohio.....	1929	10	589	2,976	18,811	6,800	5,452	696,866	2,641,180	6,791,741	6,491,962	299,779	11,386,447	4,594,706
Pennsylvania.....	1929	32	7,906	55,307	245,274	130,989	114,285	10,498,338	88,164,638	273,730,388	267,855,105	5,875,283	29,240,084	14,371,554
Wisconsin.....	1929	38	11,565	51,780	239,753	131,255	103,628	28,004,103	82,260,053	316,177,603	309,552,747	6,624,856	503,197,194	220,466,806
Groups of States:														
Ala., 2 est.; Ga., 1; N. C., 2; Va., 1	1929	6	173	837	13,242	123	13,117	332,492	766,898	4,516,947	4,330,695	186,252	6,943,060	2,426,710
Colo., 2 est.; Mo., 1; Nebr., 2	1929	5	266	1,353	7,931	4,340	3,591	641,526	1,702,442	4,412,452	4,294,405	118,047	8,424,487	4,012,033
Conn., 4 est.; Md., 3; Mass., 2; N. Y., 2	1929	11	1,541	7,765	72,082	14,389	57,693	3,586,196	10,718,595	49,872,387	48,454,917	1,417,470	85,025,155	35,152,768
Ill., 3 est.; Ind., 2; Mich., 4; Minn., 1	1929	10	755	4,910	33,692	20,005	13,687	1,862,573	7,562,691	25,607,720	24,905,475	702,245	42,803,149	17,285,429
States not shown separately	1927	42	4,027	17,576	154,434	52,002	102,432	9,195,039	25,196,806	131,229,698	128,207,776	3,021,922	211,078,382	79,848,684
<b>RUBBER BOOTS AND SHOES</b>														
United States.....	1929	22	3,619	25,659	62,603	14,440	48,163	7,745,144	29,945,265	34,396,466	32,902,573	1,493,893	102,537,625	68,141,159
	1927	22	3,419	20,848	68,359	15,939	52,420	5,180,753	32,078,955	43,372,916	41,815,119	1,557,797	124,607,801	81,234,885
	1919	25	5,033	32,875	49,400	23,682	25,718	7,401,388	30,825,922	50,346,880	49,025,040	1,321,240	116,917,434	69,570,554
Massachusetts.....	1929	10	2,007	11,163	34,062	2,060	32,002	4,862,882	13,521,613	15,187,790	14,451,332	736,458	40,250,364	25,062,574
	1927	10	1,683	12,081	35,514	3,900	31,614	2,465,010	15,470,897	18,957,487	18,165,149	799,338	56,440,025	37,482,538
	1919	8	2,133	13,092	21,609	5,970	15,639	3,119,994	12,702,706	17,021,139	17,009,098	552,041	44,307,961	20,686,622
Other States.....	1929	12	1,612	14,496	28,541	12,380	16,161	2,882,262	16,423,652	19,208,676	18,451,241	757,435	62,287,261	43,078,589
	1927	12	1,836	14,767	32,845	12,039	20,806	2,715,743	16,608,658	24,415,429	23,656,970	758,459	68,167,778	43,752,947
	1919	17	2,920	19,813	27,791	10,079	17,172	4,281,394	18,120,016	32,725,741	31,080,542	709,199	72,009,473	39,883,732
<b>RUBBER GOODS, OTHER THAN TIRES, INNER TUBES, AND BOOTS AND SHOES</b>														
United States.....	1929	412	6,234	40,226	295,452	50,221	245,231	16,509,835	50,278,617	114,674,244	106,814,675	7,859,569	244,745,737	130,071,493
	1927	385	6,016	36,893	270,539	56,648	213,891	15,047,926	45,930,934	117,776,651	109,951,872	7,824,779	230,771,250	113,004,599
<b>Individual States:</b>														
California.....	1929	26	149	942	14,133	-----	14,133	539,402	1,269,974	3,126,253	2,846,634	279,619	7,437,074	4,310,821
Connecticut.....	1929	21	223	785	8,913	225	8,688	649,705	1,017,990	2,685,397	2,524,843	160,494	5,733,233	3,047,896
Illinois.....	1929	16	449	3,200	20,259	2,771	17,488	1,126,518	3,589,270	9,860,181	9,247,492	612,689	19,268,090	9,407,888
Indiana.....	1929	15	423	2,914	16,097	2,720	13,377	1,014,511	3,531,641	9,906,086	9,268,254	637,832	18,409,876	8,593,790
Michigan.....	1929	23	184	1,496	12,786	180	12,606	881,109	1,956,324	3,467,879	3,156,479	311,400	8,555,337	5,097,458
Missouri.....	1929	24	210	1,238	9,602	-----	9,602	483,905	1,616,702	3,278,052	3,056,551	221,501	7,230,049	3,951,997
New Jersey.....	1929	11	130	1,333	11,634	675	10,959	394,262	2,843,674	2,477,294	366,380	5,823,612	2,979,038	
New York.....	1929	11	68	1,065	12,531	4,125	8,706	249,898	1,816,685	2,363,520	2,065,429	288,100	4,890,596	2,537,067
Ohio.....	1929	9	71	502	4,252	60	4,193	229,390	857,655	2,761,494	2,444,554	116,940	5,077,398	2,315,904
Pennsylvania.....	1929	6	40	323	2,794	-----	2,794	170,892	449,434	1,574,842	1,495,417	70,425	3,537,051	1,932,209
Rhode Island.....	1929	10	78	590	3,155	-----	3,155	143,408	591,190	1,795,722	1,701,430	94,292	4,111,804	2,316,082
Texas.....	1929	7	123	511	2,724	-----	2,724	109,685	455,165	3,749,834	3,670,042	79,792	5,495,329	1,745,495
Virginia.....	1929	48	1,204	7,740	58,543	10,540	48,003	3,073,738	10,604,773	22,438,403	20,876,475	1,561,928	50,796,712	28,368,309
Washington.....	1929	52	1,071	7,842	59,281	13,134	46,147	2,771,948	10,577,822	28,470,243	24,851,281	1,618,962	49,756,024	23,285,781
Wisconsin.....	1929	45	721	5,441	29,462	7,470	21,992	2,162,217	6,942,510	15,548,512	14,830,644	717,868	32,762,472	17,213,060
Groups of States:														
Ala., 1 est.; Fla., 1; Ga., 2	1929	4	30	66	401	150	251	36,826	57,180	165,240	150,062	8,287	380,644	215,395
Colo., 3 est.; Iowa, 3; Kans., 1; Minn., 1; Oreg., 5	1929	13	42	249	1,762	25	1,737	169,230	256,393	881,074	845,205	35,860	1,643,918	762,844

See footnotes at end of table.

# RUBBER PRODUCTS

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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- ploy- ees <sup>1</sup>	Wage earn- ers (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 <sup>2</sup>	Value added by manufac- ture <sup>3</sup>
					Total	Prime movers	Motors run by pur- chased energy			Total	Materials and containers	Fuel and purchased energy		
RUBBER GOODS, OTHER THAN TIRES, INNER TUBES, AND BOOTS AND SHOES—continued														
Groups of States—Contd.														
Del., 2 est.; Md., 4	1929	6	116	518	3,280	-----	3,280	\$295,527	\$590,461	\$1,166,427	\$1,071,930	\$94,497	\$2,651,515	\$1,485,088
Ky., 3 est.; N. C., 1; Va., 3	1929	7	34	98	846	-----	846	46,655	83,640	274,689	256,698	17,981	428,647	163,958
La., 1 est.; Miss., 1; Tenn., 1	1929	3	7	47	15	-----	15	17,302	30,864	136,355	135,125	1,230	377,879	241,524
Me., 2 est.; Mass., <sup>4</sup> 60; N. H., 1	1929	63	1,189	6,754	51,495	16,284	35,211	3,297,738	8,371,552	23,416,525	22,066,785	1,349,740	45,972,998	22,556,473
States not shown separately	1927	90	1,415	7,555	52,223	14,184	36,039	3,355,621	8,843,758	27,153,297	25,591,754	1,561,543	50,749,084	23,595,787

<sup>1</sup> Not including proprietors and firm members. The total numbers of persons engaged and the numbers of proprietors and firm members, as reported for these industries are as follows: Rubber tires and inner tubes, for 1929, total, 96,249; proprietors and firm members, 5. For 1927, total, 95,422; proprietors and firm members, 4. Rubber boots and shoes, for 1929, total, 29,278; proprietors and firm members, none. For 1927, total, 30,267; proprietors and firm members, none. For 1919, total, 37,929; proprietors and firm members, 1. Rubber goods, other than tires, inner tubes, and boots and shoes, for 1929, total, 46,565; proprietors and firm members, 105. For 1927, total, 43,009; proprietors and firm members, 101.

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

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

<sup>4</sup> As Massachusetts is one of the leading States in the manufacture of rubber goods, it is desirable to present separate statistics for that State, so far as possible. The Massachusetts figures for the "Rubber tires and inner tubes" industry can not, however, be given separately without disclosing data for individual establishments, and they have therefore been combined with those for the "Rubber goods, other than tires, inner tubes, and boots and shoes" industry, as follows:

	1929	1927		1929	1927		1929	1927
Number of establishments	62	64	Horsepower, etc.—Continued			Cost of materials, etc.—Con.		
Salaried officers and employees	2,073	2,965	Prime movers	16,284	16,828	Materials and containers	\$42,510,517	\$54,663,060
Wage earners (average for the year)	9,704	10,364	Motors run by purchased energy	67,569	53,795	Fuel and purchased energy	2,093,685	2,052,655
Horsepower (rated capacity) of power equipment, total	83,853	70,623	Salaries	\$5,362,751	\$6,959,441	Value of products	76,439,857	97,717,724
			Wages	12,400,228	13,298,241	Value added by manufacture	31,835,655	41,002,009
			Cost of materials, containers for products, fuel, and purchased electric energy, total	44,604,202	56,715,715			

<sup>1</sup> Alabama, 1 establishment; California, 4; Colorado, 2; Connecticut, 4; Georgia, 1; Illinois, 2; Indiana, 7; Kentucky, 1; Maryland, 3; Massachusetts, 2 (see footnote 4); Michigan, 4; Missouri, 1; Nebraska, 3; New York, 2; North Carolina, 2; Texas, 1; Virginia, 1; West Virginia, 1.

<sup>2</sup> Connecticut, 4 establishments; Illinois, 1; Indiana, 1; New Jersey, 1; Pennsylvania, 1; Rhode Island, 3; Wisconsin, 1.

<sup>3</sup> Connecticut, 5 establishments; Indiana, 1; Maine, 1; Missouri, 1; New Jersey, 2; New York, 1; Pennsylvania, 1; Rhode Island, 4; Wisconsin, 1.

<sup>4</sup> Alabama, 1 establishment; Colorado, 3; Delaware, 2; Florida, 1; Georgia, 2; Iowa, 1; Kansas, 1; Kentucky, 1; Louisiana, 1; Maine, 2; Maryland, 2; Massachusetts, 62 (see footnote 4); Minnesota, 3; North Carolina, 1; Oklahoma, 1; Oregon, 3; Tennessee, 1; Virginia, 2.

TABLE 3.—PRODUCTS, BY CLASS, QUANTITY, 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]

	1929	1927	1925	1923		1929	1927	1925	1923
1. The rubber group as a whole, all products, total value	\$1,117,460,252	\$1,225,077,114	\$1,260,805,068	\$958,517,634	Rubber goods, all industries—Continued				
2. Rubber goods	\$1,109,863,874	\$1,219,585,811	\$1,258,445,924	\$956,363,276	Tires and inner tubes—Con.				
3. Other products (not normally belonging to the industries)	\$7,596,378	\$5,491,303	\$2,359,139	\$2,154,358	Pneumatic—Con.				
4. Rubber goods made as secondary products in other industries, value	\$1,766,630	\$6,803,317	\$10,999,067	\$2,431,147	Motor-vehicle, etc.—Con.				
Rubber goods, all industries: Aggregate value (sum of 2 and 4) <sup>1</sup>	\$1,111,630,504	\$1,226,479,128	\$1,269,444,991	\$958,794,423	Inner tubes				
Tires and inner tubes, total value	\$676,909,812	\$779,533,129	\$824,548,604	\$569,180,559	Total number	74,043,041	79,855,455	77,387,836	57,229,225
Pneumatic—					Total value	\$80,875,518	\$105,487,389	\$118,234,658	\$74,982,725
Motor-vehicle, except motorcycle					Balloon—				
Casings					Number	50,478,997	33,042,868		
Total number	69,765,223	63,549,949	58,784,073	45,425,591	Value	\$63,435,412	\$82,193,080		
Total value	\$573,527,425	\$633,682,246	\$656,491,733	\$458,107,709	High-pressure—				
Balloon—					Number	23,564,044	37,212,587	(?)	(?)
Number	51,640,430	32,786,832			Value	\$27,140,100	\$33,294,300		
Value	\$382,425,638	\$326,062,731			Motorcycle and bicycle				
High-pressure—					Casings and single-tube tires—				
Number	18,124,793	30,763,117	(?)	(?)	Number	8,407,743	2,694,893	2,080,773	3,668,114
Value	\$191,101,787	\$307,619,615			Value	\$3,451,699	\$3,484,955	\$3,564,933	\$5,016,050
					Inner tubes				
					Number	329,074	351,397	430,888	642,690
					Value	\$182,408	\$210,444	\$398,394	\$672,955
					Solid and cushion—				
					Truck and bus—				
					Number	423,998			
					Value	\$14,896,551			
					Tractor, trailer, and industrial-truck—				
					Number		812,548	1,035,226	944,337
					Value		\$34,985,419	\$43,870,387	\$29,000,586
					Other (carriage tiring, etc.), value	\$1,225,644	\$1,782,679	\$1,990,496	\$1,200,534

See footnotes at end of table.



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

[See note at head of this table]

	1929	1927	1925	1923		1929	1927	1925	1923
Rubber goods, all industries—Continued					Rubber goods, all industries—Continued				
Rubber boots and shoes, total value.....	\$111,359,622	\$133,195,913	\$119,922,826	\$134,986,897	Rubber goods, other than tires, inner tubes, and boots and shoes—Continued.				
Rubber boots—					Mechanical rubber goods—Continued				
Pairs.....	5,453,865	5,361,667	4,739,423	9,097,896	Rubber packing—				
Value.....	\$16,140,851	\$16,746,281	\$16,027,904	\$23,573,097	Pounds.....	17,923,100	15,019,157	( <sup>1</sup> )	( <sup>1</sup> )
Rubber shoes and overshoes—					Value.....	\$5,032,921	\$4,853,217	\$4,443,803	\$5,628,272
Total pairs.....	51,356,618	71,576,570	52,338,782	60,102,775	Washers, gaskets, valves, pump sleeves, liner strips—				
Total value.....	\$64,883,492	\$90,993,833	\$80,076,608	\$83,031,542	Pounds.....	13,320,192	12,938,468		
Lumbermen's—					Value.....	\$5,107,348	\$7,728,633		
Pairs.....	1,817,078	3,772,632			Rubber and friction tape—				
Value.....	\$4,171,728	\$8,851,138			Pounds.....	20,426,381	10,998,847		
Arctics—					Value.....	\$4,950,125	\$4,038,755		
Pairs.....	5,051,321	7,801,416			Plumbers' rubber goods—				
Value.....	\$9,078,657	\$16,880,084			Pounds.....	\$1,041,470	\$697,329	( <sup>1</sup> )	( <sup>1</sup> )
Gaiters—					Rubber-covered rolls (all sizes)—				
Pairs.....	10,473,821	24,910,356			Value.....	\$2,528,375	\$2,162,066		
Value.....	\$17,304,030	\$30,101,972	( <sup>2</sup> )	( <sup>2</sup> )	Other mechanical rubber goods—				
Arctics and gaiters not reported separately—					Pounds.....	\$30,479,563	\$17,077,156		
Pairs.....	3,119,531	4,909,576			Hard-rubber goods, total value.....	\$17,037,397	\$18,891,286	\$29,110,589	\$25,133,680
Value.....	\$5,339,046	\$7,422,995			Battery jars, boxes, and parts—				
Other rubber shoes, rubbers, and foot-holds—					Pounds.....	\$5,809,716	\$9,862,375	( <sup>1</sup> )	( <sup>1</sup> )
Pairs.....	30,294,867	31,082,560			Other—				
Value.....	\$28,980,431	\$27,737,644			Pounds.....	\$12,127,082	\$9,028,911		
Canvas rubber-soled shoes—					Reclaimed rubber, for sale as such—				
Pairs.....	43,954,011	28,810,061	24,999,932	26,114,073	Pounds.....	363,695,965	330,435,603	243,851,873	131,731,945
Value.....	\$30,335,279	\$25,455,799	\$23,818,314	\$28,382,258	Value.....	\$23,900,089	\$27,372,579	\$23,020,517	\$11,714,438
Rubber goods, other than tires, inner tubes, and boots and shoes, total value.....	\$323,361,070	\$313,750,086	\$313,974,494	\$352,245,820	Druggists' and medical sundries (except rubber gloves)—				
Rubber heels, for sale as such—					Water bottles and fountain syringes—				
Pairs.....	292,719,416	318,346,037	342,195,710	289,221,857	Dozens.....	692,638	651,946		
Value.....	\$17,926,991	\$25,503,609	\$26,091,662	\$23,690,841	Value.....	\$4,950,599	\$4,767,399		
Rubber soles, including composition or fiber, for sale as such—					Other—				
Pairs.....	46,188,879	40,820,386	36,064,367	13,509,232	Pounds.....	\$5,986,062			
Value.....	\$8,959,690	\$9,341,312	\$10,384,577	\$4,907,662	Rubber erasers—				
Rubber soiling strips—					Pounds.....	1,832,683	\$7,116,078		
Square feet.....	4,313,026	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	Value.....	\$1,065,186			
Value.....	\$1,717,212				Rubber bands—				
Rubberized fabrics, for sale as such, total value.....	\$29,754,104	\$28,540,938	\$21,632,878	\$20,758,169	Pounds.....	3,488,731	1,738,379	\$18,462,585	\$10,864,060
Automobile and ear-rings—					Value.....	\$1,955,005	\$1,424,762		
Yards.....	22,407,668	17,362,711	25,232,299	33,038,756	Rubber gloves—				
Value.....	\$11,864,090	\$11,047,634	\$13,873,238	\$14,188,553	Surgeons'—				
Hospital sheeting—					Dozen pairs.....	473,547			
Yards.....	3,048,105	3,421,754	3,185,141		Value.....	\$991,083	817,211		
Value.....	\$1,444,348	\$1,841,679	\$1,397,953		Other rubber gloves—				
Raincoat fabrics—					Dozen pairs.....	576,019	\$2,422,910		
Yards.....	25,576,960	23,687,744		18,100,656	Value.....	\$1,930,739			
Value.....	\$6,681,803	\$9,741,516		\$6,569,616	Rubber cement—				
Other—					Gallons.....	6,050,305	4,827,059	( <sup>1</sup> )	
Yards.....	41,935,695	11,335,603			Value.....	\$4,697,407	\$3,883,627	\$2,807,356	
Value.....	\$6,763,863	\$3,910,109			Rubber flooring—				
Mechanical rubber goods—					Square feet.....	8,565,615	8,778,253	11,959,542	
Rubber belting—					Value.....	\$4,267,010	\$4,503,430	\$9,123,362	
Transmission—					Rubber mats and matting—				
Pounds.....	21,574,539	23,172,853			Value.....	\$8,805,670	\$7,272,675		\$82,270,043
Value.....	\$13,146,125	\$12,601,016	\$16,145,679		Tire sundries and repair materials—				
Conveyor—					Pounds.....	\$17,168,002	\$24,209,727		
Pounds.....	15,442,548	15,758,579	( <sup>1</sup> )		Rubber thread—				
Value.....	\$8,213,067	\$5,973,031	\$5,868,238	\$24,266,881	Pounds.....	5,726,490	5,281,597		
Other—					Value.....	\$5,189,800	\$5,339,743		
Pounds.....	8,006,483	4,456,179	( <sup>1</sup> )		Jar rings—				
Value.....	\$4,417,253	\$3,372,903	\$2,467,255		Gross.....	8,437,698	6,768,841	\$112,772,271	
Rubber hose and tubing—					Value.....	\$3,001,475	\$3,053,640		
Hose—					Bathing caps—				
Garden—					Dozens.....	1,090,054	740,860		
Feet.....	145,254,766	106,051,971	181,274,543		Value.....	\$1,842,401	\$1,701,220		
Value.....	\$9,049,483	\$8,091,923	\$11,514,082		Other manufactures of rubber—				
Fire—					Pounds.....	\$45,440,070	\$40,423,293		
Feet.....	15,566,761	16,023,978	10,835,829		Not distributed by class or kind, value.....			\$10,999,067	\$2,431,147
Value.....	\$5,988,345	\$6,203,430	\$5,400,619	\$34,011,774					
Other—									
Feet.....	111,157,168								
Value.....	\$22,399,751	\$27,176,797	\$18,729,111						
Tubing—									
Pounds.....	16,235,064								
Value.....	\$3,494,440								

1 These aggregates are the sums of all items in the columns beneath except those which are underscored.

2 Not reported in detail.

3 Includes data for a small quantity of castings and tubes other than those for motor vehicles, motorcycles, and bicycles.

4 No data.

5 Included in figure for "Other manufactures of rubber."

6 Revised.

7 Includes rubber clothing, \$17,434,080; toy balloons, \$3,090,807; play balls and other rubber toys, \$3,944,721. For the total value of rubber clothing made in the rubber industries and the wearing-apparel industries, see the report on men's clothing; and for the total value of rubber toys, see the "Toys, games, and playground equipment" report.

# RUBBER PRODUCTS

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TABLE 4.—PRODUCTS, BY CLASS, QUANTITY, 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)

	Quantity	Value		Quantity	Value
Tires and inner tubes:			Rubber soles, including composition or fiber, for sale as such, total.....	<i>Pairs</i> 46, 188, 879	\$8, 959, 690
Pneumatic—			Massachusetts.....	16, 210, 652	3, 448, 401
Motor-vehicle, except motorcycle—	<i>Number</i>		Del., Ky., Md., N. J., N. Y., and Va.....	11, 171, 707	2, 201, 984
Casings, total.....	69, 765, 223	\$573, 527, 425	Ill., Ind., Mo., Ohio, and Oreg.....	18, 806, 520	3, 309, 305
Balloon, total.....	51, 640, 430	382, 425, 638	Rubber soles, total.....	<i>Square feet</i> 4, 313, 026	1, 717, 212
California.....	4, 623, 600	33, 653, 313	Massachusetts.....	3, 019, 346	1, 179, 300
New Jersey.....	551, 101	4, 505, 740	Del., Md., and N. Y.....	178, 246	79, 716
Ohio.....	31, 630, 623	228, 642, 849	Ill., Ind., Mo., Ohio, and Oreg.....	1, 115, 434	458, 186
Wisconsin.....	3, 074, 153	20, 551, 292	Rubberized fabrics, for sale as such:	<i>Yards</i>	
Ala., Ga., Md., N. C., and Va.....	2, 232, 611	20, 179, 273	Automobile and carriage, total.....	22, 407, 668	11, 864, 090
Colo., Iowa, Nebr., and Pa.....	432, 649	2, 214, 318	Conn. and Mass.....	15, 908, 403	8, 923, 231
Conn., Mass., N. Y., and Pa.....	5, 133, 360	41, 244, 296	Mich., N. J., and Ohio.....	6, 499, 265	2, 940, 809
Ill., Ind., Mich., and Mo.....	2, 982, 283	25, 534, 557	Hospital sheeting, total.....	3, 048, 105	1, 444, 348
High-pressure, total.....	18, 124, 793	191, 101, 787	Massachusetts.....	1, 730, 533	668, 609
California.....	1, 605, 461	15, 100, 560	New York.....	638, 455	352, 607
New Jersey.....	295, 178	2, 816, 364	Conn., Ill., N. J., Pa., and Wis.....	681, 117	423, 042
Ohio.....	11, 051, 591	123, 577, 303	Raincoat fabrics, total.....	25, 575, 960	9, 681, 803
Ala., Md., N. C., and Va.....	720, 018	7, 811, 676	Massachusetts.....	16, 929, 245	6, 337, 539
Colo., Iowa, Nebr., and Wis.....	1, 450, 273	10, 157, 057	Conn., Ill., N. Y., Ohio, Pa., and Wis.....	8, 646, 715	3, 344, 264
Conn., Mass., N. Y., and Pa.....	1, 948, 523	20, 502, 191	Other rubberized fabrics (Conn., Ill., Mass., N. Y., Ohio, Pa., R. I., and Wis.).....	41, 935, 095	6, 763, 863
Ill., Mich., Mo.....	1, 055, 740	11, 136, 636	Rubber belting:	<i>Pounds</i>	
Inner tubes, total.....	74, 043, 041	89, 575, 518	Transmission, total.....	21, 574, 539	13, 146, 125
Balloon, total.....	50, 478, 997	53, 435, 412	New Jersey.....	7, 668, 082	4, 277, 205
California.....	4, 667, 342	4, 837, 261	Calif., Ill., Mass., N. Y., Ohio, and Pa.....	13, 906, 457	8, 868, 920
New Jersey.....	949, 075	1, 185, 293	Conveyor, total.....	15, 442, 548	8, 213, 067
Ohio.....	31, 203, 578	33, 950, 752	New Jersey.....	6, 257, 515	2, 673, 661
Ala., Md., N. C., and Va.....	1, 854, 700	2, 049, 423	Calif., Ill., Mass., N. Y., Ohio, and Pa.....	9, 185, 033	5, 539, 416
Colo., Iowa, Nebr., and Wis.....	3, 989, 345	4, 212, 404	Other belting (Calif., Colo., Ga., Ill., Minn., N. J., N. Y., Ohio, Pa., and Wash.).....	8, 006, 483	4, 417, 253
Conn., Mass., N. Y., and Pa.....	3, 994, 018	4, 308, 166	Rubber hose and tubing:	<i>Feet</i>	
Ill., Ind., Mich., Minn., and Mo.....	3, 820, 939	2, 894, 107	Hose—	145, 254, 766	9, 049, 483
High-pressure, total.....	23, 564, 044	27, 140, 100	Garden, total.....		
California.....	1, 718, 439	1, 903, 838	New Jersey.....	28, 440, 892	1, 707, 092
New Jersey.....	520, 445	560, 608	Calif., Colo., Del., Mass., N. Y., Ohio, and Pa.....	110, 833, 874	7, 342, 391
Ohio.....	12, 791, 049	16, 376, 092	Fire, total.....	15, 566, 761	5, 988, 345
Colo., Iowa, Nebr., and Wis.....	1, 818, 358	1, 689, 311	New Jersey.....	7, 049, 556	2, 664, 309
Conn., Mass., N. Y., and Pa.....	3, 692, 077	3, 988, 519	Calif., Conn., Mass., N. Y., Ohio, and Pa.....	7, 017, 205	3, 324, 036
Ill., Ind., Mich., Minn., and Mo.....	2, 080, 217	1, 594, 912	Other hose, total.....	111, 157, 168	22, 390, 751
Md., N. C., and Va.....	943, 460	1, 026, 830	California.....	1, 477, 559	632, 398
Motorcycle and bicycle—			New Jersey.....	39, 211, 505	7, 127, 708
Casings and single-tube tires (Ind., Ohio, Pa., and Wis.).....	3, 407, 743	3, 451, 699	Ohio.....	37, 111, 039	7, 959, 082
Inner tubes (Ind., Ohio, Pa., and Wis.).....	329, 074	182, 468	Colo., Del., Ga., Ill., Ind., Mass., N. Y., Pa., and R. I.....	33, 357, 065	6, 680, 593
Solid and cushion—			Tubing, total.....	<i>Pounds</i> 16, 235, 064	3, 494, 440
Truck and bus, total.....	423, 908	14, 896, 551	New Jersey.....	1, 016, 461	489, 872
Ohio.....	350, 507	12, 120, 925	Ohio.....	9, 080, 457	2, 048, 260
Mass., Mich., N. J., N. Y., and Wis.....	73, 491	2, 775, 626	Calif., Ill., Ind., and Wis.....	117, 560	33, 766
Tractor, trailer, and industrial-truck (Md., Mass., and Ohio).....	165, 566	3, 050, 507	Conn., Ga., Mass., N. Y., and Pa.....	922, 558	922, 558
Other (carriage tiring, etc.) (Calif., Iowa, Mass., and Ohio).....		1, 225, 044	Rubber packing, total.....	17, 923, 100	5, 032, 921
Rubber boots, total.....	<i>Pairs</i> 5, 453, 895	16, 140, 851	New Jersey.....	6, 048, 301	1, 746, 384
Massachusetts.....	2, 645, 738	6, 922, 592	Calif., Ill., Ind., Mass., N. Y., Ohio, and Pa.....	11, 874, 799	3, 296, 537
Conn., Ill., Ind., N. J., Ohio, R. I., and Wis.....	2, 808, 127	9, 218, 259	Washers, gaskets, valves, pump sleeves, liner strips, total.....	13, 320, 192	5, 107, 348
Rubber shoes and overshoes, total.....	51, 356, 618	64, 883, 492	California.....	580, 026	218, 754
Lumbermen's, total.....	1, 817, 078	4, 171, 728	Ohio.....	3, 835, 875	1, 584, 020
Massachusetts.....	806, 266	1, 766, 653	Ga., Tex., and Wis.....	88, 771	34, 752
Conn., Ill., Ind., Ohio, and R. I.....	1, 010, 812	2, 405, 075	Ill., Ind., Mass., N. J., N. Y., and Pa.....	8, 815, 520	3, 289, 822
Arotics (Conn., Ill., Ind., Mass., N. Y., Ohio, and R. I.).....	5, 051, 321	9, 078, 657	Rubber and friction tape, total.....	20, 426, 381	4, 950, 125
Gaiters, total.....	10, 473, 821	17, 304, 030	Massachusetts.....	10, 918, 327	2, 555, 004
Massachusetts.....	4, 232, 327	5, 180, 421	New Jersey.....	539, 386	214, 372
Conn., Ill., N. J., Ohio, Pa., and R. I.....	6, 241, 494	12, 123, 609	Conn., Ga., and N. Y.....	438, 950	99, 739
Arotics and gaiters not reported separately (Mass. and Wis.).....	3, 119, 531	5, 339, 646	Ill., Mo., and Ohio.....	8, 532, 718	2, 080, 410
Other rubber shoes, rubbers, and footholds, total.....	30, 294, 867	28, 989, 431	Plumbers' rubber goods (Calif., Conn., Ind., N. J., Ohio, R. I., Va., and Wis.).....		1, 041, 470
Massachusetts.....	11, 415, 855	7, 631, 799	Rubber-covered rolls (Calif., Ill., Ind., Mass., Mich., N. J., N. Y., N. C., Ohio, Oreg., Pa., Wash., and Wis.).....		2, 528, 375
Conn., Ill., Ind., N. J., N. Y., Ohio, Pa., R. I., and Wis.....	18, 879, 012	21, 357, 632			
Canvas rubber-soled shoes, total.....	43, 954, 011	30, 335, 279			
Massachusetts.....	12, 716, 705	7, 307, 827			
Conn., Ill., Ind., N. J., N. Y., Ohio, Pa., R. I., and Wis.....	31, 237, 306	23, 027, 452			
Rubber heels, for sale as such, total.....	292, 719, 416	17, 926, 991			
Massachusetts.....	60, 729, 595	4, 565, 040			
Calif., Ill., Ind., Mo., Ohio, Oreg., and Wis.....	158, 496, 589	9, 936, 621			
Me., Md., N. J., N. Y., Pa., and Va.....	67, 493, 232	3, 425, 330			

## CENSUS OF MANUFACTURES: 1929

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

[See note at head of this table]

	Quantity	Value		Quantity	Value
Other mechanical rubber goods, total.....		\$30,479,563	Rubber flooring, total.....	Square feet 8,565,615	\$4,267,010
California.....		803,594	Massachusetts.....	3,353,270	1,498,601
New Jersey.....		9,257,424	New Jersey.....	1,759,647	1,168,424
New York.....		293,332	Ill., Ind., N. Y., Ohio, R. I., and Wis.....	3,452,692	1,699,985
Ohio.....		11,352,812	Rubber mats and matting, total.....		8,806,670
Colo., Oreg., and Tex.....		225,308	New Jersey.....		1,008,103
Conn., Del., Ga., Mass., N. C., and Pa.....		4,274,270	Ohio.....		3,641,315
Ill., Ind., Mich., and Wis.....		4,272,823	Calif., Colo., and Wash.....		321,814
Hard-rubber goods, total.....		17,937,397	Del., Me., Mass., N. Y., Pa., and Va.....		1,440,978
Battery jars, boxes, and parts, total.....		5,809,715	Ill., Ind., Mich., and Wis.....		2,493,465
Ohio.....		2,774,316	Tire sundries and repair materials, total.....		17,168,002
Calif., Colo., and Ill.....		630,627	California.....		1,155,273
N. J., N. Y., Pa., and R. I.....		2,404,772	Illinois.....		211,153
Other, total.....		12,127,682	Massachusetts.....		781,254
New Jersey.....		3,013,450	Michigan.....		176,300
Ohio.....		4,018,747	New Jersey.....		198,904
Conn., Ind., Mass., N. Y., Pa., R. I., and Va.....		5,095,485	Ohio.....		11,285,062
Reclaimed rubber, total.....	Pounds 363,695,965	23,906,089	Ala., Fla., Ga., Ky., Miss., N. C., Tenn., and Va.....		461,507
Massachusetts.....	23,532,860	1,536,407	Colo., Oreg., and Tex.....		457,972
New Jersey.....	45,007,156	3,504,010	Conn., Md., N. Y., and Pa.....		1,308,163
Ohio.....	133,186,978	8,471,547	Ind., Iowa, Kans., Minn., Mo., and Wis.....		1,137,814
Calif., Ill., and Ind.....	49,631,291	3,131,155	Rubber thread (Conn., Miss., Ohio, and R. I.).....	Pounds 5,726,490	5,189,600
Conn., N. Y., and Pa.....	112,487,635	7,262,970	Jar rings, total.....	Gross 8,437,006	3,001,476
Druggists' and medical sundries (except rubber gloves):			New Jersey.....	3,060,170	1,038,293
Water bottles, etc. (Conn., Mass., N. J., N. Y., Ohio, and R. I.).....	Dozens 692,638	4,959,599	Mass., Mo., and Ohio.....	5,377,526	1,963,212
Other (Conn., Mass., N. J., N. Y., Ohio, Oreg., Pa., R. I., and Wis.).....		5,936,062	Bathing caps (Conn., Mass., N. J., N. Y., Ohio, and R. I.).....	Dozens 1,090,054	1,842,401
Stationers' rubber goods:			Other manufactures of rubber, total.....		45,446,078
Erasers (Mass. and N. J.).....	Pounds 1,532,683	1,065,186	Connecticut.....		2,504,000
Rubber bands, total.....	3,483,731	1,955,005	Illinois.....		958,892
Massachusetts.....	964,436	515,345	Indiana.....		130,816
Conn., N. J., N. Y., Ohio, Oreg., R. I., and Wash.....	2,524,295	1,439,660	Massachusetts.....		7,586,868
Rubber gloves:			New Jersey.....		3,198,106
Surgeons', total.....	Dozen pairs 473,547	991,083	New York.....		12,184,428
Ohio.....	390,096	807,582	Ohio.....		12,294,550
Conn. and R. I.....	83,451	183,501	Pennsylvania.....		1,747,848
Other rubber gloves (Conn., Ohio, and R. I.).....	576,619	1,036,730	Calif. and Wash.....		688,732
Rubber cement, total.....	Gallons 6,050,395	4,697,407	Colo., Iowa, La., Mo., Tex., and Wis.....		1,076,844
Massachusetts.....	2,563,502	2,064,472	Del., Ky., Me., Md., Mich., R. I., Tenn., and Va.....		2,479,992
New Jersey.....	57,449	88,686			
Ohio.....	1,038,780	656,724			
Calif., Ill., Iowa, Mo., Wash., and Wis.....	1,551,397	1,319,990			
Ga., Me., N. H., N. Y., and Pa.....	838,967	568,535			

# RUBBER PRODUCTS

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**TABLE 5.—CRUDE AND RECLAIMED RUBBER CONSUMED AND ON HAND, 1929 AND 1927, AND OTHER IMPORTANT MATERIALS CONSUMED, 1929, FOR THE RUBBER INDUSTRIES**

[Ton, 2,240 pounds]

	Total	INDUSTRY			Total	INDUSTRY		
		Rubber tires and inner tubes	Rubber boots and shoes	Rubber goods, other than tires, inner tubes, and boots and shoes		Rubber tires and inner tubes	Rubber boots and shoes	Rubber goods, other than tires, inner tubes, and boots and shoes
<b>Crude rubber:</b>								
Consumed—								
1929—								
Tons.....	462,101	400,864	18,938	42,709				
Cost.....	\$209,458,746	\$180,592,960	\$8,907,718	\$19,958,073				
1927, tons.....	364,057	316,295	16,424	31,338				
Stocks on hand Dec. 31—								
Tons—								
1929.....	49,060	37,005	2,952	9,103				
1927.....	45,733	36,933	2,878	5,922				
Afloat Dec. 31—								
Tons—								
1929.....	39,994	31,998	(1)	(1)				
1927.....	10,713	10,299	(1)	(1)				
<b>Reclaimed rubber:</b>								
Consumed—								
1929—								
Tons.....	200,091	115,855	10,019	80,217				
Cost.....	\$20,864,425	\$16,639,096	\$1,350,141	\$8,875,238				
1927, tons.....	175,774	105,718	11,923	58,133				
Stocks on hand Dec. 31—								
Tons—								
1929.....	13,501	6,444	751	6,306				
1927.....	10,581	9,344	870	6,367				
<b>Other important materials consumed, 1929:</b>								
Carbon black—								
Pounds.....	168,888,558	151,625,017	1,491,744	15,871,797				
Cost.....	\$13,135,352	\$11,919,222	\$116,933	\$1,099,197				
Zinc oxide—								
Pounds.....	133,675,413	111,405,977	5,539,184	16,730,252				
Cost.....	\$9,148,622	\$7,440,710	\$380,075	\$1,327,837				
Sulphur—								
Pounds.....	61,296,703	43,013,907	1,909,167	16,373,629				
Cost.....	\$1,354,150	\$878,278	\$40,351	\$455,521				
Tire fabrics—								
Pounds.....	280,057,041	*280,057,041		(1)				
Cost.....	\$126,522,448	*\$126,522,448		(1)				
Hose and belting duck—								
Pounds.....	34,335,673	13,918,835	242,396	20,174,442				
Cost.....	\$12,503,375	\$4,977,555	\$90,918	\$7,434,902				
Other cotton fabrics—								
Pounds.....	70,153,962	19,138,239	19,811,022	31,204,701				
Cost.....	\$28,450,596	\$6,483,146	\$8,448,990	\$13,518,400				
Other fabrics—								
Pounds.....	(1)	(1)	4,683,757	4,342,213				
Cost.....	\$11,280,682	\$5,463,778	\$3,258,319	\$2,558,585				

\* Can not be shown separately without disclosing data for individual establishments.

† Includes data for a comparatively small quantity consumed in the "Rubber goods, other than tires, inner tubes, and boots and shoes" industry.

\* Can not be shown separately without disclosing data for individual establishments. See footnote 2.

† Data too incomplete to justify the publication of figures.

**TABLE 6.—CRUDE RUBBER CONSUMED BY ESTABLISHMENTS IN THE RUBBER-INDUSTRIES GROUP, BY CLASS OF PRODUCTS MADE: 1929 AND 1927**

PRODUCTS MADE	RUBBER CONSUMED (ton, 2,240 lbs.)		PRODUCTS MADE	RUBBER CONSUMED (ton, 2,240 lbs.)	
	1929	1927		1929	1927
Total.....	462,101	364,057			
<b>Rubber tires and inner tubes:</b>			<b>Mechanical rubber goods:</b>		
Pneumatic—			Belting.....	4,823	3,321
Motor vehicle, except motorcycle—			Hose and tubing.....	7,170	4,885
Casings.....	303,375	231,505	Other.....	10,159	5,387
Inner tubes.....	62,902	52,009	<b>Rubber flooring and rubber mats and matting.....</b>	1,908	1,713
Motorcycle, bicycle, and other casings and tubes.....	1,497	1,177	Hard-rubber goods.....	2,145	1,485
Solid and cushion.....	10,874	15,724	Tire sundries and repair materials.....	4,421	4,830
<b>Boots and shoes.....</b>	20,793	17,164	Rubber thread.....	3,080	2,781
Rubber heels and soles, including slab soles.....	9,104	6,690	Rubber cement.....	1,824	1,487
Rubberized fabrics and rubberized and rubber clothing (finished).....	7,665	5,390	Rubber gloves.....	549	2,022
			Druggists' and medical sundries.....	2,061	1,407
			Toys.....	2,267	
			Stationers' rubber goods, bathing caps, golf and tennis balls.....	2,319	
			Other manufactures of rubber.....	3,124	4,580

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
<b>THE GROUP AS A WHOLE</b>												
Prime movers and electric motors driven by purchased energy, aggregate.....	33,606	Horse-power 821,312	27,927	Horse-power 790,622	22,560	Horse-power 659,691	10,001	Horse-power 420,273	2,237	Horse-power 199,242	100.0	100.0
Prime movers, total.....	400	248,949	420	272,904	498	232,053	641	235,926	627	165,259	30.8	55.0
Steam, total.....	370	245,031	388	269,152	456	228,364	555	226,539	556	158,547	29.8	52.8
Engines.....	256	58,549	270	70,054	348	82,747	(1)	(1)	(1)	(1)	7.1	-----
Turbines.....	114	180,482	118	199,098	108	145,617	(1)	(1)	(1)	(1)	22.7	-----
Internal-combustion engines.....	10	838	9	337	16	384	32	3,773	30	1,601	0.1	0.9
Water wheels and water turbines.....	20	3,080	23	3,415	26	3,305	54	5,614	41	5,021	0.4	1.3
Electric motors driven by purchased energy.....	33,266	572,363	27,507	517,718	22,062	427,638	9,360	193,347	1,610	33,983	69.7	45.0
Electric motors, total.....	45,148	813,284	41,395	724,080	34,007	621,137	16,654	355,410	6,176	114,803	100.0	100.0
Driven by purchased energy.....	33,266	572,363	27,507	517,718	22,062	427,638	9,360	193,347	1,610	33,983	70.4	54.4
Driven by energy generated in establishments reporting.....	11,882	240,921	13,888	206,362	11,945	193,499	7,294	162,063	4,566	80,820	29.6	45.6
Electric generators <sup>2</sup> .....	134	Kilowatts 150,569 Kilowatt-hours 882,105,536	182	Kilowatts 165,618	208	Kilowatts 132,729						
Electric energy purchased <sup>3</sup> .....												
<b>RUBBER TIRES AND INNER TUBES</b>												
Prime movers and electric motors driven by purchased energy, aggregate.....	15,872	Horse-power 403,257	14,104	Horse-power 451,724	12,173	Horse-power 403,227		Horse-power		Horse-power	100.0	-----
Prime movers, total.....	184	184,288	195	200,317	248	164,393					39.8	-----
Steam, total.....	180	183,935	193	200,217	243	164,174					89.7	-----
Engines.....	102	17,934	110	25,758	165	82,534					3.9	-----
Turbines.....	78	166,001	83	174,459	78	131,640					35.8	-----
Internal-combustion engines.....	3	220	1	10	4	129					0.1	-----
Water wheels and water turbines.....	1	133	1	90	1	90	(1)	(1)	(1)	(1)	60.2	-----
Electric motors driven by purchased energy.....	15,688	278,969	13,909	251,407	11,925	238,834					100.0	-----
Electric motors, total.....	25,125	482,694	25,759	433,949	21,637	399,714					57.8	-----
Driven by purchased energy.....	15,688	278,969	13,909	251,407	11,925	238,834					42.2	-----
Driven by energy generated in establishments reporting.....	9,437	203,725	11,850	182,542	9,712	160,880						
Electric generators <sup>2</sup> .....	43	Kilowatts 126,825 Kilowatt-hours 491,271,234	68	Kilowatts 139,596	83	Kilowatts 110,850						
Electric energy purchased <sup>3</sup> .....												
<b>RUBBER BOOTS AND SHOES</b>												
Prime movers and electric motors driven by purchased energy, aggregate.....	4,609	Horse-power 62,603	3,817	Horse-power 68,359	2,900	Horse-power 59,413	1,820	Horse-power 49,400	593	Horse-power 24,561	100.0	100.0
Prime movers, total.....	40	14,440	39	15,939	40	16,614	63	23,682	61	21,180	23.1	47.9
Steam, total.....	31	12,315	30	14,118	30	14,668	52	21,220	52	19,885	19.7	48.0
Engines.....	24	11,625	27	12,783	28	14,408	51	21,070	(1)	(1)	18.6	42.7
Turbines.....	7	690	3	1,335	2	260	1	150	(1)	(1)	1.1	0.3
Internal-combustion engines.....												
Water wheels and water turbines.....	9	2,125	9	1,821	10	1,946	11	2,462	8	20	3.4	5.0
Electric motors driven by purchased energy.....	4,569	48,163	3,778	52,420	2,956	42,799	1,757	25,718	532	3,381	76.9	62.0
Electric motors, total.....	4,952	54,648	4,101	53,841	3,227	44,567	2,172	28,320	965	6,607	100.0	100.0
Driven by purchased energy.....	4,569	48,163	3,778	52,420	2,956	42,799	1,757	25,718	532	3,381	88.1	90.8
Driven by energy generated in establishments reporting.....	883	6,485	323	1,421	271	1,768	415	2,602	433	3,226	11.9	9.2
Electric generators <sup>2</sup> .....	14	Kilowatts 3,507 Kilowatt-hours 69,059,707	19	Kilowatts 2,069	23	Kilowatts 1,783						
Electric energy purchased <sup>3</sup> .....												

See footnotes at end of table.

# RUBBER PRODUCTS

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**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—Continued**

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
RUBBER GOODS OTHER THAN TIRES, INNER TUBES, AND BOOTS AND SHOES												
Prime movers and electric motors driven by purchased energy, aggregate	13, 185	<i>Horse-power</i> 295, 452	10, 006	<i>Horse-power</i> 270, 530	7, 391	<i>Horse-power</i> 197, 051		<i>Horse-power</i>		<i>Horse-power</i>	100.0	-----
Prime movers, total	176	50, 221	186	56, 648	210	51, 046					17.0	-----
Steam, total	159	48, 781	165	54, 817	183	49, 522					16.5	-----
Engines	130	28, 990	133	31, 513	155	35, 805					9.8	-----
Turbines	29	19, 791	32	23, 304	28	13, 717					6.7	-----
Internal-combustion engines	7	618	8	327	12	255					0.2	-----
Water wheels and water turbines	10	822	13	1, 504	15	1, 269	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	0.3	-----
Electric motors driven by purchased energy	13, 009	245, 231	9, 820	213, 891	7, 181	146, 005					83.0	-----
Electric motors, total	15, 071	275, 942	11, 535	236, 230	9, 143	176, 856					100.0	-----
Driven by purchased energy	13, 009	245, 231	9, 820	213, 891	7, 181	146, 005					88.9	-----
Driven by energy generated in establishments reporting	2, 062	30, 711	1, 715	22, 339	1, 962	30, 851					11.1	-----
Electric generators <sup>2</sup>	77	<i>Kilowatts</i> 20, 237 <i>Kilowatt-hours</i>	95	<i>Kilowatts</i> 23, 963	102	<i>Kilowatts</i> 20, 096						
Electric energy purchased <sup>3</sup>		321, 774, 595										

<sup>1</sup> Not called for separately on schedule.

<sup>2</sup> Data for electric generators not called for on schedule prior to 1925.

<sup>3</sup> This item covers the consumption of purchased electric energy for all purposes—power, heat, light, etc. <sup>4</sup> No data, see "Changes in classification, p. 1."

**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		
<b>THE GROUP AS A WHOLE</b>															
1929	149, 148	149, 117	152, 089	153, 870	155, 477	156, 512	157, 835	157, 061	153, 646	147, 828	141, 721	134, 204	<i>130, 417</i>	143, 380	82.6
1925	141, 880	<i>135, 845</i>	137, 851	138, 875	140, 776	143, 453	143, 990	145, 203	145, 211	145, 061	141, 914	141, 336	143, 380	143, 380	93.2
1919	153, 549	<i>144, 031</i>	149, 854	148, 683	150, 259	152, 769	154, 825	160, 358	165, 973	166, 948	173, 824	166, 223	168, 441	168, 441	83.4
1914	74, 022	70, 590	74, 157	77, 759	80, 967	82, 193	78, 650	74, 148	<i>68, 414</i>	70, 412	70, 441	69, 954	70, 579	70, 579	83.2
<b>RUBBER TIRES AND INNER TUBES</b>															
1929	83, 263	84, 751	86, 757	87, 579	89, 106	90, 312	91, 777	90, 584	86, 542	80, 704	74, 813	69, 117	<i>66, 452</i>	78, 771	72.4
1925	81, 640	<i>76, 307</i>	76, 879	78, 395	81, 473	84, 730	85, 544	87, 314	88, 481	84, 756	80, 108	77, 408	78, 771	85.1	
California	5, 339	5, 276	5, 408	5, 390	5, 317	5, 576	5, 870	6, 076	6, 140	5, 300	4, 811	4, 525	<i>4, 386</i>	71.4	
Iowa	193	189	216	222	210	221	227	224	223	178	148	149	149	57.7	
New Jersey	2, 000	2, 313	2, 366	2, 348	2, 332	2, 290	2, 355	2, 003	2, 173	2, 122	1, 600	1, 123	<i>1, 012</i>	43.0	
Ohio	55, 307	55, 176	50, 609	57, 322	58, 250	59, 419	60, 371	59, 756	57, 128	54, 773	51, 527	47, 639	<i>45, 714</i>	75.7	
Pennsylvania	1, 637	1, 794	1, 784	1, 598	1, 809	1, 858	1, 832	1, 490	1, 510	1, 602	1, 510	1, 445	<i>1, 409</i>	75.9	
Wisconsin	3, 922	4, 447	4, 533	4, 550	4, 529	4, 443	4, 217	3, 958	3, 775	3, 703	3, 348	2, 824	<i>2, 741</i>	60.2	
<b>RUBBER BOOTS AND SHOES</b>															
1929	25, 653	25, 270	24, 947	25, 031	24, 632	<i>23, 887</i>	24, 671	25, 177	26, 123	26, 713	27, 104	27, 013	27, 342	27, 342	87.4
1925	24, 909	25, 208	25, 797	25, 633	25, 318	24, 854	24, 598	23, 173	<i>22, 537</i>	24, 631	25, 199	26, 304	26, 842	26, 842	83.2
1919	32, 875	34, 591	35, 339	33, 377	32, 455	31, 298	<i>30, 642</i>	31, 304	31, 561	31, 578	32, 953	34, 145	34, 657	34, 657	86.7
1914	18, 687	18, 286	18, 325	18, 613	18, 613	18, 776	18, 752	17, 491	<i>16, 756</i>	18, 617	19, 377	20, 340	20, 398	20, 398	82.1
1909	17, 612	16, 921	<i>16, 551</i>	17, 433	17, 510	17, 601	17, 868	17, 670	16, 637	17, 965	18, 386	18, 223	18, 223	86.3	
Massachusetts	11, 163	10, 811	10, 714	10, 733	10, 502	<i>10, 416</i>	10, 887	11, 206	11, 736	12, 019	11, 966	11, 430	11, 533	86.7	
<b>RUBBER GOODS OTHER THAN TIRES, INNER TUBES, AND BOOTS AND SHOES</b>															
1929	40, 226	39, 095	40, 385	41, 260	41, 739	41, 713	41, 387	41, 300	40, 951	40, 352	39, 804	38, 074	<i>36, 623</i>	37, 787	87.7
1925	35, 230	34, 740	35, 205	34, 847	33, 935	33, 899	<i>33, 848</i>	34, 216	34, 338	35, 674	36, 607	37, 624	37, 787	89.6	
California	942	867	837	905	979	1, 084	1, 084	1, 099	1, 081	1, 083	835	710	771	65.5	
Connecticut	3, 200	3, 067	3, 200	3, 415	3, 404	3, 399	3, 278	3, 239	3, 218	3, 185	3, 089	3, 034	<i>2, 894</i>	84.7	
Illinois	1, 496	1, 578	1, 630	1, 591	1, 618	1, 569	1, 551	1, 485	1, 488	1, 566	1, 394	1, 416	<i>1, 071</i>	65.7	
Indiana	1, 333	1, 312	1, 339	1, 379	1, 404	1, 400	1, 447	1, 419	1, 371	1, 320	1, 245	1, 200	<i>1, 165</i>	79.8	
Michigan	502	549	574	558	520	575	594	603	545	545	385	347	373	57.5	
Missouri	590	604	555	524	489	510	535	640	696	635	644	623	603	70.3	
New Jersey	7, 449	7, 449	7, 632	7, 762	7, 913	8, 016	8, 085	8, 051	7, 892	7, 734	7, 721	7, 326	<i>7, 308</i>	90.3	
New York	5, 441	5, 151	5, 514	5, 648	5, 668	5, 713	5, 665	5, 532	5, 360	5, 328	5, 356	5, 241	<i>5, 119</i>	89.6	
Ohio	6, 707	6, 591	6, 930	7, 069	7, 199	6, 934	7, 031	6, 996	6, 853	6, 708	6, 531	6, 020	<i>5, 690</i>	77.3	
Pennsylvania	2, 117	2, 045	2, 073	2, 119	2, 119	2, 125	2, 135	2, 194	2, 243	2, 218	2, 162	2, 008	<i>1, 968</i>	87.3	
Rhode Island	1, 822	1, 892	1, 860	1, 938	1, 921	1, 904	1, 693	1, 634	1, 729	1, 779	1, 830	1, 815	1, 818	86.9	
Texas	98	93	94	96	98	103	103	105	108	102	98	88	88	81.5	
Washington	28	23	21	20	20	32	32	32	27	27	30	28	29	62.5	
Wisconsin	478	432	436	489	487	489	439	461	463	520	564	522	<i>483</i>	75.5	

## Group 9.—LEATHER AND ITS MANUFACTURES

### THE GROUP AS A WHOLE

The leather group is made up of 10 industries, namely: (1) Leather—Tanned, curried, and finished; (2) Leather belting; (3) Boot and shoe cut stock, not made in boot and shoe factories; (4) Boot and shoe findings, not made in boot and shoe factories; (5) Boots and shoes, other than rubber; (6) Leather gloves and mittens; (7) Pocketbooks, purses, and cardcases; (8) Saddlery and harness; (9) Trunks, suitcases, and bags; (10) Leather goods, not elsewhere classified.

Duplication in group totals for cost of materials and value of products.—The cost-of-materials and value-of-products figures for the leather-industries group as a whole include a considerable amount of duplication resulting from the use of the products of establishments in certain industries as materials by establishments in other industries. In other words, the total value of products for the group includes not only the factory value of the finished products in the form in which they reach the final purchaser but also the value of the products of the "Leather: Tanned, curried, and finished" industry, which are used as materials in the

other leather industries, and the value of the products of the "Boot and shoe cut stock" and "Boot and shoe findings" industries, which are used as materials in the boot and shoe industry proper. Similarly, the total cost of materials for the group includes not only the cost of the hides and other basic raw materials produced outside the leather group and used as materials by tanneries but also the amounts paid for tannery products and for boot and shoe cut stock and boot and shoe findings by establishments which use these products as materials for further manufacture. Furthermore, reduplication occurs in the case of boot and shoe cut stock not made in boot and shoe factories; for the value of the leather used in making such stock appears three times in the total value of products for the group—once as reported by the tanneries, again as a part of the value of the cut stock, and still again as a part of the value of finished boots and shoes. Within any one of the industries, however, there is little duplication resulting from the use of the products of some establishments as materials by others.

#### SUMMARY FOR GROUP 9.—LEATHER AND ITS MANUFACTURES: 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]

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 <sup>1</sup>	Horsepower
Total for the group.....	1929	4, 277	318, 415	\$369, 412, 972	\$1, 131, 941, 993	\$1, 905, 976, 775	\$774, 034, 812	436, 342
	1927	4, 265	315, 991	364, 447, 396	1, 088, 640, 717	1, 869, 305, 048	780, 664, 331	419, 591
	1925	4, 243	314, 025	355, 346, 411	1, 012, 880, 605	1, 763, 709, 361	750, 828, 756	413, 178
	1923	4, 868	344, 645	388, 630, 008	1, 083, 345, 330	1, 880, 085, 716	796, 740, 636	412, 998
	1921	4, 813	250, 071	314, 411, 672	934, 397, 705	1, 544, 185, 251	609, 787, 546	( <sup>2</sup> )
	1919	6, 397	349, 362	393, 453, 419	1, 713, 807, 336	2, 610, 230, 727	896, 423, 891	392, 537
	1914	6, 758	307, 060	169, 357, 560	753, 135, 354	1, 104, 594, 557	351, 459, 203	311, 194
Leather: Tanned, curried, and finished, total.....	1929	471	40, 932	63, 413, 707	337, 597, 868	481, 340, 269*	143, 742, 431	229, 660
	1927	494	52, 924	67, 887, 231	331, 924, 736	494, 255, 838	162, 271, 102	220, 630
	1925	531	52, 263	65, 834, 112	296, 958, 488	452, 186, 000	155, 232, 512	215, 678
	1923	597	59, 703	73, 784, 340	321, 749, 551	488, 397, 835	167, 148, 284	230, 187
	1921	608	48, 955	57, 740, 510	277, 724, 919	353, 365, 048	105, 640, 120	( <sup>2</sup> )
	1919	850	72, 476	88, 205, 473	646, 521, 527	925, 591, 701	252, 070, 174	217, 761
	1914	741	55, 936	31, 914, 497	234, 245, 420	307, 201, 705	82, 956, 285	171, 734
Finished products of leather, total.....	1929	3, 896	268, 433	295, 999, 265	794, 344, 095	1, 424, 636, 476	630, 292, 381	206, 682
	1927	3, 771	263, 067	295, 560, 165	756, 855, 981	1, 375, 049, 210	618, 393, 229	199, 061
	1925	3, 712	261, 762	289, 512, 299	715, 927, 117	1, 311, 523, 361	595, 596, 244	197, 496
	1923	4, 372	235, 747	315, 711, 682	775, 064, 940	1, 404, 735, 405	629, 670, 456	190, 277
	1921	4, 205	231, 116	258, 671, 162	656, 672, 736	1, 100, 820, 203	504, 147, 417	( <sup>2</sup> )
	1919	5, 717	276, 836	275, 247, 946	1, 067, 285, 806	1, 681, 639, 026	614, 353, 217	164, 776
	1914	6, 017	251, 124	137, 443, 063	468, 889, 934	737, 392, 852	238, 502, 918	139, 460
Belting.....	1929	207	2, 602	3, 543, 721	20, 079, 778	35, 631, 682	14, 951, 904	6, 826
	1927	173	2, 164	2, 925, 416	16, 185, 267	27, 265, 752	11, 080, 455	6, 723
	1925	168	2, 644	3, 505, 450	13, 805, 230	31, 810, 929	12, 942, 696	6, 889
	1923	169	3, 160	3, 895, 419	24, 569, 125	37, 723, 513	13, 154, 393	9, 075
	1921	164	2, 208	2, 841, 644	13, 075, 740	19, 165, 265	6, 092, 515	( <sup>2</sup> )
	1919	172	2, 765	3, 260, 439	28, 156, 711	40, 480, 654	12, 323, 943	7, 012
	1914	151	2, 951	2, 069, 546	15, 480, 110	23, 035, 951	7, 556, 841	7, 886

See footnotes at end of table.

# LEATHER AND ITS MANUFACTURERS

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SUMMARY FOR GROUP 9.—LEATHER AND ITS MANUFACTURES: 1914 TO 1929—Continued

[See note at head of this table]

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 <sup>1</sup>	Horsepower
Boot and shoe cut stock, not made in boot and shoe factories.	1929	210	9,499	\$10,319,966	\$107,545,777	\$133,447,014	\$25,902,137	15,828
	1927	201	8,611	9,354,049	97,966,431	121,022,421	23,055,990	13,718
	1925	245	7,977	8,906,159	75,326,204	94,047,681	18,721,477	14,869
	1923	228	8,038	7,980,851	82,031,754	102,838,245	20,806,491	14,420
	1921	226	7,049	7,013,216	50,922,902	72,691,564	15,768,662	( <sup>2</sup> )
	1919	262	9,715	9,124,776	133,887,276	161,263,310	27,316,034	8,448
	1914	236	7,819	4,052,123	51,450,498	59,964,823	8,514,025	6,018
Boot and shoe findings, not made in boot and shoe factories.	1929	382	10,376	11,058,252	31,964,401	58,625,445	26,661,044	20,259
	1927	379	9,960	11,201,872	31,862,322	57,433,359	25,571,067	18,021
	1925	326	8,605	9,635,136	29,248,469	52,063,829	22,815,360	15,419
	1923	394	7,805	8,274,010	27,663,235	48,012,583	20,359,298	12,825
	1921	344	5,917	6,608,798	22,930,700	39,110,538	16,185,838	( <sup>2</sup> )
	1919	427	8,941	8,187,196	40,428,347	62,825,408	22,397,061	9,970
	1914	369	6,714	3,225,633	20,304,183	28,363,186	7,999,003	5,436
Boots and shoes, other than rubber.	1929	1,341	205,640	222,407,732	515,055,240	965,922,694	450,867,408	140,320
	1927	1,357	203,110	225,090,242	494,553,010	944,714,463	450,161,447	138,706
	1925	1,460	206,692	225,787,981	481,631,964	925,383,422	443,751,458	139,569
	1923	1,606	225,216	230,345,922	527,456,868	1,000,078,022	472,621,154	128,550
	1921	1,505	183,502	204,054,063	478,432,445	867,475,896	389,043,451	( <sup>2</sup> )
	1919	1,440	211,049	210,734,610	715,269,315	1,165,041,436	439,772,121	115,886
	1914	1,355	191,555	108,693,404	310,356,536	501,760,453	191,403,872	95,966
Gloves and mittens <sup>4</sup>	1929	287	9,203	9,203,911	20,205,740	39,122,729	18,916,689	3,458
	1927	232	9,103	8,813,912	19,276,416	30,662,053	17,335,637	2,603
	1925	226	7,115	6,914,788	17,778,663	33,292,916	15,514,223	3,266
	1923	260	10,010	8,644,709	20,223,924	38,080,575	17,856,651	4,372
	1921	272	7,907	5,842,784	13,844,159	24,855,321	11,011,162	( <sup>2</sup> )
	1919	355	10,685	8,150,784	26,286,129	46,940,511	20,654,362	3,258
	1914	352	10,668	4,558,360	12,170,694	21,614,109	9,443,415	3,308
Pocketbooks, purses, and cardcases.	1929	290	10,430	16,229,422	35,351,605	68,627,515	33,275,910	1,823
	1927	287	8,570	13,169,509	23,618,524	47,344,555	27,729,131	1,725
	1925	190	6,826	9,021,720	22,442,200	43,105,213	20,063,013	1,356
	1923	207	5,518	7,291,112	16,235,832	32,731,725	10,495,843	1,094
	1921	115	2,715	3,224,244	6,221,200	13,084,969	6,863,769	( <sup>2</sup> )
	1919	139	2,905	3,061,903	7,557,155	14,549,659	6,902,594	431
	1914	64	1,466	702,314	1,783,840	3,350,562	1,566,712	242
Saddlery and harness.	1929	260	3,339	3,713,723	13,834,124	23,338,565	9,504,431	4,698
	1927	264	4,023	4,541,395	16,520,180	27,350,244	10,830,064	4,908
	1925	263	4,570	5,059,562	18,775,991	30,083,555	11,307,564	5,021
	1923	472	6,617	6,915,581	24,460,405	42,113,300	17,652,895	7,761
	1921	583	4,489	4,996,664	17,664,981	30,163,601	12,498,620	( <sup>2</sup> )
	1919	1,823	10,411	10,849,066	52,442,907	83,713,010	31,270,103	8,205
	1914	2,551	12,069	7,965,612	33,086,442	53,568,612	20,472,170	10,362
Trunks, suitcases, and bags.	1929	467	11,369	13,756,701	31,693,935	63,968,929	32,274,994	10,220
	1927	495	10,345	13,084,687	29,128,235	59,958,681	30,830,446	9,001
	1925	475	10,348	13,225,966	31,381,851	61,223,867	29,842,016	7,595
	1923	508	11,441	13,520,994	32,836,895	63,023,072	30,186,177	7,269
	1921	504	8,712	10,290,364	23,682,610	46,548,977	22,086,367	( <sup>2</sup> )
	1919	597	11,470	12,463,797	33,222,432	63,932,266	30,709,834	7,696
	1914	501	9,911	5,640,157	13,626,467	26,471,527	12,846,070	7,510
Leather goods, not elsewhere classified.	1929	392	6,035	6,759,742	18,013,489	35,951,013	17,937,524	3,196
	1927	413	7,183	8,379,080	21,539,590	43,291,552	21,751,962	3,651
	1925	364	6,685	7,395,537	20,473,515	40,511,962	20,038,437	3,223
	1923	401	7,852	8,944,278	19,596,861	40,134,415	20,537,564	4,902
	1921	482	8,537	10,323,338	23,698,040	47,715,082	24,017,933	( <sup>2</sup> )
	1919	598	8,945	9,415,403	30,035,537	52,952,772	22,917,235	3,840
	1914	378	7,071	3,003,865	10,632,124	19,333,934	8,701,810	3,233

<sup>1</sup> Value of products less cost of materials, containers for products, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

<sup>2</sup> Not called for on schedule.

<sup>3</sup> Revised; this revision not carried into the group total.

<sup>4</sup> The figures for 1925 and subsequent years are not comparable with those for 1923 and prior years because of the inclusion in the figures for earlier years of the statistics for certain establishments which manufactured gloves and mittens of cloth and leather combined; for later years, this class of establishments was included in the cloth-glove and mitten industry.



# LEATHER: TANNED, CURRIED, AND FINISHED

**Description of the industry.**—This industry designation covers tanneries manufacturing leather, whether from hides and skins owned by them or on a contract basis from hides and skins belonging to others, and establishments engaged in currying and finishing leather. Establishments engaged in tanning, etc., on contract for others are requested to report the amounts received for work done, but not the value of the leather produced nor the cost of the hides and skins treated. A considerable amount of this contract tanning is done for manufacturers in the glove, clothing, and other industries, and therefore the item given in the second line of Table 3 understates somewhat the total value of leather produced. The statistics for 1925, 1923, and 1921 include data for the cost of hides and skins

treated and the value of leather produced by a few of the larger contract establishments, but the items thus included are not of sufficient magnitude to affect materially the comparableness of the figures with those for prior and for subsequent years. Practically all the products of this industry are used as materials for further manufacture, largely in the other leather industries but to some extent in industries outside the leather group.

**Hides and skins treated, 1929.**—The schedule used for collecting census data from tanners called for data on the kind, quantity, and cost of hides and skins treated, but the returns were incomplete to such an extent as to render it impossible to assemble any reliable statistics for these items.

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 <sup>1</sup>	Value added by manufacture <sup>2</sup>	Horsepower
1929	471	49,932	\$63,413,707	\$337,597,868	\$481,340,299	\$143,742,431	229,000
1927	494	52,924	67,887,231	331,984,736	494,256,836	162,271,102	220,530
1925	531	52,263	65,834,112	296,953,488	452,186,000	155,232,512	215,078
1923	597	59,703	73,784,340	321,749,551	488,597,535	167,148,284	230,187
1921	608	48,955	57,740,510	277,724,919	389,305,045	105,040,129	(3)
1919	680	72,476	88,205,473	646,521,527	928,591,701	282,070,174	217,761
1914	741	55,936	31,914,497	284,245,420	307,201,705	82,956,285	171,734
1909	919	62,202	32,102,845	248,278,335	327,874,187	79,595,254	146,725
1904	1,049	57,239	27,049,152	191,179,073	252,620,980	61,441,913	116,605
1899	1,306	52,109	22,691,091	155,000,004	204,038,127	49,038,123	88,192
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929	-4.7	-5.7	-6.6	1.7	-2.6	-11.4	4.1
1925-1927	-7.0	1.3	3.1	11.8	9.3	4.5	2.2
1923-1925	-11.1	-12.5	-10.8	-7.7	-7.5	-7.1	-6.3
1921-1923	-1.8	22.0	27.8	15.9	27.5	58.2	-----
1919-1921	-10.6	-32.5	-34.5	-57.0	-58.7	-62.5	-----
1919-1929	-30.7	-31.1	-28.1	-47.8	-48.2	-49.0	5.5
1909-1919	-26.0	16.5	174.8	160.4	183.2	254.4	48.4
1899-1909	-29.6	10.4	42.1	60.2	60.7	62.3	66.4

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

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

<sup>3</sup> 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 <sup>1</sup>	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 <sup>2</sup>	Value added by manufacture <sup>3</sup>
					Total	Prime movers	Motors run by purchased energy			Total	Materials	Fuel and purchased energy		
United States	1929	471	4,291	49,932	229,660	134,234	95,426	\$15,649,249	\$63,413,707	\$337,597,868	\$330,857,235	\$6,740,633	\$481,340,299	\$143,742,431
	1927	494	4,400	52,924	220,530	138,085	82,445	13,856,133	67,887,231	331,984,736	324,321,487	7,663,249	494,256,836	162,271,102
	1919	680	6,418	72,476	217,761	159,267	58,494	20,178,972	88,205,473	646,521,527	636,698,271	9,823,256	928,591,701	282,070,174
Individual States: California	1929	10	52	594	3,707	882	2,825	208,083	687,553	3,146,776	3,079,762	67,014	4,410,843	1,264,067
	1927	16	93	1,016	6,126	1,533	4,593	307,960	1,429,890	7,712,615	7,550,360	162,255	11,026,193	3,313,578
	1919	21	166	1,453	5,714	1,878	3,836	536,096	1,896,537	10,471,095	16,250,563	221,132	21,416,302	4,944,007
Connecticut	1929	5	26	179	570	255	315	100,127	248,955	1,226,447	1,204,442	22,005	1,888,091	661,644
	1927	4	20	163	380	225	155	82,664	223,609	967,193	944,698	22,495	1,454,562	487,369
	1919	7	26	168	510	360	150	96,638	189,386	1,060,144	1,039,740	20,404	1,568,963	508,819

See footnotes at end of table.

# LEATHER: TANNED, CURRIED, AND FINISHED

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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 <sup>1</sup>	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 <sup>2</sup>	Value added by manufacture <sup>3</sup>
					Total	Prime movers	Motors run by purchased energy			Total	Materials	Fuel and purchased energy		
<b>Individual States—Continued.</b>														
Delaware	1929	11	140	2,686	4,867	4,110	757	\$485,131	\$3,169,646	\$14,910,454	\$14,765,550	\$144,904	\$20,613,037	\$5,702,583
	1927	11	107	2,451	5,932	4,908	1,024	347,645	2,984,468	11,778,664	11,611,537	167,127	17,730,820	5,042,156
	1919	18	202	4,261	7,977	4,678	3,299	859,568	5,811,722	28,340,811	28,105,589	235,222	50,138,251	21,797,440
Illinois	1929	26	289	3,661	20,393	7,890	12,503	1,177,663	4,946,109	24,379,714	23,885,629	494,085	37,478,835	13,099,121
	1927	26	285	3,812	18,006	11,695	6,311	1,076,524	5,231,621	25,137,330	24,602,080	534,650	39,350,176	14,218,846
	1919	29	342	4,434	14,620	11,384	3,242	1,502,612	5,246,980	42,652,233	42,139,911	512,322	60,393,659	17,671,426
Indiana	1929	6	33	262	1,094	360	734	124,836	284,476	2,019,839	1,979,484	40,355	3,313,287	1,293,448
	1927	7	26	318	1,131	385	746	60,802	383,245	2,892,857	2,840,763	46,094	3,670,052	777,195
	1919	9	44	396	1,206	425	781	146,989	343,075	3,455,288	3,410,089	45,209	4,720,538	1,274,240
Kentucky	1929	6	89	435	1,905	1,032	873	102,503	454,782	2,435,045	2,364,360	70,679	3,287,604	852,550
	1927	7	56	473	2,480	1,317	1,103	112,608	512,678	3,134,350	3,045,608	85,742	4,636,381	1,602,031
	1919	10	65	661	2,478	1,172	1,306	199,733	669,593	5,790,716	5,686,435	104,281	8,747,872	2,957,156
Maine	1929	5	21	147	988	525	463	52,879	148,224	439,840	413,430	26,410	742,740	302,000
	1927	5	16	175	1,039	530	509	44,012	181,187	384,342	359,277	25,065	631,600	447,226
	1919	9	29	306	1,740	1,600	146	72,212	299,152	2,674,619	2,570,482	98,137	3,358,638	684,019
Maryland	1929	4	49	541	1,918	1,475	443	249,251	541,014	3,342,404	3,283,945	58,459	5,674,094	2,331,630
	1927	4	39	595	1,818	1,375	443	174,915	543,178	3,316,981	3,247,579	69,402	5,670,858	2,788,877
	1919	7	52	517	1,630	1,024	606	220,350	479,115	4,356,441	4,282,995	73,446	6,263,468	1,907,027
Massachusetts	1929	113	1,098	10,707	45,514	25,229	20,285	3,844,122	14,209,501	60,240,934	58,808,992	1,431,942	88,348,403	28,107,469
	1927	115	1,094	10,788	43,222	24,557	18,695	3,398,492	14,387,638	47,800,959	46,379,063	1,481,896	77,649,457	29,788,498
	1919	131	1,605	15,180	34,159	21,131	13,028	3,896,855	19,211,100	82,017,255	80,083,207	1,934,048	129,594,962	47,577,707
Michigan	1929	13	182	2,070	9,166	6,794	2,372	517,739	2,584,427	13,685,107	13,347,588	337,519	19,250,379	5,665,272
	1927	14	150	2,191	8,874	6,473	2,401	349,351	2,683,410	13,543,178	13,172,153	371,025	19,576,326	6,033,148
	1919	28	283	3,494	12,433	9,008	2,335	928,803	4,162,540	32,451,798	31,685,075	766,723	46,800,786	13,348,988
New Jersey	1929	51	432	4,150	10,321	7,560	8,761	1,819,219	6,003,625	26,298,817	25,723,414	576,403	39,564,554	13,266,737
	1927	57	476	4,282	10,455	8,258	8,197	1,591,678	6,215,370	27,766,154	27,108,911	657,243	42,911,337	15,196,783
	1919	73	482	5,499	13,239	9,618	6,721	2,104,665	7,296,535	52,580,521	51,835,463	761,058	78,062,101	25,426,580
New York	1929	67	376	5,354	29,778	15,462	14,311	1,690,331	7,021,302	88,029,471	87,172,241	857,230	53,794,167	15,764,696
	1927	63	372	6,061	24,618	13,485	11,128	1,340,471	8,470,403	89,778,771	88,722,924	1,055,847	59,601,276	19,822,505
	1919	64	587	7,056	20,184	14,047	6,087	2,118,268	8,419,516	70,486,989	69,578,640	913,349	98,094,503	27,607,514
North Carolina	1929	9	80	1,329	7,759	4,425	3,334	344,993	1,132,077	13,781,166	13,581,685	199,481	18,017,395	4,236,220
	1927	11	123	1,342	5,572	3,195	2,377	305,915	1,237,242	12,128,432	11,884,681	243,751	16,405,352	4,276,020
	1919	11	83	1,385	6,910	4,428	2,488	271,581	1,096,246	14,280,624	14,043,567	237,357	17,848,626	3,667,002
Ohio	1929	18	128	1,629	4,951	2,457	2,404	444,428	2,197,862	9,852,760	9,674,712	178,048	15,975,285	6,122,525
	1927	17	139	1,613	5,014	2,987	2,927	428,395	2,120,707	10,436,203	10,250,940	185,263	15,030,482	5,480,279
	1919	24	150	1,665	5,063	3,440	1,614	481,710	2,171,888	18,817,791	18,024,703	193,088	25,008,207	6,190,279
Oregon	1929	5	6	35	270	16	260	5,600	40,327	121,025	116,554	4,471	228,860	107,835
	1927	5	6	38	309	18	293	13,450	46,737	84,289	79,784	4,505	218,811	134,522
	1919	5	3	39	203	16	187	5,400	49,177	236,312	231,861	4,451	314,567	78,255
Pennsylvania	1929	62	589	8,376	37,522	28,009	9,513	2,301,951	11,323,960	70,329,178	69,243,903	1,085,275	95,958,590	25,029,412
	1927	67	602	9,305	30,047	28,291	7,756	2,074,020	11,696,717	72,713,971	71,426,008	1,287,963	101,814,881	29,100,910
	1919	92	939	13,749	42,961	30,244	3,717	3,180,116	17,282,410	146,405,377	144,433,316	1,972,061	211,389,349	64,983,972
Tennessee	1929	5	26	464	4,173	2,625	1,548	69,892	409,462	2,766,023	2,703,249	62,774	3,437,570	671,547
	1927	7	39	830	4,642	3,176	1,466	105,557	651,153	3,935,815	3,814,878	120,937	5,037,436	1,101,621
	1919	10	42	608	2,877	1,960	917	105,291	489,952	5,027,615	4,945,012	82,603	6,709,970	1,982,355
Virginia	1929	9	37	816	3,826	1,739	2,087	84,409	776,382	7,628,574	7,482,139	146,435	9,500,544	1,871,970
	1927	9	39	859	3,828	1,968	1,845	91,169	775,109	7,468,183	7,302,264	165,919	2,824,354	1,274,554
	1919	21	203	1,066	5,341	4,249	1,092	525,549	1,873,237	16,216,034	16,030,069	185,965	21,590,902	5,374,868
West Virginia	1929	9	44	1,107	6,124	5,623	501	131,659	1,131,695	11,613,401	11,445,558	167,843	14,354,329	2,740,028
	1927	10	42	1,067	4,677	4,239	435	114,494	1,084,899	9,874,659	9,700,328	174,331	13,290,872	3,416,213
	1919	17	89	1,520	5,510	5,460	50	211,454	1,741,717	19,079,063	18,809,116	269,947	23,827,131	4,748,068
Wisconsin	1929	18	568	3,791	19,905	10,510	3,395	1,532,345	4,648,457	19,762,163	19,247,901	514,262	20,015,331	10,253,168
	1927	18	528	4,322	22,218	18,101	4,117	1,517,990	5,542,776	22,328,166	21,734,821	593,345	25,077,010	12,748,844
	1919	25	770	6,825	24,808	23,412	1,396	2,189,362	8,011,138	69,508,028	68,589,370	916,658	94,762,230	25,256,202
Groups of States:														
Ga., 2 est.; Minn., 3; Mo., 3; N. H., 5 est.; R. I., 1; Vt., 1; Other States (Tex., 2 est.; Wash., 2)	1929	8	60	735	4,603	385	4,218	204,222	792,317	6,530,219	6,395,412	134,807	8,302,490	1,832,271
	1929	7	63	511	4,088	865	3,223	138,605	632,147	4,918,232	4,803,431	114,801	6,906,814	1,988,58
	1920	4	13	34	217	0	211	20,181	32,347	140,219	133,848	6,371	217,057	76,838
States not shown separately	1927	20	148	1,173	7,247	1,366	5,891	318,340	1,285,203	8,741,624	8,536,290	205,334	12,432,851	3,691,227
	1919	39	250	1,734	8,897	2,924	5,973	612,411	1,794,445	14,607,863	14,322,008	285,855	19,091,913	4,484,080

<sup>1</sup> Not including proprietors and firm members, as follows: For 1929, 93; 1927, 163; 1919, 398. 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, 54,316; 1927, 57,487; 1919, 79,292.

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

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

<sup>4</sup> 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.

<sup>5</sup> Arkansas, 1 establishment; Georgia, 2; Minnesota, 2; Mississippi, 1; Missouri, 4; New Hampshire, 4; Rhode Island, 2; Texas, 2; Vermont, 1; Washington, 1.

<sup>6</sup> Alabama, 1 establishment; Colorado, 1; Georgia, 3; Louisiana, 1; Minnesota, 6; Missouri, 7; New Hampshire, 7; North Dakota, 2; Rhode Island, 2; South Dakota, 1; Texas, 3; Vermont, 2; Washington, 2; Wyoming, 1.

## CENSUS OF MANUFACTURES: 1929

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

[This table does not include data for the value of leather produced by establishments operating on a contract basis. See "Description of the Industry," p. 788]

CLASS AND KIND	Unit	Quantity	Value	CLASS AND KIND	Unit	Quantity	Value
"Leather: Tanned, curried, and finished" industry, all products, total value.			\$481,340,299	Leather—Continued.			
Leather.			458,307,954	Upper leather (other than patent)—Continued.			
Receipts for contract work on materials owned by others.			17,456,818	Horse (including colt, ass, and mule)—			
By-products of tanning, currying, and finishing (hair, glue stock, fleshings, etc.).			1,726,467	Half and whole fronts.....	Equivalent half fronts.	115,950	\$428,366
Other products (not normally belonging to the industry).			3,849,060	Butts.....	Equivalent butts.	451,428	971,466
Leather:				Shanks.....	Shanks.....	493,147	189,065
Aggregate value.....			\$458,307,954	Other, including deer and elk, value.			904,287
Sole and belting leather, total value.....			140,434,447	Patent leather (other than upholstery), total value.			24,839,670
Oak and union sole.....	Backs, bends, and sides.	13,750,273	93,911,933	Cattle (including kip side).....	Sides.....	5,374,691	23,503,897
Chrome and combination sole.....	do.	595,789	3,994,127	Other, value.....			1,335,673
Horse.....	Whole butts.	396,115	938,660	Glove and garment leather, total value.....			23,024,659
Belting butts, rough.....	Butts and butt bends.	705,084	9,043,116	Cattle grains (including foreign-tanned kip), calf and kip, and cowhide bellies, value.			1,190,760
Belting butts, curried.....	do.	670,011	8,878,754	Horse, colt, ass, and mule:			
Ofal (heads, bellies, shoulders, etc.).	Pounds.....	94,642,502	23,667,857	Half and whole fronts.....	Equivalent half fronts.	1,856,264	6,378,662
Harness leather, total value.....			6,092,336	Butts and shanks, value.....			631,546
Union black.....	Sides.....	284,238	2,476,107	Cabretta.....	Skins.....	544,905	1,189,074
Oak black and russet.....	do.	490,690	3,616,229	Sheep and lamb (except shearlings).....	do.	5,618,478	7,440,133
Bag, case, and strap leather.....	do.	1,054,724	7,307,793	Shearlings.....	do.	3,027,262	5,405,075
Skirting leather.....	do.	63,146	597,450	Deer and elk.....	do.	181,126	470,210
Collar leather.....	do.	362,558	1,554,003	Other, value.....			304,189
Lace leather.....	do.	142,823	911,733	Fancy and bookbinders' leather, total value.			16,390,197
Upholstery leather (automobile, furniture, and carriage), total value.....			15,401,442	Cowhide.....	Sides.....	156,565	930,066
Whole-hide grains and machine-buffed.	Hides.....	623,451	8,007,105	Buffings (finished).....	Hides.....	96,840	776,701
Buffings (russet).....	do.	255,088	1,437,319	Goat and kid.....	Skins.....	646,438	1,475,508
Splits (main and second).....	Pieces.....	724,550	5,057,018	Sheep and lamb and cabretta.....	do.	3,072,282	6,186,085
Upper leather (other than patent), total value.....			185,201,616	Calf and kip.....	do.	496,110	1,993,900
Cattle (including kip side).....	Sides.....	12,303,702	51,963,247	Other, value.....			5,027,937
Calf.....	Skins.....	12,932,950	43,355,540	Splits (other than upholstery), finished.	Side splits.....	21,210,302	19,517,063
Kip (except kip side).....	Whole skins.....	1,316,702	5,766,200	Miscellaneous leather, total value.....			17,035,615
Goat and kid.....	Skins.....	50,148,623	64,639,815	Roller leather.....	Skins.....	979,126	1,706,828
Sheep and lamb (shoe stock) and cabretta.....	do.	14,323,794	15,523,386	Hat-sweat skivers.....	Dozens.....	107,133	2,182,199
Kangaroo and wallaby.....	do.	891,734	1,439,274	Skivers, other than hat-sweat.....	do.	237,480	3,281,825
				Chamois fleshers.....	do.	195,649	2,998,715
				Fleshers, other than chamois.....	do.	9,596	170,734
				Rough leather, other than chamois.....	Equivalent sides.	84,635	476,323
				Rough leather unsplit, for sale in the rough.	Equivalent side splits.	1,213,022	1,111,576
				Rough splits, for sale in the rough.			5,107,415
				Other leather, value.....			

# LEATHER: TANNED, CURRIED, AND FINISHED

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TABLE 4.—PRODUCTS, BY CLASS, KIND, AND QUANTITY, FOR THE UNITED STATES: 1929, 1928, AND 1927

(The statistics in this table were compiled from data reported at the Monthly Census of Hides, Skins, and Leather. The differences between certain items in this table and the corresponding ones in Table 3 are due to the fact that data for leather produced by contract tanners are included in this table but not in Table 3)

CLASS	1929	1928	1927	CLASS	1929	1928	1927
<b>Sole and belting leather:</b>				<b>Upper leather (other than patent)—Continued.</b>			
Sole—cattle, total, backs, bends, and sides..	14, 516, 339	16, 138, 229	15, 828, 586	Goat and kid, total.....skins..	54, 355, 132	52, 861, 756	49, 417, 010
Oak and union.....do.....	13, 938, 855	15, 653, 658	15, 193, 824	Blacks.....do.....	20, 018, 267	22, 718, 554	(1)
Chrome.....do.....	577, 484	484, 541	634, 762	Colors.....do.....	34, 336, 865	30, 143, 202	(2)
Sole—horse (chrome).....whole butts..	331, 082	219, 818	175, 636	Cabretta.....do.....	1, 672, 252	2, 064, 438	1, 550, 635
<b>Belting butts—</b>				Sheep and lamb.....do.....	17, 751, 590	16, 951, 990	14, 848, 644
Rough.....butts and butt bends..	990, 315	846, 569	929, 060	Deer and elk.....do.....	351, 673	337, 450	292, 935
Curried.....do.....	1, 077, 560	778, 797	962, 235	Kangaroo and wallaby.....do.....	853, 849	882, 535	705, 268
<b>Offal, total.....pounds..</b>	<b>106, 858, 400</b>	<b>116, 359, 774</b>	<b>118, 391, 827</b>	Horse, colt, ass, and mule—			
Heads.....do.....	9, 977, 337	10, 873, 400	11, 298, 762	Half and whole fronts			
Bellies.....do.....	66, 421, 140	75, 457, 663	72, 802, 384	equivalent half fronts..	105, 749	79, 918	91, 307
Shoulders—sole leather.....do.....	16, 198, 032	16, 180, 285	19, 788, 233	Butts.....whole butts..	345, 523	346, 403	370, 285
Shoulders—rough.....do.....	13, 154, 116	12, 771, 356	13, 099, 423	Shanks.....shanks..	404, 126	443, 490	294, 810
All other.....do.....	1, 107, 775	1, 077, 070	1, 403, 025	<b>Patent leather (other than upholstery):</b>			
<b>Harness leather, total.....sides..</b>	<b>641, 805</b>	<b>812, 803</b>	<b>1, 016, 255</b>	Cattle (including kip side).....sides..	5, 953, 557	7, 830, 561	8, 888, 467
Union black.....do.....	255, 624	377, 316	457, 993	Calf and kip.....whole skins..	36, 958	65, 783	121, 360
Oak black.....do.....	382, 071	434, 558	567, 862	Goat and kid.....skins..	302, 123	724, 234	430, 290
Russet.....do.....	4, 110	949	400	Sheep and lamb.....do.....		16, 469	
<b>Bag, case, and strap leather.....do.....</b>	<b>940, 630</b>	<b>812, 163</b>	<b>1, 104, 576</b>	Horse and colt.....equivalent half fronts..	271, 373	424, 852	416, 103
Skirting leather.....do.....	47, 914	56, 898	68, 842	<b>Glove and garment leather:</b>			
Collar leather.....do.....	309, 184	309, 194	476, 467	Cattle grains (including kip side).....sides..	63, 682	9, 875	18, 343
Latigo leather.....do.....	20, 368	19, 278	38, 473	Calf and kip.....whole skins..	24, 112	18, 609	41, 692
Lace leather.....do.....	117, 658	135, 058	147, 699	Bellies (cowhide).....bellies..	288, 348	303, 937	669, 394
<b>Welting leather:</b>				Horse, colt, ass, and mule—			
Cattle, total.....pounds..	11, 417, 729	8, 658, 213	10, 068, 413	Half and whole fronts			
Sides—curried.....do.....	1, 669, 885	1, 125, 570	917, 294	equivalent half fronts..	1, 856, 695	1, 499, 673	1, 458, 912
Shoulders—curried.....do.....	9, 747, 844	7, 532, 643	9, 151, 209	Butts.....whole butts..	78, 468	117, 079	232, 604
Pigskin strips (including fancy).....do.....	5, 824, 089	6, 136, 989	3, 247, 498	Shanks.....shanks..	1, 419, 522	1, 300, 624	1, 154, 115
<b>Upholstery leather, total.....pieces..</b>	<b>1, 205, 626</b>	<b>1, 327, 852</b>	<b>1, 593, 111</b>	Pig and hog.....skins..	573, 638	352, 742	251, 164
Whole-hide grains.....hides..	272, 821	320, 507	353, 693	Goat and kid.....do.....	138, 448	141, 684	171, 235
Buffings (russet).....do.....	118, 946	148, 845	152, 608	Cabretta.....do.....	1, 060, 320	1, 014, 245	1, 820, 055
Machine-buffed.....do.....	141, 418	149, 065	148, 125	Sheep and lamb (except shearlings).....do.....	8, 633, 253	9, 026, 284	7, 575, 273
Main splits.....pieces..	436, 586	494, 913	665, 005	Shearlings.....do.....	3, 989, 769	3, 297, 129	2, 727, 430
Second splits.....pieces..	235, 855	214, 522	273, 380	Deer and elk.....do.....	613, 744	621, 659	594, 975
<b>Upper leather (other than patent):</b>				<b>Fancy and bookbinders' leather:</b>			
Cattle (including kip side), total.....sides..	12, 609, 956	11, 484, 943	13, 459, 212	Cowhide.....sides..	239, 777	155, 536	201, 611
Chrome.....do.....	11, 104, 691	9, 936, 473	11, 569, 820	Buffings (finished).....hides..	63, 671	78, 278	58, 582
Dress shoe.....do.....	6, 504, 545	6, 382, 068	8, 246, 239	Goat and kid.....skins..	888, 798	1, 116, 361	717, 131
Work shoe.....do.....	4, 000, 140	3, 554, 405	3, 263, 581	Cabretta.....do.....	163, 160	183, 938	36, 162
Combination (chrome and vegetable).....sides..	1, 341, 676	1, 411, 552	1, 702, 637	Sheep and lamb.....do.....	2, 618, 152	3, 210, 093	2, 824, 530
Dress shoe.....do.....	8, 345	12, 292	89, 580	Calf and kip.....do.....	765, 787	557, 805	673, 757
Work shoe.....do.....	1, 333, 331	1, 399, 260	1, 613, 057	Pig and hog.....do.....	139, 077	169, 549	96, 765
Vegetable.....do.....	103, 589	136, 918	246, 755	Seal.....do.....	243, 979	192, 214	351, 331
Dress shoe.....do.....	78, 754	107, 146	194, 804	<b>Splits (other than upholstery) finished and rough.....equivalent side splits..</b>	<b>22, 465, 304</b>	<b>21, 945, 021</b>	<b>24, 644, 600</b>
Work shoe.....do.....	24, 835	29, 772	51, 951	<b>Miscellaneous leather:</b>			
<b>Calf, total.....skins..</b>	<b>14, 023, 487</b>	<b>14, 463, 807</b>	<b>15, 384, 222</b>	Sheep and lamb—			
Blacks.....do.....	6, 327, 091	6, 079, 642	5, 306, 537	Koller leather.....skins..	1, 052, 589	942, 959	930, 023
Colors.....do.....	7, 696, 396	8, 384, 165	9, 877, 685	Skivers, total.....dozens..	211, 813	220, 255	271, 771
<b>Kip, total.....whole skins..</b>	<b>517, 432</b>	<b>511, 621</b>	<b>765, 480</b>	Hat sweats.....do.....	47, 100	54, 002	74, 772
Blacks.....do.....	211, 415	173, 673	242, 154	Other skivers.....do.....	164, 713	165, 653	196, 990
Colors.....do.....	306, 017	337, 948	523, 326	<b>Fleshers, total.....do.....</b>	<b>160, 369</b>	<b>194, 490</b>	<b>257, 532</b>
				Chamois.....do.....	153, 783	179, 300	236, 897
				Other fleshers.....do.....	6, 626	15, 190	20, 635
				Sheep and lamb, not elsewhere specified.....skins..	2, 363, 578	2, 636, 516	3, 894, 516
				Cowhide, not elsewhere specified.....sides..	4, 708		
				Rough leather.....equivalent sides..	12, 578	20, 807	29, 850

<sup>1</sup> Not reported separately.

## 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 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.....	9,231	<i>Horse-power</i> 229,600	8,158	<i>Horse-power</i> 220,530	6,927	<i>Horse-power</i> 215,678	5,663	<i>Horse-power</i> 217,761	2,908	<i>Horse-power</i> 171,734	100.0	100.0
Prime movers, total.....	685	134,234	700	138,085	857	143,645	1,334	150,267	1,332	150,164	58.4	73.1
Steam, total.....	650	128,202	722	134,440	776	138,587	1,239	150,800	1,210	140,299	55.8	69.3
Engines.....	599	90,215	670	96,023	722	97,241	1,116	124,891	(1)	(1)	39.3	57.4
Turbines.....	51	37,987	52	38,417	54	41,346	123	25,909	(1)	(1)	16.5	11.9
Internal-combustion engines.....	23	2,862	25	2,540	37	3,011	69	6,438	91	7,997	1.2	2.9
Water wheels and water turbines.....	12	3,170	13	1,105	44	2,047	26	2,029	31	1,808	1.4	0.9
Electric motors driven by purchased energy.....	8,546	95,426	7,398	82,445	6,070	72,033	4,329	58,494	1,570	21,570	41.0	26.9
Electric motors, total.....	16,291	186,056	15,117	176,419	15,152	168,265	10,601	143,935	4,838	73,424	100.0	100.0
Driven by purchased energy.....	8,546	95,426	7,398	82,445	6,070	72,033	4,329	58,494	1,570	21,570	51.3	40.0
Driven by energy generated in establishments reporting.....	7,745	90,630	7,719	93,974	9,082	96,232	6,272	85,441	3,268	51,854	48.7	59.4
Electric generators.....	287	<i>Kilowatts</i> 74,432	294	<i>Kilowatts</i> 76,149	279	<i>Kilowatts</i> 73,945	(?)	(?)	(?)	(?)		
Electric energy purchased <sup>1</sup> .....		<i>Kilowatt-hours</i> 74,185,894		(*)		(*)		(?)		(?)		

<sup>1</sup> Not called for separately on schedule.<sup>2</sup> Not called for on schedule.<sup>3</sup> This item covers the consumption of purchased electric energy for all purposes—power, heat, light, etc.<sup>4</sup> 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.....	49,432	49,572	49,992	49,160	48,552	48,355	48,613	49,704	50,976	51,795	51,833	50,933	49,092	49,092	49,092	93.3
1925.....	52,263	52,407	53,281	53,901	52,249	51,231	50,856	50,408	51,622	52,608	53,081	52,813	52,704	52,704	52,704	93.7
1919.....	72,476	65,519	<i>65,515</i>	65,979	67,423	69,655	72,725	72,902	77,202	77,589	77,855	78,341	79,010	79,010	79,010	82.9
1914.....	55,936	58,250	58,455	58,743	58,001	57,099	56,530	55,216	54,294	53,715	<i>53,491</i>	53,793	53,735	53,735	53,735	91.1
1909.....	62,292	62,063	62,373	61,726	60,035	<i>60,075</i>	60,559	61,039	61,166	62,049	63,333	65,174	68,694	68,694	68,694	90.1
California.....	504	<i>479</i>	481	491	498	500	504	497	563	545	517	495	493	493	493	86.0
Connecticut.....	179	174	<i>169</i>	179	188	184	185	175	175	188	186	172	175	175	175	89.9
Delaware.....	2,686	2,806	2,732	2,647	2,600	2,647	<i>2,569</i>	2,644	2,715	2,695	2,703	2,743	2,742	2,742	2,742	91.1
Illinois.....	3,661	3,543	3,600	3,465	<i>3,418</i>	3,455	3,583	3,746	3,850	3,971	3,963	3,775	3,566	3,566	3,566	85.9
Indiana.....	262	283	278	272	275	279	274	276	253	257	257	233	<i>215</i>	215	215	75.3
Kentucky.....	435	428	443	<i>416</i>	429	418	436	435	436	439	441	447	450	450	450	92.4
Maine.....	147	145	145	153	144	<i>124</i>	133	161	167	153	153	141	137	137	137	74.3
Maryland.....	541	<i>498</i>	504	516	513	555	574	566	543	559	563	569	533	533	533	86.8
Massachusetts.....	10,707	10,203	10,619	10,469	<i>10,098</i>	10,101	10,210	10,977	11,351	11,522	11,522	10,909	10,435	10,435	10,435	87.1
Michigan.....	2,070	2,027	2,000	2,048	2,055	2,004	<i>1,936</i>	2,000	2,058	2,133	2,287	2,179	2,113	2,113	2,113	84.7
New Jersey.....	4,159	<i>3,913</i>	3,987	4,096	4,019	4,067	4,084	4,083	4,360	4,387	4,425	4,356	4,219	4,219	4,219	88.4
New York.....	5,354	5,844	5,863	5,984	5,646	5,229	5,063	5,138	5,219	5,243	5,218	5,097	5,003	5,003	5,003	85.3
North Carolina.....	1,323	<i>1,269</i>	1,273	1,275	1,291	1,321	1,342	1,385	1,373	1,363	1,352	1,348	1,351	1,351	1,351	91.4
Ohio.....	1,526	1,513	1,542	1,536	1,561	1,492	1,548	1,553	1,561	1,567	1,551	1,509	1,476	1,476	1,476	94.2
Oregon.....	35	42	38	41	39	41	41	40	27	28	28	27	28	28	28	64.3
Pennsylvania.....	8,876	8,804	8,683	<i>8,421</i>	8,442	8,644	8,851	8,747	8,974	9,169	9,098	9,309	9,370	9,370	9,370	89.9
Tennessee.....	464	470	475	455	473	434	458	450	402	439	457	457	463	463	463	90.7
Virginia.....	816	819	765	735	746	768	785	817	838	879	881	879	884	884	884	83.1
West Virginia.....	1,107	1,104	1,132	1,108	1,115	1,121	1,119	1,100	1,085	1,069	1,071	1,120	1,137	1,137	1,137	94.0
Wisconsin.....	3,791	3,964	3,959	4,012	3,851	3,701	3,669	3,645	3,640	3,753	3,823	3,856	<i>3,694</i>	3,694	3,694	89.6

## BELTING, LEATHER

Description of the industry.—The establishments embraced within this industry are engaged primarily in the manufacture of leather belting for use in the transmission of power. (Leather belts for wear on the person are products of the "Leather goods, not

elsewhere classified" industry. The manufacture of rubber belting is included in the "Rubber goods, other than tires, inner tubes, and boots and shoes" industry.)

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 <sup>1</sup>	Value added by manufacture <sup>2</sup>	Horsepower
1929.....	207	2,602	\$3,649,721	\$20,079,778	\$35,631,682	\$14,951,904	6,826
1927.....	173	2,164	2,925,416	16,185,267	27,265,752	11,080,485	6,728
1925.....	168	2,644	3,505,450	18,868,230	31,810,920	12,942,696	6,889
1923.....	169	3,160	3,895,419	24,569,125	37,723,518	13,154,393	9,075
1921.....	164	2,288	2,841,644	13,075,740	19,168,255	6,092,616	( <sup>3</sup> ) 7,012
1919.....	172	2,785	3,260,439	28,156,711	40,430,634	12,323,943	7,385
1914.....	151	2,951	2,069,545	15,480,110	23,035,951	7,555,841	5,412
1909.....	139	3,006	1,660,880	15,622,603	23,691,887	8,069,284	2,997
1904.....	117	2,092	1,164,548	9,317,206	14,220,366	4,903,100	2,162
1899.....	104	1,607	913,877	7,499,952	10,622,622	3,122,570	
PER CENT OF INCREASE OR DECREASE (-)							
1927-1929.....	19.7	20.2	21.3	27.8	30.6	34.9	1.5
1925-1927.....	3.0	-18.2	-16.5	-14.2	-14.3	-14.4	-2.3
1923-1925.....	-0.6	-16.3	-10.0	-23.2	-15.7	-1.6	-24.1
1921-1923.....	3.0	39.3	37.1	87.9	96.8	115.9	
1919-1921.....	-4.7	-18.0	-12.8	-53.6	-52.0	-50.6	
1919-1929.....	20.3	-5.9	8.9	-28.6	-12.0	21.3	-2.7
1909-1919.....	23.7	-8.0	75.2	89.2	70.9	52.7	29.6
1899-1909.....	33.7	80.3	103.6	103.3	123.0	158.4	150.3

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

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

<sup>3</sup> Not called for on schedule.

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 <sup>1</sup>	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 <sup>2</sup>	Value added by manufacture <sup>3</sup>
					Total	Prime movers	Motors run by purchased energy			Total	Materials and containers	Fuel and purchased energy		
United States.....	1929	207	815	2,602	6,826	2,780	4,046	\$2,368,594	\$3,549,721	\$20,679,778	\$20,468,748	\$211,030	\$35,031,682	\$14,951,904
	1927	173	761	2,164	6,728	3,246	3,482	2,018,941	2,925,416	16,185,267	15,980,306	204,961	27,265,752	11,080,485
	1919	172	1,163	2,765	7,012	4,559	4,453	2,695,779	3,260,439	28,156,711	27,899,058	257,653	40,480,654	12,323,943
Individual States:														
California.....	1929	10	35	59	115	-----	115	92,872	104,387	416,694	412,141	4,553	801,169	444,475
	1927	9	24	51	26	-----	26	66,472	55,312	341,172	337,759	3,413	670,597	320,425
	1919	7	28	80	261	-----	261	86,681	81,635	738,816	732,094	6,722	1,083,208	344,392
Connecticut.....	1929	8	13	21	42	-----	42	32,625	34,139	208,116	205,902	2,214	330,501	122,385
	1927	6	13	40	5	-----	5	36,962	35,472	154,964	149,694	5,270	283,120	128,156
	1919	8	71	247	377	155	222	203,065	285,258	2,795,205	2,777,034	17,621	3,930,487	1,135,282
Illinois.....	1929	12	106	379	707	200	507	286,030	498,353	1,822,315	1,801,570	20,745	3,778,501	1,956,186
	1927	10	64	170	317	200	117	179,459	251,282	1,252,783	1,217,181	35,602	2,127,581	913,212
	1919	9	102	192	368	325	43	207,992	257,144	2,460,172	2,444,502	15,670	3,315,438	855,266
Indiana.....	1929	6	33	66	191	-----	191	53,553	69,780	348,482	343,993	4,489	598,045	249,563
	1927	7	44	164	188	-----	188	43,600	148,502	532,410	524,412	8,068	905,121	372,711
Massachusetts.....	1929	18	77	433	1,046	582	404	289,458	533,980	3,836,040	3,802,165	33,875	7,054,645	3,218,605
	1927	20	84	384	1,897	1,000	897	198,541	535,243	3,519,578	3,473,821	45,767	5,211,281	1,601,703
	1919	20	88	269	1,383	135	248	221,774	328,639	2,929,546	2,911,870	17,676	3,943,656	1,014,139
Michigan.....	1929	7	38	164	424	100	324	141,730	230,907	1,005,318	1,884,336	20,982	2,994,841	1,089,523
	1927	4	28	97	292	100	192	98,504	136,078	589,892	577,189	12,703	1,042,820	452,928
	1919	3	25	113	585	330	255	62,906	127,198	1,033,444	1,015,535	17,909	1,595,982	562,538
Missouri.....	1929	9	26	52	137	-----	137	104,057	73,648	406,280	400,973	5,307	667,366	261,086
	1927	10	31	71	143	-----	143	143,638	76,808	533,080	527,217	5,863	906,330	373,250
	1919	8	65	56	133	-----	133	119,383	56,799	708,491	703,822	4,069	1,040,506	272,015
New Jersey.....	1929	9	9	22	36	-----	36	26,305	37,645	120,413	118,788	1,625	240,340	119,993
	1927	7	11	21	16	-----	16	18,868	28,503	85,596	84,965	631	189,515	103,919
	1919	10	38	82	104	7	97	115,527	90,339	715,477	706,573	8,904	1,001,526	286,049
New York.....	1929	32	142	336	1,300	1,015	286	407,950	474,230	3,461,415	3,420,939	40,476	5,309,143	1,847,728
	1927	29	176	303	1,476	1,068	408	486,839	437,002	2,747,904	2,747,904	31,757	4,846,564	1,788,600
	1919	37	247	660	3,106	2,852	254	601,339	864,000	6,450,506	6,356,323	94,178	9,331,023	2,880,517
Ohio.....	1929	14	34	85	233	63	170	122,433	141,705	588,196	581,135	7,061	1,007,012	509,416
	1927	11	30	57	241	150	91	76,530	88,426	419,717	415,202	4,515	732,142	312,425
	1919	10	82	102	166	55	111	107,356	107,356	1,137,874	1,132,842	5,032	1,549,095	411,821
Pennsylvania.....	1929	18	48	289	638	230	408	150,776	445,511	2,682,516	2,667,092	15,424	4,387,514	1,704,993
	1927	14	58	282	525	226	299	147,128	395,181	2,053,418	2,034,547	18,871	3,647,869	1,594,451
	1919	17	203	414	597	461	136	396,896	475,205	3,578,063	3,547,550	30,513	5,574,105	1,990,042
Tennessee.....	1929	7	15	28	62	-----	62	27,071	35,500	148,794	146,672	2,122	267,427	118,633
	1927	(5)	(5)	(9)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)
	1919	3	1	29	28	15	13	2,400	20,467	38,907	37,550	1,357	79,076	40,169
Texas.....	1929	5	11	16	33	-----	33	14,055	20,969	105,120	104,006	514	168,544	63,524
	1927	3	7	7	2	-----	2	9,902	10,511	73,427	73,283	144	114,119	40,692
Washington.....	1929	6	3	11	48	-----	48	2,396	10,031	88,169	87,253	909	139,232	51,073
	1927	4	3	10	21	-----	21	4,940	16,590	59,057	58,420	637	116,201	57,144
	1919	5	4	8	18	-----	18	3,382	11,685	100,027	99,673	354	141,073	41,046
Wisconsin.....	1929	4	6	24	77	-----	77	14,977	31,808	199,841	198,439	1,402	294,433	94,592
	1927	4	14	17	114	-----	114	34,539	34,403	186,986	184,874	1,112	292,409	106,423
Groups of States:														
Del., 2 est.; Me., 1; N. H., 2; R. I., 5;	1929	10	70	343	941	250	601	192,958	430,872	2,219,921	2,193,354	26,567	4,017,632	1,797,711
Ga., 3 est.; La., 4; Miss., 2; S. C., 3;	1929	12	43	53	102	-----	102	168,401	70,889	573,361	568,799	4,562	994,379	421,518
Ky., 1 est.; Md., 2; N. C., 4; Va., 2;	1929	9	25	52	207	-----	207	83,088	68,681	521,997	516,805	5,192	866,274	344,277
Other States (Colo., 2 est.; Minn., 4; Nebr., 1; Oreg., 3; Utah, 1).	1929	11	75	169	487	340	147	87,569	225,626	1,026,800	1,013,786	13,014	1,563,478	536,678
States not shown separately.....	1927	35	174	490	1,465	502	963	472,609	646,013	3,636,283	3,605,665	6,441,669	2,808,386	
	1919	35	209	513	913	224	689	504,213	564,720	5,410,183	5,373,035	7,894,850	2,484,697	

<sup>1</sup> Not including proprietors and firm members, as follows: For 1929, 94; 1927, 97; 1919, 91. 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, 3,511; 1927, 3,022; 1919, 4,019.

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

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

<sup>4</sup> 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.

<sup>5</sup> Withheld from publication in order to avoid disclosing data for individual establishments.

<sup>6</sup> Alabama, 1 establishment; Colorado, 2; Delaware, 1; Georgia, 2; Louisiana, 3; Maine, 1; Maryland, 2; Minnesota, 3; Mississippi, 1; Nebraska, 1; New Hampshire, 1; North Carolina, 5; Oregon, 1; Rhode Island, 4; South Carolina, 2; Tennessee, 3; Virginia, 2.

<sup>7</sup> Colorado, 1 establishment; Delaware, 1; Georgia, 3; Indiana, 3; Louisiana, 3; Maine, 1; Maryland, 2; Minnesota, 3; Mississippi, 1; New Hampshire, 1; North Carolina, 2; Oregon, 1; Rhode Island, 6; South Carolina, 1; Virginia, 3; Wisconsin, 3.

# BELTING, LEATHER

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**TABLE 3.—PRODUCTS, BY KIND, QUANTITY, AND VALUE, BY STATES: 1929 AND 1927**

(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. Certain of the "Other States," however, reported larger quantities and values than some of the States shown separately)

KIND	1929	1927	KIND	1929	1927
1. Leather-belting industry, all products, total value...	\$35,631,682	\$27,265,752	Leather belting, all industries—Continued.		
2. Leather belting.....	\$25,498,863	\$21,269,504	Flat—Continued.		
3. Belt repairs (including rebuilding and reworking).....	\$1,127,295	\$681,000	Massachusetts—		
4. Leather packing (cup, U, valve, etc.).....	\$3,725,710	\$1,035,170	Pounds.....	2,932,657	2,025,489
5. Other products (not normally belonging to the industry).....	\$5,279,814	\$4,280,078	Value.....	\$4,976,175	\$3,540,057
6. Leather belting made as a secondary product in other industries, value.....	\$125,130	\$507,293	Michigan—		
Leather belting, all industries:			Pounds.....	440,313	(?)
Aggregate value (sum of 2 and 6).....	\$25,623,993	\$21,776,797	Value.....	\$763,339	(?)
Flat—			Missouri—		
Total pounds.....	13,051,299	9,739,859	Pounds.....	299,641	468,365
Total value.....	\$23,478,916	\$10,811,558	Value.....	\$519,170	\$705,794
California—			New York—		
Pounds.....	298,682	(?)	Pounds.....	2,241,657	1,564,225
Value.....	\$555,092	(?)	Value.....	\$4,293,284	\$3,083,774
Illinois—			Ohio—		
Pounds.....	1,113,558	967,809	Pounds.....	476,039	380,803
Value.....	\$1,946,407	\$1,682,833	Value.....	\$902,700	\$601,295
Indiana—			Pennsylvania—		
Pounds.....	315,800	(?)	Pounds.....	1,549,282	1,633,707
Value.....	\$531,130	(?)	Value.....	\$2,883,022	\$2,475,667
			Other States—		
			Pounds.....	3,383,622	2,699,461
			Value.....	\$6,108,597	\$4,822,138
			Kind not specified, value.....	\$2,145,077	\$4,965,239

<sup>1</sup> Revised.

<sup>2</sup> Included in item for "Other States" to avoid disclosing data for individual establishments.

**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 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.....	747	6,826	534	6,728	592	6,889	473	7,012	259	7,385	100.0	100.0
Prime movers, total.....	24	2,780	27	3,246	25	2,975	40	4,559	53	5,906	40.7	65.0
Steam, total.....	16	2,592	18	3,050	17	2,850	29	4,417	40	5,700	38.0	63.0
Engines.....	16	2,592	17	2,925	17	2,850	27	3,967	( <sup>1</sup> )	( <sup>1</sup> )	38.0	56.6
Turbines.....			1	125			2	450	( <sup>1</sup> )	( <sup>1</sup> )		6.4
Internal-combustion engines.....	5	53	6	61	4	59	10	87	12	151	0.7	1.2
Water wheels and water turbines.....	3	135	3	135	4	66	1	55	1	55	2.0	0.8
Electric motors driven by purchased energy.....	723	4,046	507	3,482	567	3,914	433	2,453	206	1,479	59.3	35.0
Electric motors, total.....	850	4,555	642	4,035	715	4,584	544	2,773	272	1,859	100.0	100.0
Driven by purchased energy.....	723	4,046	507	3,482	567	3,914	433	2,453	206	1,479	88.8	88.5
Driven by energy generated in establishments reporting.....	127	509	135	553	148	670	111	320	66	380	11.2	11.5
Electric generators.....	14	Kilo-watts 1,279	13	Kilo-watts 1,423	12	Kilo-watts 918	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )		
Electric energy purchased <sup>3</sup> .....		Kilowatt-hours 2,321,895		( <sup>4</sup> )		( <sup>4</sup> )		( <sup>4</sup> )		( <sup>4</sup> )		

<sup>1</sup> Not called for separately on schedule.

<sup>2</sup> Not called for on schedule.

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

<sup>4</sup> Data incomplete.





# BOOT AND SHOE CUT STOCK

Description of the industry.—The establishments covered by this industry designation are those engaged wholly or principally in the manufacture, from substances other than rubber, of uppers, soles, top lifts, heels, tips, inner soles, etc., for sale to establishments which use them as materials in the manufacture of boots, shoes, and other footwear. Cut stock is also manufactured for sale, although made

principally for their own consumption, by some establishments in the boot and shoe industry, and a small amount of cut stock is made as a secondary product by establishments classified in other industries. The entire production of cut stock is, therefore, somewhat greater than the amount made by establishments in the cut-stock industry.

**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 <sup>1</sup>	Value added by manufacture <sup>2</sup>	Horsepower
1929	210	9,490	\$10,319,966	\$107,545,777	\$133,447,914	\$25,902,137	15,628
1927	201	8,611	9,354,049	97,966,431	121,022,421	23,055,990	13,718
1925	245	7,977	8,906,159	75,326,204	94,047,681	18,721,477	14,859
1923	228	8,038	7,980,851	82,031,754	102,838,245	20,806,491	14,429
1921	226	7,049	7,613,216	56,922,902	72,691,594	15,708,602	( <sup>3</sup> )
1919	252	9,715	9,124,778	133,887,276	161,203,310	27,316,034	8,448
1914	236	7,819	4,052,123	51,450,498	59,964,523	8,514,025	6,018
1909	232	6,693	3,156,460	36,919,919	44,861,497	7,741,578	4,769
1904	200	5,936	2,364,209	21,586,872	27,675,815	6,088,943	3,361
1899	342	6,155	2,230,691	17,800,282	23,242,892	5,442,610	2,425
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929	4.5	10.3	10.3	9.8	10.3	12.3	15.4
1925-1927	-18.0	7.9	5.0	30.1	28.7	23.2	-7.7
1923-1925	7.5	-0.8	11.6	-8.2	-6.5	-10.0	3.0
1921-1923	0.9	14.0	4.8	44.1	41.5	31.9	-----
1919-1921	-10.3	-27.4	-16.6	-57.5	-54.9	-42.3	-----
1919-1929	-16.7	-2.2	13.1	-19.7	-17.2	-5.2	87.4
1909-1919	8.6	45.2	189.1	262.6	260.9	252.8	77.1
1899-1909	-32.2	8.7	41.6	107.4	92.2	42.2	90.7

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

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

<sup>3</sup> 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. 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	Consus year	Number of establishments	Salaried officers and employees <sup>1</sup>	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 <sup>2</sup>	Value added by manufacture <sup>3</sup>
					Total	Prime movers	Motors run by purchased energy			Total	Materials and containers	Fuel and purchased energy		
United States	1929	210	980	9,490	15,828	8,242	7,556	\$2,293,324	\$10,319,966	\$107,545,777	\$107,151,688	\$394,089	\$133,447,914	\$25,902,137
	1927	201	1,135	8,611	13,718	8,102	5,616	2,391,255	9,354,049	97,966,431	97,580,458	385,973	121,022,421	23,055,990
	1919	252	1,563	9,715	13,718	1,810	4,638	3,328,236	9,124,778	133,887,276	133,270,830	616,446	161,203,310	27,316,034
Illinois	1929	5	43	283	490	325	165	146,298	277,315	3,247,167	3,229,700	17,467	3,979,496	732,329
	1927	5	58	260	453	325	128	175,760	268,994	2,887,176	2,869,834	17,342	3,063,407	776,231
Massachusetts	1929	130	443	2,814	3,106	325	2,781	1,152,280	3,170,787	38,491,718	38,370,397	121,321	47,782,256	9,290,538
	1927	140	438	2,609	2,398	245	2,123	1,203,379	3,007,839	40,258,568	40,141,046	117,322	50,648,195	10,389,627
	1919	182	517	4,631	3,836	935	2,901	1,590,753	4,452,302	69,481,966	69,295,897	186,009	86,214,106	16,732,140
Missouri	1929	11	230	2,801	2,150	552	1,654	319,915	3,374,917	30,324,323	30,295,495	58,828	38,392,480	8,068,157
	1927	11	322	2,450	1,060	532	1,128	424,359	3,014,370	24,094,212	24,959,598	34,614	30,015,012	5,020,800
	1919	7	302	1,593	1,309	310	959	389,163	1,565,344	26,475,783	26,181,553	294,230	28,690,415	2,220,632
New York	1929	20	25	239	251	-----	281	62,038	265,028	559,520	848,865	10,655	1,691,148	831,628
	1927	11	17	119	153	-----	183	40,091	139,090	1,020,480	1,014,583	5,897	1,384,995	364,515
	1919	18	50	378	330	76	255	144,394	317,394	2,440,587	2,434,632	11,955	3,288,113	841,526
Other States	<sup>4</sup> 1929	35	239	3,362	9,765	7,040	2,725	612,793	3,231,939	34,623,049	34,437,231	185,818	41,602,534	6,979,485
	<sup>5</sup> 1927	34	300	3,176	9,054	7,000	2,654	547,666	2,923,756	28,805,995	28,595,397	210,598	35,310,812	6,604,817
	<sup>6</sup> 1919	45	694	3,113	3,528	490	3,038	1,203,916	2,789,738	35,482,940	35,358,748	124,192	43,004,676	7,621,736

<sup>1</sup> Not including proprietors and firm members, as follows: For 1929, 160; 1927, 192; 1919, 234. 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, 10,639; 1927, 9,938; 1919, 11,512.

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

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

<sup>4</sup> 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.

<sup>5</sup> California, 3 establishments; Connecticut, 1; Kansas, 1; Maine, 2; Maryland, 1; Michigan, 1; New Hampshire, 7; New Jersey, 3; Ohio, 3; Pennsylvania, 11; Virginia, 1; Wisconsin, 1.

<sup>6</sup> Connecticut, 1 establishment; Kansas, 1; Maine, 2; Maryland, 2; Michigan, 1; New Hampshire, 8; New Jersey, 3; Ohio, 5; Pennsylvania, 10; Virginia, 1.

<sup>7</sup> Connecticut, 1 establishment; Illinois, 7; Kansas, 1; Maine, 2; Maryland, 1; Michigan, 2; Minnesota, 2; New Hampshire, 7; New Jersey, 2; Ohio, 7; Pennsylvania, 11; Rhode Island, 1; Virginia, 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 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.....	1,452	Horse-power 15,828	1,116	Horse-power 13,718	1,122	Horse-power 14,859	874	Horse-power 8,448	435	Horse-power 6,018	100.0	100.0
Prime movers, total.....	13	8,242	11	8,102	18	8,520	31	1,810	35	2,258	52.1	21.4
Steam, total.....	13	8,242	11	8,102	17	8,505	25	1,765	27	1,889	52.1	20.9
Engines.....	7	917	7	1,002	14	1,505	25	1,755	(1)	(1)	5.8	20.9
Turbines.....	6	7,325	4	7,100	3	7,000			(1)	(1)	46.3	
Internal-combustion engines.....							5	43	7	74		0.5
Water wheels and water turbines.....					1	15	1	2	1	295		(1)
Electric motors driven by purchased energy.....	1,439	7,586	1,105	5,616	1,104	6,339	843	6,638	400	3,700	47.9	78.6
Electric motors, total.....	1,848	10,373	1,373	7,591	1,395	8,564	914	7,159	461	4,140	100.0	100.0
Driven by purchased energy.....	1,439	7,586	1,105	5,616	1,104	6,339	843	6,638	400	3,700	73.1	92.7
Driven by energy generated in establishments reporting.....	409	2,787	268	1,975	291	2,225	71	521	61	380	26.9	7.8
Electric generators.....	9	Kilowatts 6,313 Kilowatt-hours 9,601,897	8	Kilowatts 6,350	6	Kilowatts 731	(1)	(1)	(1)	(1)		
Electric energy purchased *.....				(1)		(1)		(1)		(1)		

<sup>1</sup> Not called for separately on schedule.

<sup>2</sup> Less than one-tenth of 1 per cent.

<sup>3</sup> Not called for on schedule.

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

<sup>4</sup> Data incomplete.

TABLE 4.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1929, 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 minimums of maximum	
		January	February	March	April	May	June	July	August	September	October	November	December		
United States:															
1929 <sup>1</sup> .....	9,499	8,520	9,262	9,258	8,943	8,840	9,040	9,792	10,376	10,888	10,632	10,106	8,254	77.0	
1919.....	9,715	9,293	9,328	9,361	9,190	9,370	9,857	9,943	9,659	9,760	10,193	10,354	10,272	88.8	
1914.....	7,819	8,302	8,434	8,409	8,005	7,670	7,581	7,505	7,710	7,699	7,651	7,125	7,557	84.5	
1909.....	6,693	6,764	6,972	6,934	6,636	6,599	6,562	6,515	6,651	6,623	6,538	6,723	6,814	93.4	
Illinois.....	283	<i>219</i>	263	267	286	302	295	299	311	315	306	268	266	69.5	
Massachusetts.....	2,814	2,650	2,736	2,680	2,681	2,679	2,669	2,828	3,102	3,186	3,119	2,832	2,606	81.8	
Missouri.....	2,801	2,528	2,605	2,666	2,595	2,531	2,539	2,809	2,954	3,060	3,168	3,101	3,055	79.8	
New York.....	239	<i>207</i>	226	239	234	239	239	235	256	280	271	230	213	73.9	

<sup>1</sup> No comparable data available for 1925.

## BOOT AND SHOE FINDINGS

Description of the industry.—The establishments covered by this industry designation are those engaged in the manufacture, for sale as such, of shoe pegs, bows, clasps, stays, metal tips and heelplates, toe caps and heel caps, buckles, staples, counters, shanks, wooden heels, shoe trimmings, boot and shoe laces, and other findings for the boot and shoe trade. Many of the establishments engaged in the manufacture of boots

and shoes also manufacture findings, principally for their own consumption but also to some extent for sale, and establishments in some other industries manufacture them as secondary products. The output of establishments classified in the "Boot and shoe findings" industry does not, therefore, represent the entire production of findings.

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 <sup>1</sup>	Value added by manufacture <sup>1</sup>	Horsepower
1929	332	10,376	\$11,053,252	\$31,964,401	\$58,625,445	\$26,661,044	20,259
1927	379	9,950	11,201,872	31,862,322	57,433,389	25,671,067	18,021
1925	326	8,605	9,695,136	29,248,469	52,063,829	22,815,360	15,419
1923	364	7,865	8,274,016	27,653,235	48,012,533	20,359,298	12,825
1921	344	5,917	6,608,798	22,930,700	39,116,538	16,185,838	(*)
1919	427	8,941	8,187,196	40,423,347	62,825,408	22,397,061	9,970
1914	369	6,714	3,225,683	20,304,183	28,303,186	7,909,003	5,436
1909	343	6,488	2,947,083	18,350,551	25,505,419	7,154,868	6,637
1904	289	4,434	1,647,577	6,337,810	9,904,887	3,667,077	2,370
1899	312	3,246	1,252,491	5,022,591	7,834,615	2,612,024	2,090
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929	0.8	4.3	-1.3	0.3	2.1	4.3	12.4
1925-1927	16.3	15.6	15.5	5.9	10.3	12.1	16.9
1923-1925	-10.4	9.4	17.2	5.8	8.4	12.1	20.2
1921-1923	5.8	32.9	25.2	20.6	22.7	25.8	-----
1919-1921	-19.4	-33.8	-19.3	-43.3	-37.7	-27.7	-----
1919-1929	-10.5	16.0	35.1	-20.9	-6.7	19.0	103.2
1909-1919	24.5	37.8	177.8	120.3	146.3	213.0	76.9
1899-1909	9.9	99.9	135.3	265.4	225.5	154.4	169.7

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

<sup>1</sup> Value of products less cost of materials, containers for products, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.

<sup>1</sup> Not called for on schedule.

## 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 <sup>1</sup>	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 <sup>2</sup>	Value added by manufacture <sup>3</sup>
					Total	Prime movers	Motors run by purchased energy			Total	Materials and containers	Fuel and purchased energy		
United States.....	1929	382	1,435	10,376	20,259	3,801	16,458	\$3,866,441	\$11,058,252	\$31,964,401	\$31,316,809	\$647,592	\$68,625,445	\$20,661,044
	1927	379	1,534	9,950	18,021	3,408	14,613	3,304,138	11,201,872	31,862,322	31,268,171	596,151	57,433,389	25,571,067
	1919	427	1,250	8,941	9,970	4,122	6,848	2,618,598	8,187,196	40,428,347	40,017,475	410,872	62,825,408	22,397,061
Individual States:														
Maine.....	1929	6	35	299	770	250	520	120,285	242,952	465,683	452,946	12,737	1,258,017	792,334
	1927	5	42	264	560	400	160	84,146	237,536	423,017	419,283	3,734	1,132,410	709,393
	1919	6	37	279	709	415	294	79,387	186,018	375,607	360,794	8,773	805,495	420,928
Massachusetts.....	1929	231	678	4,844	9,039	1,701	7,338	1,920,820	5,221,076	17,675,837	17,387,515	287,822	30,418,736	12,743,399
	1927	253	826	5,157	8,172	1,488	6,684	1,990,981	5,822,243	19,867,844	19,550,067	317,777	33,475,856	13,608,012
	1919	254	727	5,896	6,572	2,308	4,204	1,656,363	5,046,725	28,380,218	28,128,828	257,390	44,357,147	15,970,928
Missouri.....	1929	19	127	989	847	-----	847	241,469	1,001,359	1,694,424	1,655,848	38,576	3,741,400	2,047,036
	1927	16	203	1,164	1,884	-----	1,884	236,702	1,159,747	2,207,418	2,188,956	38,462	4,848,014	2,140,596
	1919	12	147	484	416	-----	416	230,101	424,488	3,405,505	3,391,344	14,161	4,575,910	1,170,405
New Hampshire.....	1929	24	82	802	2,557	535	2,022	215,418	741,165	2,253,056	2,198,695	54,361	4,321,582	2,068,626
	1927	17	62	572	1,151	375	776	156,870	590,017	1,840,214	1,809,003	31,211	3,532,106	1,091,892
New York.....	1929	50	260	1,305	2,563	125	2,438	698,643	1,611,253	4,176,532	4,079,012	97,520	7,052,863	3,776,331
	1927	49	218	1,250	2,110	125	1,985	473,050	1,573,038	3,354,142	3,289,322	84,820	6,092,943	3,338,801
	1919	77	132	675	798	55	743	249,534	668,613	2,545,374	2,513,006	32,368	4,464,140	1,918,766
Ohio.....	1929	12	58	431	1,196	135	1,061	105,657	455,078	657,651	624,939	32,712	1,467,889	810,238
	1927	9	27	396	1,989	128	1,864	64,112	387,678	466,523	441,203	25,320	1,205,070	738,547
Rhode Island.....	1929	8	22	92	61	-----	61	55,728	81,346	379,833	377,052	2,781	800,269	420,436
	1927	5	8	34	18	-----	18	16,281	29,046	135,706	134,171	1,535	261,257	125,551
	1919	9	24	91	44	2	42	39,786	70,591	146,556	141,943	4,613	381,475	234,919
Wisconsin.....	1929	7	39	276	456	275	181	103,915	269,909	1,224,102	1,202,030	22,072	1,788,039	563,937
	1927	6	31	236	149	-----	149	74,842	244,160	994,256	974,391	19,865	1,532,741	538,485
	1919	9	20	238	293	220	73	32,782	187,114	968,208	954,143	14,065	1,324,961	356,753
Groups of States:														
Conn., 3 est.; Ill., 5; Pa., 6	1929	14	89	993	2,158	565	1,593	258,843	1,030,451	2,672,945	2,586,333	86,612	5,145,661	2,472,716
Other States (Calif., 2 est.; Iowa, 1; Ky., 1; Nebr., 1; N. J., 3; Vt., 2; Va., 1).....	1929	11	41	345	612	215	397	147,663	344,263	704,838	752,439	12,399	1,730,620	966,091
States not shown separately.....	<sup>5</sup> 1927	19	117	877	1,988	895	1,093	208,154	1,156,602	2,573,202	2,409,775	73,427	5,252,992	2,679,790
	<sup>6</sup> 1919	60	163	1,278	1,850	1,122	728	330,625	973,647	4,600,919	4,521,417	79,502	6,916,280	2,315,361

<sup>1</sup> Not including proprietors and firm members, as follows: For 1929, 226; 1927, 255; 1919, 424. 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, 12,037; 1927, 11,739; 1919, 10,615.

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

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

<sup>4</sup> 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.

<sup>5</sup> California, 1 establishment; Connecticut, 2; Illinois, 3; Kentucky, 1; New Jersey, 2; Pennsylvania, 7; Vermont, 2; Virginia, 1.

<sup>6</sup> California, 1 establishment; Colorado, 1; Illinois, 5; Kentucky, 3; Maryland, 2; Michigan, 3; Minnesota, 2; New Hampshire, 13; New Jersey, 5; Ohio, 6; Pennsylvania, 16; Texas, 2; Washington, 1.

## BOOT AND SHOE FINDINGS

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**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 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.....	4,392	Horse-power 20,259	3,028	Horse-power 18,021	2,565	Horse-power 15,419	1,287	Horse-power 9,970	555	Horse-power 5,436	100.0	100.0
Prime movers, total.....	37	3,801	42	3,408	38	3,431	30	4,122	43	2,716	18.8	41.3
Steam, total.....	30	3,438	32	2,900	29	2,815	18	3,022	28	2,262	17.0	36.3
Engines.....	30	3,438	32	2,900	29	2,815	16	3,507	(1)	(1)	17.0	35.2
Turbines.....							2	115	(1)	(1)		1.1
Internal-combustion engines.....	3	153	3	48	1	5	4	40	11	234	0.8	0.4
Water wheels and water turbines.....	4	210	7	460	8	611	8	460	4	220	1.0	4.6
Electric motors driven by purchased energy.....	4,355	16,458	2,986	14,613	2,527	11,988	1,257	5,848	512	2,720	81.2	58.7
Electric motors, total.....	4,409	17,333	3,005	14,913	2,658	13,232	1,332	6,001	556	3,358	100.0	100.0
Driven by purchased energy.....	4,355	16,458	2,986	14,613	2,527	11,988	1,257	5,848	512	2,720	95.0	84.7
Driven by energy generated in establishments reporting.....	144	875	19	300	131	1,244	75	1,053	44	638	5.0	15.3
Electric generators.....	12	Kilowatts 1,249 Kilowatt-hours	2	Kilowatts 200	14	Kilowatts 1,156	(2)	(2)	(2)	(2)		
Electric energy purchased <sup>1</sup> .....		13,754,340		(1)		(1)		(2)		(2)		

<sup>1</sup> Not called for separately on schedule.  
<sup>2</sup> Not called for on schedule.  
 \* This item covers the consumption of purchased electric energy for all purposes—power, heat, light, etc.  
 † 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		
<b>United States:</b>															
1929.....	10,376	<i>8,815</i>	10,359	10,272	10,095	9,915	9,914	10,371	11,185	11,445	11,194	10,098	9,847	85.7	
1925.....	8,005	7,985	8,535	8,787	8,435	8,095	7,620	8,400	9,243	9,522	9,336	8,748	8,555	80.0	
1919.....	8,941	7,816	8,156	8,217	8,447	8,486	8,762	8,906	9,242	9,493	9,588	9,957	10,223	76.4	
1914.....	6,714	7,617	7,476	7,160	6,825	6,631	6,309	6,272	6,449	6,232	6,336	6,499	6,736	82.1	
1909.....	6,488	6,274	6,381	6,487	6,265	6,308	6,441	6,408	6,645	6,572	6,524	6,682	6,676	91.1	
Maine.....	299	297	310	340	327	331	298	286	286	297	230	279	218	72.9	
Massachusetts.....	4,844	4,593	4,879	4,988	4,778	4,529	4,479	4,692	5,293	5,600	5,230	4,668	4,605	81.4	
Missouri.....	989	852	942	917	905	962	1,005	1,064	1,103	1,092	1,091	912	968	77.1	
New Hampshire.....	802	745	822	787	785	770	754	852	857	924	983	710	675	72.3	
New York.....	1,305	1,227	1,298	1,253	1,229	1,238	1,259	1,266	1,422	1,445	1,437	1,318	1,245	84.5	
Ohio.....	431	449	460	456	445	500	412	418	423	395	438	443	437	84.8	
Rhode Island.....	92	79	83	86	73	103	99	105	112	105	92	86	79	69.6	
Wisconsin.....	276	245	244	259	276	269	256	280	339	319	311	274	244	71.7	

# BOOTS AND SHOES, OTHER THAN RUBBER

Description of the industry.—The establishments covered by this industry designation are those engaged in the manufacture of boots, shoes, sandals, slippers, moccasins, leggings, overgaiters, and allied footwear, chiefly of leather, although footwear made of canvas and of other textile fabrics is also included. Some establishments make only moccasins, sandals, spats, etc.

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 <sup>1</sup>	Value added by manufacture <sup>2</sup>	Horsepower
1929	1,341	205,640	\$222,407,732	\$515,055,246	\$965,922,694	\$450,867,448	140,329
1927	1,357	203,110	225,090,242	494,553,010	944,714,463	450,101,447	138,706
1925	1,460	206,992	225,787,981	481,631,904	925,383,422	443,751,458	139,509
1923	1,608	225,216	250,345,922	527,456,868	1,000,078,022	472,621,154	128,550
1921	1,505	183,502	204,954,095	478,432,445	867,475,896	389,043,451	( <sup>3</sup> )
1919	1,449	211,049	210,734,610	715,269,315	1,155,041,436	439,772,121	115,888
1914	1,355	191,555	105,695,404	310,356,586	501,760,458	191,408,872	96,956
1909	1,343	185,110	92,350,152	277,467,743	442,630,720	165,162,983	85,896
1904	1,316	149,924	69,050,080	107,363,495	320,107,453	122,749,063	52,220
1899	1,589	141,830	58,440,883	168,632,654	258,909,580	90,330,926	49,444
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929	-1.2	1.2	-1.2	4.1	2.2	0.2	1.2
1925-1927	-7.1	-1.9	-0.3	2.7	2.1	1.4	-0.6
1923-1925	-9.1	-8.1	-9.8	-8.7	-7.5	-6.1	8.6
1921-1923	6.7	22.7	22.1	10.2	15.3	21.5	
1919-1921	3.9	-13.1	-2.7	-33.1	-24.9	-11.5	
1919-1929	-7.5	-2.0	5.5	-23.0	-16.4	2.5	21.1
1909-1919	7.9	14.0	123.2	157.8	160.9	166.3	34.9
1899-1909	-16.0	30.5	58.0	64.5	70.9	82.8	73.7

<sup>1</sup> The figures for all years refer to production, not sales. See GENERAL EXPLANATIONS—Value of Products.  
<sup>2</sup> Value of products less cost of materials, containers for products, fuel, and purchased electric energy. See GENERAL EXPLANATIONS—Value Added by Manufacture.  
<sup>3</sup> 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. 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 <sup>1</sup>	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 <sup>2</sup>	Value added by manufacture <sup>3</sup>
					Total	Prime movers	Motors run by purchased energy			Total	Materials and containers	Fuel and purchased energy		
United States.	1929	1,341	19,595	205,640	140,329	45,667	94,662	\$44,284,882	\$222,407,732	\$515,055,246	\$510,342,438	\$4,712,808	\$965,922,694	\$450,867,448
	1927	1,357	20,326	203,110	138,706	58,452	80,254	43,343,517	225,090,242	494,553,010	489,410,458	5,142,558	944,714,463	450,101,447
	1919	1,449	25,175	211,049	115,888	60,190	65,690	58,124,966	210,734,610	715,269,315	709,351,356	5,917,959	1,155,041,436	439,772,121
California	1929	12	101	661	680		680	209,425	1,020,352	1,481,012	1,466,791	14,221	3,094,701	1,618,779
	1927	10	119	875	762		762	291,262	1,074,393	1,995,966	1,979,296	16,670	4,270,853	2,274,887
	1919	14	75	616	381	115	266	188,560	542,010	1,909,390	1,968,306	10,994	3,247,177	1,277,817
Illinois	1929	65	1,661	14,725	11,393	5,633	5,780	3,144,466	13,433,889	39,345,627	39,045,362	300,285	73,775,876	34,400,249
	1927	57	1,548	14,038	10,345	5,663	4,082	3,015,888	13,421,467	35,023,407	35,316,551	300,856	71,628,288	30,004,881
	1919	51	1,257	7,084	5,104	3,360	1,804	2,550,424	5,902,500	25,218,319	24,610,055	608,204	30,402,383	14,184,064
Indiana	1929	7	156	1,591	1,271	760	511	308,055	1,332,527	4,138,736	4,084,154	54,582	7,658,292	3,519,556
	1927	4	113	798	743	355	388	190,511	552,426	1,743,831	1,725,109	18,222	2,820,091	1,076,760
	1919	5	181	620	426	35	391	300,158	464,352	1,906,332	1,890,589	14,743	2,853,550	948,227
Iowa	1929	5	47	388	240	60	180	78,538	306,009	981,251	960,634	11,017	1,749,234	707,983
	1927	5	46	390	211	211	211	62,613	374,173	884,418	869,723	14,695	1,654,988	770,570
	1919	6	85	653	770	275	504	157,323	440,358	2,269,872	2,254,199	15,673	3,047,187	777,315
Kansas	1929	5	12	77	24		24	25,447	80,430	151,708	148,925	3,443	375,167	223,399
	1927	5	10	78	44		44	20,026	48,122	147,684	143,963	3,621	359,654	212,070
	1919	7	90	630	463		70	227,114	366,716	2,090,361	2,089,062	9,689	3,074,371	1,476,010
Kentucky	1929	6	135	2,438	1,022		1,022	229,157	1,780,856	4,488,136	4,441,941	46,105	7,956,878	3,468,742
	1927	6	169	2,322	1,070	50	1,020	225,539	1,619,937	3,921,851	3,880,756	41,095	7,518,606	3,606,755
	1919	7	90	630	463	70	393	267,114	366,716	2,090,361	2,089,062	9,689	3,074,371	1,476,010
Maine	1929	42	887	9,967	6,443	565	5,878	2,088,146	9,288,057	20,793,345	20,578,007	215,338	38,981,048	18,138,603
	1927	44	933	9,740	6,205	661	5,544	1,857,130	9,044,294	19,284,256	19,070,057	205,199	36,663,037	17,378,781
	1919	39	1,032	9,919	5,365	841	4,524	2,018,004	9,226,804	30,210,901	30,004,831	215,070	48,059,388	17,839,487
Maryland	1929	13	210	2,239	1,535	360	1,175	401,857	1,981,327	4,580,545	4,529,348	51,197	8,488,619	3,908,074
	1927	16	235	2,198	1,578		1,578	512,786	1,903,045	4,532,444	4,517,168	65,276	7,796,894	3,214,450
	1919	13	112	986	582	82	500	264,965	793,700	3,107,033	3,085,084	21,949	4,682,351	1,558,318

See footnotes at end of table.

# BOOTS AND SHOES, OTHER THAN RUBBER

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**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	Salar- ied officers and em- ploy- ees <sup>1</sup>	Wage earn- ers (aver- age 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 <sup>2</sup>	Value added by manufac- ture <sup>3</sup>
					Total	Prime movers	Motors run by pur- chased energy			Total	Materials and con- tainers	Fuel and purchased energy		
Massachusetts	1929	436	5,094	55,093	31,856	11,475	20,381	\$12,375,693	\$64,205,152	\$124,024,880	\$122,745,063	\$1,279,817	\$241,537,864	\$117,562,934
	1927	469	6,028	55,980	35,970	12,487	23,483	13,439,936	65,282,193	120,363,570	118,884,659	1,468,911	237,518,655	117,183,085
	1919	493	8,008	80,160	37,945	15,519	22,426	20,537,053	89,489,716	269,350,895	267,787,050	1,563,845	442,466,236	173,118,341
Michigan	1929	8	75	737	750	307	443	166,854	768,059	2,858,126	2,827,164	30,962	4,002,943	1,144,817
	1927	10	124	941	896	312	684	210,446	949,157	2,871,389	2,832,316	39,073	4,811,584	1,940,195
	1919	15	188	1,120	660	132	528	436,576	920,703	4,183,981	4,153,194	30,787	6,046,310	1,802,329
Minnesota	1929	10	130	1,047	852	-----	852	206,630	1,044,880	2,819,897	2,776,393	43,504	5,318,923	2,499,026
	1927	11	235	1,724	971	-----	971	438,576	1,606,789	3,965,514	3,918,952	51,562	6,812,342	2,843,828
	1919	16	457	2,153	1,738	-----	1,738	1,054,127	1,917,246	7,743,103	7,683,058	60,045	12,644,659	4,901,556
Missouri	1929	61	2,348	24,903	17,706	10,342	7,424	3,796,014	23,264,604	51,563,936	51,137,876	426,060	133,018,578	52,354,642
	1927	68	2,871	24,277	16,880	10,180	6,700	4,171,809	22,874,378	75,882,807	75,407,490	475,317	136,998,386	61,115,579
	1919	54	3,151	17,458	11,221	6,765	4,450	6,048,521	13,786,880	76,925,817	75,466,748	1,459,069	109,193,423	32,287,608
New Hampshire	1929	73	1,061	14,544	8,349	2,088	6,261	2,513,262	14,943,330	38,794,550	38,442,008	352,542	66,722,194	27,927,644
	1927	63	1,074	12,114	8,288	2,330	5,958	2,054,786	12,151,051	30,007,751	29,645,948	361,803	49,853,099	19,845,348
	1919	52	1,022	12,336	7,677	4,313	3,364	2,177,252	11,173,077	51,055,500	50,796,069	269,431	73,870,588	22,816,098
New Jersey	1929	20	150	1,422	1,377	665	712	474,475	1,515,937	3,510,394	3,455,424	54,970	6,878,127	3,367,733
	1927	17	174	1,380	1,526	819	706	382,936	1,628,845	3,201,822	3,132,473	69,349	6,735,998	3,534,176
	1919	34	310	2,835	2,057	1,463	694	772,807	2,459,177	7,810,991	7,733,971	77,020	12,864,068	5,053,077
New York	1929	323	3,725	36,980	20,952	4,397	25,555	9,465,015	49,266,111	93,731,929	92,817,822	914,107	189,775,703	95,043,774
	1927	318	3,159	35,328	24,133	13,612	10,521	8,503,028	51,908,958	95,013,224	93,951,891	1,061,333	190,936,330	95,923,106
	1919	340	3,586	34,710	22,764	14,501	8,263	9,005,165	39,042,597	108,163,907	107,414,042	749,865	243,927,032	82,312,032
Ohio	1929	43	1,100	12,263	8,265	2,949	5,316	2,608,592	12,300,137	26,961,230	26,736,476	224,754	51,013,079	24,051,849
	1927	45	1,025	12,993	10,633	4,185	6,448	2,320,450	12,151,051	26,722,988	26,475,656	247,330	53,289,298	26,556,312
	1919	60	1,648	14,092	9,137	4,686	4,451	4,890,563	12,045,100	40,802,484	40,621,015	281,469	71,354,850	30,552,368
Pennsylvania	1929	102	943	10,429	7,273	3,268	4,005	2,123,360	10,108,460	21,279,790	21,012,884	266,906	41,574,942	20,295,152
	1927	107	1,018	11,420	8,056	3,903	4,153	2,353,128	11,241,946	21,658,894	21,375,155	283,739	43,850,217	21,921,323
	1919	123	1,298	13,317	6,629	4,236	2,398	3,042,635	10,960,861	40,971,953	40,738,156	233,797	65,411,673	24,439,720
Tennessee	1929	5	168	2,116	1,418	214	1,204	409,270	1,588,976	6,299,957	6,248,378	51,579	10,982,577	4,682,620
	1927	5	130	1,772	1,220	236	935	270,721	1,239,122	5,100,283	5,060,360	39,923	8,681,951	3,581,668
	1919	9	17	151	122	-----	122	47,472	137,076	262,245	256,393	5,852	676,650	414,405
Texas	1929	(4)	(4)	(4)	(4)	-----	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)
	1927	(4)	(4)	(4)	(4)	-----	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)
	1919	11	12	88	56	-----	56	18,275	93,084	149,030	146,006	2,424	360,927	211,897
Washington	1929	10	16	87	106	-----	106	63,911	115,970	315,971	311,499	4,472	589,439	273,468
	1927	9	10	82	110	-----	110	41,887	122,849	302,736	298,943	3,793	565,012	263,176
	1919	9	39	146	175	-----	175	78,011	163,008	444,559	424,847	19,712	846,077	401,518
Wisconsin	1929	57	1,400	10,755	7,207	1,825	5,382	3,068,218	11,376,099	30,340,634	30,053,392	287,242	55,384,784	25,044,150
	1927	63	1,269	11,029	6,582	2,595	3,987	2,522,840	11,404,101	31,680,823	31,380,212	300,611	57,315,001	25,634,178
	1919	62	1,210	7,598	4,653	2,390	2,263	2,837,103	6,632,062	27,762,602	27,498,934	203,568	44,373,938	16,671,436
Other States	1929	29	179	3,032	2,428	759	1,069	493,055	2,541,444	6,331,287	6,258,104	73,183	15,406,086	9,134,799
	1927	22	236	3,101	2,384	1,015	1,369	449,619	2,568,131	9,604,960	9,536,780	68,180	14,605,279	5,300,319
	1919	40	414	3,922	2,700	1,413	1,347	850,327	3,225,660	13,175,415	13,094,880	80,535	20,288,332	7,110,017

<sup>1</sup> Not including proprietors and firm members, as follows: For 1929, 466; 1927, 563; 1919, 883. 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, 225,701; 1927, 224,004; 1919, 237,107.

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

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

<sup>4</sup> 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.

<sup>5</sup> Withheld from publication in order to avoid disclosing data for individual establishments.

<sup>6</sup> Alabama, 1 establishment; Connecticut, 3; Delaware, 1; Georgia, 4; Louisiana, 4; Nebraska, 2; North Carolina, 1; Oregon, 3; Vermont, 1; Virginia, 6; West Virginia, 3.

<sup>7</sup> Alabama, 1 establishment; Connecticut, 2; Florida, 1; Georgia, 2; Louisiana, 1; Nebraska, 2; North Carolina, 1; Oregon, 1; Texas, 3; Virginia, 6; West Virginia, 2.

<sup>8</sup> Alabama, 1 establishment; Connecticut, 8; Georgia, 3; Kansas, 3; Louisiana, 4; Nebraska, 2; North Carolina, 2; Oklahoma, 2; Oregon, 2; Rhode Island, 1; Tennessee, 2; Utah, 1; Vermont, 2; Virginia, 5; West Virginia, 2.

**TABLE 3.—PRODUCTS, BY KIND, METHOD OF MANUFACTURE, QUANTITY, AND VALUE, FOR THE UNITED STATES: 1929, 1927, AND 1919**

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

KIND	Census year	TOTAL		NUMBER OF PAIRS, BY METHOD OF MANUFACTURE			
		Value	Number of pairs	Welted	McKay	Turned and cemented	Wood or metal fastened and stitch-down
Aggregate value, all products	1929	\$665,922,694	-----	-----	-----	-----	-----
	1927	\$44,714,403	-----	-----	-----	-----	-----
	1919	\$1,155,041,436	-----	-----	-----	-----	-----
Boots, shoes, slippers, and other footwear, total	1929	\$58,689,737	\$371,519,239	124,409,101	126,850,340	\$58,763,298	\$61,496,500
	1927	\$31,523,722	\$367,067,065	123,655,686	112,339,827	\$2,744,077	\$1,596,034
	1919	\$1,128,286,743	\$331,224,628	124,088,647	119,203,701	\$6,786,608	\$20,019,671
Boots and shoes, total	1929	\$16,289,305	\$33,143,156	123,825,994	121,176,697	\$3,768,532	\$7,371,933
	1927	\$82,875,042	\$325,611,282	123,395,593	106,680,333	\$2,798,712	\$2,736,144
	1919	\$1,088,495,631	\$303,182,481	124,242,934	106,613,766	\$2,631,120	\$9,794,671
Leather, total	1929	\$94,641,759	\$29,511,439	123,528,489	118,671,446	\$3,183,718	\$9,227,836
	1927	\$72,816,973	\$320,335,038	122,923,617	102,809,013	\$1,850,248	\$2,662,180
	1919	\$1,072,337,200	\$292,126,118	123,202,353	98,913,488	\$5,370,881	\$9,639,896

See footnotes at end of table.



## CENSUS OF MANUFACTURES: 1929

TABLE 3.—PRODUCTS, BY KIND, METHOD OF MANUFACTURE, QUANTITY, AND VALUE, FOR THE UNITED STATES: 1929, 1927, AND 1919—Continued

[See note at head of this table]

KIND	Census year	TOTAL		NUMBER OF PAIRS, BY METHOD OF MANUFACTURE			
		Value	Number of pairs	Welted	McKay	Turned and cemented	Wood or metal fastened and stitch-down
<b>Boots, shoes, slippers, and other footwear—Continued.</b>							
<b>Boots and shoes—Continued.</b>							
<b>Leather—Continued.</b>							
<b>Other than athletic and sporting:</b>							
Men's.....	1929	\$312,510,718	100,747,087	71,001,045	5,454,337	765,811	23,525,894
	1927	298,683,879	93,012,560	71,201,494	3,559,380	314,347	17,937,339
	1919	429,740,457	95,017,356	70,951,187	13,997,182	49,997	10,024,990
Youths' and boys'.....	1929	49,091,184	22,616,080	9,614,644	7,039,221	19,723	5,942,492
	1927	60,810,145	26,914,871	10,597,380	3,085,480	541,576	12,107,449
	1919	72,883,290	26,503,432	* 8,354,305	14,574,232	(7)	3,574,845
Women's.....	1929	432,261,640	136,009,501	29,126,988	88,619,932	14,627,790	3,634,791
	1927	394,327,726	123,516,708	29,815,304	74,724,090	14,849,082	4,128,172
	1919	447,289,044	104,812,505	35,496,943	46,907,780	21,547,923	1,159,859
Misses' and children's.....	1929	77,707,381	44,205,717	8,023,371	13,345,388	3,835,393	18,401,567
	1927	89,499,353	51,386,407	8,785,449	17,900,545	5,693,773	19,006,700
	1919	102,091,213	48,538,293	7,984,950	21,314,657	14,021,897	4,610,699
Infants'.....	1929	24,239,195	23,075,892	4,240,919	2,477,111	10,653,304	5,704,498
	1927	25,385,287	24,101,295	2,097,305	2,138,478	10,364,539	9,500,973
	1919	18,249,701	16,068,912	220,380	2,257,120	14,068,685	122,727
Athletic and sporting, total.....	1929	8,831,641	2,857,162	921,472	1,035,459	281,637	18,594
	1927	4,159,603	1,403,137	* 426,619	378,060	86,931	* 11,527
	1919	2,083,402	585,710	194,588	162,467	87,879	140,776
Men's.....	1929	3,543,674	1,208,389	407,614	(10)	79,344	(10)
	1927	3,321,801	1,142,019	238,025	822,010	73,345	8,639
Women's.....	1929	5,287,967	1,648,778	513,558	(10)	202,293	(10)
	1927	837,802	261,118	* 188,594	50,050	13,580	* 2,888
Canvas and other textile fabrics, total.....	1929	11,647,546	3,631,717	297,555	2,605,251	584,814	144,097
	1927	20,059,069	5,276,244	471,976	3,811,520	948,464	48,984
	1919	16,068,425	11,056,363	1,040,581	7,600,268	2,260,739	154,775
Men's.....	1929	465,928	281,671	(10)	134,771	-----	(10)
	1927	220,412	110,731	9,192	91,178	-----	10,361
Women's.....	1929	11,181,618	3,350,046	(10)	2,470,480	584,814	(10)
	1927	19,829,667	5,165,513	462,784	3,720,642	948,464	33,623
Slippers for house wear, total.....	1929	35,810,593	38,064,451	583,107	5,673,643	27,683,134	4,124,567
	1927	30,562,485	34,634,342	170,093	5,688,994	19,945,365	8,859,890
	1919	33,409,101	21,815,046	745,613	* 12,689,945	8,154,488	* 225,000
Leather, total.....	1929	16,094,732	12,952,833	403,104	1,601,364	9,800,279	1,658,066
	1927	14,541,197	12,940,606	103,093	2,193,319	7,283,441	3,380,733
	1919	18,108,856	8,494,321	656,818	3,572,077	4,039,531	225,000
Men's, youths', and boys'.....	1929	7,374,700	5,996,859	230,500	(10)	4,330,713	(10)
	1927	6,583,101	5,023,013	42,100	691,657	2,301,407	1,687,840
	1919	5,308,080	3,230,086	230,558	* 1,442,115	1,434,413	* 123,000
Women's and misses'.....	1929	8,720,032	6,955,974	172,604	(10)	5,460,560	(10)
	1927	7,968,036	7,917,593	60,984	1,201,662	4,962,034	1,692,918
	1919	12,860,707	5,264,235	420,255	2,130,862	2,605,118	102,000
Other than all-leather, total.....	1929	19,721,771	25,111,618	180,003	3,982,279	17,882,855	3,006,481
	1927	16,021,348	21,693,736	67,000	3,465,675	12,681,924	5,479,137
	1919	15,240,245	13,320,725	88,800	9,116,968	4,114,957	-----
Men's.....	1929	5,943,615	6,711,814	72,000	1,101,834	2,906,117	2,631,893
	1927	4,252,314	4,833,715	55,000	835,628	2,092,352	1,250,735
Women's.....	1929	13,778,156	18,399,804	108,000	2,880,445	14,976,738	434,618
	1927	11,769,034	16,860,021	12,000	2,630,047	9,989,572	4,223,402
Ballet slippers.....	1929	643,936	311,632	-----	-----	311,632	-----
Other footwear <sup>11</sup> .....	1929	5,939,993	(11)	-----	-----	-----	-----
	1927	8,086,195	6,821,441	-----	-----	-----	-----
	1919	6,472,011	6,227,101	-----	-----	-----	-----
Leggings, overgaiters, puttees, etc., Leather.....	1929	1,432,532	-----	-----	-----	-----	-----
	1927	1,067,151	-----	-----	-----	-----	-----
	1919	246,257	-----	-----	-----	-----	-----
Other than leather.....	1929	2,739,759	-----	-----	-----	-----	-----
	1927	1,198,362	-----	-----	-----	-----	-----
	1919	8,392,724	-----	-----	-----	-----	-----
Other products <sup>12</sup> .....	1929	1,467,761	-----	-----	-----	-----	-----
	1927	9,691,851	-----	-----	-----	-----	-----
	1919	17,240,136	-----	-----	-----	-----	-----
Receipts for contract work.....	1929	1,592,885	-----	-----	-----	-----	-----
	1927	1,233,377	-----	-----	-----	-----	-----
	1919	875,576	-----	-----	-----	-----	-----

<sup>1</sup> In addition, products normally belonging to the boot and shoe industry, valued as follows, were reported as secondary products by establishments engaged primarily in other lines of manufacture: For 1929, \$481,016; 1927, \$208,082; 1919, \$894,201.

<sup>2</sup> Exclusive of data for "Other footwear," for which number of pairs was not called for on 1929 schedule.

<sup>3</sup> Includes 2,561,524 pairs of shoes (principally women's, misses', and children's leather shoes) made by the cemented process, which can not be separately distributed as to kind without disclosing the output of individual establishments. No data on the number of pairs made by the cemented process were collected for years prior to 1929.

<sup>4</sup> Includes number of pairs of wood or metal fastened, as follows: For 1929, 22,013,925; 1927, 27,622,123; 1919, 13,143,915. These can not be separately distributed by kind without disclosing the output of individual establishments.

<sup>5</sup> For 1927, includes 6,821,441 pairs, and for 1919, 6,227,101 pairs, of "Other footwear" not reported according to method of manufacture.

<sup>6</sup> Includes data for "Turned," to avoid disclosing production of individual establishments.

<sup>7</sup> Included in item for "Welted." (See footnote 6.)

<sup>8</sup> Includes data for "Wood or metal fastened."

<sup>9</sup> Exclusive of data for "Wood or metal fastened."

<sup>10</sup> Withheld from publication in order to avoid disclosing output of individual establishments.

<sup>11</sup> Principally bathing slippers, moccasins, sandals, wooden-soled shoes, sheepskin shoes, and "comfy" slippers; and for 1927 and 1919 includes also ballet slippers.

<sup>12</sup> Not called for on schedule.

<sup>13</sup> Principally cut stock.

# BOOTS AND SHOES, OTHER THAN RUBBER

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**TABLE 4.—BOOTS, SHOES, AND SLIPPERS—PRODUCTION, BY KIND, NUMBER, AND VALUE, 1929, AND BY KIND AND NUMBER, 1927, BY STATES**

[The 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. In some cases, however, certain of the "Other States" reported larger quantities and values than some of the States shown separately.]

KIND	VALUE	NUMBER OF PAIRS		KIND	VALUE	NUMBER OF PAIRS	
	1929	1929	1927		1929	1929	1927
Boots, shoes, slippers, and other footwear, total.....	\$658,689,737	1,371,519,239	367,067,065	Boots, shoes, slippers, and other footwear—Continued.			
Illinois.....	73,104,980	28,229,791	27,014,832	Boots and shoes—Continued.			
Maine.....	38,752,405	16,354,535	15,733,693	Leather, except athletic and sporting—Continued.			
Massachusetts.....	239,820,141	86,810,991	87,731,093	Infants', total.....	\$24,239,195	23,075,892	24,101,295
Missouri.....	133,780,898	49,617,679	47,851,535	Illinois.....	5,433,529	6,231,854	4,968,435
New Hampshire.....	66,030,322	26,165,206	22,233,149	Massachusetts.....	1,644,040	1,892,898	2,216,969
New York.....	187,457,772	81,308,122	84,330,812	Missouri.....	1,596,154	1,670,376	1,680,713
Pennsylvania.....	41,491,906	18,176,286	18,330,784	New York.....	3,986,478	4,232,965	6,327,077
Wisconsin.....	58,107,576	18,430,450	18,273,797	Pennsylvania.....	4,321,436	3,669,880	1,963,978
Other States.....	122,543,677	46,425,179	45,567,370	Wisconsin.....	1,641,378	915,695	1,276,945
Boots and shoes:				Other States (for 1929:			
Leather, except athletic and sporting, total.....	895,810,118	326,654,277	318,931,901	Calif., Conn., Ind.,			
Illinois.....	69,950,413	26,844,749	26,185,820	Ky., Me., Md., Minn.,	5,716,172	4,532,724	5,631,178
Massachusetts.....	223,795,783	74,171,241	73,802,470	N. H., N. J., Ohio,			
Missouri.....	130,976,126	47,972,257	45,498,750	Tenn.).....			
New York.....	159,599,041	69,542,140	61,091,750	Athletic and sporting, total.....	8,831,641	2,857,162	1,408,187
Pennsylvania.....	40,720,653	17,826,018	17,077,545	Men's (for 1929: Calif., Ill.,			
Wisconsin.....	54,036,274	17,997,825	17,825,423	Me., Mass., Mo., N. H.,			
Other States.....	216,731,828	81,300,047	77,129,703	N. J., N. Y., Ohio, Pa.,	3,643,674	1,208,389	1,142,019
Men's, total.....	312,610,718	100,747,087	93,012,560	Wis.).....			
Illinois.....	21,867,293	4,394,277	4,576,127	Women's (for 1929: Calif.,			
Maine.....	11,363,461	3,841,744	4,346,745	Ill., Me., Mass., Mo.,	5,287,967	1,648,773	261,118
Massachusetts.....	87,636,477	21,567,619	21,293,691	N. H., N. J., N. Y., Ohio,			
Missouri.....	47,436,215	16,677,548	16,963,132	Pa.).....			
New Hampshire.....	27,286,059	10,556,684	8,113,033	Canvas and other textile fabrics,			
New York.....	41,610,318	21,670,144	15,064,537	total.....	11,647,540	3,631,717	5,276,244
Pennsylvania.....	6,900,196	2,144,473	2,547,935	Men's (for 1929: Me., Mass.,			
Wisconsin.....	34,083,701	9,803,089	9,303,084	Mo., N. H., N. Y., Pa.).....	465,928	281,671	110,731
Other States (for 1929:				Women's (for 1929: Calif.,			
Calif., Del., Ga., Ind.,				Ill., Me., Mass., Mo.,			
Iowa, Kans., Ky., La.,				N. H., N. J., N. Y., Ohio,			
Md., Mich., Minn.,				Pa.).....	11,181,618	3,350,046	5,165,513
Nebr., N. J., Ohio,				Slippers (for house wear), total.....	35,816,503	38,064,451	34,034,342
Oreg., Tenn., Tex.,				Massachusetts.....	10,672,248	10,569,879	11,477,951
Va., Wash., W. Va.).....	34,324,060	10,282,009	10,804,273	New York.....	18,033,261	19,390,154	16,740,451
Youths' and boys', total.....	49,091,184	22,616,080	26,914,871	Other States.....	7,110,994	8,104,418	6,415,940
Illinois.....	3,540,975	1,404,052	1,284,757	All-leather, total.....	16,094,732	12,952,833	12,940,606
Maine.....	1,070,239	603,883	139,627	Massachusetts.....	5,886,269	4,386,631	3,095,655
Massachusetts.....	6,162,418	3,165,454	3,253,609	New York.....	7,278,128	6,382,040	6,458,088
Missouri.....	13,346,723	6,024,166	5,322,568	Other States.....	2,930,335	2,183,062	3,386,863
New Hampshire.....	5,789,097	1,611,195	2,390,957	Men's, youths', and boys',			
New York.....	7,682,427	5,004,331	9,700,309	total.....	7,374,700	5,996,859	5,023,013
Pennsylvania.....	4,424,282	1,853,277	1,881,131	Massachusetts.....	3,176,169	1,804,709	1,735,401
Wisconsin.....	3,017,210	1,281,211	1,846,232	New York.....	2,453,110	2,961,706	2,003,055
Other States (for 1929:				Other States (for 1929:			
Calif., Ga., Ind., Iowa,				Ill., Me., Minn.,			
Ky., Mich., Minn.,				N. H., N. J., Ohio,	1,745,421	1,230,444	1,284,557
Nebr., N. J., Ohio,				Pa., Va., Wis.).....			
Tenn., Tex., W. Va.).....	4,057,813	1,708,211	1,095,681	Women's and misses', total.....	8,720,032	6,955,974	7,917,593
Women's, total.....	432,261,640	136,009,501	123,518,708	Massachusetts.....	2,710,100	2,582,122	1,360,254
Illinois.....	30,451,905	10,270,077	9,018,286	New York.....	4,825,018	3,421,234	4,455,033
Maine.....	20,026,678	9,116,419	8,062,226	Other States (for 1929:			
Massachusetts.....	117,796,344	40,803,498	38,766,977	Conn., Ill., Me., Md.,			
Missouri.....	60,128,413	19,125,382	16,822,069	Minn., Mo., N. H.,	1,184,914	952,618	2,102,306
New Hampshire.....	27,499,151	10,755,549	7,876,422	N. J., Ohio, Pa., Wis.).....			
New York.....	95,501,020	22,847,115	20,980,750	Other than all-leather, total.....	19,721,771	25,111,618	21,693,736
Pennsylvania.....	13,026,568	3,650,288	3,568,814	Massachusetts.....	4,785,979	6,183,048	8,382,296
Wisconsin.....	7,940,742	2,642,917	2,692,749	New York.....	10,755,133	13,007,214	10,282,363
Other States (for 1929:				Other States.....	4,180,659	5,921,556	3,029,077
Calif., Conn., Ga.,				Men's, total.....	5,943,615	6,711,814	4,833,715
Ind., Iowa, Kans.,				Massachusetts.....	1,072,041	1,162,371	1,358,749
Ky., La., Md., Minn.,				New York.....	3,441,643	3,248,011	2,463,958
Nebr., N. J., Ohio,				Other States (for 1929:			
Tenn., Va., W. Va.).....	50,280,910	16,792,256	15,728,681	Calif., Conn., Ga., Ill.,			
Misses' and children's, total.....	77,707,351	44,205,717	51,386,467	Iowa, Nebr., N. H.,	1,429,031	2,301,432	1,011,068
Illinois.....	8,650,771	4,544,489	6,333,221	N. J., Ohio, Pa., Wis.).....			
Maine.....	1,870,774	1,004,783	738,436	Women's, total.....	13,778,156	18,399,804	16,860,021
Massachusetts.....	10,559,498	6,741,872	8,268,224	Massachusetts.....	3,713,038	5,020,677	7,023,547
Missouri.....	3,465,621	4,374,785	4,710,828	New York.....	7,313,490	9,759,203	7,818,405
New Hampshire.....	4,125,130	2,318,187	2,064,821	Other States (for 1929:			
New York.....	10,817,906	6,718,585	9,536,717	Calif., Ga., Ill., Me.,			
Pennsylvania.....	12,048,169	6,472,600	7,085,657	Mo., N. H., N. J., Pa.).....	2,751,628	3,610,924	2,018,060
Wisconsin.....	7,444,243	3,354,013	2,506,413	Ballet slippers (for 1929: Calif., Ill.,	643,036	311,632	(?)
Other States (for 1929:				Mass., N. Y., Pa.).....			
Calif., Conn., Ga.,				Other footwear.....	5,339,993	(?)	* 6,821,441
Ind., Ky., Md., Mich.,							
Minn., N. J., Ohio,							
Tenn., Va., W. Va.).....	13,728,269	8,416,403	9,237,620				

\* Exclusive of data for "Other footwear." See footnote 3. † Included in "Other footwear." ‡ Quantity not called for on schedule. †† Includes data for ballet slippers.

CENSUS OF MANUFACTURES: 1929

TABLE 5.—BOOTS, SHOES, AND SLIPPERS—PRODUCTION, BY METHOD OF MANUFACTURE, BY STATES: 1929, 1927, AND 1919

[The figures refer to production, not sales. See GENERAL EXPLANATIONS—Value of Products. Statistics for 1929 are given for each State which can be shown separately without disclosing data for individual establishments. In some cases certain of the "Other States," however, reported larger numbers of pairs than some of the States for which separate figures are given]

STATE	Census year	NUMBER OF PAIRS				STATE	Census year	NUMBER OF PAIRS			
		Welted	McKay	Turned and cemented	Other <sup>1</sup>			Welted	McKay	Turned and cemented	Other
United States.....	1929	124,400,101	126,850,340	58,763,298	61,496,500	New York.....	1929	18,959,515	15,932,478	25,205,089	21,211,040
	1927	123,565,686	112,339,827	52,744,077	78,417,475		1927	17,806,402	9,118,604	22,301,444	35,044,302
	1919	124,988,547	119,203,701	60,785,608	20,240,772		1919	14,085,642	27,738,172	13,921,010	7,028,267
Illinois.....	1929	7,733,813	11,101,382	5,534,904	3,858,692	Ohio.....	1929	5,350,283	7,958,265	225,320	(?)
	1927	8,039,411	9,168,218	4,363,395	5,438,808		1927	5,744,185	8,451,913	253,050	(?)
	1919	5,017,333	4,321,509	1,059,611	240,151		1919	5,295,248	10,827,740	1,710,762	(?)
Maine.....	1929	5,320,848	9,061,700	1,880,722	151,265	Pennsylvania.....	1929	8,483,263	2,519,750	3,900,256	3,273,017
	1927	6,317,294	6,852,936	2,295,536	267,927		1927	8,106,528	2,855,055	5,424,062	1,855,139
	1919	5,971,546	10,520,261	2,104,563	579,017		1919	7,165,740	4,897,870	10,496,787	1,056,956
Massachusetts.....	1929	25,581,388	42,329,573	14,159,634	4,740,496	Wisconsin.....	1929	11,682,301	1,465,721	751,242	4,531,386
	1927	30,420,127	35,732,731	11,934,419	6,043,816		1927	9,780,941	2,417,519	675,642	5,399,715
	1919	52,279,293	34,840,757	24,145,290	5,727,572		1919	5,982,448	1,688,267	581,211	2,890,630
Missouri.....	1929	12,282,689	21,000,148	(?)	(?)	Other States.....	1929	14,774,067	4,623,359	3,610,086	323,729,604
	1927	13,568,002	20,305,888	(?)	(?)		1927	11,304,019	5,020,311	3,474,069	323,767,768
	1919	10,352,661	10,588,512	(?)	(?)		1919	8,344,048	4,627,516	3,571,064	3,724,239
New Hampshire.....	1929	14,231,929	10,917,964	1,005,145	(?)						
	1927	12,298,737	9,416,652	517,460	(?)						
	1919	10,494,583	9,153,088	1,015,310	(?)						

<sup>1</sup> For 1929, wood and metal fastened and stitch-down only; for 1927 and 1919, wood and metal fastened, stitch-down, and other kinds. (See Table 3, p. 803.)

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

<sup>3</sup> See footnote 2.

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 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.....	35,609	Horsepower 140,329	24,841	Horsepower 138,706	25,868	Horsepower 139,560	12,119	Horsepower 115,886	5,960	Horsepower 95,066	100.0	100.0
Prime movers, total.....	257	45,667	315	58,452	347	56,525	421	60,196	595	65,057	32.5	51.9
Steam, total.....	230	41,395	287	55,323	313	53,751	371	57,207	480	60,085	29.5	49.4
Engines.....	222	39,652	272	44,711	296	47,998	354	46,655	(1)	(1)	28.3	40.2
Turbines.....	8	1,743	15	10,612	17	5,753	17	10,612	(1)	(1)	1.2	9.2
Internal-combustion engines.....	17	2,172	15	1,219	10	898	36	908	91	3,421	1.5	0.8
Water wheels and water turbines.....	10	2,100	13	1,910	18	1,876	14	2,021	24	1,551	1.5	1.7
Electric motors driven by purchased energy.....	35,352	94,662	24,526	80,254	25,521	83,044	11,098	55,690	5,365	30,909	67.5	48.1
Electric motors, total.....	42,026	117,214	36,348	115,026	34,031	112,901	16,279	83,792	8,514	54,150	100.0	100.0
Driven by purchased energy.....	35,352	94,662	24,526	80,254	25,521	83,044	11,098	55,690	5,365	30,909	80.8	57.1
Driven by energy generated in establishments reporting.....	6,674	22,552	11,822	34,772	8,510	29,857	4,581	28,102	3,149	23,250	19.2	42.9
Electric generators.....	189	Kilowatts 24,097 Kilowatt-hours	194	Kilowatts 28,708	202	Kilowatts 29,550	(?)	(?)	(?)	(?)		
Electric energy purchased <sup>1</sup> .....		112,556,805		(?)		(?)		(?)		(?)		

<sup>1</sup> Not called for separately on schedule.

<sup>2</sup> Not called for on schedule.

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

<sup>4</sup> Data incomplete.

# BOOTS AND SHOES, OTHER THAN RUBBER

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TABLE 7.—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 (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	
<b>United States:</b>														
1929.....	205,640	185,120	205,044	207,829	201,705	197,265	195,023	205,169	217,921	<b>223,618</b>	220,552	203,954	<i>193,401</i>	86.5
1925.....	206,992	202,793	211,459	216,493	206,907	200,784	<i>191,322</i>	200,849	215,282	216,665	216,330	204,195	199,992	83.6
1919.....	211,049	202,905	204,440	201,295	<i>199,025</i>	201,710	206,562	211,811	215,596	217,031	219,604	224,197	228,412	87.1
1914.....	191,555	200,739	203,135	198,772	189,856	188,994	191,110	193,354	194,036	189,740	183,653	<i>183,212</i>	188,110	90.2
1909.....	185,116	185,981	188,742	186,357	179,606	<i>177,175</i>	179,115	183,003	186,888	186,377	186,494	187,572	193,782	91.6
California.....	661	630	659	691	677	608	636	665	687	703	699	665	<i>597</i>	84.9
Illinois.....	14,725	14,022	14,288	14,291	<b>13,822</b>	14,274	14,479	14,532	15,471	15,578	15,438	15,399	14,803	88.7
Indiana.....	1,691	1,522	1,522	1,555	<i>1,510</i>	1,514	1,521	1,570	1,699	1,735	1,739	1,635	1,568	86.8
Iowa.....	388	363	390	376	<i>362</i>	379	363	375	396	420	411	418	401	86.2
Kansas.....	77	76	68	76	75	78	78	73	78	78	84	85	79	80.0
Kentucky.....	2,438	2,369	2,525	2,515	2,126	<i>2,117</i>	2,297	2,499	2,542	2,522	2,497	2,593	2,658	79.6
Maine.....	9,967	8,747	10,395	10,413	10,124	9,716	9,880	10,410	10,596	10,951	10,717	8,926	<i>8,727</i>	79.7
Maryland.....	2,239	<i>2,007</i>	2,175	2,186	2,246	2,243	2,170	2,249	2,347	2,444	2,224	2,298	2,223	92.0
Massachusetts.....	55,093	54,664	58,624	59,184	59,549	52,517	49,222	52,221	57,745	60,903	59,992	51,489	<i>48,017</i>	76.8
Michigan.....	737	720	727	718	<i>691</i>	709	714	739	761	771	767	762	767	89.6
Minnesota.....	1,047	773	907	988	1,002	994	1,039	1,113	1,126	1,249	1,239	1,175	893	61.9
Missouri.....	24,903	<i>22,473</i>	24,236	24,577	23,612	23,146	23,261	25,217	26,636	27,175	27,073	25,695	25,731	82.7
New Hampshire.....	14,544	13,630	14,158	14,487	14,072	14,054	14,501	14,892	15,595	15,905	15,610	14,079	<i>13,544</i>	85.3
New Jersey.....	1,422	1,363	1,377	1,522	1,490	1,490	1,491	1,504	1,482	1,509	1,308	1,312	<i>1,221</i>	80.2
New York.....	36,980	<b>34,845</b>	35,759	36,545	35,931	35,752	35,658	37,301	39,286	39,743	39,338	37,819	35,784	87.7
Ohio.....	12,258	12,412	12,654	12,101	11,726	11,730	<i>11,409</i>	12,355	12,891	13,041	12,692	12,087	11,336	87.5
Pennsylvania.....	10,429	10,244	10,463	10,484	10,422	<i>10,030</i>	10,055	10,336	10,706	10,813	10,641	10,544	10,413	92.8
Tennessee.....	2,116	1,900	2,054	<i>1,981</i>	2,034	2,120	2,115	2,156	2,223	2,184	2,259	2,161	2,115	87.7
Texas.....	151	149	152	150	<i>148</i>	149	149	150	150	153	152	152	154	96.1
Washington.....	87	86	88	87	87	85	79	65	89	94	95	96	94	67.7
Wisconsin.....	10,755	<i>9,107</i>	9,712	9,877	10,107	10,541	10,835	11,332	12,157	<b>12,262</b>	12,110	11,255	9,771	74.3

## GLOVES AND MITTENS, LEATHER

Description of the industry.—The establishments classified in the leather glove and mitten industry are those engaged primarily in the manufacture of gloves (except baseball and boxing gloves, which are products of the "Sporting and athletic goods" industry) and mittens, made of leather, lined and unlined.

Statistics for Fulton County, N. Y.—Because of the great importance of Fulton County, N. Y., in the leather glove and mitten industry, statistics for this

county as a whole and for Gloversville and Johnstown, in which are located most of the leather glove and mitten manufacturing establishments reported for the county, are given in Table 4. From this table it will be seen that Fulton County reported more than one-half and Gloversville more than one-third of the total value of products of the industry for 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 <sup>1</sup>	Value added by manufacture <sup>2</sup>	Horsepower
1929.....	257	9,203	\$9,203,011	\$20,205,740	\$39,122,729	\$18,916,989	3,498
1927.....	232	9,106	8,813,912	19,276,416	30,662,053	17,385,637	2,603
1925 <sup>3</sup> .....	226	7,115	6,914,788	17,778,693	33,292,916	15,514,223	3,266
1923.....	260	10,010	8,544,709	20,223,924	38,080,575	17,856,051	4,372
1921.....	272	7,907	5,842,784	13,844,169	24,855,321	11,011,162	(4)
1919.....	355	10,685	8,150,784	20,280,129	46,940,511	20,664,382	3,288
1914.....	352	10,668	4,558,360	12,170,694	21,614,109	9,443,415	3,306
1909.....	377	11,354	4,763,850	13,208,001	23,680,698	10,422,597	2,806
1904.....	339	10,645	3,840,253	10,000,850	17,740,385	7,739,406	2,645
1899.....	394	14,345	4,182,518	9,483,150	16,926,156	7,443,026	2,165
PER CENT OF INCREASE OR DECREASE (—)							
1927-1929.....	10.8	1.1	4.4	4.8	6.7	8.8	34.4
1925-1927.....	2.7	28.0	27.5	8.4	10.1	12.1	-20.3
1923-1925.....	-13.1	-28.9	-19.1	-12.1	-12.6	-13.1	-25.3
1921-1923.....	-4.4	26.6	46.2	46.1	53.2	62.2	-----
1919-1921.....	-23.4	-20.0	-28.3	-47.3	-47.0	-46.7	-----
1919-1929.....	-27.6	-13.9	12.9	-23.1	-16.7	-8.4	6.4
1909-1919.....	-5.8	-5.9	71.1	99.0	98.6	98.2	14.7
1899-1909.....	-4.3	-20.9	13.9	39.3	39.6	40.0	32.4

<sup>1</sup> The figures refer to production, not sales. See GENERAL EXPLANATIONS—Value of Products.

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

<sup>3</sup> Revised.

<sup>4</sup> Not called for on schedule.

# GLOVES AND MITTENS, LEATHER

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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 of- ficers and em- ploy- ees <sup>1</sup>	Wage earn- ers (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 <sup>2</sup>	Value added by manufac- ture <sup>3</sup>
					Total	Prime movers	Motors run by pur- chased energy			Total	Materials and con- tainers	Fuel and pur- chased energy		
United States.....	1929	257	898	9,203	3,498	1,347	2,151	\$2,272,323	\$9,203,911	\$20,205,740	\$20,013,728	\$192,012	\$39,122,729	\$18,916,989
	1927	232	1,010	9,106	2,603	922	1,681	2,037,884	8,813,912	19,276,416	19,091,574	184,842	36,662,053	17,385,637
	1919	355	1,504	10,685	3,288	1,203	1,995	3,098,046	8,150,784	26,286,129	26,162,312	183,817	46,940,511	20,654,382
Individual States:														
California.....	1929	17	46	202	72	-----	72	112,863	287,518	461,320	458,032	3,288	1,053,279	591,959
	1927	14	49	275	90	-----	90	123,683	274,335	424,623	421,436	3,187	975,230	550,607
	1919	27	94	665	138	18	120	183,943	561,261	855,610	851,131	4,479	2,048,503	1,192,893
Illinois.....	1929	16	59	548	120	-----	120	145,530	570,506	1,174,474	1,160,573	13,901	2,197,003	1,022,529
	1927	15	55	578	132	-----	132	115,951	629,718	1,256,453	1,243,441	13,012	2,360,411	1,103,958
	1919	31	113	1,239	376	50	326	245,676	1,023,855	3,074,049	3,047,167	26,882	5,422,794	2,348,745
Michigan.....	1929	5	8	297	122	-----	122	20,665	211,966	487,639	481,731	5,908	820,711	333,072
New York.....	1929	171	507	5,582	1,526	293	1,233	1,232,358	6,022,287	12,472,942	12,362,163	110,839	24,973,521	12,500,579
	1927	154	686	5,714	987	46	941	1,170,512	5,786,574	12,476,050	12,366,220	109,839	23,850,506	11,374,450
	1919	219	847	5,510	1,462	515	947	1,865,465	4,388,213	14,567,174	14,472,927	94,247	26,763,200	12,196,026
Wisconsin.....	1929	22	153	1,520	465	100	365	458,518	1,293,480	3,633,784	3,602,257	31,527	6,337,541	2,703,757
	1927	25	171	1,645	483	200	283	458,074	1,318,210	3,236,083	3,202,473	33,610	6,059,792	2,823,709
	1919	28	165	1,728	609	303	306	344,088	1,205,175	4,266,750	4,235,724	31,029	6,772,808	2,506,058
Groups of States:														
Ind., 1 est.; Iowa, 3; Ohio, 2.....	1929	6	57	287	112	-----	112	146,618	242,294	646,365	637,691	8,674	1,229,173	582,508
N. H., 2 est.; Mass., 2; Pa., 3; Vt., 1; Va., 1. Other States (Minn., 3 est.; Mo., 3; Mont., 1; Oreg., 1; Wash., 3).	1929	9	30	308	767	729	38	92,187	302,039	615,539	604,122	11,417	1,151,697	536,158
	1929	11	38	369	314	225	89	63,594	278,821	713,677	707,219	6,458	1,359,804	646,127
States not shown sepa- rately.....	1927	24	79	894	911	676	235	169,664	805,075	1,883,207	1,858,004	25,203	3,416,114	1,532,907
	1919	50	285	1,543	703	407	296	458,874	972,280	3,622,546	3,495,363	27,183	5,933,206	2,410,860

<sup>1</sup> Not including proprietors and firm members, as follows: For 1929, 231; 1927, 251; 1919, 405. 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, 10,332; 1927, 10,397; 1919, 12,594.

<sup>2</sup> The figures refer to production, not sales. See GENERAL EXPLANATIONS—Value of Products.

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

<sup>4</sup> Indiana, 2 establishments; Iowa, 4; Maryland, 1; Massachusetts, 2; Michigan, 2; Minnesota, 2; New Hampshire, 2; Ohio, 2; Oregon, 1; Pennsylvania, 3; Virginia, 1; Washington, 2.

<sup>5</sup> Colorado, 1 establishment; Indiana, 4; Iowa, 6; Maryland, 2; Massachusetts, 5; Michigan, 4; Minnesota, 2; New Hampshire, 2; New Jersey, 2; Ohio, 2; Oregon, 2; Pennsylvania, 6; Tennessee, 1; Virginia, 4; Washington, 7.

## CENSUS OF MANUFACTURES: 1929

TABLE 3.—GLOVES AND MITTENS—PRODUCTION, BY KIND, QUANTITY, AND VALUE, BY STATES: 1929 AND 1927

[The figures refer to production, not sales. See GENERAL EXPLANATIONS—Value of Products. For convenience, statistics showing the total production of leather, cloth, and knit gloves and mittens in all industries have been assembled in this table. Figures are given for each State which can be shown separately without disclosing data for individual establishments. In some cases, however, certain of the "Other States" reported larger quantities and values than some of the States for which separate figures are given]

KIND	1929		1927	
	Dozen pairs	Value	Dozen pairs	Value
1. Leather glove and mitten industry, all products, total value.....		\$39,122,729		\$30,662,053
2. Gloves and mittens, total.....	3,545,119	38,410,514	2,954,124	35,720,572
3. Leather.....	2,976,037	36,491,328	2,713,542	34,751,304
4. Cloth and cloth and leather combined.....	562,766	1,817,934	200,376	848,230
5. Other.....	6,316	101,262	10,206	121,238
6. Other products (not normally belonging to the industry).....		596,992		837,992
7. Receipts for contract work.....		115,223		103,189
8. Cloth glove and mitten industry, all products, total value.....		29,882,968		30,202,152
9. Gloves and mittens, total.....	16,007,186	28,629,093	16,927,386	29,437,996
10. Cloth and cloth and leather combined.....	15,921,288	28,170,873	16,883,660	29,072,721
11. Leather.....	52,936	391,478	81,705	247,374
12. Other.....	32,962	67,342	12,021	117,900
13. Other products (not normally belonging to the industry).....		1,228,700		762,957
14. Receipts for contract work.....		24,595		1,200
15. Gloves and mittens made in the knit-goods industry.....	654,151	3,786,204	1,050,054	7,337,898
16. Gloves and mittens made as secondary products in other industries, total.....	104,008	520,231	149,522	394,632
17. Leather.....	11,249	110,000	26,222	211,357
18. Cloth.....	92,759	410,231	123,300	172,645
Gloves and mittens, all industries: Aggregate (sum of 2, 9, 15, and 16).....	20,310,464	71,346,642	21,081,086	72,850,797
All-woven fabric, total.....	10,308,087	14,260,205	10,194,651	14,193,348
Illinois.....	465,730	630,921	299,795	574,421
Indiana.....	2,838,303	3,857,249	1,955,770	3,058,625
Iowa.....	698,519	1,001,807	388,237	735,774
New York.....	567,300	893,088	406,977	700,417
Ohio.....	3,192,600	4,468,680	3,645,730	4,629,179
Other States.....	2,575,635	3,418,460	3,498,142	4,495,032
All-knit fabric, total.....	3,727,761	8,897,272	5,036,055	13,269,644
Gloves, total.....	3,479,067	8,171,812	(1)	(1)
Cotton, total.....	3,022,094	4,782,482	(1)	(1)
Warp-knit, total.....	2,972,659	4,709,333	(1)	(1)
Sueded.....	1,202,729	1,981,833	(1)	(1)
Other than sueded.....	1,769,930	2,727,500	(1)	(1)
Cone-knit.....	49,435	73,149	(1)	(1)
Woolen and worsted.....	117,063	618,981	(1)	(1)
Silk.....	322,051	2,721,442	(1)	(1)
Other.....	17,254	48,907	(1)	(1)
Mittens, total.....	248,694	725,460	(1)	(1)
Woolen and worsted.....	116,647	404,910	(1)	(1)
Wool and cotton.....	132,047	320,550	(1)	(1)
Combination of woven or knit fabric and leather.....	3,195,116	11,027,765	3,026,684	9,968,502
All-leather, lined and unlined, total.....	3,040,222	36,992,806	2,801,469	35,210,065
California.....	69,578	986,397	60,296	949,885
Illinois.....	206,050	1,980,146	174,703	1,830,121
New York.....	1,648,926	24,501,525	1,506,229	23,100,712
Wisconsin.....	619,480	5,931,420	589,639	5,794,667
Other States.....	496,188	3,593,318	470,602	3,525,370
Other gloves and mittens.....	39,278	168,594	22,227	239,238

<sup>1</sup> No comparable data available.

TABLE 4.—THE LEATHER GLOVE AND MITTEN INDUSTRY—SUMMARY FOR FULTON COUNTY AND FOR GLOVERSVILLE AND JOHNSTOWN, N. Y., 1929, AND PERCENTAGES OF UNITED STATES TOTALS FOR THE INDUSTRY,<sup>1</sup> 1929, 1927, AND 1923

	FULTON COUNTY, N. Y.				GLOVERSVILLE				JOHNSTOWN				REMAINDER OF COUNTY			
	Number or amount 1929	Per cent of total for United States			Number or amount 1929	Per cent of total for United States			Number or amount 1929	Per cent of total for United States			Number or amount 1929	Per cent of total for United States		
		1929	1927	1923		1929	1927	1923		1929	1927	1923		1929	1927	1923
Number of establishments.....	138	53.7	58.6	47.3	88	34.2	40.5	28.5	37	14.4	14.7	14.6	13	5.1	3.4	4.2
Wage earners (average for the year).....	4,928	53.5	58.6	42.9	3,201	35.4	39.8	29.7	1,165	12.7	13.5	10.1	602	5.6	5.3	3.0
Wages.....	\$5,337,891	60.0	61.6	45.7	\$3,633,706	39.5	42.2	30.9	\$1,199,026	13.0	14.2	11.1	\$504,259	5.5	5.2	3.7
Paid for contract work.....	\$1,240,919	95.9	100.0	83.3	\$807,528	62.4	63.0	61.1	\$329,787	25.5	35.2	14.5	\$103,304	8.0	1.8	7.0
Cost of materials, containers for products, fuel, and purchased electric energy.....	\$11,376,524	56.3	60.2	43.7	\$7,539,116	37.3	41.0	30.7	\$2,610,090	12.9	13.6	9.6	\$1,227,318	6.1	5.6	3.5
Value of products.....	\$22,665,432	57.9	60.2	45.4	\$15,133,666	38.7	41.0	30.9	\$5,208,509	13.3	14.1	10.9	\$2,323,257	5.9	5.1	3.6
Value added by manufacture.....	\$11,288,968	59.7	60.1	47.2	\$7,594,550	40.1	40.9	31.1	\$2,598,419	15.0	14.6	12.4	\$1,095,939	5.8	4.0	3.8
Horsepower.....	1,258	35.8	34.9	22.9	821	23.5	26.0	13.1	237	6.8	6.0	7.6	195	5.6	2.9	2.2

<sup>1</sup> For United States totals, see Table 1.

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 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.....	1,496	Horse-power 3,498	1,063	Horse-power 2,603	1,002	Horse-power 3,266	791	Horse-power 3,288	518	Horse-power 3,308	100.0	100.0
Prime movers.....	12	1,347	10	922	12	1,127	42	1,293	40	2,031	38.5	39.3
Steam, total.....	6	900	6	646	8	850	14	918	24	1,757	25.7	27.9
Engines.....	5	815	6	646	8	850	14	918	(1)	(1)	23.3	27.9
Turbines.....	1	85							(1)	(1)	2.4	
Internal-combustion engines.....	4	47	3	26	2	22	17	73			1.4	2.2
Water wheels and water turbines.....	2	400	1	250	2	255	11	302	3	192	11.4	9.2
Electric motors driven by purchased energy.....	1,484	2,151	1,053	1,681	990	2,139	749	1,965	478	1,277	61.5	60.7
Electric motors, total.....	1,534	2,411	1,084	1,926	1,019	2,374	767	2,064	508	1,515	100.0	100.0
Driven by purchased energy.....	1,484	2,151	1,053	1,681	990	2,139	749	1,965	478	1,277	89.2	96.7
Driven by energy generated in establishments reporting.....	50	260	31	245	29	235	18	69	30	238	10.8	3.3
Electric generators.....	4	Kilowatts 415	3	Kilowatts 300	3	Kilowatts 300	(2)	(2)	(2)	(2)		
Electric energy purchased <sup>1</sup> .....		Kilowatt-hours 2,152,717		(4)		(4)		(2)		(4)		

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

TABLE 6.—WAGE EARNERS, BY MONTHS, FOR THE UNITED STATES, 1929, 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 minimums of maximum
		January	February	March	April	May	June	July	August	September	October	November	December	
United States:														
1929 <sup>1</sup> .....	9,203	<i>8,297</i>	8,677	8,873	8,028	8,973	9,050	9,260	9,571	9,675	9,740	9,825	9,561	84.4
1919.....	10,635	10,175	10,044	<i>9,984</i>	10,046	10,190	10,515	10,887	11,125	11,042	11,286	11,303	11,623	85.9
1914.....	10,968	11,762	11,745	11,791	11,573	11,379	11,348	11,012	11,050	9,788	9,417	<i>8,591</i>	8,581	72.6
1909.....	11,354	<i>10,059</i>	10,985	11,145	11,130	11,188	11,333	11,299	11,372	11,590	11,583	11,991	12,007	88.8
California.....	292	288	293	300	290	293	289	<i>265</i>	291	290	297	308	303	86.6
Illinois.....	548	534	507	517	526	525	<i>496</i>	550	556	573	603	596	588	82.3
Michigan.....	297	266	273	288	291	<i>263</i>	267	298	314	320	297	348	345	76.0
New York.....	5,682	<i>4,844</i>	5,247	5,389	5,471	5,522	5,577	5,708	5,891	5,886	5,885	5,904	5,664	82.0
Wisconsin.....	1,520	<i>1,421</i>	1,425	1,464	1,457	1,470	1,502	1,513	1,557	1,609	1,625	1,620	1,577	87.4

<sup>1</sup> No comparable data available for 1925.