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OF THE

American Iron and Steel Institute

For 1919



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LETTER OF TRANSMITTAL.

HON. ELBERT H. GARY, PRESIDENT,

American Iron and Steel Institute, New York City.

DEAR SIR: Herewith is submitted the Eighth Annual Statistical Report of the American Iron and Steel Institute, containing the statistics of the iron and steel and allied industries of the United States and Canada for the year 1919 and preceding years.

The Annual Statistical Reports of the Institute are a continuation of a series of forty issues covering the years 1873-1912, published by the American Iron and Steel Association under the supervision of the late Mr. James M. Swank, of Philadelphia.

As in former years Special Statistical Bulletins have been published as soon as the receipt of complete statistics made it possible. In 1920 Statistical Bulletins were issued as follows:

No. 1—Production of pig iron in the United States in 1919; issued March 20, 1920.

No. 2—Production of rails in the United States in 1919; issued April 24, 1920.

No. 3—Production of pig iron in the United States in the first six months of 1920; issued August 16, 1920.

No. 4—Production of steel ingots and castings, finished forms of rolled iron and steel, and miscellaneous iron and steel products in the United States in 1919; issued September 25, 1920.

For additional statistical information not gathered by the Institute but incorporated in the Report we are indebted to the Director of the Bureau of Foreign and Domestic Commerce; Hon. George Otis Smith, Director of the United States Geological Survey; E. H. Alden, Vice President of the Norfolk and

Western Railway Company; to editors of the Iron Age, Iron Trade Review, American Metal Market, Steel and Iron, and the Connellsville Courier; Harrison I. Potts, Secretary of the Iron Merchants' Association, Philadelphia; Edward L. Hand & Co., of Philadelphia; W. I. Miller, Secretary and Treasurer of the Pittsburgh Forge and Iron Co., Pittsburgh.

For Canadian statistics relating to coal, coke and iron ore we are indebted to Hon. John McLeish, B.A., Chief of the Division of Mineral Resources and Statistics, Department of Mines, Ottawa. For prices of pig iron and rails in England we are indebted to the Iron and Coal Trades Review, London.

The work of compilation of the data contained in this Report has been in charge of Mr. William G. Gray.

HOWARD H. COOK,

Assistant Secretary.

NEW YORK, OCTOBER 15, 1920.

SUMMARY OF IRON AND STEEL PRODUCTION.

PRODUCTION OF LEADING ARTICLES OF IRON AND STEEL.

Products.	1918.	1919.	Increase.	Per cent.
Pig iron.				
Basic.....	18,646,174	14,494,131	*4,152,043	*22.27
Bessemer.....	13,024,966	9,975,934	*3,049,032	*23.41
Foundry and ferro-silicon..	5,145,260	4,916,758	*228,502	*4.44
Malleable.....	1,117,914	1,009,049	*108,865	*9.74
Forge.....	393,932	271,286	*122,646	*31.13
Spiegeleisen.....	283,853	84,246	*199,607	*70.32
Ferro-manganese.....	333,027	185,357	*147,670	*44.34
All other grades.....	109,518	78,603	*30,915	*28.23
Total pig iron. Gross tons.	39,054,644	31,015,364	*8,039,280	*20.58
Steel ingots and castings.				
Open-hearth.....	34,459,391	26,948,694	*7,510,697	*21.79
Bessemer.....	9,376,236	7,271,562	*2,104,674	*22.44
Crucible.....	115,112	63,572	*51,540	*44.77
Electric and all other steel..	511,693	387,404	*124,289	*24.29
Total steel.... Gross tons.	44,462,432	34,671,232	*9,791,200	*22.02
Rolled iron and steel.				
Rails.....	2,540,892	2,203,843	*337,049	*13.26
Plates and sheets.....	8,799,135	7,372,814	*1,426,321	*16.21
Nail and spike plate.....	18,310	12,832	*5,478	*29.91
Wire rods.....	2,562,390	2,538,476	*23,914	*.93
Structural shapes.....	2,849,969	2,614,036	*235,933	*8.27
Merchant bars.....	6,242,749	4,391,624	*1,851,125	*29.65
Bars for concrete work....	344,620	419,021	74,401	21.59
Skelp, flue, etc.....	2,564,011	2,555,778	*8,233	*.32
Hoops.....	262,281	233,336	*28,945	*11.03
Bands and cotton ties.....	250,767	352,172	101,405	40.43
Long angle splice bars, etc..	416,905	434,008	17,103	4.10
Rolled sheet piling.....	11,689	17,811	6,122	52.37
Railroad ties.....	6,438	16,645	10,207	158.54
Rolled forging billets.....	1,659,118	359,582	*1,299,536	*78.32
Blooms, billets, etc., export.	832,746	92,143	*740,603	*88.93
All other finished rolled....	1,793,734	1,487,423	*306,311	*17.07
Total..... Gross tons.	31,155,754	25,101,544	*6,054,210	*19.43

* Decrease.

PRODUCTION OF MISCELLANEOUS IRON AND STEEL PRODUCTS.

Products.	1918.	1919.	Increase.	Per cent.
Tin and terne plates...Pounds.	3,301,624,244	2,578,011,487	*723,612,757	*21.91
†Galvanized sheets....Pounds.	1,280,889,074	1,641,070,432	360,181,358	28.12
†Rail joints and fastenings....	361,624	378,083	16,459	4.55
Cut nails—kegs of 100 lbs....	418,811	394,477	*24,334	*5.81
Wire nails—kegs of 100 lbs...	12,279,800	13,094,221	814,421	6.63
†Wrought pipe.....	2,290,479	2,374,931	84,452	3.68
†Seamless steel tubes.....	292,894	197,369	*95,525	*32.61
Cast iron pipe, net tons....	619,673	710,081	90,408	14.59
†Hammered charcoal blooms..	83,087	32,237	*50,850	*61.20
†Forged iron and steel.....	1,295,566	534,346	*761,220	*58.75

* Decrease. † Includes articles formed or stamped from iron or steel black plates or black sheets and galvanized after the completion of the forming process. ‡ Gross tons.

SUMMARY OF MISCELLANEOUS STATISTICS.

Products.	1918.	1919.	Increase.	Per cent.
Iron ore (gross tons):				
Shipments, Lake Superior..	62,836,172	48,812,522	*14,023,650	*22.32
Total production.....	69,658,278	†60,466,000	*9,192,278	*13.19
Imports.....	787,468	476,461	*311,007	*39.49
Exports.....	1,256,383	996,569	*259,814	*20.68
Coal (net tons):				
Production, bituminous....	579,385,820	†458,063,000	*121,322,820	*20.94
Production, anthracite....	98,826,084	†86,200,000	*12,626,084	*12.77
Total production.....	678,211,904	†544,263,000	*133,948,904	*19.75
†Imports.....	1,334,237	977,115	*357,122	*26.76
†Exports.....	24,391,552	22,412,905	*1,978,647	*8.11
Coke (net tons):				
Total production.....	56,478,372	†44,821,000	*11,657,372	*20.64
†Imports.....	26,936	14,720	*12,216	*45.35
†Exports.....	1,506,986	640,139	*866,847	*57.52
Shipments, Connellsville...	16,138,590	10,254,640	*5,883,950	*36.46
Shipments, Pocahontas....	1 467,721	702,891	*764,830	*52.11

* Decrease.

† Gross tons.

‡ Estimated by the United States Geological Survey.

PIG IRON.

Classification.—All pig iron and ferro-alloys are included, whether made in blast furnaces or in electric furnaces. Pig iron made with bituminous coal is included under coke pig iron. Pig iron made with mixed anthracite and coke is included in anthracite pig iron. Pig iron made with electricity is included in coke pig iron. Low-phosphorus pig iron, that is, iron running under 0.04 in phosphorus, is included in Bessemer pig iron. Pig iron containing from 0.04 to 0.10 per cent. of phosphorus is classified as Bessemer. The figures for 1913 and subsequent years include under basic iron a small quantity of charcoal iron of basic grade. In 1912 and prior years charcoal pig iron of basic quality was not included in the basic production. Nearly all the charcoal iron is classed as foundry pig iron. Ferro-silicon is included in foundry pig iron. Pig iron containing 7 per cent. or over of silicon is classified as ferro-silicon. Under "all other grades" are included white and mottled iron, direct castings, and miscellaneous ferro-alloys. Where not separately stated ferro-manganese and spiegeleisen are included in "all other."

PRODUCTION OF ALL KINDS OF PIG IRON.

TOTAL PRODUCTION OF PIG IRON, 1890-1919.

Years.	Gross tons.	Years.	Gross tons.	Years.	Gross tons.
1890.....	9,202,703	1900.....	13,789,242	1910.....	27,303,567
1891.....	8,279,870	1901.....	15,878,354	1911.....	23,649,547
1892.....	9,157,000	1902.....	17,821,307	1912.....	29,726,937
1893.....	7,124,502	1903.....	18,009,252	1913.....	30,966,152
1894.....	6,657,388	1904.....	16,497,033	1914.....	23,332,244
1895.....	9,446,308	1905.....	22,992,380	1915.....	29,916,213
1896.....	8,623,127	1906.....	25,307,191	1916.....	39,434,797
1897.....	9,652,680	1907.....	25,781,361	1917.....	38,621,216
1898.....	11,773,934	1908.....	15,936,018	1918.....	39,054,644
1899.....	13,620,703	1909.....	25,795,471	1919.....	31,015,364

PRODUCTION OF PIG IRON BY STATES, 1915-1919.

States.	1915.	1916.	1917.	1918.	1919.
Maine, Mass., Conn...	7,802	5,719	10,527	12,485	13,678
New York, New Jersey.	2,104,780	2,352,535	2,417,527	2,871,118	2,070,288
Pennsylvania.....	12,790,668	16,506,284	15,539,728	15,198,271	12,276,585
Maryland.....	251,548	501,452	422,212	373,817	244,002
Virginia.....	251,346	399,885	520,311	513,737	319,409
Alabama.....	2,049,453	2,762,885	2,953,705	2,587,852	2,130,092
W. Va., Ga., Ky., Texas	291,040	554,590	561,951	594,675	413,091
Tennessee.....	177,729	355,374	369,951	369,822	190,514
Ohio.....	6,912,962	8,602,895	8,518,603	8,764,132	7,102,627
Illinois.....	2,447,220	3,922,512	3,456,915	3,440,307	2,558,213
Indiana, Michigan.....	1,986,778	2,221,708	2,657,503	3,073,599	2,715,659
Wisconsin, Minnesota..	372,966	811,325	738,541	750,366	605,619
Mo., Iowa, Colo., Mont., Wash., Oregon, Cal..	271,921	437,633	453,742	504,463	375,587
Total.....	29,916,213	39,434,797	38,621,216	39,054,644	31,015,364

PRODUCTION OF PIG IRON BY STATES, 1918-1919.

States.	Production—Gross tons.					
	1919.	Per cent.	1918.	Per cent.	Increase.	Per cent. increase.
Pennsylvania.....	12,276,585	39.58	15,198,271	38.91	*2,921,686	*19.22
Ohio.....	7,102,627	22.90	8,764,132	22.44	*1,661,505	*18.96
Indiana, Michigan.....	2,715,659	8.76	3,073,599	7.87	*357,940	*11.65
Illinois.....	2,558,213	8.25	3,440,307	8.81	*882,094	*25.64
Alabama.....	2,130,092	6.87	2,587,852	6.63	*457,760	*17.69
New York, New Jersey..	2,070,288	6.68	2,871,118	7.35	*800,830	*27.89
Wisconsin, Minnesota...	605,619	1.95	750,366	1.92	*144,747	*19.29
W. Va., Ga., Ky., Texas.	413,091	1.33	594,675	1.52	*181,584	*30.53
Mo., Iowa, Colo., Mont., Wash., Oregon, Cal....	375,587	1.21	504,463	1.29	*128,876	*25.55
Virginia.....	319,409	1.03	513,737	1.32	*194,328	*37.82
Maryland.....	244,002	.79	373,817	.96	*129,815	*34.73
Tennessee.....	190,514	.61	369,822	.95	*179,308	*48.48
Maine, Mass., Conn.....	13,678	.04	12,485	.03	1,193	9.56
Total.....	31,015,364	100.00	39,054,644	100.00	*8,039,280	*20.58

* Decrease.

In 1919, 28.02 per cent. of the pig iron made was made for sale, as compared with 27.6 per cent. in 1918 and 30.2 per cent. in 1917. Of the pig iron made for sale in 1919, 55.4 per cent. was foundry pig iron, as compared with 46.1 per cent. in 1918 and 44.5 per cent. in 1917.

FIG IRON MADE FOR SALE OR FOR USE OF MAKERS IN 1919.

Grades.	For sale.	For maker's use.	Total. Gross tons.
Basic.....	1,613,762	12,880,369	14,494,131
Bessemer and low-phosphorus.....	1,018,459	8,957,475	9,975,934
Foundry, including ferro-silicon.....	4,817,234	99,524	4,916,758
Malleable.....	999,228	9,821	1,009,049
Forge or mill.....	100,433	170,853	271,286
Ferro-manganese.....	47,557	137,800	185,357
Spiegeleisen.....	55,535	28,711	84,246
All other grades.....	38,019	40,584	78,603
Total.....Gross tons	8,690,227	22,325,137	31,015,364

FIG IRON MADE FOR SALE BY GRADES IN 1919.

States.	Basic.	Bessemer.	Foundry.	Malleable.	Forge.	All other.	Total. Gross tons.
Maine, Mass., Conn.....			13,097			72	13,169
N.Y., N.J., Md.	109,596	97,146	814,111	147,605	8,931	10,284	1,187,673
Pennsylvania.	686,764	683,381	834,064	126,933	65,262	88,127	2,484,531
Va., W. Va., Ala.....	91,758	2,742	1,381,157		8,425	28,651	1,512,733
Ky., Tenn. Tex.	314	29,696	237,142			5,539	272,691
Ohio.....	538,702	73,139	741,901	334,602	17,815	4,662	1,710,821
Ind., Ill.....	173,588	121,936	106,910	212,698			615,132
Mich., Wis., Minn., Mo., Iowa, Col., Ore., Wash., California....	13,040	10,419	688,852	177,390		3,776	893,477
Total....	1,613,762	1,018,459	4,817,234	999,228	100,433	141,111	8,690,227

FIG IRON MADE FOR SALE BY GRADES, 1913-1919.

Years.	Basic.	Bessemer.	Foundry.	Malleable.	Forge.	All other.	Total. Gross tons.
1913.....	1,909,279	1,203,680	5,084,952	989,241	238,361	98,372	9,523,885
1914.....	1,479,721	527,905	4,393,089	671,771	196,058	94,436	7,362,980
1915.....	1,747,265	871,730	4,801,711	829,921	174,355	158,025	8,583,007
1916.....	2,476,677	1,976,863	5,473,196	921,486	144,615	260,480	11,253,317
1917.....	2,614,875	2,406,742	5,186,498	1,014,025	128,061	300,131	11,650,332
1918.....	2,401,476	1,703,801	4,962,155	1,117,914	197,654	385,540	10,768,540
1919.....	1,613,762	1,018,459	4,817,234	999,228	100,433	141,111	8,690,227

PRODUCTION OF PIG IRON BY GRADES.

PRODUCTION OF PIG IRON BY GRADES, 1904-1919.

Years	Basic.	Bessemer.	Foundry.	Malleable.	Forge.	All other.	Total. Gross tons.
1904.	2,483,104	9,098,659	3,827,229	263,529	550,836	273,676	16,497,033
1905.	4,105,179	12,407,116	4,758,038	635,236	727,817	358,994	22,992,380
1906.	5,018,674	13,840,518	4,773,011	699,701	597,420	377,867	25,307,191
1907.	5,375,219	13,231,620	5,151,209	920,290	683,167	419,856	25,781,361
1908.	4,010,144	7,216,976	3,637,622	414,957	457,164	199,155	15,936,018
1909.	8,250,225	10,557,370	5,322,415	658,048	725,624	281,789	25,795,471
1910.	9,084,608	11,245,642	5,260,447	843,123	564,157	305,590	27,303,567
1911.	8,520,020	9,409,303	4,468,940	612,533	408,841	229,910	23,649,547
1912.	11,417,886	11,664,015	5,073,873	825,643	469,183	276,337	29,726,937
1913.	12,536,693	11,590,113	5,220,343	993,736	324,407	300,860	30,966,152
1914.	9,670,687	7,859,127	4,533,254	671,771	361,651	235,754	23,332,244
1915.	13,093,214	10,523,306	4,843,899	829,921	316,214	309,659	29,916,213
1916.	17,684,087	14,422,457	5,553,644	921,486	348,344	504,779	39,434,797
1917.	17,671,662	13,714,732	5,328,258	1,015,579	345,707	545,278	38,621,216
1918.	18,646,174	13,024,966	5,145,260	1,117,914	393,932	726,398	39,054,644
1919.	14,494,131	9,975,934	4,916,758	1,009,049	271,286	348,206	31,015,364

PRODUCTION OF PIG IRON BY GRADES, 1918-1919, SHOWING DECREASE BY GRADES, GROSS TONS.

Grades.	1919.	Per cent.	1918.	Per cent.	Decrease.	Per cent.
Basic.....	14,494,131	46.73	18,646,174	47.75	4,152,043	22.27
Bessemer and low phosphorus...}	9,975,934	32.17	13,024,966	33.35	3,049,032	23.41
Foundry and ferro-silicon ..}	4,916,758	15.85	5,145,260	13.17	228,502	4.44
Malleable.....	1,009,049	3.25	1,117,914	2.86	108,865	9.74
Forge.....	271,286	.88	393,932	1.01	122,646	31.13
Spiegeleisen.....	84,246	.27	283,853	.73	199,607	70.32
Ferro-manganese..	185,357	.60	333,027	.85	147,670	44.34
All other.....	78,603	.25	109,518	.28	30,915	28.23
Total.....	31,015,364	100.00	39,054,644	100.00	8,039,280	20.58

PRODUCTION OF BASIC PIG IRON BY STATES.

States.	1915.	1916.	1917.	1918.	1919.
Pennsylvania.....	7,135,364	9,384,270	8,349,395	8,324,980	6,627,212
Indiana, Illinois.....	2,227,444	2,867,701	3,076,815	3,633,317	3,069,194
Ohio.....	1,898,903	2,456,876	2,987,380	3,360,681	2,541,969
Alabama.....	755,751	1,174,571	1,475,821	1,235,077	965,265
New York, New Jersey..	756,589	1,205,840	1,162,653	1,346,396	736,325
Mich., Wis., Minn., Mo., Col., Cal., Wash., ..}	291,902	581,490	575,957	649,348	452,333
Virginia, West Va., Ky.	27,261	13,339	43,641	96,375	101,833
Total.. Gross tons.	13,093,214	17,684,087	17,671,662	18,646,174	14,494,131

PRODUCTION OF BESSEMER PIG IRON BY STATES.

States.	1915.	1916.	1917.	1918.	1919.
Pennsylvania.....	4,348,097	5,533,007	5,685,017	5,310,024	4,302,171
Ohio.....	3,880,421	4,933,231	4,310,774	4,245,001	3,367,336
Ind., Ill., Minn., Wis., Col.	1,447,033	2,537,616	2,362,035	2,191,329	1,486,367
New York, New Jersey.	357,784	453,020	478,829	404,616	334,440
W. Va., Ky., Tenn., Ala.	264,592	496,588	487,509	507,922	244,667
Maryland.....	225,379	468,995	390,568	366,074	240,953
Total...Gross tons.	10,523,306	14,422,457	13,714,732	13,024,966	9,975,934
Total Bessemer.....	10,120,224	13,921,244	13,137,793	12,436,374	9,641,775
Total low-phosphorus.	403,082	501,213	576,939	588,592	334,159

PRODUCTION OF FOUNDRY PIG IRON BY STATES.

States.	1915.	1916.	1917.	1918.	1919.
Maine, Mass., Conn....	7,802	5,719	10,527	12,300	13,606
New York, New Jersey.	795,294	525,602	588,489	828,824	831,524
Pennsylvania.....	871,718	987,214	936,970	785,844	850,882
Maryland, Va., W. Va....	239,024	389,218	521,691	489,931	342,972
Georgia, Kentucky....	25,638	84,080	62,857	62,115	71,140
Tennessee, Texas.....	140,897	305,247	335,165	323,656	168,764
Alabama.....	1,221,476	1,493,373	1,361,851	1,169,123	1,083,389
Ohio.....	720,370	787,197	651,411	660,201	749,136
Indiana, Illinois.....	142,330	152,038	90,973	53,666	108,122
Michigan.....	352,932	379,997	374,995	356,069	329,624
Wisconsin.....	222,560	311,447	272,745	276,198	250,358
Minnesota, Mo., Iowa, Col., Cal., Ore., Wash. }	103,858	132,512	120,584	127,333	117,241
Total...Gross tons.	4,843,899	5,553,644	5,328,258	5,145,260	4,916,758
Total foundry.....	4,712,282	5,319,284	5,085,796	4,847,320	4,735,007
Total ferro-silicon..	131,617	234,360	242,462	297,940	181,751

PRODUCTION OF MALLEABLE PIG IRON BY STATES.

States.	1915.	1916.	1917.	1918.	1919.
New York, New Jersey.....	177,482	150,309	149,375	198,631	147,605
Pennsylvania.....	81,579	111,404	76,227	118,895	126,933
Kentucky, Ohio.....	309,386	286,180	430,416	388,512	334,602
Indiana, Illinois.....	147,552	241,813	359,561	411,876	399,909
Mich., Wis., Minn., Missouri.	113,922	131,780			
Total.....Gross tons.	829,921	921,486	1,015,579	1,117,914	1,009,049

PRODUCTION OF FORGE PIG IRON BY STATES.

States.	1915.	1916.	1917.	1918.	1919.
New York, New Jersey.....	7,745	9,892	6,429	36,732	8,931
Pennsylvania.....	156,462	145,888	146,659	180,418	146,923
Virginia.....	11,811	11,739	2,501	841	105
Tennessee, Kentucky.....	1,086	2,954	3,223	4,694	.....
Alabama.....	33,141	34,950	58,880	73,293	17,070
Ohio.....	105,969	142,921	128,015	97,954	98,257
Total.....Gross tons.	316,214	348,344	345,707	393,932	271,286

PRODUCTION OF MISCELLANEOUS GRADES OF PIG IRON.*

States.	1915.	1916.	1917.	1918.	1919.
Conn., New York, New Jersey..	4,886	5,372	18,910	16,242	8,708
Pennsylvania, Maryland.....	12,894	20,225	18,712	20,825	15,257
Va., W. Va., Ky., Tenn., Ga., Ala.	30,476	51,337	36,433	47,121	30,628
Ohio.....	9,897	9,267	10,607	11,783	11,327
Indiana, Illinois.....	3,676	2,421	7,102	10,447	9,897
Mich., Wis., Minn., Mo., Iowa,	424	623	404	3,100	2,786
Col., Wash., Cal.....					
Total.....Gross tons.	62,253	89,245	92,168	109,518	78,603

* Spiegeleisen and ferro-manganese not included.

PRODUCTION AND CONSUMPTION OF SPIEGELEISEN AND FERRO-MANGANESE FROM 1904 TO 1919.

Calendar years.	Spiegeleisen—Gross tons.			Ferro-manganese—Gross tons.		
	Production.	Add imports for consumption.	Approximate consumption.	Production.	Add imports for consumption.	Approximate consumption.
1904.....	162,370	4,623	166,993	57,076	21,814	78,890
1905.....	227,797	55,457	283,254	62,186	52,841	115,027
1906.....	244,980	103,267	348,247	55,520	84,359	139,879
1907.....	283,430	48,995	332,425	55,918	87,400	143,318
1908.....	111,376	4,579	115,955	40,642	44,624	85,266
1909.....	142,831	16,921	159,752	82,209	88,934	171,143
1910.....	153,055	25,383	178,438	71,376	114,278	185,654
1911.....	110,236	20,970	131,206	74,482	80,263	154,745
1912.....	96,346	1,015	97,361	125,378	99,137	224,515
1913.....	110,338	77	110,415	119,495	128,070	247,565
1914.....	79,935	2,870	82,805	106,083	82,997	189,080
1915.....	97,885	200	98,085	149,521	55,263	204,784
1916.....	194,002	.....	194,002	221,532	90,928	312,460
1917.....	192,985	3,968	196,953	260,125	41,969	* 299,694
1918.....	283,853	1,969	285,822	333,027	26,906	* 356,356
1919.....	84,246	27	84,273	185,357	33,022	* 215,380

* 2,400 tons of ferro-manganese exported in the last 6 months of 1917, 3,577 tons in the 12 months of 1918, and 2,999 tons in the 12 months of 1919 are deducted.

PRODUCTION OF PIG IRON BY FUELS.

PRODUCTION OF PIG IRON BY FUELS, GROSS TONS, 1854-1919.

Years.	Anthracite.	Charcoal.	Bituminous.	Total.
1854.....	303,067	305,623	48,647	657,337
1855.....	340,952	303,502	55,705	700,159
1856.....	395,637	330,777	62,101	788,515
1857.....	348,558	294,929	69,153	712,640
1858.....	322,705	254,744	52,099	629,548
1859.....	421,201	253,608	75,751	750,560
1860.....	463,581	248,510	109,132	821,223
1861.....	365,383	174,355	113,426	653,164
1862.....	419,924	166,661	116,685	703,270
1863.....	515,748	189,290	141,037	846,075
1864.....	610,730	215,940	187,612	1,014,282
1865.....	428,177	234,234	169,359	831,770
1866.....	669,078	296,946	239,639	1,205,663
1867.....	713,070	307,447	284,506	1,305,023
1868.....	797,322	330,357	303,571	1,431,250
1869.....	867,098	350,134	494,055	1,711,287
1870.....	830,357	325,893	508,929	1,665,179
1871.....	854,114	343,750	508,929	1,706,793
1872.....	1,223,047	446,953	878,713	2,548,713
1873.....	1,172,102	515,732	873,129	2,560,963
1874.....	1,073,343	514,783	813,136	2,401,262
1875.....	810,755	366,956	846,022	2,023,733
1876.....	709,445	275,579	883,937	1,868,961
1877.....	834,640	283,789	948,165	2,066,594
1878.....	975,777	261,963	1,063,475	2,301,215
1879.....	1,136,629	320,422	1,284,802	2,741,853
1880.....	1,613,974	479,963	1,741,254	3,835,191
1881.....	1,548,627	570,391	2,025,236	4,144,254
1882.....	1,823,338	623,130	2,176,855	4,623,323
1883.....	1,683,568	510,469	2,401,473	4,595,510
1884.....	1,416,476	409,301	2,272,091	4,097,868
1885.....	1,298,562	357,004	2,388,960	4,044,526
1886.....	1,874,640	410,319	3,398,370	5,683,329
1887.....	2,087,847	516,234	3,813,067	6,417,148
1888.....	1,719,401	534,633	4,235,704	6,489,738
1889.....	1,714,602	575,268	5,313,772	7,603,642
1890.....	2,186,411	628,145	6,388,147	9,202,703
1891.....	1,866,108	576,964	5,836,798	8,279,870
1892.....	1,797,113	537,621	6,822,266	9,157,000
1893.....	1,347,529	386,789	5,390,184	7,124,502
1894.....	914,742	222,422	5,520,224	6,657,388
1895.....	1,270,899	225,341	7,950,068	9,446,308
1896.....	1,146,412	310,244	7,166,471	8,623,127
1897.....	932,777	255,211	8,464,692	9,652,680
1898.....	1,203,273	296,750	10,273,911	11,773,934

Years.	Anthracite.	Charcoal.	Bituminous.	Total.
1899.....	1,599,552	284,766	11,736,385	13,620,703
1900.....	1,677,048	384,482	11,727,712	13,789,242
1901.....	1,712,527	383,441	13,782,386	15,878,354
1902.....	1,115,247	390,169	16,315,891	17,821,307
1903.....	1,911,347	505,684	15,592,221	18,009,252
1904.....	1,228,140	337,529	14,931,364	16,497,033
1905.....	1,674,515	352,928	20,964,937	22,992,380
1906.....	1,560,686	433,007	23,313,498	25,307,191
1907.....	1,371,554	437,397	23,972,410	25,781,361
1908.....	355,009	249,146	15,331,863	15,936,018
1909.....	698,431	376,003	24,721,037	25,795,471
1910.....	649,082	396,507	26,257,978	27,303,567
1911.....	229,575	278,676	23,141,296	23,649,547
1912.....	247,179	347,025	29,132,733	29,726,937
1913.....	300,041	339,981	30,326,130	30,966,152
1914.....	91,464	263,924	22,976,856	23,332,244
1915.....	84,753	296,152	29,535,308	29,916,213
1916.....	217,788	372,411	38,844,598	39,434,797
1917.....	381,048	376,525	37,863,643	38,621,216
1918.....	283,592	348,877	38,422,175	39,054,644
1919.....	138,337	327,097	30,549,930	31,015,364

PRODUCTION OF PIG IRON ACCORDING TO FUEL USED, 1915-1919.

Fuel used.	1915.	1916.	1917.	1918.	1919.
Coke.....	29,535,308	38,844,598	37,863,643	38,422,175	30,549,930
Anthracite and coke...	84,753	217,788	381,048	283,592	138,337
Charcoal.....	296,152	372,411	376,525	348,877	327,097
Total... Gross tons.	29,916,213	39,434,797	38,621,216	39,054,644	31,015,364

PRODUCTION OF COKE PIG IRON BY STATES, 1915-1919.

States.	1915.	1916.	1917.	1918.	1919.
Maine, N. Y., N. J.	2,104,780	2,352,535	2,412,155	2,862,330	2,077,288
Pennsylvania....	12,702,337	16,285,928	15,161,616	14,922,380	12,137,105
Maryland.....	251,144	501,452	422,112	373,472	243,309
Va., Ga., Texas.	251,346	399,885	526,825	514,457	320,909
Alabama.....	2,022,499	2,723,683	2,913,841	2,561,293	2,110,578
West Va., Ky...	291,040	554,590	555,437	593,955	411,591
Tennessee.....	177,729	353,072	367,168	367,700	189,544
Ohio.....	6,912,096	8,602,228	8,518,603	8,764,132	7,102,627
Illinois.....	2,447,220	3,922,512	3,456,915	3,440,307	2,558,213
Ind., Mich., Wis.	2,033,230	2,353,188	2,738,406	3,151,811	2,758,521
Minn., Iowa, Mo., Col., Mont., Wash., Ore., Cal.	341,887	795,525	790,565	870,338	640,245
Total.....	29,535,308	38,844,598	37,863,643	38,422,175	30,549,930

Of the total bituminous output in 1919, 29,794,242 tons were made with coke alone and 640,924 tons with bituminous coal and coke mixed. Pig iron was made with bituminous coal and coke mixed in Pennsylvania, Virginia, Alabama, Ohio, and Illinois.

PRODUCTION OF CHARCOAL PIG IRON BY STATES, 1915-1919.

States.	1915.	1916.	1917.	1918.	1919.
Massachusetts, Connecticut....	7,802	5,719	10,527	11,485	6,678
Pennsylvania.....	3,578	2,568	2,436	2,087	1,143
Maryland,	404	.....	100	345	21,177
Alabama.....	26,954	39,202	39,864	26,559	
Tennessee, Ohio.....	866	2,969	2,783	2,122	
Michigan.....	217,802	260,623	258,251	246,009	226,873
Wisconsin, Missouri, California.	38,746	61,330	62,564	60,270	71,226
Total.....Gross tons.	296,152	372,411	*376,525	*348,877	327,097

* Includes small tonnage of charcoal and coke mixed pig iron in 1917 and 1918.

PRODUCTION OF COLD AND HOT AND WARM BLAST CHARCOAL PIG IRON, 1915-1919.

Kinds of iron.	1915.	1916.	1917.	1918.	1919.
Cold blast.....	5,302	5,323	5,219	4,209	2,113
Hot and warm blast*.....	290,850	367,088	371,306	344,668	324,984
Total.....Gross tons.	296,152	372,411	†376,525	†348,877	327,097

* Includes iron made with charcoal and electricity in 1915.

† Includes small tonnage made with charcoal and coke mixed in 1917 and 1918.

METHODS BY WHICH ALL PIG IRON WAS CAST OR DELIVERED IN 1919.

States.	Molten condition.	Sand cast.	Machine cast.	Chill cast.	Direct cast-ings.	Total. Gross tons.
Maine, Mass., Conn.....		13,678	.....	.....	.....	13,678
N. Y., N. J., Maryland	952,519	507,217	733,561	120,074	919	2,314,290
Pennsylvania.....	8,032,472	846,909	3,172,636	214,963	9,605	12,276,585
Va., W. Va., Ala., Ky., Tenn., Texas.....	1,005,547	1,571,963	270,386	193,889	11,321	3,053,106
Ohio.....	4,084,835	547,517	2,219,718	244,603	5,954	7,102,627
Ind., Ill., Mich., Wis., Minn., Mo., Ia., Col., Wash., Oregon, California.....	4,142,344	474,878	1,589,409	46,025	2,422	6,255,078
Total.....	18,217,717	3,962,162	7,985,710	819,554	30,221	31,015,364

**METHODS BY WHICH ALL PIG IRON WAS CAST OR
DELIVERED, 1912-1919.**

Years.	Molten condition.	Sand cast.	Machine cast.	Chill cast.	Direct castings.	Total. Gross tons.
1912.....	16,466,722	6,309,495	6,214,121	726,017	10,582	29,726,937
1913.....	16,738,708	6,689,680	6,522,171	1,000,171	15,422	30,966,152
1914.....	11,911,247	4,814,959	5,854,661	738,018	13,359	23,332,244
1915.....	17,108,891	5,076,469	6,969,108	740,413	21,332	29,916,213
1916.....	23,101,018	6,584,152	8,278,357	1,442,576	28,694	39,434,797
1917.....	23,193,439	6,238,567	7,649,684	1,506,394	33,132	38,621,216
1918.....	23,643,761	5,672,387	8,312,549	1,387,946	38,001	39,054,644
1919.....	18,217,717	3,962,162	7,985,710	819,554	30,221	31,015,364

**METHODS BY WHICH FOUNDRY PIG IRON PRODUCED FOR SALE
WAS CAST, 1913-1919.**

Years.	Molten condition.	Sand cast.	Machine cast.	Chill cast.	Direct castings.	Total. Gross tons.
1913.....		4,374,012	628,686	82,254	.....	5,084,952
1914.....		3,554,669	739,235	99,185	.....	4,393,089
1915.....		3,656,151	1,026,785	118,775	.....	4,801,711
1916.....		4,410,663	958,120	104,413	.....	5,473,196
1917.....		3,986,115	1,005,041	195,342	.....	5,186,498
1918.....		3,428,219	1,255,581	278,355	.....	4,962,155
1919.....	10,888	2,846,268	1,671,392	288,686	.....	4,817,234

**METHODS BY WHICH MALLEABLE PIG IRON PRODUCED FOR SALE
WAS CAST, 1913-1919.**

Years.	Molten condition.	Sand cast.	Machine cast.	Chill cast.	Direct castings.	Total. Gross tons.
1913.....		501,568	450,616	37,057	.....	989,241
1914.....		299,588	338,605	33,578	.....	671,771
1915.....		232,732	554,600	42,589	.....	829,921
1916.....	577	178,356	650,822	91,731	.....	921,486
1917.....		72,451	880,782	60,792	.....	1,014,025
1918.....		128,037	902,560	87,317	.....	1,117,914
1919.....	2,792	169,433	756,359	70,644	.....	999,228

**PIG IRON DELIVERED IN MOLTEN CONDITION BY GRADES,
GROSS TONS, 1913-1919.**

Years.	Basic.	Bessemer.	All other.	Total.
1913.....	8,915,179	7,823,317	212	16,738,708
1914.....	6,436,043	5,465,565	9,639	11,911,247
1915.....	9,648,769	7,458,822	1,300	17,108,891
1916.....	13,248,510	9,833,863	18,645	23,101,018
1917.....	13,696,600	9,486,950	9,889	23,193,439
1918.....	14,453,688	9,189,817	256	23,643,761
1919.....	10,921,986	7,271,321	24,410	18,217,717

MISCELLANEOUS PIG IRON STATISTICS.

PRODUCTION OF PIG IRON IN PENNSYLVANIA BY DISTRICTS.

Districts.	1915.	1916.	1917.	1918.	1919.
Lehigh Valley.....	972,222	1,337,187	1,377,584	1,383,159	990,356
Schuylkill and Eastern Pa.	753,256	1,152,272	1,066,103	1,045,478	852,749
Lower Susquehanna.....	428,958	790,016	873,137	829,107	434,448
Juniata Valley.....	123,745	161,291	180,260	145,572	143,713
Allegheny County.....	5,970,407	7,239,913	6,226,601	6,357,660	5,719,842
Shenango Valley.....	2,269,289	3,160,050	2,863,145	2,691,066	2,414,573
Other Western Penna....	2,269,213	2,665,555	2,952,898	2,746,229	1,720,904
Charcoal.....	3,578	*	*	*	*
Total....Gross tons.	12,790,668	16,506,284	15,539,728	15,198,271	12,276,585

* Included with coke pig iron in above districts.

PRODUCTION OF PIG IRON IN OHIO BY DISTRICTS.

Districts.	1915.	1916.	1917.	1918.	1919.
Mahoning Valley.....	3,332,946	3,763,888	3,612,906	3,559,545	2,980,254
Lake Counties.....	2,087,877	2,612,233	2,496,391	2,602,917	2,244,324
Interior and Ohio River..	1,164,526	1,669,657	1,758,545	1,832,847	1,187,293
Hanging Rock.....	327,613	557,117	650,761	768,823	690,756
Total....Gross tons.	6,912,962	8,602,895	8,518,603	8,764,132	7,102,627

PRODUCTION OF BASIC PIG IRON IN PENNSYLVANIA AND OHIO BY DISTRICTS, GROSS TONS.

Districts.	1915.	1916.	1917.	1918.	1919.
Lehigh Valley.....	491,735	706,405	817,267	1,027,861	531,105
Schuylkill and Eastern..	432,195	721,672	715,572	667,350	545,568
L. Susq. and Juniata...	122,307	511,086	566,637	581,613	237,945
Allegheny County.....	3,580,347	4,477,075	3,698,537	3,515,749	3,279,714
Shenango Valley.....	1,223,452	1,547,531	948,327	1,028,064	1,184,874
Other Western Penna...	1,285,328	1,420,501	1,603,055	1,504,343	848,006
Total for Penna....	7,135,364	9,384,270	8,349,395	8,324,980	6,627,212
Mahoning Valley.....	1,070,457	1,083,565	1,376,912	1,482,313	1,140,091
Lake Counties.....	469,539	743,549	777,228	857,189	718,701
Interior and Ohio River	296,704	459,661	635,188	688,785	456,872
Hanging Rock.....	62,203	170,101	198,052	332,394	226,305
Total for Ohio....	1,898,903	2,456,876	2,987,380	3,360,681	2,541,969

**PRODUCTION OF BESSEMER PIG IRON IN PENNSYLVANIA AND
OHIO BY DISTRICTS, GROSS TONS.**

Districts.	1915.	1916.	1917.	1918.	1919.
Lehigh Valley.....	214,571	249,394	196,517	2,880	78,878
Schuylkill and Eastern.	77,925	228,246	170,675	183,419	114,046
L. Susq. and Juniata....	225,177	131,527	178,861	143,936	155,367
Allegheny County.....	2,264,675	2,546,374	2,316,225	2,552,631	2,298,097
Shenango Valley.....	1,028,946	1,591,109	1,906,952	1,636,115	1,170,653
Other Western Penna.	536,803	786,357	915,787	791,043	485,130
Total for Penna...	4,348,097	5,533,007	5,685,017	5,310,024	4,302,171
Mahoning Valley.....	1,893,503	2,232,616	1,917,545	1,835,855	1,579,452
Lake Counties.....	1,138,164	1,449,894	1,203,431	1,192,108	1,098,402
Interior and Ohio River	803,424	1,118,908	1,025,075	1,081,499	629,506
Hanging Rock.....	45,330	131,813	164,723	135,539	59,976
Total for Ohio....	3,880,421	4,933,231	4,310,774	4,245,001	3,367,336

**APPROXIMATE CONSUMPTION OF PIG IRON, GROSS TONS,
1894-1919.**

Years.	Pro- duction.	Add stocks unsold on Jan. 1.	Add imports.	Deduct stocks Dec. 31.	Deduct exports.	Approxi- mate con- sumption.
1894.....	6,657,388	707,318	15,582	661,328	24,482	6,694,478
1895.....	9,446,308	661,328	53,232	506,132	26,164	9,628,572
1896.....	8,623,127	506,132	56,272	847,686	62,071	8,275,774
1897.....	9,652,680	847,686	19,212	874,978	262,686	9,381,914
1898.....	11,773,934	874,978	25,152	415,333	253,057	12,005,674
1899.....	13,620,703	415,333	40,393	68,309	228,678	13,779,442
1900.....	13,789,242	68,309	52,565	446,020	286,687	13,177,409
1901.....	15,878,354	446,020	62,930	73,647	81,211	16,232,446
1902.....	17,821,307	73,647	619,354	49,951	27,487	18,436,870
1903.....	18,009,252	49,951	599,574	598,489	20,379	18,039,909
1904.....	16,497,033	598,489	79,500	446,442	49,025	16,679,555
1905.....	22,992,380	*.....	212,466	*.....	49,221	23,155,625
1906.....	25,307,191	.....	379,828	.....	83,317	25,603,702
1907.....	25,781,361	.....	489,475	.....	73,703	26,197,133
1908.....	15,936,018	.....	92,202	.....	46,696	15,981,524
1909.....	25,795,471	.....	176,442	.....	61,989	25,909,924
1910.....	27,303,567	.....	237,233	.....	127,385	27,413,415
1911.....	23,649,547	.....	148,459	.....	120,799	23,677,207
1912.....	29,726,937	.....	129,325	.....	272,676	29,583,586
1913.....	30,966,152	.....	156,450	.....	277,648	30,844,954
1914.....	23,332,244	.....	139,683	.....	114,423	23,357,504
1915.....	29,916,213	.....	89,836	.....	224,509	29,781,540
1916.....	39,434,797	.....	135,349	.....	607,236	38,962,910
1917.....	38,621,216	.....	76,786	.....	656,220	38,041,782
1918.....	39,054,644	.....	34,711	.....	269,575	38,819,780
1919.....	31,015,364	.....	101,665	.....	321,261	30,795,768

* Collection of statistics of unsold stocks discontinued in 1905.

MATERIALS CONSUMED BY BLAST FURNACES.

CONSUMPTION OF IRON ORE, MILL CINDER, SCALE, ETC., BY STATES, 1918-1919.

States.	1918—Gross tons.			1919—Gross tons.		
	Iron ore.	Mill cinder, scale, etc.	Total.	Iron ore.	Mill cinder, scale, etc.	Total.
Mass., Conn..	25,707	.....	25,707	14,070	.....	14,070
N. Y., N. J..	5,462,793	73,790	5,536,583	3,930,224	66,244	3,996,468
Pennsylvania	26,753,932	2,415,874	29,169,806	21,037,137	1,949,631	22,986,768
Md., Virginia	1,451,375	391,927	1,843,302	871,052	183,758	1,054,810
W. Va., Ky..	1,000,777	63,729	1,064,506	711,482	56,253	767,735
Alabama....	6,242,298	304,308	6,546,606	4,988,595	367,741	5,356,336
Tenn., Ga., Texas....	750,281	92,462	842,743	369,314	65,893	435,207
Ohio.....	15,898,515	795,450	16,693,965	12,541,561	747,034	13,288,595
Illinois.....	6,429,789	280,902	6,710,691	4,765,421	214,561	4,979,982
Ind., Mich...	5,745,461	359,947	6,105,408	4,951,748	317,569	5,269,317
Wis., Minn...	1,284,281	160,966	1,445,247	1,126,123	63,826	1,189,949
Mo., Col., Wash....	938,147	107,272	1,045,419	709,065	91,381	800,446
Total.....	71,983,356	5,046,627	77,029,983	56,015,792	4,123,891	60,139,683

CONSUMPTION OF IRON ORE, MILL CINDER, SCALE, ETC., BY STATES, GROSS TONS, 1915-1919.

States.	1915.	1916.	1917.	1918.	1919.
Mass., Connecticut...	19,496	12,927	23,658	25,707	14,070
New York, New Jersey	4,066,436	4,524,232	4,641,752	5,536,583	3,996,468
Pennsylvania.....	25,272,564	31,451,242	29,389,799	29,169,806	22,986,768
Maryland, Virginia...	963,036	1,771,894	1,826,788	1,843,302	1,054,810
West Virginia, Kentucky	534,172	1,039,714	1,037,263	1,064,506	767,735
Alabama.....	5,254,054	7,092,186	7,487,284	6,546,606	5,356,336
Tenn., Georgia, Texas	431,625	845,729	866,365	842,743	435,207
Ohio.....	13,093,991	16,195,138	16,284,471	16,693,965	13,288,595
Illinois.....	4,691,603	7,647,763	6,718,430	6,710,691	4,979,982
Indiana, Michigan.....	3,866,642	4,344,628	5,238,806	6,105,408	5,269,317
Wisconsin, Minnesota...	698,715	1,592,630	1,465,324	1,445,247	1,189,949
Mo., Col., Cal., Wash..	727,666	974,275	1,002,020	1,045,419	800,446
Total.....	59,620,000	77,492,358	75,981,960	77,029,983	60,139,683

**CONSUMPTION OF ORE, CINDER, ETC., PER TON OF PIG IRON
MADE, GROSS TONS, 1909-1919.**

Years.	Ore, briquettes, etc.	Perton iron made.	Cinder, scale, etc.	Perton iron made.	Total ore, cinder, etc.	Perton iron made.	Per cent. ore, etc.	Per cent. cinder etc.
1909....	48,660,000	1.886	2,535,000	0.098	51,195,000	1.984	95.0	5.0
1910....	51,739,000	1.895	2,800,000	0.102	54,539,000	1.997	94.9	5.1
1911....	43,980,000	1.859	3,761,000	0.159	47,741,000	2.018	92.1	7.9
1912....	55,656,000	1.872	4,319,000	0.145	59,975,000	2.017	92.8	7.2
1913....	58,291,000	1.882	3,051,000	0.099	61,342,000	1.981	95.0	5.0
1914....	42,988,000	1.842	3,378,000	0.145	46,366,000	1.987	92.7	7.3
1915....	55,137,000	1.843	4,483,000	0.149	59,620,000	1.992	92.5	7.5
1916....	73,102,982	1.856	4,389,376	0.112	77,492,358	1.968	94.3	5.7
1917....	71,121,116	1.847	4,860,844	0.126	75,981,960	1.973	93.6	6.4
1918....	71,983,356	1.853	5,046,627	0.130	77,029,983	1.983	93.4	6.6
1919....	56,015,792	1.813	4,123,891	0.133	60,139,683	1.946	93.1	6.9

**CONSUMPTION OF FUEL PER GROSS TON PIG IRON MADE, IN
POUNDS AND BUSHELS, 1912-1919.**

Years.	Coke and bit. coal. Pounds.	Anth. coal and coke mixed.		Anth. coal alone. Pounds.	Charcoal. Bushels.
		Anth. coal. Pounds.	Coke. Pounds.		
1912.....	2,436.5	565.2	2,341.6	2,954.7	102.1
1913.....	2,433.3	625.2	2,415.6	2,978.1	103.7
1914.....	2,354.4	742.2	1,935.4	3,132.4	107.1
1915.....	2,252.0	957.1	1,686.9	.....	98.3
1916.....	2,285.3	665.1	2,001.0	.....	99.0
1917.....	2,339.7	632.5	2,228.8	.....	97.9
1918.....	2,375.2	496.1	2,921.8	.....	98.8
1919.....	2,310.2	414.6	2,307.2	.....	99.2

**CONSUMPTION OF COKE, COAL, AND CHARCOAL IN THE
MANUFACTURE OF PIG IRON, 1912-1919.**

Years.	Coke consumed. Net tons.	Bit. coal consumed. Net tons.	Anth. coal consumed. Gross tons.	Charcoal consumed Bushels.
1912.....	35,721,127	47,022	73,794	35,436,017
1913.....	37,192,287	39,008	107,318	35,242,059
1914.....	27,070,856	61,815	31,421	28,272,567
1915.....	33,224,328	104,614	36,216	29,133,240
1916.....	44,431,905	112,255	64,664	36,865,920
1917.....	44,493,316	105,253	107,603	36,873,542
1918.....	45,703,594	105,017	62,803	34,462,881
1919.....	35,250,943	63,873	26,100	32,446,350

LIMESTONE CONSUMED IN MAKING PIG IRON, BY STATES,
GROSS TONS, 1915-1919.

States.	1915.	1916.	1917.	1918.	1919.
Massachusetts, Conn...	3,052	1,365	7,303	4,980	2,498
New York, New Jersey.	1,010,077	1,160,804	1,193,983	1,541,602	1,068,005
Pennsylvania.....	6,843,361	8,130,711	7,840,163	8,014,922	6,454,205
Maryland, Virginia....	358,444	648,297	654,543	667,043	406,761
Alabama.....	413,878	714,608	1,045,635	981,598	711,494
W. Va., Ky., Ga., Tex.	141,261	276,971	293,375	302,192	212,396
Tennessee.....	98,681	192,007	218,996	261,363	128,150
Ohio.....	3,371,438	4,202,533	4,153,384	4,275,803	3,659,502
Illinois.....	1,444,907	1,470,466	1,417,208	1,410,386	958,397
Indiana, Michigan.....	721,697	792,158	903,079	1,015,830	959,039
Wisconsin, Minnesota..	134,376	302,232	336,484	321,969	233,984
Mo., Col., Cal., Wash..	249,201	415,967	482,097	410,715	251,073
Total.....	14,790,373	18,308,119	18,546,250	19,208,403	15,045,504

The average consumption of limestone per ton of pig iron made was 1,090.6 pounds in 1919, as compared with 1,107.7 pounds in 1918. By anthracite and bituminous furnaces the consumption in 1919 was 1,099.6 pounds, against 1,115.4 pounds in 1918, and by charcoal furnaces it was 252.7 pounds, against 257.1 pounds in 1918.

BLAST FURNACE STATISTICS.

ANNUAL CAPACITY OF COMPLETED BLAST FURNACES,
DECEMBER 31, 1919.

States.	Number.			Annual capacity—Gross tons.		
	Coke.*	Char.	Total.	Coke.*	Char.	Total.
Massachusetts.....	0	1	1	0	5,000	5,000
Connecticut.....	0	2	2	0	12,000	12,000
New York.....	26	1	27	3,346,700	5,000	3,351,700
New Jersey.....	4	0	4	407,000	0	407,000
Pennsylvania.....	160	5	165	19,727,450	12,400	19,739,850
Maryland.....	4	1	5	480,000	4,000	484,000
Virginia.....	17	1	18	869,000	25,000	894,000
West Virginia.....	5	0	5	587,500	0	587,500
Kentucky.....	7	0	7	425,000	0	425,000
Tennessee.....	14	2	16	581,300	41,000	622,300
Georgia.....	2	2	4	96,000	32,000	128,000
Alabama.....	41	3	44	3,633,925	52,000	3,685,925
Mississippi.....	0	1	1	0	3,500	3,500
Texas.....	1	0	1	36,000	0	36,000
Ohio.....	79	0	79	10,644,525	0	10,644,525
Indiana.....	16	0	16	2,871,200	0	2,871,200
Illinois.....	25	0	25	4,085,850	0	4,085,850
Michigan.....	3	9	12	265,000	289,500	554,500
Wisconsin.....	6	2	8	466,800	57,000	523,800
Minnesota.....	3	0	3	401,750	0	401,750
Missouri.....	1	2	3	63,000	56,000	119,000
Colorado.....	6	0	6	625,000	0	625,000
Oregon.....	1	0	1	15,000	0	15,000
Total completed.....	421	32	453	49,628,000	594,400	50,222,400
Total building.....	7	3	†10	1,060,000	93,000	1,153,000
Grand total.....	428	35	463	50,688,000	687,400	51,375,400

* Includes furnaces which use anthracite coal and coke mixed or coke and bituminous coal.

† Includes 1 charcoal stack which has been abandoned for several years and is being rebuilt; also 1 partly erected charcoal stack on which work has been suspended; also 1 coke stack, the construction of which has been virtually completed, but no machinery installed, and work on which has been suspended.

FURNACES ACTUALLY IN BLAST IN EACH HALF OF 1919,
BY STATES.

States.	Com- pleted June 30.	In blast.		Com- pleted Dec. 31.	In blast.	
		June 30, 1919.	1st half 1919.		Dec. 31, 1919.	2d half 1919.
Massachusetts.....	2	0	1	1	1	1
Connecticut.....	2	0	2	2	0	1
New York.....	27	15	23	27	16	22
New Jersey.....	5	2	3	4	1	2
Pennsylvania.....	165	75	135	165	112	124
Maryland.....	5	1	5	5	4	5
Virginia.....	19	3	13	18	6	7
West Virginia.....	4	1	4	5	2	4
Kentucky.....	7	1	5	7	4	4
Tennessee.....	16	2	10	16	7	9
Georgia.....	4	0	0	4	0	0
Alabama.....	44	17	34	44	22	29
Mississippi.....	1	0	0	1	0	0
Texas.....	1	0	1	1	0	0
Ohio.....	79	48	79	79	54	73
Indiana.....	16	11	16	16	13	16
Illinois.....	25	12	23	25	19	23
Michigan.....	12	12	12	12	10	12
Wisconsin.....	8	2	5	8	4	4
Minnesota.....	3	2	3	3	3	3
Missouri.....	3	2	3	3	2	2
Colorado.....	6	3	4	6	0	3
Oregon.....	1	0	0	1	0	0
Washington.....	1	0	1	0	0	0
Total.....	456	209	382	453	280	344

BUILDING BLAST FURNACES, DECEMBER 31, 1919.

Name of company.	Location of furnace.	No. of stacks.	Fuel.	Annual capacity.
Barnum-Richardson Co....	East Canaan, Conn..	(a) 1	Char.	15,000
Bethlehem Steel Co.....	Sparrows Point, Md..	2	Coke	290,000
Bon Air Coal & Iron Corp..	Wrigley, Tenn.....	(b) 1	Char.	24,000
Ford Motor Co.....	River Rouge, Mich...	2	Coke	365,000
Missouri Iron & Steel Corp.	Haigart, Mo.....	1	Char.	54,000
Noble Electric Steel Co....	Heroult, California..	(c) 1	Coke	5,000
Pitts. Crucible Steel Co....	Midland, Pa.....	1	Coke	200,000
St. Louis Coke & Chem. Co.	Granite City, Ill. ...	1	Coke	200,000
Total building furnaces		10	.....	1,153,000

(a) Partly built; work suspended.

(b) Rebuilding a charcoal stack abandoned for several years.

(c) Stack virtually completed; no machinery installed; work suspended.

BLAST FURNACES COMPLETED IN 1919.

Name of company.	Location of furnace.	No. of stacks	Fuel.	Annual capacity.	Blown in.
Jones & Laughlin Steel Co..	Woodlawn, Pa.....	1	Coke	180,000	Sept. 8, 1919
Weirton Steel Co.	Weirton, W. Va.....	1	Coke	180,000	July 20, 1919
Total new furnaces.....		2	.....	360,000	.....

BLAST FURNACES ABANDONED OR DISMANTLED.

Name of company.	Location of furnace.	No. of stacks	Fuel.	Annual capacity	When built.
Bethlehem Steel Co.	Steelton, Pa., No. 1	1	Coke	38,500	1872-73
Charcoal Iron Co. of Amer..	Chocolay, Mich...	1	Char.	25,000	1860
Charcoal Iron Co. of Amer..	Elk Rapids, Mich..	1	Char.	35,000	1st op. 1873
New Birmingham Devel. Co.	New Bir., Tex....	1	Char.	15,000	1889-90
Pacific Coast Steel Co.....	Irondale, Wash. ...	1	Coke	21,000	1880-81
Replogle Steel Co.....	Wharton, N.J.No.1,	1	Coke	48,000	1868
Richmond Iron Works.	Cheshire, Mass....	1	Char.	5,000	1850
Va. Iron, Coal & Coke Co...	Foster Falls, Va...	1	Char.	3,000	1881
Total.....		8	.....	190,500	.....

COMPLETED AND REBUILDING BLAST FURNACES, DECEMBER 31 OF EACH YEAR.

Fuel used.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
Bituminous.....	395	394	389	390	388	400	407	408
Anthracite.....	26	23	20	15	20	20	15	13
Charcoal	45	45	42	40	40	35	37	32
Total	466	462	451	445	448	455	459	453

FURNACES IN BLAST ON DECEMBER 31 OF EACH YEAR.

Fuel used.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
Bituminous.....	282	183	144	289	303	306	332	260
Anthracite.....	10	5	3	4	12	15	9	5
Charcoal	21	17	17	17	18	18	19	15
Total	313	205	164	310	333	339	360	280

IDLE FURNACES ON DECEMBER 31 OF EACH YEAR.

Fuel used.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
Bituminous.....	113	211	245	101	85	94	75	148
Anthracite.....	16	18	17	11	8	5	6	8
Charcoal	24	28	25	23	22	17	18	17
Total	153	257	287	135	115	116	99	173

ACTIVE AND IDLE PENNSYLVANIA AND OHIO FURNACES.

Districts.	December 31, 1918.			December 31, 1919.		
	Active.	Idle.	Total.	Active.	Idle.	Total.
Lehigh Valley.....	16	6	22	13	9	22
Schuylkill Valley and Eastern....	13	7	20	11	9	20
Lower Susquehanna Valley.....	9	10	19	6	12	18
Juniata Valley.....	5	2	7	4	3	7
Allegheny County.....	41	7	48	41	7	48
Shenango Valley.....	21	3	24	20	5	25
Other Western Pennsylvania.....	22	3	25	17	8	25
Total for Pennsylvania.....	127	38	165	112	53	165
Mahoning Valley.....	25	2	27	22	5	27
Lake Counties.....	18	1	19	14	5	19
Hanging Rock.....	13	2	15	10	5	15
Interior and Ohio River.....	18	0	18	8	10	18
Total for Ohio.....	74	5	79	54	25	79

FURNACES ACTIVE AND IDLE IN EACH HALF YEAR, 1918-1919.

Fuel used.	1918.						1919.					
	First half.			Second half.			First half.			Second half.		
	Active.	Idle.	Total.	Active.	Idle.	Total.	Active.	Idle.	Total.	Active.	Idle.	Total.
Coke.....	371	33	404	383	24	407	355	57	412	319	89	408
Anthracite and coke mixed ...	12	2	14	13	2	15	7	4	11	6	7	13
Charcoal.....	20	15	35	22	15	37	20	13	33	19	13	32
Total.....	403	50	453	418	41	459	382	74	456	344	109	453

ELECTRIC AND SPECIAL FURNACES.

In 1919 there were 39 plants in the United States which manufactured pig iron, ferro-manganese, ferro-silicon, ferro-titanium, ferro-vanadium, or other ferro-alloys with electricity, electricity and charcoal, electricity and coke, etc., or by some special process.

COMPLETED BLAST FURNACES ON DECEMBER 31, 1910-1919.

States.	Number of completed furnaces on December 31.*									
	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
Massachusetts.....	2	2	2	2	2	2	2	2	2	1
Connecticut.....	3	3	3	3	3	3	3	3	2	2
New York.....	29	29	29	28	27	27	27	25	27	27
New Jersey.....	9	8	7	7	6	5	5	5	5	4
Pennsylvania.....	165	164	163	161	159	156	157	163	165	165
Maryland.....	5	5	5	5	5	5	5	5	5	5
Virginia.....	26	25	25	24	22	22	22	19	19	18
West Virginia.....	4	4	4	4	4	4	4	4	4	5
Kentucky.....	8	8	8	8	6	6	6	7	7	7
Tennessee.....	20	19	19	18	18	18	18	16	16	16
Georgia.....	4	4	3	4	4	4	4	4	4	4
Alabama.....	50	49	49	49	48	47	47	47	44	44
Mississippi.....	0	0	0	1	1	1	1	1	1	1
Texas.....	4	4	4	4	3	2	2	2	2	1
Ohio.....	76	75	75	75	74	74	77	79	79	79
Indiana.....	9	9	10	10	10	10	10	14	16	16
Illinois.....	26	24	26	26	26	26	24	24	25	25
Michigan.....	15	15	16	15	14	14	14	14	14	12
Wisconsin.....	7	7	7	7	8	8	8	8	8	8
Minnesota.....	1	1	1	1	1	2	3	3	3	3
Missouri.....	2	2	2	2	2	2	2	2	3	3
Colorado.....	6	6	6	6	6	6	6	6	6	6
Oregon.....	1	1	1	1	1	1	1	1	1	1
Washington.....	1	1	1	1	1	0	0	1	1	0
Total.....	473	465	466	462	451	445	448	455	459	453

* Rebuilding furnaces included since 1910.

ACTIVE AND IDLE BLAST FURNACES, DEC. 31, 1888-1919.

Years.	Active.	Idle.	Total.	Years.	Active.	Idle.	Total.
1888.....	332	257	589	1904.....	261	168	429
1889.....	344	226	570	1905.....	313	111	424
1890.....	311	251	562	1906.....	340	89	429
1891.....	313	256	569	1907.....	167	276	443
1892.....	253	311	564	1908.....	236	222	458
1893.....	137	381	518	1909.....	338	130	468
1894.....	185	326	511	1910.....	206	267	473
1895.....	242	226	468	1911.....	231	234	465
1896.....	159	311	470	1912.....	313	153	466
1897.....	191	232	423	1913.....	205	257	462
1898.....	202	212	414	1914.....	164	287	451
1899.....	289	125	414	1915.....	310	135	445
1900.....	232	174	406	1916.....	333	115	448
1901.....	266	140	406	1917.....	339	116	455
1902.....	307	105	412	1918.....	360	99	459
1903.....	182	243	425	1919.....	280	173	453

STEEL INGOTS AND CASTINGS.

PRODUCTION OF STEEL BY PROCESSES, GROSS TONS, 1878-1919.

Years.	Open-hearth.	Bessemer.	Crucible.	All other.	Total.
1878.....	32,255	653,773	38,309	7,640	731,977
1879.....	50,259	829,439	50,696	4,879	935,273
1880.....	100,851	1,074,262	64,664	7,558	1,247,335
1881.....	131,202	1,374,247	80,145	2,720	1,588,314
1882.....	143,341	1,514,687	75,973	2,691	1,736,692
1883.....	119,356	1,477,345	71,835	4,999	1,673,535
1884.....	117,515	1,375,531	53,270	4,563	1,550,879
1885.....	133,376	1,519,430	57,599	1,515	1,711,920
1886.....	218,973	2,269,190	71,973	2,367	2,562,503
1887.....	322,069	2,936,033	75,375	5,594	3,339,071
1888.....	314,318	2,511,161	70,279	3,682	2,899,440
1889.....	374,543	2,930,204	75,865	5,120	3,385,732
1890.....	513,232	3,688,871	71,175	3,793	4,277,071
1891.....	579,753	3,247,417	72,586	4,484	3,904,240
1892.....	669,889	4,168,435	84,709	4,548	4,927,581
1893.....	737,890	3,215,686	63,613	2,806	4,019,995
1894.....	784,936	3,571,313	51,702	4,081	4,412,032
1895.....	1,137,182	4,909,128	67,666	858	6,114,834
1896.....	1,298,700	3,919,906	60,689	2,394	5,281,689
1897.....	1,608,671	5,475,315	69,959	3,012	7,156,957
1898.....	2,230,292	6,609,017	89,747	3,801	8,932,857
1899.....	2,947,316	7,586,354	101,213	4,974	10,639,857
1900.....	3,398,135	6,684,770	100,562	4,862	10,188,329
1901.....	4,656,309	8,713,302	98,513	5,471	13,473,595
1902.....	5,687,729	9,138,363	112,772	8,386	14,947,250
1903.....	5,829,911	8,592,829	102,434	9,804	14,534,978
1904.....	5,908,166	7,859,140	83,391	9,190	13,859,887
1905.....	8,971,376	10,941,375	102,233	8,963	20,023,947
1906.....	10,980,413	12,275,830	127,513	14,380	23,398,136
1907.....	11,549,736	11,667,549	131,234	14,075	23,362,594
1908.....	7,836,729	6,116,755	63,631	6,132	14,023,247
1909.....	14,493,936	9,330,783	107,355	22,947	23,955,021
1910.....	16,504,509	9,412,772	122,303	55,335	26,094,919
1911.....	15,598,650	7,947,854	97,653	31,949	23,676,106
1912.....	20,780,723	10,327,901	121,517	21,162	31,251,303
1913.....	21,599,931	9,545,706	121,226	34,011	31,300,874
1914.....	17,174,684	6,220,846	89,869	27,631	23,513,030
1915.....	23,679,102	8,287,213	113,782	70,939	32,151,036
1916.....	31,415,427	11,059,039	129,692	169,522	42,773,680
1917.....	34,148,893	10,479,960	126,716	305,038	45,060,607
1918.....	34,459,391	9,376,236	115,112	511,693	44,462,432
1919.....	26,948,694	7,271,562	63,572	387,404	34,671,232

PRODUCTION OF STEEL INGOTS AND CASTINGS BY PROCESSES.

Years	Open-hearth.			Bessemer.	Cru- cible.	Elec- tric.	Mis- cella- neous.	Total. Gross tons.
	Basic.	Acid.	Total.					
1905.	7,815,728	1,155,648	8,971,376	10,941,375	102,233	.....	8,963	20,023,947
1906.	9,658,760	1,321,653	10,980,413	12,275,830	127,513	.....	14,380	23,398,136
1907.	10,279,315	1,270,421	11,549,736	11,667,549	131,234	.....	14,075	23,362,594
1908.	7,140,425	696,304	7,836,729	6,116,755	63,631	.....	6,132	14,023,247
1909.	13,417,472	1,076,464	14,493,936	9,330,783	107,355	13,762	9,185	23,955,021
1910.	15,292,329	1,212,180	16,504,509	9,412,772	122,303	52,141	3,194	26,094,919
1911.	14,685,932	912,718	15,598,650	7,947,854	97,653	29,105	2,844	23,676,106
1912.	19,641,502	1,139,221	20,780,723	10,327,901	121,517	18,309	2,853	31,251,303
1913.	20,344,626	1,255,305	21,599,931	9,545,706	121,226	30,180	3,831	31,300,874
1914.	16,271,129	903,555	17,174,684	6,220,846	89,869	24,009	3,622	23,513,030
1915.	22,308,725	1,370,377	23,679,102	8,287,213	113,782	69,412	1,527	32,151,036
1916.	29,616,658	1,798,769	31,415,427	11,059,039	129,692	168,918	604	42,773,680
1917.	32,087,507	2,061,386	34,148,893	10,479,960	126,716	304,543	495	45,060,607
1918.	32,476,571	1,982,820	34,459,391	9,376,236	115,112	511,364	329	44,462,432
1919.	25,719,312	1,229,382	26,948,694	7,271,562	63,572	384,452	2,952	34,671,232

PRODUCTION OF STEEL INGOTS.

1905.	7,009,569	835,267	8,444,836	10,919,272	96,500	.....	2,572	19,463,180
1906.	9,345,212	915,310	10,260,522	12,243,229	117,170	.....	3,510	22,624,431
1907.	9,912,839	890,372	10,803,211	11,634,276	121,001	.....	989	22,559,477
1908.	6,985,420	539,532	7,524,952	6,096,196	55,360	.....	519	13,677,027
1909.	13,111,467	781,429	13,892,896	9,296,969	94,672	13,456	786	23,298,779
1910.	14,858,353	782,805	15,641,158	9,354,437	107,671	50,821	.....	25,154,087
1911.	14,419,306	608,153	15,027,459	7,890,753	83,623	27,227	417	23,029,479
1912.	19,197,504	712,371	19,909,875	10,259,151	100,967	14,147	542	30,284,682
1913.	19,884,465	805,250	20,689,715	9,465,200	103,655	20,973	587	30,280,130
1914.	15,936,985	633,382	16,570,367	6,154,964	78,683	15,458	312	22,819,784
1915.	21,975,622	968,148	22,943,770	8,194,737	99,026	46,348	331	31,284,212
1916.	29,011,146	1,227,832	30,238,978	10,916,248	120,341	126,048	302	41,401,917
1917.	31,528,939	1,406,798	32,935,737	10,320,688	122,882	239,632	261	43,619,200
1918.	31,970,691	1,347,870	33,318,561	9,215,392	113,782	403,068	219	43,051,022
1919.	25,405,347	780,827	26,186,174	7,172,743	62,563	272,942	373	33,694,795

PRODUCTION OF STEEL CASTINGS.

1905.	206,159	320,381	526,540	22,103	5,733	.....	6,391	560,767
1906.	313,548	406,343	719,891	32,601	10,343	.....	10,870	773,705
1907.	366,476	380,049	746,525	33,273	10,233	.....	13,086	803,117
1908.	155,005	156,772	311,777	20,559	8,271	.....	5,613	346,220
1909.	306,005	295,035	601,040	33,814	12,683	306	8,399	656,242
1910.	433,976	429,375	863,351	58,335	14,632	1,320	3,194	940,832
1911.	266,626	304,565	571,191	57,101	14,030	1,878	2,427	646,627
1912.	443,998	426,850	870,848	68,750	20,550	4,162	2,311	966,621
1913.	460,161	450,055	910,216	80,506	17,571	9,207	3,244	1,020,744
1914.	334,144	270,173	604,317	65,882	11,186	8,551	3,310	693,246
1915.	333,103	402,229	735,332	92,476	14,756	23,064	1,196	866,824
1916.	605,512	570,937	1,176,449	142,791	9,351	42,870	302	1,371,763
1917.	558,568	654,588	1,213,156	159,272	3,834	64,911	234	1,441,407
1918.	505,880	634,950	1,140,830	160,844	1,330	108,296	110	1,411,410
1919.	313,965	448,555	762,520	98,819	1,009	111,510	2,579	976,437

PERCENTAGE OF PRODUCTION OF STEEL BY PROCESSES.

Processes.	1918—Per cent.			1919—Per cent.		
	Ingots.	Castings.	Total.	Ingots.	Castings.	Total.
Open-hearth.....	77.4	80.8	77.5	77.7	78.1	77.7
Bessemer.....	21.4	11.4	21.1	21.3	10.1	21.0
Crucible and all other..	1.2	7.8	1.4	1.0	11.8	1.3
Total.....	100.0	100.0	100.0	100.0	100.0	100.0
Basic open-hearth.....	74.3	35.8	73.0	75.4	32.2	74.2
Acid open-hearth.....	3.1	45.0	4.5	2.3	45.9	3.5

In 1919, 198 works in 26 States and the District of Columbia made steel ingots, against 212 works in 25 States and the District of Columbia in 1918.

In 1919, 310 works in 32 States, the District of Columbia, and the Canal Zone, Panama, made steel castings, against 280 works in 30 States, the District of Columbia, and the Canal Zone, Panama, in 1918.

PRODUCTION OF ALL KINDS OF STEEL INGOTS AND CASTINGS
BY STATES, 1915-1919.

States.	1915.	1916.	1917.	1918.	1919.
New England.....	196,143	285,135	340,376	341,293	297,733
New York.....	1,292,008	1,832,477	2,045,210	2,204,971	1,241,103
New Jersey.....	159,992	214,071	247,183	237,152	219,153
Pennsylvania.....	15,832,569	19,597,181	19,998,154	19,067,369	15,676,950
Delaware, Maryland...	315,782	556,897	598,876	506,642	411,913
Dist. of Col., Virginia..	10,550	12,181	19,336	20,916	16,133
West Virginia.....	308,622	558,160	552,249	476,607	328,664
Kentucky, Tennessee...	193,051	312,392	376,151	428,191	278,679
Georgia, Ala., No. Car.	788,304	1,186,099	1,292,247	1,151,821	1,106,525
Louisiana, Texas.....	1,450	2,600	2,104	2,783	4,010
Ohio.....	7,454,652	9,784,409	10,273,407	10,718,471	8,255,657
Indiana.....	2,506,927	3,245,599	3,725,522	3,915,399	3,129,884
Illinois.....	2,467,370	3,827,098	3,792,135	3,654,794	2,628,085
Michigan.....	22,988	39,621	57,900	61,251	37,772
Wisconsin.....	38,649	62,490	67,530	89,108	53,692
Minnesota.....	7,530	364,937	575,889	591,527	305,154
Missouri.....	46,925	80,578	93,771	123,616	25,761
Iowa, Nebraska.....	15,735	65,448	59,631	34,319	37,793
Okla., Colo., Wash....	437,220	631,979	663,987	615,527	428,184
Utah, Oregon.....	1,983	3,484	7,277	20,084	17,797
California, Canal Zone (Panama), Alaska...	52,586	110,844	171,672	200,591	170,590
Total... Gross tons.	32,151,036	42,773,680	45,060,607	44,462,432	34,671,232

The output of a few plants has been estimated.

PRODUCTION OF OPEN-HEARTH STEEL INGOTS AND CASTINGS BY STATES, 1915-1919.

States.	1915.	1916.	1917.	1918.	1919.
New England.....	191,582	278,768	332,597	329,630	286,826
New York, New Jersey..	1,266,017	1,872,258	2,110,846	2,245,239	1,296,005
Pennsylvania.....	13,245,393	16,030,251	16,284,102	15,574,101	12,692,112
Delaware, Maryland, District of Columbia..	227,982	481,574	514,457	327,834	401,494
West Virginia, Kentucky, Georgia, Ala., Tenn...	967,720	1,429,867	1,616,952	1,548,253	1,426,771
Ohio.....	3,521,404	5,057,751	6,074,857	6,729,955	5,112,616
Indiana.....	2,504,427	3,243,961	3,722,931	3,910,899	3,122,486
Illinois.....	1,169,657	1,812,169	1,966,296	2,283,991	1,664,993
Michigan, Wisconsin...	35,085	61,140	67,211	67,051	41,067
Other States.....	549,835	1,147,688	1,458,644	1,442,438	904,324
Total..Gross tons.	23,679,102	31,415,427	34,148,893	34,459,391	26,948,694

PRODUCTION OF BESSEMER STEEL BY STATES, 1915-1919.

States.	1915.	1916.	1917.	1918.	1919.
Ohio.....	3,929,665	4,711,784	4,256,337	3,920,442	3,073,941
Pennsylvania.....	2,507,243	3,444,163	3,537,094	3,281,941	2,851,402
Illinois.....	1,270,502	1,958,259	1,763,052	1,229,568	906,324
Other States.....	579,803	944,833	923,477	944,285	439,895
Total..Gross tons.	8,287,213	11,059,039	10,479,960	9,376,236	7,271,562

PRODUCTION OF BESSEMER STEEL BY STANDARD AND OTHER CONVERTERS, 1903-1919.

Years.	Standard Bessemer process.	Tropenas and all other modified processes.	Total. Gross tons.
1903.....	8,578,712	14,117	8,592,829
1904.....	7,849,773	9,367	7,859,140
1905.....	10,920,591	20,784	10,941,375
1906.....	12,244,309	31,521	12,275,830
1907.....	11,635,092	32,457	11,667,549
1908.....	6,096,478	20,277	6,116,755
1909.....	9,297,781	33,002	9,330,783
1910.....	9,355,350	57,422	9,412,772
1911.....	7,893,961	53,893	7,947,854
1912.....	10,260,913	66,988	10,327,901
1913.....	9,465,882	79,824	9,545,706
1914.....	6,155,203	65,643	6,220,846
1915.....	8,195,077	92,136	8,287,213
1916.....	10,917,113	141,926	11,059,039
1917.....	10,320,392	159,568	10,479,960
1918.....	9,216,416	159,820	9,376,236
1919.....	7,173,714	97,848	7,271,562

DUPLEX STEEL INGOTS AND CASTINGS.

Included in the 25,719,312 tons of basic open-hearth steel ingots and castings produced in 1919 are 2,819,785 tons of duplex steel ingots and castings which were made from metal partly purified in Bessemer converters and finally purified in basic open-hearth steel furnaces, against 3,870,017 tons in 1918, a decrease of 1,050,232 tons, or 27.13 per cent. In 1917 the production was 3,791,830 tons, and in 1916 it was 3,436,457 tons.

In 1919 duplex steel was produced by 9 works in 6 States, against 10 works in 6 States in 1918 and 1917, 9 works in 5 States in 1916, and 6 works in 4 States in 1915.

ALLOY STEEL INGOTS AND CASTINGS.

PRODUCTION OF ALLOY STEEL INGOTS AND CASTINGS.

Years.	Ingots.	Castings.	Total.	Years.	Ingots.	Castings.	Total.
1909	158,978	23,002	181,980	1915	923,251	97,896	1,021,147
1910	538,462	29,357	567,819	1916	1,306,157	56,458	1,362,615
1911	425,169	56,290	481,459	1917	1,576,806	67,529	1,644,335
1912	689,392	103,109	792,501	1918	1,721,367	66,485	1,787,852
1913	625,430	88,927	714,357	1919	1,435,816	45,372	1,481,188
1914	577,107	69,846	646,953	.....	.....	.....	.....

PRODUCTION OF ALLOY STEEL INGOTS AND CASTINGS, BY PROCESSES, GROSS TONS, 1919.

Processes.	Ingots.	Castings.	Total.
Open-hearth steel—basic.....	1,056,137	2,850	1,058,987
Open-hearth steel—acid.....	114,923	22,903	137,826
Bessemer steel.....	66,581	13,503	80,084
Crucible steel.....	22,600	59	22,659
Electric and miscellaneous steel.....	175,575	6,057	181,632
Total.....	1,435,816	45,372	1,481,188

In 1919 there were 141 works in 24 States and the District of Columbia which made alloy steel ingots or castings.

ACTIVE AND IDLE STEEL WORKS BY STATES, 1919.

States.	Open-hearth steel plants.			Bessemer steel plants.			Crucible, electric and misc. steel plants.		
	Act.	Idle.	Total.	Act.	Idle.	Total.	Act.	Idle.	Total.
Maine.....	0	1	1	0	0	0	0	0	0
Massachusetts.....	7	0	7	2	1	3	11	2	13
Rhode Island.....	1	0	1	0	0	0	1	0	1
Connecticut.....	2	2	4	1	0	1	5	0	5
New York.....	10	0	10	4	1	5	24	0	24
New Jersey.....	8	1	9	2	0	2	6	1	7
Pennsylvania.....	82	5	87	22	2	24	50	10	60
Delaware.....	3	1	4	3	0	3	0	1	1
Maryland.....	3	0	3	1	0	1	2	0	2
District of Columbia	2	0	2	1	0	1	2	0	2
Virginia.....	0	0	0	1	1	2	3	1	4
West Virginia.....	4	0	4	2	0	2	1	1	2
Kentucky.....	2	0	2	1	0	1	0	0	0
Tennessee.....	1	0	1	1	0	1	0	0	0
North Carolina.....	0	0	0	0	0	0	0	1	1
Georgia.....	2	0	2	0	0	0	1	0	1
Alabama.....	3	2	5	1	0	1	1	0	1
Louisiana.....	0	0	0	2	0	2	1	0	1
Texas.....	0	0	0	1	0	1	2	0	2
Ohio.....	32	1	33	22	1	23	21	0	21
Indiana.....	9	0	9	3	0	3	5	2	7
Illinois.....	11	1	12	10	2	12	12	1	13
Michigan.....	4	0	4	5	0	5	7	3	10
Wisconsin.....	4	2	6	5	1	6	12	1	13
Minnesota.....	2	0	2	2	0	2	3	0	3
Missouri.....	2	0	2	1	0	1	1	0	1
Iowa.....	2	1	3	2	1	3	3	0	3
Oklahoma.....	0	0	0	0	0	0	1	0	1
Nebraska.....	0	0	0	0	0	0	1	0	1
Colorado.....	1	0	1	1	1	2	3	0	3
Utah.....	1	0	1	1	0	1	1	0	1
Washington.....	1	0	1	4	0	4	10	1	11
Oregon.....	0	0	0	1	0	1	2	0	2
California.....	*7	1	*8	2	0	2	8	0	8
Canal Zone, Panama	0	0	0	1	0	1	0	0	0
Alaska.....	0	0	0	0	0	0	1	0	1
Total.....	*206	18	*224	105	11	+116	201	25	226

* Includes 2 open-hearth plants which were active in 1919 but which were being dismantled at the close of that year.

† Includes 5 plants (3 in Pennsylvania, 1 in Indiana and 1 in Alabama) which are equipped with Bessemer steel converters, used solely for desiliconizing and decarburizing molten metal for open-hearth steel furnaces.

Of the 224 open-hearth plants, 143 were equipped to make basic steel and 106 to make acid steel. Of the 116 Bessemer plants, 30 were equipped for the standard process and 86 were equipped for the modified process. There were 57 crucible steel plants, 165 electric steel plants, and 4 plants equipped for miscellaneous processes.

ACTIVE STEEL WORKS BY STATES, 1919.

States.	Total active works.	Of these the following made—						
		Open-hearth.		Bessemer.		Cruci- ble.	Elec- tric.	Mis- cel- lane- ous.
		Basic.	Acid.	Stand- ard.	Modi- fied.			
Massachusetts.....	15	2	6	0	2	5	6	0
Rhode Island.....	2	1	0	0	0	1	0	0
Connecticut.....	7	2	0	0	1	1	3	1
New York.....	29	6	4	1	3	9	15	0
New Jersey.....	12	4	6	0	2	2	4	0
Pennsylvania.....	123	52	8	9	13	17	32	1
Delaware.....	6	2	1	0	3	0	0	0
Maryland.....	5	2	1	1	0	1	1	0
District of Columbia	2	1	1	0	1	0	2	0
Virginia.....	3	0	0	0	1	0	3	0
West Virginia.....	7	1	3	2	0	0	1	0
Kentucky.....	3	2	0	1	0	0	0	0
Tennessee.....	2	0	1	0	1	0	0	0
Georgia.....	3	1	1	0	0	0	1	0
Alabama.....	4	3	0	1	0	0	1	0
Louisiana.....	3	0	0	0	2	0	1	0
Texas.....	3	0	0	0	1	0	2	0
Ohio.....	63	25	8	8	14	2	19	0
Indiana.....	14	4	6	1	2	2	3	0
Illinois.....	29	10	1	4	6	1	10	1
Michigan.....	14	1	3	0	5	0	7	0
Wisconsin.....	19	1	3	0	5	1	11	0
Minnesota.....	7	1	1	0	2	0	3	0
Missouri.....	3	1	1	0	1	0	1	0
Iowa.....	6	2	0	0	2	0	3	0
Nebraska.....	1	0	0	0	0	0	1	0
Oklahoma.....	1	0	0	0	0	0	1	0
Colorado.....	4	1	0	1	0	0	3	0
Utah.....	3	1	0	0	1	0	1	0
Washington.....	13	1	0	0	4	0	10	0
Oregon.....	3	0	0	0	1	1	1	0
California.....	14	7	0	0	2	0	8	0
Canal Zone, Panama	1	0	0	0	1	0	0	0
Alaska.....	1	0	0	0	0	0	1	0
Total.....	425	134	95	*29	76	43	155	3

* Includes 4 plants (2 in Pennsylvania, 1 in Indiana and 1 in Alabama) which operated Bessemer converters for duplexing only.

STEEL WORKS ABANDONED OR DISMANTLED IN 1919.

In 1919, 9 plants which were equipped for the manufacture of steel ingots or castings were abandoned. These plants had an approximate annual capacity of 152,650 gross tons of ingots and castings.

**TOTAL ANNUAL CAPACITY OF COMPLETED STEEL FURNACES
AND CONVERTERS, DECEMBER 31, 1919.**

States.	Open-hearth.	Bessemer.	Crucible.	Electric.	Miscellaneous.	Total Gross tons.
Maine.....	12,000	0	0	0	0	12,000
Massachusetts.....	286,700	8,700	1,490	21,200	0	318,090
Rhode Island.....	38,000	0	1,200	0	0	39,200
Connecticut.....	145,000	5,000	2,000	11,700	500	164,200
New York.....	2,414,150	108,760	39,575	129,550	0	2,692,035
New Jersey.....	331,800	17,240	19,500	30,300	0	398,840
Pennsylvania.....	18,752,540	3,899,100	129,435	255,880	500	23,037,455
Delaware.....	427,100	10,600	0	0	2,000	439,700
Maryland.....	492,500	400,000	1,000	30,000	0	923,500
District of Columbia	45,000	3,000	0	8,350	0	56,350
Virginia.....	0	1,500	0	14,900	0	16,400
West Virginia.....	128,000	478,000	6,000	50,500	0	662,500
Kentucky.....	450,000	150,000	0	0	0	600,000
Tennessee.....	3,000	3,000	0	0	0	6,000
North Carolina.....	0	0	500	0	0	500
Georgia.....	92,700	0	0	2,000	0	94,700
Alabama.....	1,335,000	0	0	19,200	0	1,354,200
Louisiana.....	0	3,900	0	400	0	4,300
Texas.....	0	500	0	2,600	0	3,100
Ohio.....	8,202,910	4,782,950	340	142,900	0	13,129,100
Indiana.....	4,310,710	8,000	1,550	19,500	0	4,339,760
Illinois.....	2,827,770	1,596,800	5,400	244,385	4,500	4,678,855
Michigan.....	37,000	17,100	650	53,350	0	108,100
Wisconsin.....	58,400	20,100	100	60,840	0	139,440
Minnesota.....	544,200	1,000	0	7,400	0	552,600
Iowa.....	88,000	6,200	0	9,400	0	103,600
Missouri.....	171,500	3,500	0	3,000	0	178,000
Nebraska.....	0	0	0	12,000	0	12,000
Oklahoma.....	0	0	0	350	0	350
Colorado.....	540,000	601,500	0	2,650	0	1,144,150
Utah.....	60,000	3,600	0	1,500	0	65,100
Oregon.....	0	2,000	250	4,500	0	6,750
Washington.....	72,000	7,900	0	12,450	0	92,350
California.....	234,500	6,730	0	18,780	0	260,010
Canal Zone, Panama	0	3,600	0	0	0	3,600
Alaska.....	0	0	0	300	0	300
Total for 1919....	42,100,480	12,150,280	208,990	1,169,885	7,500	*55,637,135
Total for 1918....	41,386,145	11,963,430	175,520	956,845	800	*54,482,740

* Does not include the capacity of open-hearth furnaces used for melting stock for electric furnaces or for malleable works, Bessemer converters used for desiliconizing and decarburizing molten metal, electric furnaces used for melting alloys, or electric furnaces used for the manufacture of pig iron or ferro-alloys.

ANNUAL CAPACITY OF OPEN-HEARTH STEEL FURNACES IN THE UNITED STATES, DECEMBER 31, 1919.

States.	No. of plants.	Basic—Gross tons.			Acid—Gross tons.			Total—Gross tons.		
		Ingots.	Castings.	Total.	Ingots.	Castings.	Total.	Ingots.	Castings.	Total.
Maine.....	1	12,000	0	12,000	0	0	0	12,000	0	12,000
Massachusetts.....	7	115,000	0	115,000	138,300	33,400	171,700	253,300	33,400	286,700
Rhode Island.....	1	38,000	0	38,000	0	0	0	38,000	0	38,000
Connecticut.....	4	130,000	0	130,000	10,000	5,000	15,000	140,000	5,000	145,000
New York.....	10	2,320,750	53,000	2,373,750	0	40,400	40,400	2,320,750	93,400	2,414,150
New Jersey.....	9	135,000	30,000	165,000	133,400	33,400	166,800	268,400	63,400	331,800
Pennsylvania.....	87	16,861,750	169,150	17,030,900	1,214,690	506,860	1,721,640	18,076,440	676,100	18,752,540
Delaware.....	4	425,000	0	425,000	0	2,100	2,100	425,000	2,100	427,100
Maryland.....	3	490,500	0	490,500	0	2,000	2,000	490,500	2,000	492,500
District of Columbia.....	2	30,000	0	30,000	7,500	7,500	15,000	37,500	7,500	45,000
West Virginia.....	4	84,000	0	84,000	20,400	23,600	44,000	104,400	23,600	128,000
Kentucky.....	2	450,000	0	450,000	0	0	0	450,000	0	450,000
Tennessee.....	1	0	0	0	0	3,000	3,000	0	3,000	3,000
Georgia.....	2	90,000	0	90,000	0	2,700	2,700	90,000	2,700	92,700
Alabama.....	5	1,315,000	15,000	1,330,000	2,000	3,000	5,000	1,317,000	18,000	1,335,000
Ohio.....	33	7,903,000	165,210	8,068,210	21,100	113,600	134,700	7,924,100	278,810	8,202,910
Indiana.....	9	4,216,000	0	4,216,000	0	94,710	94,710	4,216,000	94,710	4,310,710
Illinois.....	12	2,631,800	180,430	2,812,230	0	15,540	15,540	2,631,800	195,970	2,827,770
Michigan.....	4	0	7,000	7,000	0	30,000	30,000	0	37,000	37,000
Wisconsin.....	6	9,000	7,000	16,000	0	42,400	42,400	9,000	49,400	58,400
Minnesota.....	2	540,000	0	540,000	0	4,200	4,200	540,000	4,200	544,200
Iowa.....	3	15,000	73,000	88,000	0	0	0	15,000	73,000	88,000
Missouri.....	2	108,000	60,000	168,000	0	3,500	3,500	108,000	63,500	171,500
Colorado.....	1	538,000	2000	540,000	0	0	0	538,000	2,000	540,000
Utah.....	1	60,000	0	60,000	0	0	0	60,000	0	60,000
Washington.....	1	72,000	0	72,000	0	0	0	72,000	0	72,000
California.....	6	188,000	43,500	231,500	0	3,000	3,000	188,000	46,500	234,500
Total for 1919.....	222	38,777,800	805,290	39,583,090	1,547,390	970,000	2,517,390	40,325,190	1,775,290	42,100,480
Total for 1918.....	219	38,217,010	729,985	38,946,995	1,543,650	895,500	2,439,150	39,760,660	1,625,485	41,386,145

ANNUAL CAPACITY OF BESSEMER STEEL CONVERTERS IN THE UNITED STATES, DECEMBER 31, 1919.

The capacity of Bessemer converters used for desiliconizing and decarburizing molten metal for open-hearth furnaces is not included.

States.	Standard Bessemer.				Other Bessemer.				Total—Gross tons.			
	No. of plants.	Ingots.	Cast-ings.	Total.	No. of plants.	Ingots.	Castings.	Total.	No. of plants.	Ingots.	Castings.	Total.
Massachusetts.....	0	0	0	0	3	2,250	6,450	8,700	3	2,250	6,450	8,700
Connecticut.....	0	0	0	0	1	0	5,000	5,000	1	0	5,000	5,000
New York.....	1	100,000	0	100,000	4	0	8,760	8,760	5	100,000	8,760	108,760
New Jersey.....	0	0	0	0	2	0	17,240	17,240	2	0	17,240	17,240
Pennsylvania.....	10	3,849,000	0	3,849,000	14	0	50,100	50,100	24	3,849,000	50,100	3,899,100
Delaware.....	0	0	0	0	3	0	10,600	10,600	3	0	10,600	10,600
Maryland.....	1	400,000	0	400,000	0	0	0	0	3	400,000	0	400,000
District of Columbia.....	0	0	0	0	1	0	3,000	3,000	1	0	3,000	3,000
Virginia.....	0	0	0	0	2	0	1,500	1,500	2	0	1,500	1,500
West Virginia.....	2	477,750	250	478,000	0	0	0	0	2	477,750	250	478,000
Kentucky.....	1	150,000	0	150,000	0	0	0	0	1	150,000	0	150,000
Tennessee.....	0	0	0	0	1	0	3,000	3,000	1	0	3,000	3,000
Louisiana.....	0	0	0	0	2	600	3,300	3,900	2	600	3,300	3,900
Texas.....	0	0	0	0	1	0	500	500	1	0	500	500
Alabama.....	1	0	0	0	0	0	0	0	1	0	0	0
Ohio.....	8	4,735,000	0	4,735,000	15	0	47,950	47,950	23	4,735,000	47,950	4,782,950
Indiana.....	1	0	0	0	2	0	8,000	8,000	3	0	8,000	8,000
Illinois.....	4	1,572,000	0	1,572,000	8	0	24,800	24,800	12	1,572,000	24,800	1,596,800
Michigan.....	0	0	0	0	5	0	17,100	17,100	5	0	17,100	17,100
Wisconsin.....	0	0	0	0	6	0	20,100	20,100	6	0	20,100	20,100
Minnesota.....	0	0	0	0	2	0	1,000	1,000	2	0	1,000	1,000
Iowa.....	0	0	0	0	3	0	6,200	6,200	3	0	6,200	6,200
Missouri.....	0	0	0	0	1	0	3,500	3,500	1	0	3,500	3,500
Colorado.....	1	600,000	0	600,000	1	0	1,500	1,500	2	600,000	1,500	601,500
Utah.....	0	0	0	0	1	0	3,600	3,600	1	0	3,600	3,600
Washington.....	0	0	0	0	4	0	7,900	7,900	4	0	7,900	7,900
Oregon.....	0	0	0	0	1	0	2,000	2,000	1	0	2,000	2,000
California.....	0	0	0	0	2	0	6,730	6,730	2	0	6,730	6,730
Canal Zone, Panama.....	0	0	0	0	1	0	3,600	3,600	1	0	3,600	3,600
Total for 1919.....	30	11,883,750	250	11,884,000	86	2,850	263,430	266,280	116	11,886,600	263,680	12,150,280
Total for 1918....	30	11,710,750	250	11,711,000	89	2,700	249,730	252,430	119	11,713,450	249,980	11,963,430

ANNUAL CAPACITY OF CRUCIBLE STEEL FURNACES, DEC. 31, 1919.

States.	No. of plants.	Annual capacity—Gross tons.		
		Ingots.	Castings.	Total.
Massachusetts.....	7	125	1,365	1,490
Rhode Island, Connecticut.....	2	2,000	1,200	3,200
New York.....	9	39,400	175	39,575
New Jersey.....	3	18,000	1,500	19,500
Pennsylvania.....	23	129,370	65	129,435
Maryland.....	1	0	1,000	1,000
West Virginia, North Carolina.....	2	6,000	500	6,500
Ohio.....	2	0	340	340
Indiana.....	3	0	1,550	1,550
Illinois.....	1	5,400	0	5,400
Michigan.....	2	0	650	650
Wisconsin, Oregon.....	2	0	350	350
Total for 1919.....	57	200,295	8,695	208,990
Total for 1918.....	53	170,880	4,640	175,520

ANNUAL CAPACITY OF ELECTRIC STEEL FURNACES, DEC. 31, 1919.

States.	No. of plants.	Annual capacity—Gross tons.		
		Ingots.	Castings.	Total.
Massachusetts.....	6	8,000	13,200	21,200
Connecticut.....	3	7,500	4,200	11,700
New York.....	15	108,000	21,550	129,550
New Jersey.....	4	25,550	4,750	30,300
Pennsylvania.....	36	205,430	50,450	255,880
Maryland.....	1	30,000	0	30,000
District of Columbia.....	2	4,350	4,000	8,350
Virginia.....	4	8,800	6,100	14,900
West Virginia.....	1	50,000	500	50,500
Georgia, Alabama.....	2	19,200	2,000	21,200
Louisiana, Texas.....	3	1,200	1,800	3,000
Ohio.....	19	78,150	64,750	142,900
Indiana.....	4	0	19,500	19,500
Illinois.....	11	175,400	68,985	244,385
Michigan.....	8	23,500	29,850	53,350
Wisconsin.....	12	23,000	37,840	60,840
Minnesota.....	3	0	7,400	7,400
Iowa.....	3	2,000	7,400	9,400
Missouri, Nebraska.....	2	6,000	9,000	15,000
Oklahoma, Colorado, Utah.....	5	0	4,500	4,500
Washington.....	11	550	11,900	12,450
Oregon, California, Alaska.....	10	4,690	18,890	23,580
Total for 1919.....	165	781,320	388,565	1,169,885
Total for 1918.....	128	703,130	253,715	956,845

Miscellaneous—1919: 4 plants; ingots, 500 tons; castings, 7,000 tons; total, 7,500 tons.

ROLLED IRON AND STEEL.

In 1919 the production of all kinds of iron and steel rolled into finished forms (including blooms, billets, and axle blanks rolled for forging purposes and semi-finished products which were rolled for export in that year) shows a decrease of 6,054,-210 tons, or 19.43 per cent., as compared with 1918.

TOTAL PRODUCTION OF ALL KINDS OF FINISHED ROLLED IRON AND STEEL, 1887-1919.

Years	Iron and steel rails.	Plates and sheets.	Nail plate.	Wire rods.	Structural shapes.	All other finished rolled products.	Total. Gross tons.
1887.	2,139,640	603,355	308,432	.....	.....	2,184,279	5,235,706
1888.	1,403,700	609,827	289,891	279,769	.....	2,034,162	4,617,349
1889.	1,522,204	716,496	259,409	363,851	.....	2,374,968	5,236,928
1890.	1,885,307	809,981	251,828	457,099	.....	2,618,660	6,022,875
1891.	1,307,176	678,927	223,312	536,607	.....	2,644,941	5,390,963
1892.	1,551,844	751,460	201,242	627,829	453,957	2,579,482	6,165,814
1893.	1,136,458	674,345	136,113	537,272	387,307	2,104,190	4,975,685
1894.	1,021,772	682,900	108,262	673,402	360,305	1,795,570	4,642,211
1895.	1,306,135	991,459	95,085	791,130	517,920	2,487,845	6,189,574
1896.	1,122,010	965,776	72,137	623,986	495,571	2,236,361	5,515,841
1897.	1,647,892	1,207,286	94,054	970,736	583,790	2,497,970	7,001,728
1898.	1,981,241	1,448,301	70,188	1,071,683	702,197	3,239,760	8,513,370
1899.	2,272,700	1,903,505	85,015	1,036,398	850,376	4,146,425	10,294,419
1900.	2,385,682	1,794,528	70,245	846,291	815,161	3,575,536	9,487,443
1901.	2,874,639	2,254,425	68,850	1,365,934	1,013,150	4,772,329	12,349,327
1902.	2,947,933	2,665,409	72,936	1,574,293	1,300,326	5,383,219	13,944,116
1903.	2,992,477	2,599,665	64,102	1,503,455	1,095,813	4,952,185	13,207,697
1904.	2,284,711	2,421,398	61,601	1,699,028	949,146	4,597,497	12,013,381
1905.	3,375,929	3,532,230	64,542	1,808,688	1,660,519	6,398,107	16,840,015
1906.	3,977,887	4,182,156	54,211	1,871,614	2,118,772	7,383,828	19,588,468
1907.	3,633,654	4,248,832	52,027	2,017,583	1,940,352	7,972,374	19,864,822
1908.	1,921,015	2,649,693	45,747	1,816,949	1,083,181	4,311,608	11,828,193
1909.	3,023,845	4,234,346	63,746	2,335,685	2,275,562	7,711,506	19,644,690
1910.	3,636,031	4,955,484	45,294	2,241,830	2,266,890	8,475,750	21,621,279
1911.	2,822,790	4,488,049	48,522	2,450,453	1,912,367	7,316,990	19,039,171
1912.	3,327,915	5,875,080	45,331	2,653,553	2,846,487	9,908,475	24,656,841
1913.	3,502,780	5,751,037	37,503	2,464,807	3,004,972	10,030,144	24,791,243
1914.	1,945,095	4,719,246	38,573	2,431,714	2,031,124	7,204,444	18,370,196
1915.	2,204,203	6,077,694	31,929	3,095,907	2,437,003	10,546,188	24,392,924
1916.	2,854,518	7,453,980	30,088	3,518,746	3,029,964	15,493,093	32,380,389
1917.	2,944,161	8,267,616	22,864	3,137,138	3,110,000	15,585,921	33,067,700
1918.	2,540,892	8,799,135	18,310	2,562,390	2,849,969	14,385,058	31,155,754
1919.	2,203,843	7,372,814	12,832	2,538,476	2,614,036	10,359,543	25,101,544

Rolled blooms and billets for forging purposes are included from 1905, while semi-finished products rolled for export are included for 1912 and subsequent years. Prior to 1892 structural shapes were included in "all other finished rolled products."

PRODUCTION OF FINISHED ROLLED PRODUCTS, SHOWING IRON AND STEEL PRODUCTS SEPARATELY, GROSS TONS, 1908-1919.

Years.	Iron.	Steel.	Total.	Years.	Iron.	Steel.	Total.
1908.	1,238,449	10,589,744	11,828,193	1914..	1,167,776	17,202,420	18,370,196
1909.	1,709,431	17,935,259	19,644,690	1915..	1,294,833	23,098,091	24,392,924
1910.	1,740,156	19,881,123	21,621,279	1916..	1,822,571	30,557,818	32,380,389
1911.	1,460,615	17,578,556	19,039,171	1917..	1,867,757	31,199,943	33,067,700
1912.	1,637,582	23,019,259	24,656,841	1918..	1,573,976	29,581,778	31,155,754
1913.	1,678,257	23,112,986	24,791,243	1919..	1,059,451	24,042,093	25,101,544

PRODUCTION OF ALL KINDS OF FINISHED ROLLED IRON AND STEEL, BY STATES, GROSS TONS, 1915-1919.

States.	1915.	1916.	1917.	1918.	1919.
Maine, Massachusetts..	184,273	217,589	218,962	181,113	203,033
Rhode Island, Conn....	66,455	75,111	81,255	81,317	79,523
New York.....	994,334	1,322,988	1,492,769	1,640,182	974,928
New Jersey.....	181,017	235,739	238,972	217,480	204,180
Pennsylvania.....	11,992,840	15,428,563	15,018,871	13,836,445	11,477,176
Delaware, Virginia.....	25,647	37,337	62,403	41,584	79,279
Maryland.....	220,725	385,708	368,458	416,213	241,914
West Virginia.....	534,134	777,328	831,594	731,477	682,017
Kentucky, North Car...	169,571	332,797	322,444	239,224	184,675
Tennessee, Ga., Texas..	73,139				
Alabama.....	556,222	856,445	884,500	755,468	709,697
Ohio.....	4,733,612	5,846,024	6,141,465	6,171,332	4,975,254
Indiana.....	2,104,072	2,919,004	3,135,689	2,844,429	2,607,547
Illinois.....	1,889,964	2,686,674	2,713,428	2,470,223	1,679,107
Michigan.....	21,518	471,802	696,605	733,038	414,602
Wisconsin, Minnesota..	157,575				
Mo., Iowa, Okla., Kan.	81,042	150,603	146,386	115,085	103,803
Colorado, Utah, Wash..	356,924	518,043	573,660	514,170	355,138
California	49,860	118,634	140,239	166,974	129,671
Total.....	24,392,924	32,380,389	33,067,700	31,155,754	25,101,544

PRODUCTION OF ALL KINDS OF FINISHED ROLLED IRON AND STEEL IN PENNSYLVANIA BY DISTRICTS, 1915-1919.

Districts—Gross tons.	1915.	1916.	1917.	1918.	1919.
Philadelphia County...	111,468	161,531	117,806	107,591	81,295
Lehigh Valley.....	629,961	842,502	893,990	794,209	722,286
Schuylkill Valley.....	743,881	1,002,650	970,553	851,436	676,857
Eastern Pennsylvania..	465,324	572,001	629,894	580,784	392,204
Upper Susq. Valley...	152,637	234,414	224,310	198,913	141,853
Lower Susq. Valley...	471,509	869,094	692,250	762,092	424,224
Juniata Valley.....	58,745	101,340	126,582	128,040	106,458
Allegheny County.....	5,733,550	7,244,405	6,934,827	6,881,129	5,859,709
Shenango Valley.....	1,231,207	1,393,576	1,367,553	1,082,790	1,157,825
Western Pennsylvania..	2,394,558	3,007,050	3,061,106	2,449,461	1,914,465
Total.....	11,992,840	15,428,563	15,018,871	13,836,445	11,477,176

**PRODUCTION OF ALL KINDS OF FINISHED ROLLED IRON AND
STEEL IN OHIO BY DISTRICTS, 1915-1919.**

Districts—Gross tons.	1915.	1916.	1917.	1918.	1919.
Mahoning Valley.....	2,079,977	2,371,813	2,712,732	2,683,208	2,029,660
Lake Counties.....	1,319,409	1,729,005	1,709,071	1,861,089	1,475,109
Hanging Rock.....	746,723	1,057,919	1,052,657	1,065,595	1,044,568
Interior Counties.....					
Ohio River Counties...	587,503	687,287	667,005	561,440	425,917
Total.....	4,733,612	5,846,024	6,141,465	1,171,332	4,975,254

**PRODUCTION OF FINISHED ROLLED FORMS BY STATES, 1918-
1919, SHOWING IRON AND STEEL SEPARATELY.**

States.	1918—Gross tons.			1919—Gross tons.		
	Iron.	Steel.	Total.	Iron.	Steel.	Total.
Me., Mass.....	23,112	158,001	181,113	19,164	183,869	203,033
R. I., Conn....	9,832	71,485	81,317	6,230	73,293	79,523
New York.....	77,068	1,563,114	1,640,182	46,047	928,881	974,928
New Jersey....	30,108	187,372	217,480	31,417	172,763	204,180
Pennsylvania..	688,310	13,148,135	13,836,445	470,811	11,006,365	11,477,176
Delaware, Va..	22,889	18,695	41,584	13,468	65,811	79,279
Maryland.....	2,055	414,158	416,213	1,686	240,228	241,914
West Virginia..	5,241	726,236	731,477	.....	682,017	682,017
Ky., Tenn., N. C., Ga., Tex. }	50,786	188,438	239,224	32,111	152,564	184,675
Alabama.....	4,579	750,889	755,468	1,694	708,003	709,697
Ohio.....	169,490	6,001,842	6,171,332	127,926	4,847,328	4,975,254
Indiana.....	204,535	2,639,894	2,844,429	138,005	2,469,542	2,607,547
Illinois.....	133,106	2,337,117	2,470,223	73,414	1,605,693	1,679,107
Mch., Wis., Mn.	3,766	729,272	733,038	5,157	409,445	414,602
Mo., Iowa, Okla.	89,385	25,700	115,085	70,158	33,645	103,803
Colorado, Utah, Washington. }	39,810	474,360	514,170	4,192	350,946	355,138
California.....	19,904	147,070	166,974	17,971	111,700	129,671
Total.....	1,573,976	29,581,778	31,155,754	1,059,451	24,042,093	25,101,544

Of the total production in 1919 about 95.8 per cent. was rolled from steel, as compared with about 94.9 per cent. in 1918.

Of the total production in 1919, 45.72 per cent. was rolled in Pennsylvania, as compared with 44.41 per cent. in 1918; and in 1919, 19.82 per cent. was rolled in Ohio, as compared with 19.81 per cent. in the previous year.

In 1919 there were 402 plants in 30 States which rolled finished forms of iron or steel, as compared with 400 plants in 29 States in 1918.

PRODUCTION OF FINISHED ROLLED IRON AND STEEL BY LEADING PRODUCTS, GROSS TONS, 1919.

Products.	Iron.	Steel.	Total.
Rails.....		2,203,843	2,203,843
Plates and sheets.....	40,628	7,332,186	7,372,814
Nail and spike plate.....	738	12,094	12,832
Wire rods.....	1,956	2,536,520	2,538,476
Structural shapes.....	770	2,613,266	2,614,036
Merchant bars.....	446,549	3,945,075	4,391,624
Bars for reinforced concrete work.....	2,295	416,726	419,021
Skelp, flue, and pipe iron or steel.....	192,146	2,363,632	2,555,778
Hoops.....		233,336	233,336
Bands and cotton-ties.....	389	351,783	352,172
Long angle splice bars, tie-plate bars, etc.....	57,568	376,440	434,008
Rolled sheet piling, not including fabricated.....		17,811	17,811
Railroad ties.....		16,645	16,645
Rolled forging blooms, forging billets, etc.....	412	359,170	359,582
Blooms, billets, sheet bars, etc., for export.....	44	92,099	92,143
All other finished rolled products.....	315,956	1,171,467	1,487,423
Total.....Gross tons.	1,059,451	24,042,093	25,101,544

In addition to the 17,811 tons of rolled sheet piling above reported there were produced by rolling mills and steel works in 1919 about 3,773 tons of fabricated sheet piling, as compared with 1,742 tons of the same kind of piling in 1918.

PRODUCTION OF RAILS.

PRODUCTION OF RAILS BY PROCESSES, IN GROSS TONS.

Years.	Open-hearth.	Bessemer.	Rerolled.*	Electric.	Iron.	Total.
1905.....	183,264	3,192,347	.....	.....	318	3,375,929
1906.....	186,413	3,791,459	.....	.....	15	3,977,887
1907.....	252,704	3,380,025	.....	.....	925	3,633,654
1908.....	571,791	1,349,153	.....	.....	71	1,921,015
1909.....	1,256,674	1,767,171	.....	†	.....	3,023,845
1910.....	1,751,359	1,884,442	.....	†	230	3,636,031
1911.....	1,676,923	1,053,420	91,751	462	234	2,822,790
1912.....	2,105,144	1,099,926	119,390	3,455	.....	3,327,915
1913.....	2,527,710	817,591	155,043	2,436	.....	3,502,780
1914.....	1,525,851	323,897	95,169	178	.....	1,945,095
1915.....	1,775,168	326,952	102,083	.....	.....	2,204,203
1916.....	2,269,600	440,092	144,826	.....	.....	2,854,518
1917.....	2,292,197	533,325	118,639	.....	.....	2,944,161
1918.....	1,945,443	494,193	101,256	.....	.....	2,540,892
1919.....	1,893,250	214,121	96,422	50	.....	2,203,843

* Rerolled from old steel rails. Included with Bessemer and open-hearth steel rails from 1905 to 1910 inclusive.

† Small tonnages rolled in 1909 and 1910 but included with Bessemer and open-hearth rails for these years.

PRODUCTION OF RAILS, SHOWING INCREASE OR DECREASE BY PROCESSES, 1918-1919.

Kinds.	1918.	Per cent.	1919.	Per cent.	Increase.	Per cent.
Open-hearth.....	1,945,443	76.57	1,893,250	85.91	*52,193	*2.68
Bessemer.....	494,193	19.45	214,121	9.71	*280,072	*56.67
All other	101,256	3.98	96,472	4.38	*4,784	*4.72
Total.....	2,540,892	100.00	2,203,843	100.00	*337,049	*13.26

* Decrease.

Girder and high T rails for electric and street railways are included in the figures given above. For recent years the tonnage was as follows: 1914, 136,889; 1915, 133,965; 1916, 127,410; 1917, 91,674; 1918, 20,834; 1919, 112,712 gross tons.

PRODUCTION OF RENEWED AND REROLLED RAILS, 1912-1919.

Years.	Rerolled from new seconds, new defective rails, etc.			Rolled from old rails.	Total rerolled.
	Open-hearth.	Bessemer.	Total.		
1912....	13,140	29,446	42,586	119,390	161,976
1913....	13,052	30,741	43,793	155,043	198,836
1914....	13,538	13,234	26,772	95,169	121,941
1915....	6,477	2,652	9,129	102,083	111,212
1916....	1,711	2,149	3,860	144,826	148,686
1917....	1,825	7,182	9,007	118,639	127,646
1918....	13,296	19,462	32,758	101,256	134,014
1919....	1,933	5,766	7,699	96,422	104,121

PRODUCTION OF RAILS BY WEIGHT PER YARD, 1904-1919.

Years.	Under 45 pounds.	45 and less than 85.	85 and less than 100.	100 pounds and over.	Total Gross tons.
1904.....	291,883	1,320,677	672,151		2,284,711
1905.....	228,252	1,601,624	1,546,053		3,375,929
1906.....	284,612	1,749,650	1,943,625		3,977,887
1907.....	295,838	1,569,985	1,767,831		3,633,654
1908.....	183,869	687,632	1,049,514		1,921,015
1909.....	255,726	1,024,856	1,743,263		3,023,845
1910.....	260,709	1,275,339	2,099,983		3,636,031
1911.....	218,758	1,067,696	1,536,336		2,822,790
1912.....	248,672	1,118,592	1,960,651		3,327,915
1913.....	*270,405	†967,313	2,265,062		3,502,780
1914.....	*238,423	†309,865	868,104	528,703	1,945,095
1915.....	*254,101	†518,291	742,816	688,995	2,204,203
1916.....	*295,535	†566,791	1,225,341	766,851	2,854,518
1917.....	*308,258	†882,673	989,704	763,526	2,944,161
1918.....	*395,124	†665,165	888,141	592,462	2,540,892
1919.....	*263,803	†495,577	965,571	478,892	2,203,843

* Includes rails under 50 pounds. † Includes 50 pounds and less than 85 pounds.

PRODUCTION OF RAILS BY WEIGHTS AND PROCESSES, 1919.

Kinds	Under 50 lbs.		50 to 84 lbs.		85 to 99 lbs.		100 lbs. & over.		Total.	
	Gross tons.	Per cent.	Gross tons.	Per cent.	Gross tons.	Per cent.	Gross tons.	Per cent.	Gross tons.	Per cent.
O. H.	133,307	50.53	368,101	74.28	923,591	95.65	468,251	97.78	1,893,250	85.91
Bess.	46,748	17.72	126,752	25.58	29,980	3.11	10,641	2.22	214,121	9.71
Other	83,748	31.75	724	.14	12,000	1.24	.....	.....	96,472	4.38
Total	263,803	100.00	495,577	100.00	965,571	100.00	478,892	100.00	2,203,843	100.00

Included above is the annual production of alloy-treated rails, shown separately in the following tables.

PRODUCTION OF ALLOY-TREATED STEEL RAILS, 1910-1919.

Years	Total production. Gross tons.	Production by alloys.		Production by processes.		Production by weight per yard.			
		Titanium.	Other alloys.	Open-hearth and elect.	Bessemer.	Under 45 lbs.	45 and under 85 lbs.	85 and under 100 lbs.	100 lbs. and over.
1910.	257,324	256,759	565	27,389	229,935	..	70,170	187,154	
1911.	153,989	152,990	999	38,539	115,450	..	27,097	126,892	
1912.	149,267	141,773	7,494	40,393	108,874	21	5,426	143,820	
1913.	59,519	47,655	11,864	33,567	25,952	*91	†9,414	50,014	
1914.	27,937	23,321	4,616	27,447	490	*14	†1,168	8,301	18,454
1915.	24,970	21,191	3,779	24,367	603	*8	†1,977	6,555	16,432
1916.	28,562	26,493	2,069	27,675	887	..	†1,761	10,506	16,295
1917.	16,535	15,273	1,262	16,535	.....	..	†335	6,671	9,529
1918.	3,111	2,891	220	3,111	.....	..	†47	2,640	424
1919.	6,476	6,207	269	6,476	.....	..	..	3,920	2,556

* Includes rails under 50 pounds. † Includes 50 pounds and less than 85 pounds.

PRODUCTION OF ALLOY-TREATED STEEL RAILS, 1919.

Alloys.	Total production.	Production by processes.		Production by weight per yard.			
		Open-hearth.	Bessemer.	Under 50 lbs.	50 lbs. to 84 lbs.	85 lbs. to 99 lbs.	100 lbs. and over.
Titanium.....	6,207	6,207	..	..	..	3,839	2,368
Manganese.....	269	269	..	..	..	81	188
Total.....	6,476	6,476	..	..	..	3,920	2,556

PRODUCTION OF RAILS IN PENNSYLVANIA, 1910-1919.

Years	Open-hearth.	Bessemer.	Total.	Years	Open-hearth.	Bessemer.	All other.	Total.
1910.	395,229	591,473	986,702	1915.	494,595	162,575	37,375	694,545
1911.	477,228	352,331	*839,663	1916.	457,502	186,169	64,180	707,851
1912.	526,755	343,837	*888,672	1917.	411,202	324,315	33,902	769,419
1913.	618,795	326,819	*971,820	1918.	350,100	365,825	31,876	747,801
1914.	423,426	142,662	*592,532	1919.	387,747	200,873	41,719	630,339

* Includes 10,104 tons of "all other" rails in 1911, 18,080 tons in 1912, 26,208 tons in 1913, and 26,444 tons in 1914.

APPROXIMATE CONSUMPTION OF RAILS, 1874-1919.

Years.	Production—Gross tons.			Imports.	Exports.	Approximate consumption.
	Iron.	Steel.	Total.			
1874....	521,848	129,414	651,262	96,706	1,122	746,846
1875....	447,901	259,699	707,600	17,364	1,080	723,884
1876....	417,114	368,269	785,383	256	3,180	782,459
1877....	296,911	385,865	682,776	31	6,647	676,160
1878....	288,295	499,817	788,112	9	8,354	779,767
1879....	375,143	618,850	993,993	39,417	3,066	1,030,344
1880....	440,859	864,353	1,305,212	259,543	958	1,563,797
1881....	436,233	1,210,285	1,646,518	344,929	611	1,990,836
1882....	203,459	1,304,392	1,507,851	200,113	3,220	1,704,744
1883....	57,994	1,156,911	1,214,905	34,801	2,308	1,247,398
1884....	22,821	999,367	1,022,188	2,829	6,034	1,018,983
1885....	13,228	963,750	976,978	2,189	7,757	971,410
1886....	21,142	1,579,395	1,600,537	41,587	2,644	1,639,480
1887....	20,591	2,119,049	2,139,640	137,830	549	2,276,921
1888....	12,725	1,390,975	1,403,700	63,037	6,908	1,459,829
1889....	9,169	1,513,045	1,522,204	6,217	9,325	1,519,096
1890....	13,882	1,871,425	1,885,307	204	16,947	1,868,564
1891....	8,240	1,298,936	1,307,176	253	11,239	1,296,190
1892....	10,437	1,541,407	1,551,844	347	7,982	1,544,209
1893....	6,090	1,130,368	1,136,458	2,888	19,876	1,110,470
1894....	4,674	1,017,098	1,021,772	300	13,556	1,008,516
1895....	5,810	1,300,325	1,306,135	1,447	15,599	1,291,983
1896....	4,347	1,117,663	1,122,010	7,796	73,131	1,056,675
1897....	2,872	1,645,020	1,647,892	415	148,221	1,500,086
1898....	3,319	1,977,922	1,981,241	200	301,903	1,679,538
1899....	1,592	2,271,108	2,272,700	2,134	277,714	1,997,120
1900....	695	2,384,987	2,385,682	1,448	361,619	2,025,511
1901....	1,730	2,872,909	2,874,639	1,905	318,956	2,557,588
1902....	6,512	2,941,421	2,947,933	63,522	67,666	2,943,789
1903....	667	2,991,810	2,992,477	95,555	30,837	3,057,195
1904....	871	2,283,840	2,284,711	37,776	416,250	1,906,237
1905....	318	3,375,611	3,375,929	17,278	295,023	3,098,184
1906....	15	3,977,872	3,977,887	4,943	328,036	3,654,794
1907....	925	3,632,729	3,633,654	3,752	338,906	3,298,500
1908....	71	1,920,944	1,921,015	1,719	196,510	1,726,224
1909....	none.	3,023,845	3,023,845	1,542	299,540	2,725,847
1910....	230	3,635,801	3,636,031	7,861	353,180	3,290,712
1911....	234	2,822,556	2,822,790	3,414	420,874	2,405,330
1912....	none.	3,327,915	3,327,915	3,780	446,473	2,885,222
1913....	none.	3,502,780	3,502,780	10,408	460,553	3,052,635
1914....	none.	1,945,095	1,945,095	22,571	174,680	1,792,986
1915....	none.	2,204,203	2,204,203	78,525	391,379	1,891,349
1916....	none.	2,854,518	2,854,518	26,299	540,828	2,330,989
1917....	none.	2,944,161	2,944,161	9,263	512,669	2,440,755
1918....	none.	2,540,892	2,540,892	8,705	453,537	2,096,060
1919....	none.	2,203,843	2,203,843	17,008	652,449	1,568,402

PRODUCTION OF STRUCTURAL SHAPES.

PRODUCTION OF STRUCTURAL SHAPES, GROSS TONS, 1893-1919.

Years.	Tons.	Years.	Tons.	Years.	Tons.
1893.....	387,307	1902.....	1,300,326	1911.....	1,912,367
1894.....	360,305	1903.....	1,095,813	1912.....	2,846,487
1895.....	517,920	1904.....	949,146	1913.....	3,004,972
1896.....	495,571	1905.....	1,060,519	1914.....	2,031,124
1897.....	583,790	1906.....	2,118,772	1915.....	2,437,003
1898.....	702,197	1907.....	1,940,352	1916.....	3,029,964
1899.....	850,376	1908.....	1,083,181	1917.....	3,110,000
1900.....	815,161	1909.....	2,275,562	1918.....	2,849,969
1901.....	1,013,150	1910.....	2,266,890	1919.....	2,614,036

Prior to 1912 the output of heavy structural shapes was not separated from the output of light structural shapes. In the statistics for 1910 and 1911 the production of small angles, small channels, and other similar light structural forms for use in the manufacture of bedsteads, safes, fences, etc., was not included in the total output of structural shapes, but was included for 1909 and some prior years.

The figures given for heavy structural shapes for 1912 and subsequent years include all beams, tees, zee bars, angles, channels, etc., having one leg or web of 3 inches and over, which were rolled for structural or fabricating purposes, while the figures given for light structural shapes include only such light shapes and small angles, etc., as were rolled for use in the manufacture of bedsteads, agricultural implements, fences, safes, vaults, or for other fabricating purposes having a section smaller than the heavy shapes as defined above. The production of iron and steel plates, girders made from plates, merchant bars, bars for reinforced concrete, sheet piling, etc., all of which are provided for elsewhere, is not included in any of the figures given for structural shapes.

PRODUCTION OF HEAVY AND LIGHT STRUCTURAL SHAPES,
GROSS TONS, 1912-1919.

Years.	Heavy shapes.	Light shapes.	Total.	Years.	Heavy shapes.	Light shapes.	Total.
1912.	2,470,415	376,072	2,846,487	1916.	2,649,961	380,003	3,029,964
1913.	2,553,806	451,166	3,004,972	1917.	2,575,810	534,190	3,110,000
1914.	1,787,281	243,843	2,031,124	1918.	2,438,126	411,843	2,849,969
1915.	2,031,407	405,596	2,437,003	1919.	2,136,424	477,612	2,614,036

Almost all the heavy structural shapes were rolled from steel.

In 1919, 52 works in 12 States rolled heavy or light structural shapes, namely: New York, 4; New Jersey, 1; Pennsylvania, 20; Alabama, 2; Ohio, 8; Indiana, 4; Illinois, 5; Wisconsin, 2; Minnesota, 1; Colorado, 1; Washington, 1; and California, 3. In 1918, 47 works in 11 States rolled structural shapes. Pennsylvania made 68.9 per cent. of the total in 1919, against 65.09 per cent. in 1918.

PRODUCTION AND APPROXIMATE CONSUMPTION OF STRUCTURAL SHAPES, GROSS TONS, 1900-1919.

Years.	Production of structural shapes.			Add imports.	Deduct exports.	Consumption.
	Iron.	Steel.	Total.			
1900.....	815,161		815,161	*.....	67,714	747,447
1901.....	1,013,150		1,013,150	*.....	54,005	959,145
1902.....	1,300,326		1,300,326	*.....	53,859	1,246,467
1903.....	1,095,813		1,095,813	8,865	30,641	1,074,037
1904.....	8,019	941,127	949,146	7,203	55,514	900,835
1905.....	11,630	1,648,889	1,660,519	16,147	84,234	1,592,432
1906.....	4,719	2,114,053	2,118,772	28,573	112,555	2,034,790
1907.....	3,973	1,936,379	1,940,352	2,294	138,442	1,804,204
1908.....	2,423	1,080,758	1,083,181	3,623	116,881	969,923
1909.....	44,814	2,230,748	2,275,562	6,146	90,830	2,190,878
1910.....	426	2,266,464	†2,266,890	14,897	146,721	2,135,066
1911.....	811	1,911,556	†1,912,367	5,343	223,493	1,694,217
1912.....	5,517	2,840,970	2,846,487	3,120	288,164	2,561,443
1913.....	3,841	3,001,131	3,004,972	11,659	403,264	2,613,367
1914.....	1,981	2,029,143	2,031,124	10,145	182,395	1,858,874
1915.....	1,858	2,435,145	2,437,003	1,494	232,139	2,206,358
1916.....	1,823	3,028,141	3,029,964	1,473	300,594	2,730,843
1917.....	1,410	3,108,590	3,110,000	6,216	294,150	2,822,066
1918.....	774	2,849,195	2,849,969	3,504	232,729	2,620,744
1919.....	770	2,613,266	2,614,036	1,154	360,787	2,254,403

*Imports of structural shapes were included with ingots, billets, etc., prior to 1903.

†In these years the production of small structural forms was not included.

PRODUCTION OF WIRE RODS.

PRODUCTION OF WIRE RODS, GROSS TONS, 1888-1919.

Years.	Tons.	Years.	Tons.	Years.	Tons.	Years.	Tons.
1888..	279,769	1896..	623,986	1904..	1,699,028	1912..	2,653,553
1889..	363,851	1897..	970,736	1905..	1,808,688	1913..	2,464,807
1890..	457,099	1898..	1,071,683	1906..	1,871,614	1914..	2,431,714
1891..	536,607	1899..	1,036,398	1907..	2,017,583	1915..	3,095,907
1892..	627,829	1900..	846,291	1908..	1,816,949	1916..	3,518,746
1893..	537,272	1901..	1,365,934	1909..	2,335,685	1917..	3,137,138
1894..	673,402	1902..	1,574,293	1910..	2,241,830	1918..	2,562,390
1895..	791,130	1903..	1,503,455	1911..	2,450,453	1919..	2,538,476

Small quantities of copper-clad steel wire rods are included.

**PRODUCTION AND APPROXIMATE CONSUMPTION OF WIRE RODS,
GROSS TONS, 1902-1919.**

Years.	Production of wire rods.			Add imports.	Deduct exports.	Con- sumption.
	Iron.	Steel.	Total.			
1902.....	206	1,574,087	1,574,293	21,382	24,613	1,571,062
1903.....	30	1,503,425	1,503,455	20,836	22,360	1,501,931
1904.....	1,166	1,697,862	1,699,028	15,313	20,073	1,694,268
1905.....	1,281	1,807,407	1,808,688	17,616	6,514	1,819,790
1906.....	1,201	1,870,413	1,871,614	17,799	5,895	1,883,518
1907.....	1,550	2,016,033	2,017,583	17,076	10,697	2,023,962
1908.....	509	1,816,440	1,816,949	11,209	7,412	1,820,746
1909.....	.....	2,335,685	2,335,685	10,544	20,142	2,326,087
1910.....	627	2,241,203	2,241,830	20,374	22,869	2,239,335
1911.....	610	2,449,843	2,450,453	15,483	22,641	2,443,295
1912.....	1,289	2,652,264	2,653,553	15,069	64,978	2,603,644
1913.....	832	2,463,975	2,464,807	16,098	61,637	2,419,268
1914.....	731	2,430,983	2,431,714	6,954	61,856	2,376,812
1915.....	2,236	3,093,671	3,095,907	5,317	165,014	2,936,210
1916.....	867	3,517,879	3,518,746	4,130	158,284	3,364,592
1917.....	2,287	3,134,851	3,137,138	1,060	181,941	2,956,257
1918.....	2,989	2,559,401	2,562,390	7,677	148,523	2,421,544
1919.....	1,956	2,536,520	2,538,476	342	118,010	2,420,808

Iron or steel wire rods were rolled in 1919 by 40 works in 12 States. In 1918, 41 works in 12 States rolled wire rods.

PRODUCTION OF PLATES AND SHEETS.

**PRODUCTION OF IRON AND STEEL PLATES AND SHEETS,
1890-1919.**

Years.	Gross tons.	Years.	Gross tons.	Years.	Gross tons.
1890.....	809,981	1900.....	1,794,528	1910.....	4,955,484
1891.....	678,927	1901.....	2,254,425	1911.....	4,488,049
1892.....	751,460	1902.....	2,665,409	1912.....	5,875,080
1893.....	674,345	1903.....	2,599,665	1913.....	5,751,037
1894.....	682,900	1904.....	2,421,398	1914.....	4,719,246
1895.....	991,459	1905.....	3,532,230	1915.....	6,077,694
1896.....	965,776	1906.....	4,182,156	1916.....	7,453,980
1897.....	1,207,286	1907.....	4,248,832	1917.....	8,267,616
1898.....	1,448,301	1908.....	2,649,693	1918.....	8,799,135
1899.....	1,903,505	1909.....	4,234,346	1919.....	7,372,814

The production of iron and steel nail plate and skelp is not included in the table, but the output of black plates for tinning is included. Tie plates are included for 1909, 1910, and 1911, but not for 1912 and subsequent years. The production of a few plate and sheet plants is estimated.

PRODUCTION OF PLATES AND SHEETS BY GAUGES, GROSS TONS

Years.	Plates—No. 12 and thicker.			Sheets—No. 13 and thinner.			Grand total.
	Iron.	Steel.	Total.	Iron.	Steel.	Total.	
1905....	10,022	2,031,184	2,041,206	62,134	1,428,890	1,491,024	3,532,230
1906....	23,333	2,508,219	2,531,552	51,040	1,599,564	1,650,604	4,182,156
1907....	30,277	2,629,783	2,660,060	43,761	1,545,011	1,588,772	4,248,832
1908....	31,679	1,239,342	1,271,021	22,354	1,356,318	1,378,672	2,649,693
1909....	32,332	2,346,766	2,379,098	43,870	1,811,378	1,855,248	4,234,346
1910....	37,763	2,769,965	2,807,728	53,355	2,094,401	2,147,756	4,955,484
1911....	46,147	2,288,194	2,334,341	43,280	2,110,428	2,153,708	4,488,049
1912....	33,349	3,001,851	3,035,200	41,695	2,798,185	2,839,880	5,875,080

A new plate and sheet classification was adopted in 1913.

PRODUCTION OF PLATES AND SHEETS BY KINDS, GROSS TONS, 1913-1919.

Years.	Universal plates.*	Sheared plates.		Black sheets rolled on sheet or jobbing mills.	Black plates rolled on tin mills.		Total plates and sheets.
		Rolled on single stands.	Roughed and finished on separate stands.		Black plates for tinning.	Other black plate specialties.	
1913.	1,158,416	1,395,627	448,727	1,716,968	827,266	204,033	5,751,037
1914.	766,113	1,170,338	175,970	1,427,627	938,181	241,017	4,719,246
1915.	954,852	1,626,559	296,640	1,836,786	1,093,345	269,512	6,077,694
1916.	1,224,234	1,982,863	470,287	2,249,597	1,283,802	243,197	7,453,980
1917.	1,195,199	2,396,365	566,674	2,367,752	1,513,772	227,854	8,267,616
1918.	1,234,782	3,125,049	760,077	2,073,639	1,502,690	102,898	8,799,135
1919.	992,054	2,373,696	525,571	2,099,840	1,165,436	216,217	7,372,814

PRODUCTION OF PLATES AND SHEETS BY KINDS, 1918-1919.

Kinds.	1918—Gross tons.			1919—Gross tons.		
	Iron.	Steel.	Total.	Iron.	Steel.	Total.
Universal plates*....	3,832	1,230,950	1,234,782	2,199	989,855	992,054
Sheared plates—						
Rolled on single stands.....	504	3,124,545	3,125,049	503	2,373,193	2,373,696
Roughed and fin. on sep. stands..	.....	760,077	760,077	3,070	522,501	525,571
Black sheets made on sheet or job. mills	10,321	2,063,318	2,073,639	34,712	2,065,128	2,099,840
Black plates, inc. black plates for tinning and black plate specialties rolled on tin mills..	.....	1,605,588	1,605,588	144	1,381,509	1,381,653
Total.....	14,657	8,784,478	8,799,135	40,628	7,332,186	7,372,814

* Include flats and bars over 6 inches wide.

PRODUCTION OF PLATES AND SHEETS BY SIZE AND MODE OF
MANUFACTURE, GROSS TONS, 1919.

Kinds of products.	Iron.	Steel.	Total.
Universal plates, inc. flats or bars over 6 in. wide:			
$\frac{1}{4}$ of an inch and over in thickness.....	2,199	936,275	938,474
Under $\frac{1}{4}$ of an inch thick.....	....	53,580	53,580
Total universal plates.....	2,199	989,855	992,054
Sheared plates:			
$\frac{1}{4}$ of an inch and over in thickness.....	3,524	2,464,132	2,467,656
Under $\frac{1}{4}$ of an inch thick.....	49	431,562	431,611
Total sheared plates.....	3,573	2,895,694	2,899,267
Black sheets, made on either sheet or job. mills:			
No. 12 gauge and thicker.....	1,104	279,754	280,858
No. 13 gauge and thinner.....	33,608	1,785,374	1,818,982
Total black sheets.....	34,712	2,065,128	2,099,840
Black plates rolled on tin mills:			
Black plates for tinning.....	144	1,165,292	1,165,436
Other black plate specialties.....	....	216,217	216,217
Total black plates rolled on tin mills. ...	144	1,381,509	1,381,653
Grand total of plates and sheets.....	40,628	7,332,186	7,372,814

PRODUCTION OF SHEARED PLATES ACCORDING TO MODE OF
MANUFACTURE, GROSS TONS, 1919.

Mode of manufacture.	Iron.	Steel.	Total.
Sheared plates, rolled on single stands of rolls:			
$\frac{1}{4}$ of an inch and over in thickness.....	454	2,207,754	2,208,208
Under $\frac{1}{4}$ of an inch thick.....	49	165,439	165,488
Total rolled on single stands.....	503	2,373,193	2,373,696
Sheared plates, roughed and fin. on sep. stands:			
$\frac{1}{4}$ of an inch and over in thickness.....	3,070	256,378	259,448
Under $\frac{1}{4}$ of an inch thick.....	....	266,123	266,123
Total roughed and fin. on sep. stands..	3,070	522,501	525,571
Total sheared plates	3,573	2,895,694	2,899,267

PRODUCTION OF UNIVERSAL PLATES BY WIDTHS, SHOWING IRON
AND STEEL SEPARATELY, GROSS TONS, 1919.

Width of universal plates.	Iron.	Steel.	Total.
Under 30 inches wide.....	2,199	771,533	773,732
30 inches wide, but under 48 inches wide.....	....	160,051	160,051
48 inches wide and over.....	....	58,271	58,271
Total.....	2,199	989,855	992,054

In a few cases it was necessary for the manufacturers to estimate their output of universal plates by widths.

Of the total output of universal plates in 1919, 77.99 per cent. was under 30 inches wide, 16.13 per cent. was 30 inches but under 48 inches wide, and 5.88 per cent. was 48 inches wide and over.

PRODUCTION OF IRON AND STEEL BLACK PLATES FOR TINNING,
1896-1919.

Years.	Gross tons.	Years.	Gross tons.	Years.	Gross tons.
1896.....	185,387	1904.....	472,569	1912.....	982,197
1897.....	271,886	1905.....	507,587	1913.....	827,266
1898.....	345,254	1906.....	576,079	1914.....	938,181
1899.....	375,000	1907.....	504,072	1915.....	1,093,345
1900.....	315,000	1908.....	513,771	1916.....	1,283,802
1901.....	398,026	1909.....	606,482	1917.....	1,513,772
1902.....	365,743	1910.....	712,137	1918.....	1,502,690
1903.....	490,652	1911.....	795,598	1919.....	1,165,436

PRODUCTION OF BLACK PLATES FOR TINNING, SHOWING IRON
AND STEEL SEPARATELY, GROSS TONS, 1904-1919.

Years.	Iron.	Steel.	Total.	Years.	Iron.	Steel.	Total.
1904..	2,981	469,588	472,569	1912..	5,378	976,819	982,197
1905..	3,152	504,435	507,587	1913..	2,779	824,487	827,266
1906..	5,666	570,413	576,079	1914..	2,272	935,909	938,181
1907..	3,161	500,911	504,072	1915..	2,038	1,091,307	1,093,345
1908..	2,954	510,817	513,771	1916..	1,878	1,281,924	1,283,802
1909..	4,261	602,221	606,482	1917..	655	1,513,117	1,513,772
1910..	2,893	709,244	712,137	1918..	....	1,502,690	1,502,690
1911..	3,515	792,083	795,598	1919..	144	1,165,292	1,165,436

Similar statistics for earlier years are not available. In 1919 37 works made black plates for tinning, against 34 in 1918.

APPROXIMATE CONSUMPTION OF PLATES AND SHEETS,
GROSS TONS, 1902-1919.

Years.	Production of plates and sheets.			Add imports.	Deduct exports.	Approximate consumption.
	Iron.	Steel.	Total.			
1902....	2,665,409		2,665,409	7,156	18,300	2,654,265
1903....	2,599,665		2,599,665	11,557	18,094	2,593,128
1904....	67,713	2,353,685	2,421,398	4,165	55,204	2,370,359
1905....	72,156	3,460,074	3,532,230	2,336	75,097	3,459,469
1906....	74,373	4,107,783	4,182,156	3,231	110,700	4,074,687
1907....	74,038	4,174,794	4,248,832	3,748	122,696	4,129,884
1908....	54,033	2,595,660	2,649,693	2,629	104,993	2,547,329
1909....	76,202	4,158,144	4,234,346	4,720	180,047	4,059,019
1910....	91,118	4,864,366	4,955,484	6,152	274,521	4,687,115
1911....	89,427	4,398,622	4,488,049	2,453	372,373	4,118,129
1912....	75,044	5,800,036	5,875,080	3,299	546,521	5,331,858
1913....	64,729	5,686,308	5,751,037	2,893	463,426	5,290,504
1914....	56,590	4,662,656	4,719,246	4,310	280,095	4,434,461
1915....	20,253	6,057,441	6,077,694	1,420	419,604	5,659,510
1916....	13,303	7,440,677	7,453,980	1,730	515,558	6,940,152
1917....	29,071	8,238,545	8,267,616	1,748	851,529	7,417,835
1918....	14,657	8,784,478	8,799,135	1,517	854,136	7,946,516
1919....	40,628	7,332,186	7,372,814	1,095	1,042,697	6,331,212

ACTIVE PLATE AND SHEET WORKS, 1919.

States.	Total active plants.	Of these the following rolled—				
		Universal plates.	Sheared plates.		Black sheets on sheet or job. mills.	Black plates on tin mills.
			Single stands.	Separate stands.		
Massachusetts...	1	0	0	0	1	0
New York.....	6	1	2	1	3	0
New Jersey.....	1	0	1	0	0	0
Pennsylvania...	68	15	20	10	24	16
Delaware.....	3	0	2	0	1	0
Maryland.....	2	0	1	0	0	2
West Virginia...	10	0	0	1	4	7
Kentucky.....	2	0	0	0	2	1
Alabama.....	2	1	1	1	0	0
Ohio.....	44	3	6	7	28	14
Indiana.....	9	4	3	2	3	2
Illinois.....	2	2	1	0	1	1
Wisconsin.....	1	0	0	1	0	0
Missouri.....	1	0	0	0	1	0
Colorado.....	1	1	0	0	0	0
Washington....	1	1	0	0	0	0
California.....	1	1	0	0	0	0
Total.....	*155	*29	37	23	68	43

* Includes mills which rolled flats or bars over 6 inches wide.

PRODUCTION OF MERCHANT BARS.

PRODUCTION OF MERCHANT BARS, SHOWING IRON AND STEEL
MERCHANT BARS SEPARATELY, GROSS TONS, 1905-1919.

Years.	Iron.	Steel.	Total.	Years.	Iron.	Steel.	Total.
1905...	1,322,439	2,271,162	3,593,601	1913.	1,026,632	2,930,977	3,957,609
1906...	1,481,348	2,510,852	3,992,200	1914.	563,171	1,960,460	2,523,631
1907...	1,440,356	2,530,632	3,970,988	1915.	657,107	3,474,135	4,131,242
1908...	685,233	1,301,405	1,986,638	1916.	993,948	5,236,354	6,230,302
1909...	952,230	2,311,301	3,263,531	1917.	983,926	5,226,031	6,209,957
1910...	1,074,163	2,711,568	3,785,731	1918.	846,898	5,395,851	6,242,749
1911...	835,625	2,211,737	3,047,362	1919.	446,549	3,945,075	4,391,624
1912...	944,790	2,752,324	3,697,114	.....	.....	.....	.....

Statistics are not available prior to 1905. Horseshoe bars, bolt and nut rods, spike and chain rods, concrete bars, etc., are not included.

In 1919 there were 170 plants in 27 States which rolled iron or steel merchant bars, as compared with 171 plants in 26 States in 1918. In 1919 iron merchant bars were rolled by 72 works in 25 States and steel merchant bars by 128 works in 23 States, while in 1918 iron merchant bars were rolled by 77 works in 23 States and steel merchant bars by 128 works in 23 States.

PRODUCTION OF CONCRETE BARS.

PRODUCTION OF CONCRETE BARS, SHOWING IRON AND STEEL
CONCRETE BARS SEPARATELY, GROSS TONS, 1909-1919.

Years.	Iron.	Steel.	Total.	Years.	Iron.	Steel.	Total.
1909...	.....	159,352	159,352	1915.	.....	353,408	353,408
1910...	4,645	236,464	241,109	1916.	2,683	458,717	461,400
1911...	2,388	256,353	258,741	1917.	1,497	469,687	471,184
1912...	2,500	271,832	274,332	1918.	468	344,152	344,620
1913...	113	319,557	319,670	1919.	2,295	416,726	419,021
1914...	.....	288,471	288,471	.....	.....	.....	.....

Statistics are not available prior to 1909.

In 1919 there were 54 plants in 17 States which rolled bars for reinforced concrete work, as compared with 44 plants in 14 States in 1918. In 1919 Ohio rolled 20.77 per cent. of the total output; Pennsylvania, 17.44 per cent.; Indiana, 12.89 per cent.; Illinois, 10.67 per cent.; and California, 9 per cent.

PRODUCTION OF SKELP.

PRODUCTION OF SKELP, SHOWING IRON AND STEEL SKELP SEPARATELY, GROSS TONS, 1905-1919.

Years.	Iron.	Steel.	Total.	Years.	Iron.	Steel.	Total.
1905...	452,797	983,198	1,435,995	1913.	312,746	2,189,218	2,501,964
1906...	391,517	1,137,068	1,528,585	1914.	264,340	1,718,091	1,982,431
1907...	444,536	1,358,091	1,802,627	1915.	262,198	2,037,266	2,299,464
1908...	297,049	853,534	1,150,583	1916.	355,445	2,572,229	2,927,674
1909...	370,151	1,663,230	2,033,381	1917.	336,591	2,337,640	2,674,231
1910...	350,578	1,477,616	1,828,194	1918.	258,500	2,305,511	2,564,011
1911...	322,397	1,658,276	1,980,673	1919.	192,146	2,363,632	2,555,778
1912...	327,012	2,119,804	2,446,816	.....	.....	.....	.....

In 1919, 41 plants in 5 States rolled iron or steel skelp, as compared with 42 plants in 5 States in 1918.

PRODUCTION OF NAIL PLATE.

PRODUCTION OF IRON AND STEEL NAIL PLATE, 1888-1919.

Years.	Gross tons.	Years.	Gross tons.	Years.	Gross tons.	Years.	Gross tons.
1888..	289,891	1896..	72,137	1904...	61,601	1912...	45,331
1889..	259,409	1897..	94,054	1905...	64,542	1913...	37,503
1890..	251,828	1898..	70,188	1906...	54,211	1914...	38,573
1891..	223,312	1899..	85,015	1907...	52,027	1915...	31,929
1892..	201,242	1900..	70,245	1908...	45,747	1916...	30,088
1893..	136,113	1901..	68,850	1909...	63,746	1917...	22,864
1894..	108,262	1902..	72,936	1910...	45,294	1918...	18,310
1895..	95,085	1903..	64,102	1911...	48,522	1919...	12,832

Five plants in 3 States rolled iron or steel nail or spike plate in 1919, against 6 plants in 5 States in 1918.

PRODUCTION OF MISCELLANEOUS ROLLED PRODUCTS.

Rolled blooms, billets, and axle blanks or billets for forging purposes are included in the statistics given below, but forged armor plate, hammered axles, eye-bars, shafting, and other forgings are not included. For 1912 and subsequent years, blooms, billets, sheet bars, tinplate bars, and other semi-finished products rolled for export are included, but for 1911 and all prior years they are not included.

PRODUCTION OF MISCELLANEOUS ROLLED PRODUCTS, SHOWING
IRON AND STEEL SEPARATELY, GROSS TONS, 1908-1919.

Years.	Iron.	Steel.	Total.	Years.	Iron.	Steel.	Total.
1908..	183,649	990,738	1,174,387	1914..	276,238	2,133,673	2,409,911
1909..	250,110	2,005,132	2,255,242	1915..	346,197	3,415,877	3,762,074
1910..	207,003	2,413,713	2,620,716	1916..	451,523	5,422,194	5,873,717
1911..	199,172	1,831,042	2,030,214	1917..	512,592	5,717,957	6,230,549
1912..	272,757	3,217,456	3,490,213	1918..	449,674	4,784,004	5,233,678
1913..	264,320	2,986,581	3,250,901	1919..	374,369	2,618,751	2,993,120

PRODUCTION OF MISCELLANEOUS ROLLED IRON AND STEEL
PRODUCTS, GROSS TONS, 1919.

Miscellaneous rolled products.	Iron.	Steel.	Total.
Hoops.....	.....	233,336	233,336
Bands and cotton-ties.....	389	351,783	352,172
Long angle splice bars, fish-plate bars, tie-plate bars, and other rail joint shapes.....	57,568	376,440	434,008
Rolled sheet piling, not including fabricated..	.....	17,811	17,811
Railroad ties.....	.....	16,645	16,645
Rolled forging blooms, forging billets, etc....	412	359,170	359,582
Blooms, billets, sheet bars, etc., for export....	44	92,099	92,143
Spike and chain rods, bolt and nut rods, horseshoe bars, strips, shafting, tires, etc...	315,956	1,171,467	1,487,423
Total.....	374,369	2,618,751	2,993,120

PRODUCTION OF MISCELLANEOUS ROLLED PRODUCTS, GROSS
TONS, 1915-1919.

Products.	1915.	1916.	1917.	1918.	1919.
Hoops.....	281,759	368,164	347,186	262,281	233,336
Bands and cotton-ties.	437,987	562,555	490,893	250,767	352,172
Long angle splice bars, fish-plate bars, tie-plate bars, etc.....	535,615	691,820	606,824	416,905	434,008
Rolled sheet piling....	24,026	19,196	18,606	11,689	17,811
Railroad ties.....	42,269	34,311	9,103	6,438	16,645
Rolled forging blooms and forging billets...	650,545	2,015,960	1,801,708	1,659,118	359,582
Blooms, billets, sheet bars, tinplate bars, etc., for export.....	562,418	512,483	1,158,427	832,746	92,143
Spike and chain rods, bolt and nut rods, horseshoe bars, strips, shafting, tires, etc...	1,227,455	1,669,228	1,797,802	1,793,734	1,487,423
Total.....	3,762,074	5,873,717	6,230,549	5,233,678	2,993,120

NUMBER OF COMPLETED ROLLING MILLS, 1919.

States.	Active.	Idle.	Total.	States.	Active.	Idle.	Total.
Maine.....	1	0	1	Texas.....	1	0	1
Massachusetts...	6	0	6	Ohio.....	77	1	78
Rhode Island...	3	0	3	Indiana.....	18	0	18
Connecticut.....	4	0	4	Illinois.....	24	2	26
New York.....	25	2	27	Michigan.....	4	0	4
New Jersey.....	14	1	15	Wisconsin....	4	1	5
Pennsylvania....	175	8	183	Minnesota....	2	0	2
Delaware.....	3	1	4	Iowa.....	1	0	1
Maryland.....	5	0	5	Missouri....	4	1	5
Virginia.....	2	0	2	Oklahoma....	1	1	2
West Virginia...	18	0	18	Kansas.....	0	2	2
Kentucky.....	6	2	8	Colorado....	1	0	1
Tennessee.....	1	0	1	Utah.....	1	0	1
North Carolina..	1	0	1	Washington...	1	0	1
Georgia.....	2	0	2	California....	6	0	6
Alabama.....	9	1	10	Total.....	420	23	443

NEW ROLLING MILLS.

Name of company.	Location of works.	Products.
Acme Steel Goods Co.....	Riverdale, Ill.....	Hoops, bands.
Cambria Steel Co., (Wheel plant)	Johnstown, Pa.....	Rolled steel wheels.
Chicago Electric Steel Co.	Chicago, Ill.....	High speed tool steel.
Ft. Dodge Culvert & Iron Mills Co.	Fort Dodge, Iowa..	Mer. and concrete bars.
Hammond Steel Co., Inc.....	Solvay, N. Y.....	Billets, bars, etc.
Ontario Electric Steel Co.....	Fulton, N. Y.....	High speed steel.
Pittsburgh Steel Products Co...	Allenport, Pa.....	Blanks for seam. tubes.
Standard Horse Shoe Co.....	So. Wareham, Mass.	Horseshoe bars, own use.
Tenn. Coal, Iron & R. R. Co...	Fairfield, Ala.....	Struct., mer. bars, etc.
Whitaker-Glessner Co.....	Beech Bottom, W. Va.	Black sheets.

BUILDING ROLLING MILLS, DECEMBER 31, 1919.

Name of company	Location of works.	Products.
Black Steel & Wire Co.....	Kansas City, Mo.....	Billets, wire rods, etc.
Capital City Iron & Steel Co.	Harrisburg, Pa.....	Merchant bars.
Columbia Steel Co.....	Pittsburg, Calif.....	Merchant bars.
Detroit Seam. Steel Tubes Co.	Detroit, Mich.....	Blanks for seam. tubes.
Eastern Rolling Mill Co.....	Balt. (Colgate), Md..	Black sheets.
Falcon Steel Co.....	Niles, Ohio.....	Black & gal. sheets.
Follansbee Brothers Co.....	Toronto, Ohio.....	Sheet bars, black sheets.
General Steel Co.....	St. Francis, Wis.....	Billets, merchant bars.
Newton Steel Co.....	Newton Falls, Ohio..	Black sheets.
Panama Canal.....	Balboa, Canal Zone..	Bars from scrap.
Scullin Steel Co.....	St. Louis, Mo.....	Light trails, mer. bars, etc.
Southern Cal. Iron & Steel Co.	Huntington Park, Cal.	Mer. bars, bolt rods, etc.
Superior Sheet Steel Co.....	Canton, Ohio.....	Black and gal. sheets.
Syracuse Alloy Steel Co.....	Syracuse, N. Y.....	High speed steel bars.
United Steel Co.....	Lowell, Wash.....	Mer. bars, shapes, etc.
Wayne Steel Co.....	Erie, Pa.....	Billets.
Weirton Steel Co.....	Weirton, W. Va.....	Billets, tinplate bars, etc.

TINPLATES, GALVANIZED SHEETS, PIPES AND TUBES, NAILS, RAIL JOINTS, AND CHARCOAL BLOOMS.

PRODUCTION OF TINPLATES AND TERNE PLATES.

PRODUCTION OF TINPLATES AND TERNE PLATES, 1891-1919.

Years.	Tinplates.	Terne plates.	Total pounds.
1891 (second 6 months).....	368,400	1,868,343	2,236,743
1892 (calendar year).....	13,921,296	28,197,896	42,119,192
1893.....	64,536,209	59,070,498	123,606,707
1894.....	102,223,407	64,120,002	166,343,409
1895.....	165,927,907	88,683,488	254,611,395
1896.....	270,151,785	89,058,013	359,209,798
1897 (first 6 months).....	203,028,258	49,545,643	252,573,901
1897 (second 6 months).....			322,205,619
1898 (calendar year).....	.....	.....	732,289,600
1899.....	.....	.....	808,360,000
1900 (cen. year end. May 31) ..	707,718,239	141,285,783	*850,004,495
1901 (calendar year).....	.....	.....	894,411,840
1902.....	.....	.....	806,400,000
1903.....	.....	.....	1,075,200,000
1904 (cen. year end. Dec. 31) ..	867,526,985	158,857,866	*1,032,940,706
1905 (calendar year).....	.....	.....	1,105,440,000
1906.....	1,100,373,000	193,367,000	1,293,740,000
1907.....	996,650,000	156,447,000	1,153,097,000
1908.....	1,048,896,000	154,179,000	1,203,075,000
1909.....	1,179,858,000	190,930,000	1,370,788,000
1910.....	1,450,821,000	168,184,000	1,619,005,000
1911.....	1,597,629,000	158,441,000	1,756,070,000
1912.....	1,965,659,000	191,396,000	2,157,055,000
1913.....	1,708,186,000	136,944,000	1,845,130,000
1914.....	1,939,785,000	146,195,000	2,085,980,000
1915.....	2,201,825,054	163,470,646	2,365,295,700
1916.....	2,552,224,275	214,176,952	2,766,401,227
1917.....	3,233,314,911	153,891,653	3,387,206,564
1918.....	3,216,247,675	85,376,569	3,301,624,244
1919.....	2,407,156,757	170,854,730	2,578,011,487

* Includes 1,000,473 pounds in 1900 and 8,555,855 pounds in 1904 of "other sheet iron and sheet steel, tin or terne plated."

ACTIVE TINPLATE AND TERNE PLATE WORKS.

In 1919 there were 38 plants in 7 States which made tin or terne plates. Of the total, 35 plants made coke tinplates, 15 plants made charcoal tinplates, and 10 plants made terne plates. The number of active plants in 1918 was 35.

PRODUCTION OF TINPLATES AND TERNE PLATES, 1891-1919.

Calendar years.	Gross tons.	Calendar years.	Gross tons.
1891 (last six months)	999	1906	577,562
1892	18,803	1907	514,775
1893	55,182	1908	537,087
1894	74,260	1909	611,959
1895	113,666	1910	722,770
1896	160,362	1911	783,960
1897	256,598	1912	962,971
1898	326,915	1913	823,719
1899	360,875	1914	931,241
1900 (cen. yr. end. May 31)	379,466	1915	1,055,936
1901	399,291	1916	1,235,000
1902	360,000	1917	1,512,146
1903	480,000	1918	1,473,939
1904 (cen. yr. end. Dec. 31)	461,134	1919	1,150,898
1905	493,500		

PRODUCTION OF IRON AND STEEL TERNE PLATES AND STEEL TINPLATES, 1908-1919.

Years.	Terne plates—Pounds.			Steel tinplates.	Grand total. Pounds.
	Iron.	Steel.	Total.		
1908	6,560,500	147,618,500	154,179,000	1,048,896,000	1,203,075,000
1909	8,054,900	182,875,100	190,930,000	1,179,858,000	1,370,788,000
1910	5,765,000	162,419,000	168,184,000	1,450,821,000	1,619,005,000
1911	7,720,000	150,721,000	158,441,000	1,597,629,000	1,756,070,000
1912	11,259,000	180,137,000	191,396,000	1,965,659,000	2,157,055,000
1913	6,433,000	130,511,000	136,944,000	1,708,186,000*	1,845,130,000
1914	6,109,000	140,086,000	146,195,000	1,939,785,000	2,085,980,000
1915	4,653,860	158,816,786	163,470,646	2,201,825,054	2,365,295,700
1916	4,199,154	209,977,798	214,176,952	2,552,224,275†	2,766,401,227
1917	1,188,660	152,702,993	153,891,653	3,233,314,911	3,387,206,564
1918		85,376,569	85,376,569	3,216,247,675	3,301,624,244
1919	322,330	170,532,400	170,854,730	2,407,156,757	2,578,011,487

* Includes about 1,000 pounds iron tinplates.

† Includes 208,000 pounds of iron tinplates.

PRODUCTION OF COKE AND CHARCOAL TINPLATES, 1919.

States.	Coke. Pounds.	Charcoal. Pounds.	Total. Pounds.
Pennsylvania	1,241,969,913	15,267,270	1,257,237,183
Maryland, West Virginia	433,276,032	23,215,195	456,491,227
Ohio, Indiana, Ill., Michigan	687,263,660	6,164,687	693,428,347
Total	*2,362,509,605	44,647,152	2,407,156,757

* Includes 8,343,250 pounds which were formed or stamped from black plates by companies which manufacture tinplates and tinned after the completion of the forming or stamping process.

**APPROXIMATE CONSUMPTION OF TINPLATES AND TERNE PLATES,
GROSS TONS, 1900-1919.**

Calendar years.	Production.	Add imports.	Deduct exports.	Approximate consumption.
1900 (census year)	*379,466	60,386	273	439,579
1901	399,291	77,395	439	476,247
1902	360,000	60,115	1,566	418,549
1903	480,000	47,360	292	527,068
1904 (census year)	*461,134	70,652	7,898	523,888
1905	493,500	65,740	7,941	551,299
1906	577,562	56,983	12,082	622,463
1907	514,775	57,773	10,203	562,345
1908	537,087	58,490	11,878	583,699
1909	611,959	62,593	9,327	665,225
1910	722,770	66,640	12,445	776,965
1911	783,960	14,099	61,381	736,678
1912	962,971	2,052	81,694	883,329
1913	823,719	20,680	57,812	786,587
1914	931,241	15,411	59,549	887,103
1915	1,055,936	2,350	154,642	903,644
1916	1,235,000	1,008	227,391	1,008,617
1917	1,512,146	124	232,799	1,279,471
1918	1,473,939	32	258,538	1,215,433
1919	1,150,898	242	204,521	946,619

* For 1900 the census year ended May 31, 1900; for 1904, December 31, 1904.

PRODUCTION OF GALVANIZED SHEETS.

**PRODUCTION OF IRON AND STEEL GALVANIZED SHEETS AND
GALVANIZED FORMED PRODUCTS, 1913-1919.**

Years.	Galvanized sheets.	Galvanized formed products.*	Total. Pounds.
1913	1,845,864,365	129,189,480	1,975,053,845
1914	1,807,667,129	131,603,609	1,939,270,738
1915	1,581,569,206	112,192,790	1,693,761,996
1916	1,346,924,950	130,302,195	1,477,227,145
1917	1,273,978,805	114,902,171	1,388,880,976
1918	1,159,778,807	121,110,267	1,280,889,074
1919	1,500,575,548	140,494,884	1,641,070,432

* Articles formed or stamped from iron or steel black plates or black sheets and galvanized after the completion of the forming or stamping process.

**PRODUCTION OF HAMMERED CHARCOAL IRON
BLOOMS, BILLETS, ETC.**

Years.	For sale.	For own use.	Total. Gross tons.	Years.	For sale.	For own use.	Total. Gross tons.
1910 . . .	14,016	67,958	81,974	1915 . . .	902	57,219	58,121
1911 . . .	2,271	70,345	72,616	1916 . . .	5,405	95,280	100,685
1912 . . .	250	75,557	75,807	1917 . . .	7,841	103,284	111,125
1913 . . .	80	71,313	71,393	1918 . . .	8,300	74,787	83,087
1914 . . .	5,026	46,399	51,425	1919 . . .	1,027	31,210	32,237

PRODUCTION OF PIPES AND TUBES.

PRODUCTION OF WROUGHT PIPE AND BOILER TUBES, 1913-1919.

Years.	Black, standard.	Galvanized.	Oil country goods.	O. D. and miscellaneous.	Boiler tubes.	Total. Gross tons.
1913.....	830,472	266,940	841,089	179,211	127,820	2,245,532
1914.....	664,507	265,029	619,291	111,385	77,492	1,737,704
1915.....	823,767	280,944	602,920	115,113	96,930	1,919,674
1916.....	1,132,643	291,013	940,491	138,763	148,148	2,651,058
1917.....	1,059,747	275,305	887,903	115,690	148,332	2,486,977
1918.....	1,015,785	264,682	794,769	91,157	124,086	2,290,479
1919.....	827,082	268,156	1,068,914	120,670	90,109	2,374,931

PRODUCTION OF WROUGHT PIPE AND BOILER TUBES, SHOWING IRON AND STEEL SEPARATELY, 1918-1919.

Kinds of pipe.	1918—Gross tons.			1919—Gross tons.		
	Iron.	Steel.	Total.	Iron.	Steel.	Total.
Black, standard...	74,871	940,914	1,015,785	51,682	775,400	827,082
Galvanized.....	20,209	244,473	264,682	14,661	253,495	268,156
Oil country goods.	67,136	727,633	794,769	73,522	995,392	1,068,914
O. D. and misc.....	.....	91,157	91,157	.....	120,670	120,670
Boiler tubes.....	40,742	83,344	124,086	22,491	67,618	90,109
Total.....	202,958	2,087,521	2,290,479	162,356	2,212,575	2,374,931

PRODUCTION OF SEAMLESS STEEL TUBES, GROSS TONS, 1913-1919.

Years.	Hot finished.	Cold drawn.	Total.	Years.	Hot finished.	Cold drawn.	Total.
1913.....	42,740	65,827	108,567	1917.....	87,615	139,060	226,675
1914.....	36,939	53,656	90,595	1918.....	142,308	150,586	292,894
1915.....	63,488	76,180	139,668	1919.....	75,864	121,505	197,369
1916.....	61,235	129,238	190,473	.....	.....	.....	.....

PRODUCTION OF CAST-IRON PIPE AND FITTINGS, NET TONS.

Years.	Gas and water.*	Soil and plumbers.	Total.	Years.	Gas and water.*	Soil and plumbers.	Total.
1913...	1,010,016	256,229	1,266,245	1917...	748,173	250,928	999,101
1914...	938,297	222,483	1,160,780	1918...	508,300	111,373	619,673
1915...	956,372	258,498	1,214,870	1919...	514,664	195,417	710,081
1916...	934,626	279,707	1,214,333	.....	.....	.....	.....

*Includes culvert pipe.

PRODUCTION OF CAST IRON PIPE, NET TONS, 1918-1919.

Kinds of pipe.	1918—Net tons.			1919—Net tons.		
	Pipe.	Fittings.	Total.	Pipe.	Fittings.	Total.
Gas and water*...	455,319	52,981	508,300	469,735	44,929	514,664
Soil and plumbers'	80,089	31,284	111,373	142,989	52,428	195,417
Total.....	535,408	84,265	619,673	612,724	97,357	710,081

*Includes culvert pipe. Manufacturers able to separate their production report 12,577 tons of culvert pipe in 1919 and 16,770 tons in 1918.

PRODUCTION OF CUT AND WIRE NAILS.

PRODUCTION OF WIRE NAILS IN 100-LB. KEGS, 1890-1919.

Years.	Production.	Exports.	Consumption.	Years.	Production.	Exports.	Consumption.
1890..	3,135,911	18,395	3,117,516	1905..	10,854,892	799,734	10,055,158
1891..	4,114,385	18,986	4,095,399	1906..	11,486,647	1,035,705	10,450,942
1892..	4,719,524	21,387	4,698,137	1907..	11,731,044	945,035	10,786,009
1893..	5,095,945	27,451	5,068,494	1908..	10,662,972	593,819	10,069,153
1894..	5,681,801	38,920	5,642,881	1909..	13,916,053	686,687	13,229,366
1895..	5,841,403	53,012	5,788,391	1910..	12,704,902	960,295	11,744,607
1896..	4,719,860	95,638	4,624,222	1911..	13,437,778	1,200,957	12,236,821
1897..	8,997,245	129,767	8,867,478	1912..	14,659,700	1,530,353	13,129,347
1898..	7,418,475	307,190	7,111,285	1913..	13,559,727	977,477	12,582,250
1899..	7,618,130	750,781	6,867,349	1914..	13,132,814	809,167	12,323,647
1900..	7,233,979	613,858	6,620,121	1915..	14,583,026	2,051,475	12,531,551
1901..	9,803,822	420,506	9,383,316	1916..	17,147,665	3,363,876	13,783,789
1902..	10,982,246	595,391	10,386,855	1917..	17,040,666	2,574,054	14,466,612
1903..	9,631,661	704,546	8,927,115	1918..	12,279,800	1,763,460	10,516,340
1904..	11,926,661	734,554	11,192,107	1919..	13,094,221	2,011,045	11,083,176

In 1919 wire nails were made by 54 works in 14 States, while in 1918 wire nails were made by 52 works in 14 States.

PRODUCTION OF CUT NAILS IN 100-LB. KEGS, 1890-1919.

Years.	Production.	Exports.	Consumption.	Years.	Production.	Exports.	Consumption.
1890..	5,640,946	134,374	5,506,572	1905..	1,357,549	176,741	1,180,808
1891..	5,002,176	103,836	4,898,340	1906..	1,189,239	169,519	1,019,720
1892..	4,507,819	152,686	4,355,133	1907..	1,109,138	155,212	953,926
1893..	3,048,933	131,910	2,917,023	1908..	956,182	157,319	798,863
1894..	2,425,060	183,229	2,241,831	1909..	1,207,597	222,565	985,032
1895..	2,129,894	176,394	1,953,500	1910..	1,005,233	182,087	823,146
1896..	1,615,870	237,088	1,378,782	1911..	967,636	255,854	711,782
1897..	2,106,799	337,732	1,769,067	1912..	978,415	208,568	769,847
1898..	1,572,221	352,473	1,219,748	1913..	842,038	84,885	757,153
1899..	1,904,340	223,425	1,680,915	1914..	769,665	76,676	692,989
1900..	1,573,494	250,053	1,323,441	1915..	775,327	94,878	680,449
1901..	1,542,240	208,359	1,333,881	1916..	764,835	106,451	658,384
1902..	1,633,762	161,228	1,472,534	1917..	461,674	101,362	360,312
1903..	1,435,893	199,126	1,236,767	1918..	418,811	85,668	333,143
1904..	1,283,362	207,720	1,075,642	1919..	394,477	65,423	329,054

Horseshoe nails, cut tacks, or railroad or other forged iron or steel spikes are not included.

Thirteen works in 7 States made cut nails in 1919, against 9 works in 6 States in 1918.

PRODUCTION OF RAIL JOINTS AND FASTENINGS BY ROLLING MILLS AND STEEL WORKS.

PRODUCTION OF IRON AND STEEL RAIL JOINTS AND FASTENINGS, GROSS TONS, 1912-1919.

Years.	Angle splice bars.	Tie plates.	Fish plates.	Other rail joints.	Total.
1912.....	183,279	261,541	19,146	63,805	527,771
1913.....	153,450	324,428	16,559	133,041	627,478
1914.....	86,775	205,385	11,664	58,902	362,726
1915.....	119,658	283,509	10,836	56,721	470,724
1916.....	162,702	324,718	22,902	91,787	602,109
1917.....	181,957	249,125	21,304	77,017	529,403
1918.....	137,664	161,881	10,787	51,292	361,624
1919.....	111,169	205,210	11,850	49,854	378,083

Prior to 1912 statistics are not available.

PRODUCTION OF RAIL JOINTS AND FASTENINGS, SHOWING IRON AND STEEL SEPARATELY, 1918-1919

Articles.	1918—Gross tons			1919—Gross tons.		
	Iron.	Steel.	Total.	Iron.	Steel.	Total.
Angle splice bars.....	3,663	134,001	137,664	1,944	109,225	111,169
Tie plates.....	36,713	125,168	161,881	51,314	153,896	205,210
Fish plates.....	652	10,135	10,787	427	11,423	11,850
Other rail joints.....	475	50,817	51,292	192	49,662	49,854
Total.....	41,503	320,121	361,624	53,877	324,206	378,083

It was necessary to estimate the output of one plant in 1919. The output of spikes, bolts, nuts, and similar fastenings is not included. There were 25 active works in 1919 and 24 in 1918.

PRODUCTION OF FORGED IRON AND STEEL BY ROLLING MILLS AND STEEL WORKS.

Years.	Production—Gross tons.			Years.	Production—Gross tons.		
	Iron.	Steel.	Total.		Iron.	Steel.	Total.
1910...	20,410	299,452	319,862	1915...	2,814	520,909	523,723
1911...	4,034	214,202	218,236	1916...	3,352	920,415	923,767
1912...	9,155	383,365	392,520	1917...	8,772	1,069,993	1,078,765
1913...	27,892	380,091	407,983	1918...	24,458	1,271,108	1,295,566
1914...	3,675	337,746	341,421	1919...	23,822	510,524	534,346

PRODUCTION AND SHIPMENTS OF IRON ORE, COAL, AND COKE.

PRODUCTION AND SHIPMENTS OF IRON ORE.

PRODUCTION OF IRON ORE BY STATES, GROSS TONS, 1915-1919.

[From Mineral Resources of the United States, U. S. Geological Survey.]

States.	1915.	1916.	1917.	1918.	1919.*
Minnesota.....	33,464,660	44,585,422	44,595,232	41,953,969	35,767,000
Michigan.....	12,514,516	18,071,016	17,868,601	16,899,341	15,471,000
Alabama.....	5,309,354	6,747,901	7,037,707	5,754,624	5,034,000
New York.....	998,845	1,342,507	1,304,317	906,179	858,000
Wisconsin.....	1,095,388	1,304,518	1,202,235	1,089,351	888,000
Pennsylvania.....	363,309	559,431	546,700	522,600	547,000
Virginia.....	348,042	440,492	469,903	414,048	288,000
Tennessee.....	284,185	455,834	508,529	408,954	271,000
New Jersey.....	415,234	493,004	489,943	423,525	409,000
Georgia.....	115,701	256,949	226,630	264,602	80,000
West Va., Md., N. C..	71,953	72,366	107,459	116,413	(a)
Missouri.....	40,290	34,914	38,908	72,708	(a)
Ohio.....	3,455	1,800	.....	.....	.....
Other States.....	501,558	801,518	892,687	831,964	853,000
Total.....	55,526,490	75,167,672	75,288,851	69,658,278	60,466,000

* Estimated by the United States Geological Survey. (a) Included with "other States."

IRON ORE MARKETING (SHIPPED) BY STATES, 1918-1919.

[From Mineral Resources of the United States, U. S. Geological Survey.]

States.	1918—Gross tons.		1919—Gross tons.*	
	Marketed.	Value.	Marketed.	Value.
Minnesota.....	43,263,240	\$144,706,532	34,593,000	\$128,789,000
Michigan.....	17,587,416	65,900,501	13,088,000	47,837,000
Alabama.....	6,121,087	15,334,561	4,837,000	13,203,000
New York.....	899,970	5,802,870	648,000	3,694,000
Wisconsin.....	1,167,640	3,796,408	782,000	2,859,000
Pennsylvania.....	515,845	982,173	543,000	892,000
Virginia.....	400,135	1,365,582	290,000	1,150,000
Tennessee.....	408,954	1,184,546	271,000	932,000
New Jersey.....	375,238	1,945,651	331,000	1,593,000
Georgia.....	262,003	878,612	85,000	389,000
Maryland, North Car..	114,402	628,278	(a)	(a)
Missouri.....	71,968	270,337	(a)	(a)
Other States.....	833,304	1,572,096	851,000	1,936,000
Total.....	72,021,202	\$244,368,147	56,319,000	\$203,274,000

* Estimated by the United States Geological Survey. (a) Included with "other States."

SHIPMENTS OF LAKE SUPERIOR IRON ORE.

IRON ORE SHIPMENTS BY RANGES, GROSS TONS, 1915-1919.

[From statistics gathered by The Iron Trade Review.]

Ranges.	1915.	1916.	1917.	1918.	1919.
Marquette.....	4,105,378	5,396,007	4,874,150	4,354,297	2,992,212
Menominee.....	4,982,626	6,364,363	6,045,750	6,378,698	4,442,868
Gogebic.....	5,477,767	8,489,685	7,981,684	7,936,701	6,230,839
Vermilion.....	1,733,595	1,947,200	1,530,692	1,192,908	929,049
Mesabi.....	29,756,689	42,525,612	41,445,211	40,396,711	31,997,699
Cuyuna.....	1,136,113	1,716,218	2,422,884	2,478,800	1,859,865
Miscellaneous...	80,583	219,381	136,632	98,057	359,990
Total.....	47,272,751	66,658,466	64,437,003	62,836,172	48,812,522

IRON ORE SHIPMENTS BY PORTS, GROSS TONS, 1915-1919.

[From statistics gathered by The Iron Trade Review.]

Ports.	1915.	1916.	1917.	1918.	1919.
Escanaba.....	5,649,289	7,457,444	7,156,854	6,774,969	4,963,358
Marquette.....	3,099,589	3,858,092	3,207,145	3,457,054	2,132,935
Ashland.....	5,146,772	8,057,814	7,597,841	7,565,608	5,915,383
Two Harbors...	8,642,942	10,735,853	9,990,901	8,723,472	6,424,545
Superior.....	8,342,793	12,787,046	13,978,741	14,068,341	10,919,965
Duluth.....	15,437,419	21,837,949	20,567,419	20,567,288	16,821,209
Total lake....	46,318,804	64,734,198	62,498,901	61,156,732	47,177,395
All rail.....	953,947	1,924,268	1,938,102	1,679,440	1,635,127
Grand total.	47,272,751	66,658,466	64,437,003	62,836,172	48,812,522

IRON ORE RECEIVED AND ON DOCK AT CLOSE OF NAVIGATION
AT LAKE ERIE PORTS, 1888-1919.

[From statistics gathered by The Iron Trade Review.]

Years.	Receipts. Gross tons.	On dock. Gross tons.	Years.	Receipts. Gross tons.	On dock. Gross tons.
1888.....	3,783,659	1,848,555	1904.....	17,932,814	5,763,399
1889.....	5,856,344	2,607,106	1905.....	29,060,693	6,438,967
1890.....	6,874,664	3,893,487	1906.....	32,194,205	6,252,455
1891.....	4,939,684	3,508,489	1907.....	35,348,915	7,385,728
1892.....	6,660,734	4,149,451	1908.....	20,527,052	9,074,003
1893.....	5,333,061	4,070,710	1909.....	33,672,825	9,471,428
1894.....	6,350,825	4,834,247	1910.....	34,042,897	9,797,980
1895.....	8,112,228	4,415,712	1911.....	25,531,550	9,469,869
1896.....	8,026,432	4,954,984	1912.....	37,472,108	10,080,798
1897.....	10,120,906	5,923,755	1913.....	39,099,647	9,261,676
1898.....	11,028,321	5,136,407	1914.....	25,402,655	8,407,905
1899.....	15,222,187	5,530,283	1915.....	37,967,460	8,910,351
1900.....	15,797,787	5,904,670	1916.....	51,807,272	10,167,760
1901.....	17,014,076	5,859,663	1917.....	48,812,859	10,326,349
1902.....	22,649,424	7,074,254	1918.....	48,183,015	10,424,967
1903.....	19,681,731	6,371,085	1919.....	37,423,585	10,456,314

RECEIPTS OF LAKE SUPERIOR IRON ORE AT LAKE ERIE PORTS,
GROSS TONS, 1915-1919.

[From statistics gathered by The Iron Trade Review.]

Ports.	1915.	1916.	1917.	1918.	1919.
Toledo.....	1,158,374	2,035,160	2,445,602	2,608,497	1,536,437
Huron.....	695,865	1,324,112	1,631,395	1,620,712	1,134,104
Lorain.....	3,517,258	4,613,929	3,831,244	3,494,370	3,379,421
Cleveland.....	7,504,697	10,669,745	9,077,161	9,681,882	7,466,921
Fairport.....	2,001,103	2,580,647	2,311,179	1,853,465	1,952,635
Ashtabula.....	7,813,101	11,474,268	10,251,304	11,001,574	8,377,277
Conneaut.....	8,573,509	9,588,341	8,729,754	6,650,898	7,056,882
Erie.....	707,875	1,525,031	2,079,227	1,809,619	1,102,478
Buffalo.....	5,339,724	7,432,220	7,843,215	8,845,775	4,649,008
Detroit.....	459,877	425,579	418,151	444,936	549,096
Port Colborne..	196,077	138,240	194,627	171,287	219,326
Total.....	37,967,460	51,807,272	48,812,859	48,183,015	37,423,585

Shipments from the Magpie and Moose Mountain mines, in Ontario, not included above, were 167,904 tons in 1919.

Shipments of iron ore from the Lake Superior region for the account of the United States Steel Corporation from mines owned wholly or in part by the Corporation amounted in 1919 to 22,426,217 gross tons, or 45.9 per cent. of the total shipments from that region, as compared with 26,177,243 tons, or 41.7 per cent., in 1918; 28,737,582 tons, or 44.6 per cent., in 1917; 31,664,883 tons, or 47.5 per cent., in 1916; and 23,098,594 tons, or 48.9 per cent., in 1915.

LARGEST SHIPPERS OF LAKE SUPERIOR IRON ORE IN 1919.

Mesabi Range:—Hull-Rust, 5,100,555 gross tons; Kerr, 1,693,389 tons; Missabe Mountain, 1,260,095 tons; Canisteo, 1,255,668 tons; Mahoning, 1,237,168 tons; Hartley-Burt-Palmer, 1,064,838 tons; Fayal, 990,458 tons; Spruce, 973,179 tons; Morris, 799,047 tons; Adams, 699,316 tons; Burt, 683,205 tons; Hill Annex, 575,509 tons; Bennett, 552,970 tons; Arcturus, 543,967 tons; Dunwoody, 535,930 tons; No. Harrison, 527,417 tons; Holman, 515,660 tons; Glen, 481,629 tons; Susquehanna, 459,749 tons; Dean, 448,003 tons; Sauntry-Alpena, 422,825 tons; and Hawkins, 400,970 tons. These 22 mines shipped 21,221,547 tons in 1919, or over 66.32 per cent. of the total shipments from this range. No other mine shipped more than 396,000 tons; 115 mines were active shippers.

Gogebic Range:—Norrie group, 1,335,468 tons; Newport, 915,959 tons; Wakefield, 595,944 tons; Plymouth, 499,128

tons; Palms, 471,471 tons; Montreal, 319,598 tons; Colby, 268,129 tons; Yale (West Colby), 246,317 tons; Ironton, 212,207 tons; and Cary, 197,180 tons. No other mine shipped more than 185,000 tons; 25 mines were active shippers.

Menominee Range:—Chapin, 524,679 tons; Carpenter, 396,224 tons; Caspian, 315,029 tons; Davidson, 248,298 tons; Bengal, 227,152 tons; Homer, 202,463 tons; Zimmerman, 197,048 tons; Aragon, 188,098 tons; Penn Iron Mining Co., 160,485 tons; and Balkan, 159,025 tons. No other mine shipped more than 138,000 tons; 39 mines were active shippers.

Marquette Range:—Cleveland-Cliffs groups, 437,475 tons; Negaunee, 424,112 tons; Lake Superior, 266,759 tons; Maas, 243,943 tons; Mary Charlotte, 234,367 tons; Morris-Lloyd, 190,556 tons; Richmond, 155,984 tons; Rolling Mill, 116,045 tons; Princeton (Swanzy), 111,616 tons; and Cambria, 91,008 tons. No other mine shipped more than 78,000 tons; 26 mines were active shippers.

Vermilion Range:—Pioneer, 376,758 tons; Sibley, 154,569 tons; Zenith, 124,721 tons; Soudan, 115,330 tons; Section 30, 78,532 tons; Chandler, 78,443 tons; and McComber, 696 tons. Seven mines were active.

Cuyuna Range:—Armour No. 2, 231,550 tons; Kennedy, 171,078 tons; Meacham, 150,975 tons; Hill Crest, 141,245 tons; Croft, 136,423 tons; Mahnomen, 130,132 tons; Rowe, 126,344 tons; Armour No. 1, 113,015 tons; Thompson, 106,728 tons; and Pennington, 100,981 tons. No other mine shipped more than 92,000 tons. The number of active shippers was 26.

PRODUCTION, IMPORTS, AND CONSUMPTION OF MANGANESE ORE,
GROSS TONS, 1892-1919.

Years.	Production.	Imports.	Approximate consumption.	Years.	Production.	Imports.	Approximate consumption.
1892.	13,613	58,572	72,185	1906.	6,921	221,260	228,181
1893.	7,718	68,113	75,831	1907.	5,604	209,021	214,625
1894.	6,308	44,655	50,963	1908.	6,144	178,203	184,347
1895.	9,547	86,111	95,658	1909.	1,544	212,765	214,309
1896.	10,088	31,489	41,577	1910.	*2,258	242,348	244,606
1897.	11,108	119,961	131,069	1911.	2,457	176,852	179,309
1898.	15,957	114,885	130,842	1912.	1,664	300,661	302,325
1899.	9,935	188,349	198,284	1913.	4,048	345,090	349,138
1900.	11,771	256,252	268,023	1914.	2,635	283,294	285,929
1901.	11,995	165,722	177,717	1915.	9,613	313,985	323,598
1902.	7,477	235,576	243,053	1916.	31,474	576,321	607,795
1903.	2,825	146,056	148,881	1917.	129,405	629,972	759,377
1904.	3,146	108,519	111,665	1918.	305,869	491,303	797,172
1905.	4,118	257,033	261,151	1919.	†58,243	333,344	391,587

* From 1910 to date, marketed production. † Preliminary.

PRODUCTION AND SHIPMENTS OF COAL.

PRODUCTION OF COAL BY STATES, NET TONS, 1915-1919.

[From Mineral Resources of the United States, U. S. Geological Survey.]

States.	1915.	1916.	1917.	1918.	1919.*
Alabama.....	14,927,937	18,086,197	20,068,074	19,184,962	15,230,000
Arkansas.....	1,652,106	1,994,915	2,143,579	2,227,369	1,680,000
Colorado.....	8,624,980	10,484,237	12,483,336	12,407,571	10,100,000
Illinois.....	58,829,576	66,195,336	86,199,387	89,291,105	64,600,000
Indiana.....	17,006,152	20,093,528	26,539,329	30,678,634	20,500,000
Iowa.....	7,614,143	7,260,800	8,965,830	8,192,195	6,300,000
Kansas.....	6,824,474	6,881,455	7,184,975	7,561,947	5,750,000
Kentucky.....	21,361,674	25,393,997	27,807,971	31,612,617	28,500,000
Maryland.....	4,180,477	4,460,046	4,745,924	4,497,297	2,970,000
Michigan.....	1,156,138	1,180,360	1,374,805	1,464,818	930,000
Missouri.....	3,811,593	4,742,146	5,670,549	5,667,730	4,060,000
Montana.....	2,789,755	3,632,527	4,226,689	4,532,505	3,300,000
New Mexico...	3,817,940	3,793,011	4,000,527	4,023,239	3,170,000
North Dakota..	528,078	634,912	790,548	719,733	750,000
Ohio.....	22,434,691	34,728,219	40,748,734	45,812,943	35,050,000
Oklahoma.....	3,693,580	3,608,011	4,386,844	4,813,447	3,200,000
Penna. bitum..	157,955,137	170,295,424	172,448,142	178,550,741	145,300,000
Tennessee.....	5,730,361	6,137,449	6,194,221	6,831,048	5,150,000
Texas.....	2,088,908	1,987,503	2,355,815	2,261,135	1,600,000
Utah.....	3,108,715	3,567,428	4,125,230	5,136,825	4,570,000
Virginia.....	8,122,596	9,707,474	10,087,091	10,289,808	9,500,000
Washington....	2,429,095	3,038,588	4,009,902	4,082,212	3,100,000
West Virginia..	77,184,069	86,460,127	86,441,667	89,935,839	75,500,000
Wyoming.....	6,554,028	7,910,647	8,575,619	9,438,688	7,100,000
Other States...	198,223	245,345	215,775	171,412	153,000
Total bitum..	442,624,426	502,519,682	551,790,563	579,385,820	458,063,000
Penna. anth..	88,995,061	87,578,493	99,611,811	98,826,084	86,200,000
Grand total..	531,619,487	590,098,175	651,402,374	678,211,904	544,263,000

* Estimated by the United States Geological Survey.

Changing net to gross tons the estimated output in 1919 amounted to 485,949,107 tons, of which 408,984,821 gross tons were bituminous and 76,964,286 gross tons were Pennsylvania anthracite.

As compared with 1918 there was an estimated decrease in output in 1919 of 133,948,904 net tons, or 119,597,236 gross tons.

PRODUCTION AND SHIPMENTS OF COKE.

PRODUCTION OF COKE BY STATES, NET TONS, 1915-1919.

[From Mineral Resources of the United States, U. S. Geological Survey.]

States.	1915.	1916.	1917.	1918.	1919.†
Pennsylvania...	25,622,862	31,279,695	27,912,025	26,723,645	20,504,000
Alabama.....	3,071,811	4,298,417	4,892,589	4,352,172	3,854,000
Indiana.....	2,768,099	3,489,660	3,540,718	3,898,215	3,691,000
West Virginia..	1,391,446	2,521,309	3,349,761	3,320,006	1,454,000
Illinois.....	1,686,998	2,320,400	2,289,833	2,285,610	1,705,000
Virginia.....	629,807	1,242,332	1,304,230	1,234,256	880,000
Colorado.....	670,938	1,053,553	1,112,449	989,447	699,000
New York.....	684,461	775,014	993,184	1,069,587	751,000
New Mexico...	389,411	502,812	577,679	597,072	276,000
Tennessee.....	256,973	382,175	411,326	427,106	181,000
Ohio.....	684,658	1,803,268	3,694,302	5,365,243	5,531,000
Kentucky.....	526,097	802,526	863,071	818,785	727,000
New Jersey....	*.....	*.....	423,361	682,148	789,000
Washington....	136,552	† 534,653	† 497,533	123,788	58,000
Georgia.....	20,039	47,127	39,589	22,048	18,000
Other States...	3,040,998	3,480,644	3,705,178	4,569,244	3,703,000
Total..Net tons.	41,581,150	54,533,585	55,606,828	56,478,372	44,821,000

* Production included with "other States."

† Includes Utah.

‡ Estimated by the United States Geological Survey.

PRODUCTION OF BY-PRODUCT COKE, NET TONS, 1901-1919.

[Compiled from Mineral Resources of the United States, U. S. Geological Survey.]

Years.	Total production of coke.	Production in by-product ovens.	Per cent. by-product of total.	Annual increase in production of by-product coke.
1901.....	21,795,883	1,179,900	5.41	.....
1902.....	25,401,730	1,403,588	5.53	223,688
1903.....	25,274,281	1,882,394	7.45	478,806
1904.....	23,661,106	2,608,229	11.02	725,835
1905.....	32,231,129	3,462,348	10.74	854,119
1906.....	36,401,217	4,558,127	12.52	1,095,779
1907.....	40,779,564	5,607,899	13.75	1,049,772
1908.....	26,033,518	4,201,226	16.14	*1,406,673
1909.....	39,315,065	6,254,644	15.91	2,053,418
1910.....	41,708,810	7,138,734	17.12	884,090
1911.....	35,551,489	7,847,845	22.07	709,111
1912.....	43,983,599	11,115,164	25.27	3,267,319
1913.....	46,299,530	12,714,700	27.46	1,599,536
1914.....	34,555,914	11,219,943	32.47	*1,494,757
1915.....	41,581,150	14,072,895	33.84	2,852,952
1916.....	54,533,585	19,069,361	34.97	4,996,466
1917.....	55,606,828	22,439,280	40.35	3,369,919
1918.....	56,478,372	25,997,580	46.03	3,558,300
1919.....	†44,821,000	†25,171,000	56.16	*826,580

* Decrease.

† Estimated by the United States Geological Survey.

**NUMBER OF OVENS, SHIPMENTS, AND AVERAGE PRICES OF
CONNELLSVILLE COKE, 1880-1919.**

[From statistics gathered by the Connellsville Courier.]

Calendar years.	Total ovens.	Shipments. Net tons.	Average price.	Calendar years.	Total ovens.	Shipments. Net tons.	Average price.
1880....	7,211	2,205,946	\$1.79	1900...	20,954	10,166,234	\$2.70
1881....	8,208	2,639,002	1.63	1901...	21,575	12,609,949	1.95
1882....	9,283	3,043,394	1.47	1902...	26,329	14,138,740	2.37
1883....	10,176	3,552,402	1.14	1903...	28,092	13,345,230	3.00
1884....	10,543	3,192,105	1.13	1904...	29,119	12,427,468	1.75
1885....	10,471	3,096,012	1.22	1905...	30,842	17,896,526	2.26
1886....	10,952	4,180,521	1.36	1906...	34,059	19,999,326	2.75
1887....	11,923	4,146,989	1.79	1907...	35,697	19,029,058	2.90
1888....	13,975	4,955,553	1.19	1908...	37,842	10,700,022	1.80
1889....	14,458	5,930,428	1.34	1909...	30,158	17,785,832	2.00
1890....	16,020	6,464,156	1.94	1910...	39,137	18,689,722	2.10
1891....	17,204	4,760,665	1.87	1911...	38,904	16,334,174	1.72
1892....	17,256	6,329,452	1.83	1912...	38,884	20,000,873	1.92
1893....	17,513	4,805,623	1.49	1913...	39,067	20,097,901	2.95
1894....	17,834	5,454,451	1.00	1914...	37,965	14,075,638	2.00
1895....	17,947	8,244,438	1.23	1915...	38,986	17,921,216	1.80
1896....	18,351	5,411,602	1.90	1916...	38,362	21,654,502	2.58
1897....	18,628	6,915,052	1.65	1917...	38,110	17,806,181	6.25
1898....	18,643	8,460,112	1.55	1918...	37,061	16,138,590	7.25
1899....	19,689	10,129,764	2.00	1919...	35,758	10,254,640	4.70

SHIPMENTS OF POCAHONTAS COKE.

The shipments of Pocahontas Flat Top coke in 1919, for which we are indebted to the Norfolk and Western Railway Company, amounted to 702,891 net tons, against 1,467,721 tons in 1918, 1,766,302 tons in 1917, 1,498,505 tons in 1916, 796,287 tons in 1915, 789,800 tons in 1914, 1,280,638 tons in 1913, 1,284,954 tons in 1912, and 1,323,387 tons in 1911. Of the shipments in 1919, 699,470 tons were line trade and 3,421 tons were tidewater, while in 1918, 1,461,128 tons were line trade and 6,593 tons were tidewater.

MISCELLANEOUS PRODUCTION STATISTICS.

The following table gives a summary of production of pig iron, steel and rolled products in the Youngstown District, which includes works in the Mahoning, Shenango and Beaver valleys and adjacent territory. This includes Trumbull, Mahoning and the northern part of Columbiana counties in Ohio, and Mercer, Lawrence and Beaver counties in Pennsylvania.

PRODUCTION OF IRON AND STEEL IN THE YOUNGSTOWN DISTRICT, GROSS TONS, 1916-1919.

	1916.	1917.	1918.	1919.
Blast furnaces, No.....	49	50	51	52
Consumption of:				
Iron ore.....	12,553,048	11,550,532	11,197,859	9,553,663
Cinder.....	569,522	608,875	655,548	567,335
Limestone.....	3,355,235	3,157,622	3,228,559	2,737,584
Production of pig iron.....	6,923,938	6,476,051	6,250,611	5,394,827
Rolling mills and steel works, No..	45	45	47	47
Production of steel ingots and cast- ings:				
Open-hearth.....	4,042,347	4,191,323	4,462,061	3,643,095
Bessemer.....	3,115,184	3,099,917	2,843,455	2,367,789
Other.....	25,150	28,913	20,680	10,642
Total.....	7,182,681	7,320,153	7,326,196	6,021,526
Production of rolled products:				
Wire rods.....	509,467	410,760	225,306	335,129
Plates and sheets.....	946,123	1,081,585	1,133,712	1,015,170
Merchant bars (including concrete bars).....	556,340	678,520	791,691	731,234
Skelp.....	764,587	726,968	701,376	707,919
Other rolled products.....	988,872	1,182,452	913,913	398,033
Total rolled products.....	3,765,389	4,080,285	3,765,998	3,187,485

PRODUCTION OF IRON AND STEEL IN ALLEGHENY COUNTY, PENNSYLVANIA, FROM 1910 TO 1919.

Details.	1910.		1911.		1912.		1913.		1914.		1915.		1916.		1917.		1918.		1919.	
	Gross tons.		Gross tons.		Gross tons.		Gross tons.		Gross tons.		Gross tons.		Gross tons.		Gross tons.		Gross tons.		Gross tons.	
Furnaces built and building. No.	47		47		47		47		47		47		47		48		48		48	
Consumption of—																				
Iron ore.....	9,887,264		9,404,531		11,167,200		11,049,100		8,387,986		10,927,567		13,350,113		11,316,103		11,768,297		10,493,440	
Mill cinder, scale, etc.....	666,681		825,823		1,026,961		661,638		513,972		534,088		788,940		713,534		704,052		450,535	
Limestone.....	2,680,176		2,656,811		3,242,709		3,065,549		2,388,397		3,066,274		3,489,768		2,943,542		3,073,418		2,912,418	
Production of pig iron.....	5,330,982		5,116,442		6,107,226		5,999,539		4,665,893		5,970,407		7,239,913		6,226,601		6,357,660		5,719,842	
Rolling mills and steelworks. No.	65		66		65		65		62		62		60		64		64		64	
Production of—																				
Open-hearth steel.....	5,099,464		4,980,426		5,777,672		5,809,778		4,610,274		6,367,036		7,270,060		7,019,703		6,607,777		5,888,774	
Bessemer steel.....	2,003,141		1,442,286		1,977,970		1,824,479		1,221,220		1,351,416		1,956,608		1,872,144		1,813,773		1,670,940	
All other steel.....	43,106		28,661		30,813		34,964		22,920		28,928		46,328		78,506		94,434		61,778	
Total steel ingots and castings	7,145,711		6,451,373		7,786,455		7,669,221		5,854,414		7,747,380		9,272,996		8,970,353		8,515,984		7,621,492	
Production of—																				
All kinds of rails.....	534,511		427,140		380,255		401,984		243,889		340,787		327,001		370,536		461,525		305,818	
Structural shapes.....	950,848		717,819		1,062,735		1,145,870		705,250		943,486		1,162,861		1,111,134		959,551		918,788	
Plates and sheets.....	1,341,343		1,113,794		1,426,310		1,401,321		1,004,915		1,439,117		1,643,205		1,738,299		2,040,390		1,668,691	
* Merchant bars.....	1,229,768		812,026		1,231,826		1,167,902		744,626		1,235,246		1,697,674		1,617,756		1,385,401		1,318,913	
Skelp.....	579,573		606,497		772,201		751,963		674,257		677,558		850,293		743,781		741,054		744,457	
† Other rolled products.....	1,041,494		826,876		1,141,745		1,154,745		818,674		1,097,356		1,563,371		1,353,321		1,293,208		903,142	
Total rolled products.....	5,677,537		4,504,152		6,015,105		6,023,785		4,191,611		5,733,550		7,244,405		6,934,827		6,881,129		5,859,709	

*Concrete bars not included. †Includes semi-finished forms rolled for export in 1912 and subsequent years.

COMPARATIVE PRODUCTION OF LEADING IRON AND STEEL PRODUCTS BY THE UNITED STATES STEEL CORPORATION AND ALL OTHER COMPANIES FROM 1901 TO 1919.

Years.	PRODUCTION OF PIG IRON.				PRODUCTION OF STEEL INGOTS AND STEEL CASTINGS.				PRODUCTION OF ALL KINDS OF FINISHED ROLLED PRODUCTS.			
	Corporation.	All other.	Total.	Per cent. of Corp.	Corporation.	All other.	Total.	Per cent. of Corp.	Corporation.	All other.	Total.	Per cent. of Corp.
1901..	6,855,731	9,022,623	15,878,354	43.2	8,854,820	4,618,775	13,473,595	65.7	6,189,958	6,159,369	12,349,327	50.1
1902..	7,975,530	9,845,777	17,821,307	44.8	9,750,386	5,196,864	14,947,250	65.2	7,157,582	6,786,234	13,944,116	51.3
1903..	7,279,241	10,730,011	18,009,252	40.4	9,173,870	5,361,108	14,534,978	63.1	6,756,071	6,451,626	13,207,697	51.2
1904..	7,369,421	9,127,612	16,497,033	44.7	8,412,555	5,447,332	13,859,887	60.7	5,743,398	6,269,983	12,013,381	47.8
1905..	10,172,148	12,820,232	22,992,380	44.2	12,006,381	8,017,566	20,023,947	60.0	7,975,955	8,861,060	16,840,015	47.4
1906..	11,267,377	14,039,814	25,307,191	44.5	13,529,199	9,868,937	23,398,136	57.8	9,432,946	10,155,522	19,588,468	48.2
1907..	*11,422,795	14,358,566	25,781,361	44.3	*13,343,019	10,019,575	23,362,594	57.1	*9,629,484	10,235,338	19,864,822	48.5
1908..	6,934,408	9,001,610	15,936,018	43.5	7,838,713	6,184,534	14,023,247	55.9	5,571,528	6,256,605	11,828,193	47.1
1909..	11,618,350	14,177,121	25,795,471	45.0	13,355,189	10,599,832	23,955,021	55.8	9,605,306	10,039,384	19,644,690	48.9
1910..	11,831,398	15,472,169	27,303,567	43.3	14,179,369	11,915,550	26,094,919	54.3	10,393,925	11,227,354	21,621,279	48.1
1911..	10,744,897	12,904,650	23,649,547	45.4	12,753,370	10,922,736	23,676,106	53.9	8,703,824	10,335,347	19,039,171	45.7
1912..	14,186,164	15,540,773	29,726,937	47.7	16,901,223	14,350,080	31,251,303	54.1	11,964,792	12,692,049	24,656,841	48.5
1913..	14,080,730	16,885,422	30,966,152	45.5	16,656,361	14,644,513	31,300,874	53.2	11,853,639	12,937,604	24,791,243	47.8
1914..	10,052,457	13,279,787	23,332,244	43.1	11,826,476	11,686,554	23,513,030	50.3	8,101,228	10,268,968	18,370,196	44.1
1915..	13,641,508	16,274,705	29,916,213	45.6	16,376,492	15,774,544	32,151,036	50.9	10,870,446	13,522,478	24,392,924	44.6
1916..	17,607,637	21,827,160	39,434,797	44.7	20,910,589	21,863,091	42,773,680	48.9	14,365,342	18,015,047	32,380,389	44.4
1917..	15,652,928	22,968,288	38,621,216	40.5	20,285,061	24,775,546	45,060,607	45.0	13,894,521	19,173,179	33,067,700	42.0
1918..	15,940,954	23,113,690	39,054,644	40.8	19,583,493	24,878,939	44,462,432	44.0	12,991,829	18,163,925	31,155,754	41.7
1919..	13,637,504	17,377,860	31,015,364	44.0	17,200,373	17,470,859	34,671,232	49.6	11,195,303	13,906,241	25,101,544	44.6

* For this and all subsequent years the production of the Tennessee Coal, Iron and Railroad Company is included.

PERCENTAGE OF PRODUCTION OF THE UNITED STATES STEEL CORPORATION IN 1919.

PRODUCTS.	Production U. S. Steel Corporation.	Production all other companies.	Total production.	Percentage U. S. Steel Corporation.
Shipments of iron ore from the Lake Superior region *.....Gross tons.	22,426,217	26,386,305	48,812,522	45.94
Total production of iron ore in the United States.....Gross tons.	25,423,093	35,042,907	60,466,000†	42.05
Production of coke.....Net tons.	15,463,649	29,357,351	44,821,000†	34.50
Spiegelisen and ferro-manganese.....	153,322	116,281	269,603	56.87
Bessemer, basic, low-phosphorus, foundry, forge, ferro-silicon, etc.....	13,484,182	17,261,579	30,745,761	43.86
Total pig iron, including spiegelisen, ferro-manganese, ferro-silicon, etc..Gross tons.	13,637,504	17,377,860	31,015,364	43.97
Total production of steel ingots and castings.....Gross tons.	17,200,373	17,470,859	34,671,232	49.61
Steel rails, including Bessemer, open-hearth, electric, rerolled, renewed, etc.....	1,365,557	838,256	2,203,843	61.96
Structural shapes.....	1,144,165	1,409,871	2,614,036	43.77
Plates and sheets, including black plates for tinning.....	3,266,174	4,106,640	7,372,814	44.30
Wire rods.....	1,406,805	1,131,671	2,538,476	55.42
Other finished rolled products, including nail plate, merchant bars, rolled forging blooms and billets, semi-finished products rolled for export, etc.....	4,012,572	6,359,803	10,372,375	38.69
Total of the rolled products enumerated above.....Gross tons.	11,195,303	13,906,241	25,101,544	44.60
Wire nails.....Kegs of 100 pounds.	6,790,034	6,304,187	13,094,221	51.86
Tinplates and terne plates.....Gross tons.	557,468	593,430	1,150,898	48.44

In this line shipments are given instead of production. †Estimated by the United States Geological Survey.

PERCENTAGE OF PRODUCTION OF THE UNITED STATES STEEL CORPORATION IN 1918.

Products.	Production U. S. Steel Corporation.	Production all other companies.	Total production.	Percentage U. S. Steel Corporation.
Shipments of iron ore from the Lake Superior region *.....Gross tons.	26,177,243	36,658,929	62,836,172	41.66
Total production of iron ore in the United States.....Gross tons.	28,332,939	41,325,339	69,658,278	40.67
Production of coke.....Net tons.	17,757,636	38,720,736	56,478,372	31.44
Spiegeleisen and ferro-manganese.....	224,036	392,844	616,880	36.32
Bessemer, basic, low-phosphorus, foundry, forge, ferro-silicon, etc.....	15,716,918	22,720,846	38,437,764	40.89
Total pig iron, including spiegeleisen, ferro-manganese, ferro-silicon, etc...Gross tons.	15,940,954	23,113,690	39,054,644	40.82
Total production of steel ingots and castings.....Gross tons.	19,583,493	24,878,939	44,462,432	44.05
Steel rails, including Bessemer, open-hearth, electric, rerolled, renewed, etc.....	1,480,499	1,060,393	2,540,892	58.27
Structural shapes.....	1,379,720	1,470,249	2,849,969	48.41
Plates and sheets, including black plates for tinning.....	3,808,964	4,990,171	8,799,135	43.29
Wire rods.....	1,447,991	1,114,399	2,562,390	56.51
Other finished rolled products, including nail plate, merchant bars, rolled forging blooms and billets, semi-finished products rolled for export, etc.....	4,874,655	9,528,713	14,403,368	33.84
Total of the rolled products enumerated above.....Gross tons.	12,991,829	18,163,925	31,155,754	41.70
Wire nails.....Kegs of 100 pounds.	6,543,240	5,736,560	12,279,800	53.28
Tinplates and terne plates.....Gross tons.	711,985	761,954	1,473,939	48.30

* In this line shipments are given instead of production.

IMPORTS AND EXPORTS.

IMPORTS OF IRON AND STEEL, GROSS TONS, CALENDAR YEARS.

Products.	1915.	1916.	1917.	1918.	1919.
Pig iron (inc. ferro-mang., etc.)	89,836	135,349	76,786	34,711	101,665
Scrap.....	79,982	116,039	180,034	63,730	177,293
Bar iron.....	8,474	7,701	2,240	1,469	1,940
Wire rods.....	5,317	4,130	1,060	7,677	342
Rails.....	78,525	26,299	9,263	8,705	17,008
Steel ingots, billets, blooms...	14,998	26,142	44,197	41,076	16,269
Sheets and plates.....	1,420	1,730	1,748	1,517	1,095
Tinplates, terne plates.....	2,350	1,008	124	32	242
Tinplate scrap*.....	.....	9,094	8,533	6,689	5,256
Structural shapes.....	1,494	1,473	6,216	3,504	1,154
Hoops and bands for baling†	.....	.....	.....	.....	.....
Total.....	282,396	328,965	330,201	169,110	322,264

* Not separately stated prior to January 1, 1916.

† First separately stated July 1, 1914; imports in 1915, 470 pounds.

EXPORTS OF IRON AND STEEL, GROSS TONS, CALENDAR YEARS.

Products.	1915.	1916.	1917.	1918.	1919.
Pig iron.....	224,509	607,236	656,220	269,575	321,261
Scrap and old iron and steel...	79,361	212,765	145,574	2,160	26,775
Bar iron.....	39,740	74,069	56,332	63,367	60,547
Steel wire rods.....	165,014	158,284	181,941	148,523	118,010
Steel bars or rods ex. wire rods.	425,678	774,455	626,465	579,249	554,211
Steel rails.....	391,379	540,828	512,669	453,537	652,449
Billets, ingots, and blooms....	560,704	1,504,562	2,017,113	1,786,189	258,424
Galvanized iron and steel sheets and plates.....	75,906	85,304	86,487	68,742	101,638
Iron sheets and plates.....	25,543	46,499	62,238	40,756	39,892
Steel plates.....	223,806	276,034	525,670	551,967	710,013
Ship and tank plates, punched and shaped.....	.....	.....	* 19,781	29,250	13,688
Steel sheets.....	94,349	107,721	157,353	163,421	177,466
Structural iron and steel.....	232,139	300,594	294,150	232,729	360,787
Hoop, band, and scroll.....	29,250	43,208	58,769	50,673	50,836
Tinplates, terne plates, tag. tin.	154,642	227,391	232,799	258,538	204,521
Bolts, nuts, rivets, and washers.	23,536	29,226	32,261	28,332	39,742
Horseshoes.....	15,863	7,806	8,403	2,857	3,385
Wire, barbed.....	248,611	418,882	193,471	235,083	101,451
Wire, all other.....	224,972	264,142	201,474	157,222	190,212
Cut nails and cut spikes.....	4,236	4,752	4,525	3,824	2,921
Railroad spikes.....	13,256	23,852	21,189	9,969	24,771
Wire nails and wire spikes....	91,584	150,173	114,913	78,726	89,779
All other nails, including tacks	9,251	12,354	19,350	11,792	16,229
Cast pipe and fittings.....	47,022	70,223	77,528	55,961	39,455
Wrought pipe and fittings....	129,966	158,350	127,191	89,982	236,080
Radiators, etc.....	2,291	2,424	5,201	2,857	4,658
Total..... Gross tons.	3,532,608	6,101,134	6,439,067	5,375,281	4,399,201

* From July 1, 1917.

IMPORTS OF PIG IRON, SPIEGELEISEN, FERRO-MANGANESE, AND
FERRO-SILICON, GROSS TONS, 1915-1919.

Countries.	1915.	1916.	1917.	1918.	1919.
Germany.....	600	341	.....	.....	.....
United Kingdom.....	59,897	89,764	51,634	28,392	32,491
Canada.....	21,166	33,716	21,143	5,692	63,091
China.....	3,430	8,861	3,503	.....	8
Other countries.....	4,743	2,667	506	627	6,075
Total.....	89,836	135,349	76,786	34,711	101,665

In addition to the countries named above we imported 5,994 gross tons of pig iron from Mexico in 1919, 51 tons from Sweden and 30 tons from Cuba.

EXPORTS OF PIG IRON TO FOREIGN COUNTRIES, GROSS TONS,
CALENDAR YEARS, 1915-1919.

Countries.	1915.	1916.	1917.	1918.	1919.
Canada.....	60,197	101,295	153,745	122,325	33,751
Austria-Hungary.....	.....	.....	.....	.....	417
Italy.....	81,792	234,213	184,763	41,641	136,997
United Kingdom.....	57,368	90,921	147,680	74,101	46,009
Australia and Tasmania.	2,008	433	257	30	259
Japan.....	1,811	5,033	30,809	11,986	49,734
Netherlands.....	1,993	22,464	2,124	.....	5,220
Argentina.....	912	380	2,580	129	4,127
Belgium.....	.....	.....	.....	.....	8,625
France.....	9,414	71,226	65,618	8,181	683
Denmark.....	.....	17,380	1,836	.....	5,776
Mexico.....	684	676	920	297	1,103
Panama.....	2,316	1,968	1,816	881	483
Cuba.....	844	5,338	4,243	892	1,331
Brazil.....	304	1,176	1,483	72	979
Chile.....	2,716	6,500	8,888	4,345	6,611
Peru.....	286	682	578	694	1,253
Philippines.....	54	25	916	995	853
Other countries.....	1,810	47,526	47,964	3,006	*17,050
Total.....	224,509	607,236	656,220	269,575	321,261

* Includes 4,818 tons exported to China, 2,995 tons to Norway, 2,844 tons to Sweden, 1,620 tons to the Dutch East Indies, 1,578 tons to Gibraltar, 1,081 tons to Hongkong, 716 tons to New Zealand, 474 tons to Newfoundland, 213 tons to Colombia, and 711 tons to Jamaica, French East Indies, Ecuador, French West Indies, Greece, Dominican Republic, Nicaragua, Salvador, and other countries.

IMPORTS FOR CONSUMPTION OF SPIEGELEISEN AND FERRO-MANGANESE, 1903-1919.

Calendar years.	Spiegeleisen—Gross tons.			Ferro-manganese—Gross tons.		
	Tons.	Values.	Average value per ton.	Tons.	Values.	Average value per ton.
1903.....	122,016	\$2,709,317	\$22.20	41,518	\$1,699,666	\$40.94
1904.....	4,623	132,461	28.65	21,814	707,037	32.41
1905.....	55,457	1,336,104	24.09	52,841	1,884,651	35.67
1906.....	103,267	2,942,940	28.50	84,359	4,953,644	58.72
1907.....	48,995	1,399,381	28.56	87,400	5,354,656	61.27
1908.....	4,579	125,054	27.31	44,624	1,860,664	41.70
1909.....	16,921	353,447	20.89	88,934	3,396,381	38.19
1910.....	25,383	489,049	19.27	114,278	4,341,071	37.99
1911.....	20,970	405,444	19.33	80,263	3,015,062	37.56
1912.....	1,015	28,094	27.68	99,137	3,906,920	39.41
1913.....	77	2,173	28.22	128,070	5,682,915	44.37
1914.....	2,870	71,147	24.79	82,997	3,619,607	43.61
1915.....	200	5,110	25.55	55,263	3,333,699	60.32
1916.....	.....	.....	.....	90,928	9,240,528	101.62
1917.....	3,968	291,594	73.49	41,969	5,710,988	136.08
1918.....	1,969	228,012	115.80	26,906	4,300,604	159.84
1919.....	27	1,018	37.70	33,022	4,283,541	129.72

IMPORTS FOR CONSUMPTION OF FERRO-SILICON AND PIG IRON, 1903-1919.

Calendar years.	Ferro-silicon—Gross tons.			Bessemer, basic, foundry, forge, etc., pig iron—Gross tons.		
	Tons.	Values.	Average value per ton.	Tons.	Values.	Average value per ton.
1903.....	14,880	\$379,900	\$25.53	414,981	\$6,302,604	\$15.19
1904.....	3,691	184,229	49.91	49,219	730,582	14.84
1905.....	11,044	558,906	50.61	93,124	1,406,123	15.10
1906.....	11,863	788,085	66.43	174,540	2,950,610	16.90
1907.....	14,825	1,049,283	70.78	328,672	5,409,540	16.46
1908.....	5,532	281,590	50.90	32,784	558,796	17.04
1909.....	12,802	504,821	39.43	57,831	910,584	15.75
1910.....	11,391	527,157	46.28	93,740	1,489,710	15.89
1911.....	6,659	341,681	51.31	38,685	586,403	15.16
1912.....	7,489	446,456	59.61	18,386	318,208	17.31
1913.....	7,208	449,871	62.41	23,586	450,910	19.12
1914.....	6,149	341,925	55.61	39,213	588,252	15.00
1915.....	5,128	310,219	60.50	28,937	459,241	15.87
1916.....	6,740	384,384	57.03	36,850	608,851	16.52
1917.....	9,740	691,684	71.01	20,526	1,172,869	57.14
1918.....	5,540	424,932	76.70	381	16,154	42.40
1919.....	10,445	629,362	60.25	58,171	1,651,185	28.39

EXPORTS OF STEEL RAILS, CALENDAR YEARS, 1915-1919.

Countries.	1915.	1916.	1917.	1918.	1919.
Canada.....	7,608	41,081	48,293	66,558	25,580
Cent. America and Brit. Hond....	6,696	4,948	5,235	3,049	9,197
Mexico.....	2,653	3,953	4,091	1,226	10,670
West Indies and Bermuda.....	36,529	89,518	64,095	49,356	61,990
Argentina.....	8,374	1,555	122	20	855
Brazil.....	3,573	2,708	1,985	.....	8,816
Other South America.....	22,065	19,161	22,730	10,145	25,829
Japan.....	3,543	2,979	75,113	80,865	152,997
Other Asia and Oceania.....	176,934	69,956	62,681	17,735	111,010
Other countries.....	123,404	304,969	228,324	224,583	*245,505
Total..... Gross tons.	391,379	540,828	512,669	453,537	652,449

* Includes 141,261 tons exported to France, 29,605 tons to Belgium, 23,817 tons to British South Africa, 23,040 tons to Italy, 9,161 tons to United Kingdom, 4,412 tons to the Netherlands, 2,873 tons to Portugal, 2,193 tons to Portuguese Africa, 2,100 tons to Italian Africa, 1,654 tons to Spain, 1,527 tons to Denmark, 1,032 tons to Russia in Europe, 1,017 tons to Norway, 703 tons to Sweden, and 1,110 tons to other countries.

EXPORTS OF STRUCTURAL SHAPES, CALENDAR YEARS, 1915-1919.

Countries.	1915.	1916.	1917.	1918.	1919.
Canada.....	98,862	111,758	117,306	111,118	99,032
Panama.....	20,970	5,103	3,107	1,107	532
Mexico.....	1,272	3,597	3,618	880	3,906
Cuba.....	20,566	38,260	29,359	11,112	23,600
South America.....	17,501	22,571	24,224	11,079	35,463
Japan.....	3,696	24,405	35,514	24,197	49,920
British Oceania.....	12,602	14,150	6,227	1,725	3,290
Philippine Islands.....	1,743	940	1,021	717	5,062
Other countries.....	54,927	79,810	73,774	70,794	*139,982
Total..... Gross tons.	232,139	300,594	294,150	232,729	360,787

* Includes 79,665 tons to France, 19,185 tons to Italy, 12,030 tons to the Dutch East Indies, 6,033 tons to China, 5,365 tons to British India, 2,972 tons to Norway, 1,752 tons to Hongkong, and 11,524 tons to other countries.

EXPORTS OF WIRE RODS, CALENDAR YEARS, 1915-1919.

Countries.	1915.	1916.	1917.	1918.	1919.
Canada.....	62,448	59,310	44,754	39,230	27,169
United Kingdom.....	63,294	51,056	41,965	15,515	22,080
France.....	35,278	36,148	22,291	24,913	14,626
Japan.....	1,800	3,489	23,391	29,523	32,079
Spain.....	1,378	1,315	1,070	849	7
Other countries.....	816	6,966	48,470	38,493	*22,049
Total..... Gross tons.	165,014	158,284	181,941	148,523	118,010

* Includes 6,500 tons to Italy, 6,472 tons to Denmark, 3,673 tons to Australia, 1,762 tons to China, 649 tons to Belgium, 534 tons to Norway, 452 tons to Roumania, and 2,007 tons to other countries.

EXPORTS OF PLATES AND SHEETS, BY COUNTRIES, 1919.

Countries.	Galvanised sheets and plates. Pounds.	Iron sheets and plates. Pounds.	Steel plates. Pounds.	Steel sheets. Pounds.	Ship and tank plates punched and shaped. Pounds.	Total. Pounds.
United Kingdom.....	42,777	1,794,657	72,028,314	9,961,723	.....	83,827,471
Canada.....	37,337,187	23,886,744	416,904,330	119,890,134	610,891	598,629,286
Panama.....	446,944	87,381	957,826	628,598	.....	2,120,749
Mexico.....	6,506,722	1,662,924	14,428,191	3,113,613	4,906,452	30,617,902
Cuba.....	18,080,840	1,326,785	14,401,280	4,706,856	2,661,303	41,177,064
Argentina.....	17,927,169	1,829,336	9,260,067	17,133,857	336,000	46,486,429
Brazil.....	8,539,094	4,468,754	7,251,259	9,135,677	327,776	29,722,560
Chile.....	7,566,573	1,337,473	8,005,002	4,315,948	809,312	22,034,308
Uruguay.....	3,670,776	255,776	939,878	1,796,410	.....	6,662,840
British India...	1,450,342	1,171,177	18,164,858	4,726,676	337,555	25,850,608
Japan.....	13,313,507	21,636,977	545,851,094	85,385,782	12,655,305	678,842,665
Australia and Tasmania.....	30,794,350	5,007,683	15,474,365	13,681,110	539,574	65,497,082
Philippine Islands.....	15,146,299	1,870,268	5,150,391	6,176,398	246,311	28,589,667
Other countries	66,846,657	23,022,350	461,611,792	116,872,412	7,230,526	675,583,737
Total.....	227,669,237	89,358,285	1,590,428,647	397,525,194	30,661,005	2,335,642,368
Net tons.....	113,835	44,679	795,214	198,763	15,330	1,167,821
Gross tons....	101,638	39,892	710,013	177,466	13,688	1,042,697

EXPORTS OF PLATES AND SHEETS TO LEADING COUNTRIES,
CALENDAR YEARS, 1915-1919.

Countries.	1915. Pounds.	1916. Pounds.	1917.* Pounds.	1918. Pounds.	1919. Pounds.
United Kingdom	67,308,550	65,691,616	28,518,890	157,258,372	83,827,471
Canada.....	447,430,888	511,869,353	579,843,711	600,573,504	598,629,286
Panama.....	14,995,615	13,220,889	11,672,773	2,808,967	2,120,749
Mexico.....	4,284,430	6,983,790	13,481,643	8,513,289	30,617,902
Cuba.....	30,957,807	49,573,764	25,406,575	20,603,425	41,177,064
Argentina.....	40,814,069	38,442,493	34,751,767	18,640,645	46,486,429
Brazil.....	8,549,768	17,226,599	15,354,646	10,264,527	29,722,560
Chile.....	14,229,366	17,875,742	24,344,969	17,569,656	22,034,308
Uruguay.....	6,063,429	2,112,166	2,479,550	2,686,537	6,662,840
British India...	22,388,555	12,778,925	47,369,955	22,945,648	25,850,608
Japan.....	83,147,301	200,387,917	710,274,147	431,711,143	678,842,665
Australia.....	57,052,039	25,975,250	28,281,163	59,203,957	65,497,082
Philippine Islands.....	21,229,079	9,281,083	10,311,240	19,652,481	28,589,667
Other countries	121,461,240	183,431,308	375,334,362	540,831,486	675,583,737
Total.....	939,912,136	1,154,850,895	1,907,425,391	1,913,263,637	2,335,642,368

* Includes ship and tank plates, punched and shaped, exported from July 1, 1917.

† Includes New Zealand and other British Oceania prior to January 1, 1916.

EXPORTS OF CUT NAILS TO LEADING COUNTRIES, 100-LB. KEGS,
CALENDAR YEARS, 1915-1919.

Countries.	1915.	1916.	1917.	1918.	1919.
Canada.....	69	574	4,094	946	1,356
Panama.....	580	184	44	34	1,333
Mexico.....	2,896	4,490	1,596	2,380	4,347
Cuba.....	10,686	14,157	17,325	17,883	13,100
Brazil.....	163	671	259	312	1,854
Chile.....	45,882	30,983	39,449	33,306	10,894
Colombia.....	934	1,240	109	216	271
Dominican Republic.....	814	762	496	432	353
Australia and Tasmania.....	4,669	1,346	208	295	1,110
New Zealand.....	2,966	1,371	630	5,785	1,630
Other countries.....	25,219	50,673	37,152	24,079	29,175
Total.....	94,878	106,451	101,362	85,668	65,423

EXPORTS OF WIRE NAILS TO LEADING COUNTRIES, 100-LB.
KEGS, CALENDAR YEARS, 1915-1919.

Countries.	1915.	1916.	1917.	1918.	1919.
United Kingdom....	594,801	1,154,734	800,491	232,320	258,392
Canada.....	15,036	76,091	215,075	83,996	24,444
Panama.....	16,331	28,519	10,153	4,778	11,228
Cuba.....	51,532	106,579	63,606	57,316	81,668
China.....	209,810	212,447	206,466	104,770	202,552
British India.....	181,746	141,848	115,549	140,758	153,723
Dutch East Indies...	105,810	113,598	126,870	83,222	129,633
Japan.....	159,913	560,071	263,868	393,623	363,241
New Zealand.....	29,955	29,158	16,094	14,325	35,048
Philippine Islands...	69,569	48,131	52,953	67,516	53,415
Other countries.....	616,972	892,700	702,929	580,836	697,701
Total.....	2,051,475	3,363,876	2,574,054	1,763,460	2,011,045

EXPORTS OF IRON AND STEEL WIRE, INCLUDING BARBED WIRE,
POUNDS, CALENDAR YEARS, 1915-1919.

Countries.	1915.	1916.	1917.	1918.	1919.
Canada.....	103,926,858	133,380,747	109,094,114	75,159,975	97,123,103
Mexico.....	3,585,393	3,609,808	5,562,125	4,500,083	9,036,569
Cuba.....	20,369,861	26,209,409	17,123,206	8,573,746	36,404,922
Argentina.....	101,271,961	100,898,863	71,402,961	43,734,235	132,511,618
Brazil.....	48,283,650	49,846,882	65,655,015	17,911,132	92,800,621
Other South America.....	34,084,012	47,476,356	40,074,040	17,360,979	55,582,530
British Oceania.....	89,907,840	34,738,609*	29,707,138*	24,486,395	50,984,820
British Africa..	11,476,176	4,861,674	9,524,673	4,080,719	20,385,230
Other countries.....	647,920,258	1,128,952,941	536,533,141	682,956,872	158,494,946†
Total.....	1,060,826,009	1,529,975,289	884,676,413	878,764,136	653,324,359

*Australia only. †Includes Japan, 60,427,447 pounds; China, 15,171,044 pounds; United Kingdom, 12,361,262 pounds; Norway, 9,045,080 Pounds; British India, 8,038,555 pounds; other countries, 53,451,558 pounds.

IMPORTS AND EXPORTS OF TINPLATES AND TERNE PLATES.

QUANTITIES AND VALUES OF TINPLATES AND TERNE PLATES
IMPORTED INTO THE UNITED STATES, 1889-1919.

Fiscal years.	United Kingdom.		All other countries.		Total.	
	Pounds.	Values.	Pounds.	Values.	Pounds.	Values.
1889	734,211,853	\$21,174,529	1,568,135	\$48,124	735,779,988	\$21,222,653
1890	678,933,940	20,891,062	1,126,985	37,088	680,060,925	20,928,150
1891	1,033,531,124	35,645,076	2,957,950	101,844	1,036,489,074	35,746,920
1892	421,838,482	12,304,233	337,720	11,329	422,176,202	12,315,562
1893	628,095,497	17,554,310	330,405	11,330	628,425,902	17,565,640
1894	453,880,341	11,961,524	280,485	7,994	454,160,826	11,969,518
1895	507,075,599	12,119,083	963,339	24,997	508,038,938	12,144,080
1896	383,882,250	8,915,083	1,256,733	35,573	385,138,983	8,950,656
1897	229,208,495	5,320,238	865,188	24,400	230,073,683	5,344,638
1898	170,872,133	3,786,626	790,212	22,522	171,662,345	3,809,148
1899	107,831,639	2,592,106	653,187	21,458	108,484,826	2,613,564
1900	147,321,985	4,772,629	641,819	27,167	147,963,804	4,799,796
1901	116,829,478	3,733,480	1,050,834	36,582	117,880,312	3,770,062
1902	197,232,677	5,995,515	1,763,409	70,109	198,996,086	6,065,624
1903	109,605,243	3,195,624	308,050	14,291	109,913,293	3,209,915
1904	126,502,829	3,459,124	406,531	14,330	126,909,360	3,473,454
1905	160,827,056	4,550,335	239,764	8,540	161,066,820	4,558,875
1906	120,627,726	3,402,987	192,006	9,256	120,819,732	3,412,243
1907	142,273,310	4,637,211	256,096	14,121	142,529,406	4,651,332
1908	140,502,522	4,279,862	237,450	12,091	140,739,972	4,291,953
1909	116,860,827	3,202,311	451,347	23,040	117,312,174	3,225,351
1910	153,704,447	4,315,459	862,152	39,670	154,566,599	4,355,129
1911	94,759,014	2,993,670	560,716	28,782	95,319,730	3,022,452
1912	5,954,894	249,626	658,359	37,321	6,613,253	286,947
1913	27,993,475	946,538	350,768	25,282	28,344,243	971,820
1914	48,501,287	1,460,792	376,660	20,666	48,877,947	1,481,458
1915	10,462,673	339,373	179,564	14,101	10,642,237	353,474
1916	1,709,840	132,959	87,013	8,485	1,796,853	141,444
1917	1,215,502	128,676	154,960	19,203	1,370,462	147,879
1918	6,220	1,164	65,183	4,800	71,403	5,964
1919	153,027	13,104	3,450	419	156,477	13,523

RE-EXPORTS OF TINPLATES.

Virtually all the tinplates imported from 1898 to 1912 were re-exported, thus obtaining the benefit of the drawback of 99 per cent. of the duty paid.

EXPORTS OF TINPLATES AND TERNE PLATES.

In the calendar year 1919 our exports of domestic tinplates and terne plates amounted to 204,521 gross tons, against 258,538 tons in 1918, 232,799 tons in 1917, 227,391 tons in 1916, 154,642 tons in 1915, and 59,549 tons in 1914.

**EXPORTS OF TINPLATES AND TERNE PLATES BY COUNTRIES,
IN POUNDS, CALENDAR YEARS, 1915-1919.**

Countries.	1915.	1916.	1917.	1918.	1919.
Canada.....	87,707,200	115,266,798	132,658,753	144,960,580	92,288,376
United Kingdom.	25,761,456	54,205,504	8,897,245	313,758	2,886,294
Mexico.....	7,710,940	3,828,929	4,785,837	4,527,210	9,575,762
Cuba.....	6,770,485	9,380,662	8,219,686	4,357,962	6,289,947
Argentina.....	34,813,718	48,600,069	64,758,592	87,642,433	53,266,486
Brazil.....	19,223,984	29,071,203	28,702,237	28,087,364	31,500,438
Chile.....	2,342,528	7,418,535	6,296,212	2,573,689	4,228,612
China.....	38,500,568	21,731,967	23,335,601	24,597,702	37,966,278
British India. . .	20,646,624	48,300,269	29,800,489	13,706,054	23,623,211
Hongkong.....	15,785,966	29,894,579	23,226,860	18,136,737	17,690,944
Japan.....	20,605,564	54,230,362	48,986,444	82,080,957	101,837,517
Other countries..	66,528,149	87,427,278	141,801,129	168,141,011	*76,973,729
Total.....	346,397,182	509,356,155	521,469,085	579,125,457	458,127,594

* Includes 26,865,526 pounds to Uruguay, 6,972,128 pounds to Italy, 6,300,066 pounds to Norway, 4,866,166 pounds to Dutch East Indies, 3,536,167 pounds to Denmark, 3,008,751 pounds to France, 2,803,139 pounds to Greece, 2,753,690 pounds to Peru, 2,420,990 pounds to Turkey in Asia, 2,059,355 pounds to Portugal, 1,986,668 pounds to Straits Settlements, 1,983,214 pounds to British South Africa, 1,658,810 pounds to Sweden, 1,574,040 pounds to Switzerland, 1,551,334 pounds to Spain, 1,055,646 pounds to Paraguay, and 5,578,039 pounds to other countries.

**IMPORTS AND EXPORTS OF AGRICULTURAL
IMPLEMENTS.**

IMPORTS OF AGRICULTURAL IMPLEMENTS, 1915-1919.

The value of the agricultural implements imported for consumption into the United States in the calendar year 1919, including plows, harrows, harvesters, reapers, drills, etc., amounted to \$3,355,668, as compared with \$727,227 in 1918, \$454,263 in 1917, \$379,851 in 1916, and \$448,050 in 1915.

EXPORTS OF AGRICULTURAL IMPLEMENTS, 1890-1919.

Years.	Values.	Years.	Values.	Years.	Values.
1890.....	\$3,264,995	1900.....	\$15,979,909	1910.....	\$31,291,351
1891.....	3,310,183	1901.....	16,714,308	1911.....	36,241,683
1892.....	4,210,684	1902.....	17,981,597	1912.....	41,436,327
1893.....	5,191,223	1903.....	22,951,805	1913.....	35,453,643
1894.....	4,765,793	1904.....	21,654,892	1914.....	21,649,523
1895.....	5,319,885	1905.....	22,124,312	1915.....	13,582,849
1896.....	4,643,729	1906.....	24,744,762	1916.....	21,229,774
1897.....	5,302,807	1907.....	25,597,272	1917.....	33,264,649
1898.....	9,073,384	1908.....	25,264,939	1918.....	32,849,164
1899.....	13,594,524	1909.....	27,327,428	1919.....	41,188,494

IMPORTS OF IRON ORE, CALENDAR YEARS, 1880-1919.

Years.	Gross tons.	Years.	Gross tons.	Years.	Gross tons.	Years.	Gross tons.
1880..	493,408	1890..	1,246,830	1900..	897,831	1910..	2,591,031
1881..	782,887	1891..	912,856	1901..	966,950	1911..	1,811,732
1882..	589,655	1892..	806,585	1902..	1,165,470	1912..	2,104,576
1883..	490,875	1893..	526,951	1903..	980,440	1913..	2,594,770
1884..	487,820	1894..	168,541	1904..	487,613	1914..	1,350,588
1885..	390,786	1895..	524,153	1905..	845,651	1915..	1,341,281
1886..	1,039,433	1896..	682,806	1906..	1,060,390	1916..	1,326,864
1887..	1,194,301	1897..	489,970	1907..	1,229,168	1917..	971,663
1888..	587,470	1898..	187,093	1908..	776,898	1918..	787,468
1889..	853,573	1899..	674,082	1909..	1,694,957	1919..	476,461

IMPORTS OF IRON ORE BY CUSTOMS DISTRICTS, GROSS TONS.

Districts.	1915.	1916.	1917.	1918.	1919.
Maryland.....	572,813	493,611	465,472	602,674	236,053
Philadelphia...	687,780	664,181	282,212	69,356	213,018
New York.....	10	101	5,625	2	10
Ohio.....	66,905	62,984	81,187	50,362	180
All other.....	13,773	105,987	137,167	65,074	27,200
Total.....	1,341,281	1,326,864	971,663	787,468	476,461

IMPORTS OF IRON ORE BY COUNTRIES, GROSS TONS.

Countries.	1915.	1916.	1917.	1918.	1919.
Cuba.....	831,618	716,571	546,069	632,442	321,753
Sweden.....	204,632	212,063	63,715	.....	61,540
Chile.....	153,600	60,701	.....	.....	.....
Canada.....	84,124	137,963	195,588	115,354	12,383
Spain.....	42,092	161,422	152,713	38,385	63,737
French Africa..	21,825	38,004	8,860	.....	.....
United Kingdom	.....	140	4,717	82	180
Greece.....	738	.....	.....	.....	.....
Other countries.	2,652	.....	1	1,205	16,868
Total.....	1,341,281	1,326,864	971,663	787,468	476,461

EXPORTS OF IRON ORE.

Exports of iron ore in 1919 amounted to 996,569 gross tons, virtually all to Canada, against 1,256,383 tons in 1918.

IMPORTS OF MANGANESE ORE BY COUNTRIES, GROSS TONS.

Countries.	1915.	1916.	1917.	1918.	1919.
Cuba.....	5,141	30,563	44,511	82,974	35,320
Brazil.....	268,786	471,837	512,517	345,877	246,592
British India..	36,450	51,960	48,975	29,275	9,200
Japan.....	2,810	5,196	2,745	709	651
Other countries	798	16,765	21,224	32,468	41,581
Total.....	313,985	576,321	629,972	491,303	333,344

AVERAGE MONTHLY AND YEARLY PRICES.

DOMESTIC PRICES OF IRON AND STEEL.

YEARLY PRICES OF LEADING PRODUCTS OF IRON AND STEEL.

[Compiled from quotations in the Iron Age and from other authoritative sources.]

Years.	Bessemer pig iron, at Pittsburgh.	Basic pig iron, in the Valleys.	Southern No. 2, at Cincinnati.	Local No. 2, at Chicago (at fur- nace after 1907).	Bessemer steel rails, at mills in Pennsylvania.	Bessemer billets, at Pittsburgh.	Soft steel bars, at Pittsburgh.	Iron bars, at Pittsburgh.	Tank plate, at Pittsburgh.	Beams, at Pitts- burgh.
1887..	\$21.37	.....	\$20.05	.....	\$37.08	\$31.82	.....	\$1.95	.....	.....
1888..	17.38	.....	16.82	\$17.19	29.83	28.75	.....	1.77	.....	.....
1889..	18.00	.....	14.85	15.77	29.25	29.33	.....	1.71	.....	.....
1890..	18.87	.....	15.11	16.66	31.78	30.29	.....	1.84	.....	.....
1891..	15.95	.....	13.78	14.95	29.92	25.33	.....	1.71	.....	.....
1892..	14.37	.....	12.74	13.88	30.00	23.63	.....	1.64	.....	.....
1893..	12.87	.....	11.42	12.80	28.12	20.44	.....	1.50	.....	.....
1894..	11.38	.....	9.93	10.56	24.00	16.58	.....	1.20	.....	.....
1895..	12.72	.....	10.86	11.80	24.33	18.48	.....	1.25	.....	.....
1896..	12.14	.....	10.29	11.64	28.00	18.83	.....	1.21	.....	.....
1897..	10.13	.....	9.42	10.68	18.75	15.08	.....	1.10	.....	.....
1898..	10.33	.....	9.46	11.32	17.62	15.31	\$0.95	1.07	\$1.08	\$1.17
1899..	19.03	.....	16.58	18.40	28.12	31.12	1.84	1.95	2.21	1.81
1900..	19.49	.....	17.04	19.47	32.29	25.06	1.59	2.15	1.54	1.91
1901..	15.93	.....	13.61	15.38	27.33	24.13	1.42	1.80	1.55	1.58
1902..	20.67	.....	20.00	20.86	28.00	30.57	1.58	1.94	1.70	1.81
1903..	18.98	.....	17.08	19.25	28.00	27.91	1.56	1.77	1.61	1.62
1904..	13.76	*\$12.59	12.73	14.37	28.00	22.18	1.33	1.48	1.54	1.54
1905..	16.36	15.25	15.57	17.65	28.00	24.03	1.48	1.87	1.58	1.62
1906..	19.54	18.10	18.37	20.43	28.00	27.45	1.51	1.93	1.61	1.70
1907..	22.84	20.87	23.10	24.50	28.00	29.25	1.60	1.94	1.70	1.70
1908..	17.07	15.16	15.54	17.57	28.00	26.31	1.49	1.60	1.64	1.64
1909..	17.41	15.48	16.12	17.49	28.00	24.62	1.33	1.62	1.42	1.42
1910..	17.19	14.76	15.16	17.09	28.00	25.38	1.44	1.65	1.47	1.45
1911..	15.71	13.07	13.67	14.83	28.00	21.46	1.26	1.41	1.31	1.32
1912..	15.94	13.92	14.93	15.32	28.00	22.38	1.29	1.44	1.33	1.32
1913..	17.13	14.71	14.90	15.85	28.00	25.79	1.55	1.69	1.50	1.50
1914..	14.89	12.87	13.41	13.60	28.00	20.09	1.15	1.32	1.14	1.15
1915..	15.78	13.74	13.57	14.01	28.00	22.44	1.31	1.48	1.31	1.30
1916..	23.86	19.76	18.67	20.26	32.00	43.95	2.67	2.14	3.53	2.55
1917..	43.64	38.90	38.95	41.31	38.00	70.96	3.64	3.83	5.88	3.67
1918..	36.67	32.50	36.56	33.25	55.00	47.33	2.89	4.31	3.24	2.99
1919..	31.12	27.67	32.17	29.11	47.29	40.54	2.49	4.10	2.72	2.53

Pig iron per gross ton; bars, tank plate, and beams, per 100 pounds. * 7 months only. † All muck bar iron to 1892; best refined since.

BESSEMER PIG IRON AT PITTSBURGH, PER GROSS TON.

[Compiled from weekly quotations in the Iron Age.]

Months.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
January....	\$19.90	\$15.90	\$15.09	\$18.15	\$15.00	\$14.59	\$21.58	\$35.95	\$37.25	\$33.60
February...	19.34	15.90	14.90	18.15	15.09	14.55	21.26	35.95	37.25	33.60
March.....	18.60	15.90	15.09	18.15	15.09	14.55	21.75	37.70	37.25	32.54
April.....	18.34	15.90	15.15	17.90	14.90	14.55	21.95	42.20	36.15	29.35
May.....	17.52	15.90	15.15	17.74	14.90	14.59	21.95	45.15	36.15	29.35
June.....	16.62	15.90	15.15	17.11	14.90	14.70	21.95	54.70	36.37	29.35
July.....	16.40	15.90	15.15	16.70	14.90	14.95	21.95	5.45	36.60	29.35
August.....	16.09	15.90	15.45	16.52	14.90	15.95	21.95	54.75	36.60	29.35
September...	15.90	15.90	16.15	16.65	14.90	16.85	22.26	48.03	36.60	29.35
October.....	15.90	15.44	17.80	16.60	14.85	16.95	24.08	37.25	36.60	29.35
November...	15.80	15.00	18.02	16.02	14.59	17.51	30.05	37.25	36.60	31.26
December...	15.90	15.02	18.15	15.90	14.70	19.65	35.58	37.25	36.60	37.00
Average...	\$17.19	\$15.71	\$15.94	\$17.13	\$14.89	\$15.78	\$23.86	\$43.64	\$36.67	\$31.12

BASIC PIG IRON AT VALLEY FURNACES, PER GROSS TON.

[Compiled from weekly quotations in the Iron Age.]

Months.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
January....	\$16.87	\$13.25	\$12.35	\$16.41	\$12.50	\$12.50	\$17.81	\$30.00	\$33.00	\$30.00
February...	16.31	13.65	12.25	16.30	13.19	12.50	17.69	30.00	33.00	30.00
March.....	16.00	13.75	12.81	16.11	13.00	12.50	18.20	32.25	33.00	28.94
April.....	15.94	13.75	13.00	15.87	13.00	12.50	18.13	38.75	32.00	25.75
May.....	15.19	13.32	13.00	15.15	13.00	12.50	18.00	41.60	32.00	25.75
June.....	14.70	13.05	13.12	14.50	13.00	12.59	18.00	48.75	32.00	25.75
July.....	14.50	13.12	13.40	14.37	13.00	12.91	18.00	52.50	32.00	25.75
August.....	14.12	13.00	13.94	14.06	13.00	13.94	18.00	51.20	32.00	25.75
September...	13.70	12.80	14.37	14.00	13.00	14.75	18.31	42.75	32.00	25.75
October.....	13.15	12.52	15.98	13.90	12.81	15.00	19.88	33.00	33.00	25.75
November...	13.25	12.42	16.37	13.09	12.48	15.75	25.10	33.00	33.00	28.31
December...	13.40	12.25	16.50	12.71	12.50	17.50	30.00	33.00	33.00	34.60
Average...	\$14.76	\$13.07	\$13.92	\$14.71	\$12.87	\$13.74	\$19.76	\$38.90	\$32.50	\$27.67

BASIC PIG IRON AT PHILADELPHIA, PER GROSS TON.

[Compiled from weekly quotations in the Iron Age.]

Months.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
January....	\$18.75	\$14.50	\$14.25	\$18.10	\$14.00	\$13.50	\$19.50	\$30.00	\$33.75	\$33.90
February....	18.50	14.44	14.25	18.00	14.13	13.50	19.50	30.50	33.75	33.90
March.....	18.25	15.20	14.37	17.69	14.19	13.50	19.60	33.50	33.75	32.84
April.....	17.56	15.19	14.87	16.75	14.25	13.31	20.63	37.50	32.75	29.65
May.....	16.69	14.75	15.15	16.50	14.06	13.25	20.50	39.70	32.75	29.65
June.....	16.10	14.50	15.25	15.94	14.00	13.55	19.69	45.75	32.79	26.54
July.....	15.69	14.37	15.50	15.20	14.00	13.94	19.13	50.00	32.90	26.12
August.....	15.12	14.65	15.95	15.19	14.00	15.06	19.15	50.00	32.90	26.60
September...	15.00	14.69	16.25	15.12	14.00	16.95	19.75	48.25	32.90	26.88
October.....	15.00	14.50	17.43	15.30	14.00	17.00	20.38	33.75	36.00	28.00
November...	14.75	14.50	18.12	15.00	14.00	17.25	25.10	33.75	36.90	30.37
December...	14.75	14.31	18.25	14.81	13.50	18.15	30.00	33.75	36.90	35.80
Average...	\$16.35	\$14.63	\$15.80	\$16.13	\$14.01	\$14.91	\$21.08	\$38.87	\$34.05	\$30.02

NO. 2 X FOUNDRY PIG IRON AT PHILADELPHIA, PER GROSS TON.
 [Compiled from weekly quotations in the Iron Age.]

Months.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
January....	\$19.00	\$15.50	\$14.85	\$18.50	\$14.72	\$14.25	\$19.94	\$30.10	\$34.25	\$36.15
February....	18.69	15.50	14.85	18.25	14.94	14.25	20.00	31.88	34.25	36.15
March.....	18.00	15.50	14.92	17.77	15.00	14.25	20.05	37.31	34.25	34.39
April.....	17.75	15.50	15.00	17.50	15.00	14.25	20.50	41.38	34.25	31.90
May.....	17.00	15.50	15.22	16.80	14.81	14.25	20.50	43.60	34.25	30.70
June.....	16.65	15.25	15.31	16.19	14.75	14.25	19.94	48.19	34.29	29.50
July.....	16.25	15.00	15.69	15.60	14.75	14.31	19.75	53.13	34.40	29.08
August.....	16.00	15.00	15.85	15.60	14.75	14.94	19.55	53.00	34.40	29.60
September..	16.00	15.00	16.59	15.84	14.75	16.00	19.50	51.67	34.40	30.70
October....	15.81	15.00	17.60	15.95	14.65	16.25	20.31	34.25	38.85	32.10
November..	15.69	14.95	18.31	15.56	14.50	17.12	24.90	34.25	39.15	35.35
December...	15.50	14.85	18.50	15.25	14.25	19.00	29.25	34.25	39.15	40.70
Average...	\$16.86	\$15.21	\$16.06	\$16.57	\$14.74	\$15.26	\$21.18	\$41.08	\$35.49	\$33.03

SOUTHERN NO. 2 FOUNDRY IRON AT CINCINNATI, PER GROSS TON.
 [Compiled from weekly quotations in the Iron Age.]

Months.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
January....	\$17.25	\$14.25	\$13.25	\$16.95	\$13.88	\$12.40	\$17.90	\$26.10	\$35.90	\$34.60
February....	17.06	14.25	13.31	16.69	13.81	12.40	17.90	27.53	35.90	34.60
March.....	16.30	14.25	13.50	16.31	14.00	12.25	17.90	31.90	35.90	33.54
April.....	15.37	14.25	13.75	15.65	13.75	12.34	17.90	37.40	35.90	30.35
May.....	15.00	13.95	14.15	14.94	13.75	12.40	17.90	41.90	35.90	29.85
June.....	14.85	13.44	14.25	14.06	13.63	12.50	17.34	45.15	36.15	28.39
July.....	14.75	13.25	14.70	13.75	13.30	12.71	16.90	49.90	36.90	28.35
August.....	14.31	13.45	15.06	14.06	13.25	13.71	16.70	49.90	36.75	30.41
September..	14.25	13.31	15.87	14.25	13.25	14.15	17.28	49.90	36.60	31.25
October....	14.25	13.25	16.80	14.35	12.90	14.77	18.03	35.90	37.60	31.60
November...	14.25	13.20	17.25	13.87	12.90	16.15	22.40	35.90	37.60	34.35
December...	14.25	13.19	17.25	13.95	12.50	17.10	25.90	35.90	37.60	38.80
Average...	\$15.16	\$13.67	\$14.93	\$14.90	\$13.41	\$13.57	\$18.67	\$38.95	\$36.56	\$32.17

NO. 2 FOUNDRY PIG IRON AT BIRMINGHAM, PER GROSS TON.
 [Compiled from weekly quotations in the Iron Trade Review.]

Months.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	*1917.	*1918.	*1919.
January....	\$14.00	\$11.00	\$10.00	\$13.70	\$11.00	\$9.50	\$14.50	\$23.00	\$33.50	\$32.25
February....	13.88	11.00	10.00	13.50	11.00	9.50	14.63	24.50	33.50	32.25
March.....	13.00	11.00	10.06	13.00	10.75	9.38	15.40	28.00	33.50	31.19
April.....	12.12	11.00	10.50	12.50	10.50	9.35	15.00	35.80	33.50	28.00
May.....	11.81	10.75	10.95	11.75	10.50	9.75	14.95	35.75	33.50	27.38
June.....	11.60	10.25	11.00	10.60	10.31	9.56	14.31	35.75	33.50	25.13
July.....	11.38	10.00	11.25	10.50	10.15	9.60	14.00	46.00	33.50	25.70
August.....	11.00	10.05	11.65	11.00	10.00	11.00	13.60	48.00	33.50	26.75
September..	11.00	10.10	12.50	11.00	10.00	11.30	14.50	43.50	33.50	26.75
October....	11.00	10.00	13.45	11.00	10.00	11.75	15.25	33.50	35.25	27.45
November...	11.00	9.75	13.75	10.75	10.00	13.12	19.80	33.50	35.25	30.63
December...	11.00	10.00	13.50	11.00	9.65	14.20	23.13	33.50	35.25	35.00
Average...	\$11.90	\$10.41	\$11.55	\$11.69	\$10.32	\$10.67	\$15.76	\$35.07	\$33.94	\$29.04

*From November 14, 1917, to July, 1919, silicon content 2.25 to 2.75%; August to December, 1919, inclusive, 1.75 to 2.25%.

LOW-PHOSPHORUS PIG IRON AT PHILADELPHIA, PER GROSS TON.
 [Compiled from weekly quotations in the Iron Age.]

Months.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
January . . .	\$22.81	\$21.75	\$19.19	\$24.50	\$21.00	\$20.00	\$32.00	\$54.20	\$53.00	\$51.18
February . . .	22.94	21.25	19.00	24.50	21.00	20.00	32.00	57.50	53.00	51.45
March	23.00	21.35	19.00	24.50	21.00	20.00	32.00	63.00	53.00	49.94
April	23.00	21.50	19.44	23.62	21.00	20.00	33.75	71.25	53.00	46.75
May	23.00	21.00	19.55	23.50	21.00	20.00	34.00	78.00	53.00	46.75
June	22.90	20.60	19.75	23.50	20.62	20.60	33.50	83.25	53.00	40.19
July	22.56	20.50	20.00	23.40	20.50	21.37	33.25	90.00	53.00	35.60
August	22.50	20.00	20.65	23.00	20.75	22.12	34.00	90.00	53.00	36.50
September . .	22.50	20.00	21.50	23.00	21.00	24.35	34.25	88.33	53.00	38.00
October	22.50	20.00	22.60	23.00	20.90	26.25	37.50	53.00	54.00	36.75
November . . .	22.50	19.55	23.75	22.31	20.12	29.40	44.80	53.00	54.00	39.50
December . . .	22.40	19.25	24.00	21.75	20.00	31.60	51.00	53.00	53.25	44.60
Average . . .	\$22.72	\$20.56	\$20.70	\$23.38	\$20.74	\$22.97	\$36.00	\$69.54	\$53.19	\$43.10

FORGE PIG IRON AT PITTSBURGH, PER GROSS TON.
 [Compiled from weekly quotations in the Iron Age.]

Months.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
January . . .	\$17.40	\$14.09	\$13.40	\$17.15	\$13.65	\$13.45	\$18.45	\$29.95	\$32.75	\$31.40
February . . .	17.02	14.27	13.40	17.15	13.65	13.45	18.45	31.45	32.75	31.40
March	16.15	14.40	13.44	16.92	13.65	13.45	18.45	33.20	32.75	30.34
April	16.09	14.40	13.65	16.30	13.65	13.45	18.70	37.95	32.75	27.15
May	15.90	14.27	13.82	15.20	13.65	13.45	18.70	40.75	32.75	27.15
June	15.20	14.00	13.90	14.71	13.65	13.39	18.70	46.95	32.91	27.15
July	14.52	13.90	13.90	14.55	13.65	13.45	18.70	47.70	33.40	27.15
August	14.30	13.90	14.25	14.25	13.65	14.01	18.70	46.95	33.40	27.15
September . .	14.15	13.84	14.65	14.25	13.65	14.65	18.89	46.95	33.40	27.15
October	14.15	13.65	16.27	14.36	13.55	14.70	20.45	32.75	34.40	27.15
November . . .	14.09	13.47	16.67	14.25	13.45	15.76	25.95	32.75	34.40	30.71
December . . .	13.90	13.40	17.15	13.96	13.45	17.85	29.95	32.75	34.40	35.80
Average . . .	\$15.24	\$13.97	\$14.54	\$15.25	\$13.61	\$14.25	\$20.34	\$38.34	\$33.34	\$29.14

LAKE SUPERIOR CHARCOAL PIG IRON AT CHICAGO, PER GROSS TON.
 [Compiled from weekly quotations in the Iron Age.]

Months.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
January . . .	\$19.50	\$17.87	\$16.00	\$18.15	\$15.25	\$15.75	\$19.50	\$31.75	\$37.50	\$38.85
February . . .	19.50	17.50	15.95	18.00	15.25	15.75	19.75	34.75	37.50	38.85
March	19.30	17.50	15.75	18.00	15.25	15.75	19.75	37.00	37.50	38.85
April	19.00	17.50	15.75	18.00	15.45	15.75	19.75	40.25	37.50	38.85
May	18.62	17.25	15.75	18.00	15.75	15.75	19.75	48.15	37.50	38.85
June	18.50	16.80	16.25	16.81	15.75	15.75	19.75	52.75	37.59	38.85
July	18.50	16.50	16.25	15.65	15.75	15.75	19.75	57.75	37.85	33.17
August	18.50	16.50	16.25	14.81	15.75	16.00	19.75	58.00	37.85	32.25
September . .	18.40	16.50	17.12	14.87	15.75	15.85	19.75	58.00	37.85	32.75
October	18.12	16.50	18.45	15.25	15.75	15.75	20.25	37.50	38.85	32.75
November . . .	18.00	16.50	18.62	15.25	15.75	17.00	25.30	37.50	38.85	37.37
December . . .	18.00	16.37	18.75	15.25	15.75	18.65	31.75	37.50	38.85	43.00
Average . . .	\$18.66	\$16.94	\$16.74	\$16.50	\$15.60	\$16.12	\$21.23	\$44.24	\$37.93	\$37.03

BESSEMER STEEL BILLETS AT PITTSBURGH, PER GROSS TON.

[Compiled from weekly quotations in the Iron Age.]

Months.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
January...	\$27.50	\$23.00	\$20.00	\$28.30	\$20.10	\$19.25	\$32.00	\$63.00	\$47.50	\$43.50
February...	27.50	23.00	20.00	28.50	21.00	19.50	33.50	65.00	47.50	43.50
March.....	27.50	23.00	19.75	28.50	21.00	19.70	42.40	66.25	47.50	42.25
April.....	26.75	23.00	20.00	28.50	20.80	20.00	45.00	73.75	47.50	38.50
May.....	26.12	23.00	20.80	27.50	20.00	20.00	45.00	86.00	47.50	38.50
June.....	25.30	21.00	20.87	26.50	19.50	20.50	43.50	98.75	47.50	38.50
July.....	24.87	21.00	21.50	26.70	19.00	21.37	41.00	100.00	47.50	38.50
August....	24.50	21.00	22.00	26.00	20.25	23.12	44.20	86.00	47.50	38.50
September..	24.40	20.75	23.62	24.87	21.00	24.10	45.00	66.25	47.50	38.50
October....	23.75	20.00	26.00	23.10	20.20	24.62	46.25	51.50	47.50	38.50
November..	23.37	19.50	27.00	21.00	19.25	26.50	52.00	47.50	47.50	41.37
December..	23.00	19.25	27.00	20.00	19.00	30.60	57.50	47.50	45.50	46.40
Average..	\$25.38	\$21.46	\$22.38	\$25.79	\$20.09	\$22.44	\$43.95	\$70.96	\$47.33	\$40.54

BESSEMER RAILS AT MILLS IN PENNSYLVANIA, PER GROSS TON.

[Compiled from weekly quotations in the Iron Age.]

Months.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
January....	\$28.00	\$28.00	\$28.00	\$28.00	\$28.00	\$28.00	\$28.00	\$38.00	\$55.00	\$55.00
February....	28.00	28.00	28.00	28.00	28.00	28.00	28.00	38.00	55.00	55.00
March.....	28.00	28.00	28.00	28.00	28.00	28.00	28.00	38.00	55.00	52.50
April.....	28.00	28.00	28.00	28.00	28.00	28.00	28.00	38.00	55.00	45.00
May.....	28.00	28.00	28.00	28.00	28.00	28.00	33.00	38.00	55.00	45.00
June.....	28.00	28.00	28.00	28.00	28.00	28.00	33.00	38.00	55.00	45.00
July.....	28.00	28.00	28.00	28.00	28.00	28.00	33.00	38.00	55.00	45.00
August....	28.00	28.00	28.00	28.00	28.00	28.00	33.00	38.00	55.00	45.00
September..	28.00	28.00	28.00	28.00	28.00	28.00	33.00	38.00	55.00	45.00
October....	28.00	28.00	28.00	28.00	28.00	28.00	33.00	38.00	55.00	45.00
November..	28.00	28.00	28.00	28.00	28.00	28.00	36.00	38.00	55.00	45.00
December..	28.00	28.00	28.00	28.00	28.00	28.00	38.00	38.00	55.00	45.00
Average..	\$28.00	\$28.00	\$28.00	\$28.00	\$28.00	\$28.00	\$32.00	\$38.00	\$55.00	\$47.29

BEAMS AND CHANNELS AT PITTSBURGH, PER 100 LBS.

[Furnished by a manufacturer in Western Pennsylvania.]

Years.	First quarter.	Second quarter.	Third quarter.	Fourth quarter.	Average.	Years.	First quarter.	Second quarter.	Third quarter.	Fourth quarter.	Average.
1900....	\$2.25	\$2.21	\$1.68	\$1.50	\$1.91	1910....	\$1.55	\$1.53	\$1.41	\$1.40	\$1.47
1901....	1.51	1.60	1.60	1.60	1.58	1911....	1.40	1.38	1.30	1.16	1.31
1902....	1.60	1.60	1.60	1.60	1.60	1912....	1.15	1.24	1.34	1.45	1.29
1903....	1.60	1.60	1.60	1.60	1.60	1913....	1.45	1.45	1.39	1.27	1.39
1904....	1.60	1.60	1.55	1.41	1.54	1914....	1.19	1.13	1.17	1.12	1.15
1905....	1.55	1.60	1.63	1.70	1.62	1915....	1.12	1.22	1.32	1.61	1.32
1906....	1.70	1.70	1.70	1.70	1.70	1916....	2.03	2.49	2.57	2.87	2.49
1907....	1.70	1.70	1.70	1.70	1.70	1917....	3.30	3.91	3.93	3.00	3.53
1908....	1.70	1.68	1.60	1.60	1.64	1918....	3.00	3.00	3.00	3.00	3.00
1909....	1.45	1.25	1.40	1.53	1.41	1919....	2.76	2.45	2.45	2.45	2.53

STEEL WIRE RODS AT PITTSBURGH, PER GROSS TON.

[Compiled from weekly quotations in the Iron Age.]

Months.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
January...	\$33.00	\$28.00	\$24.37	\$30.00	\$25.50	\$25.00	\$43.00	\$74.00	\$57.00	\$57.00
February...	33.00	28.75	25.00	30.00	26.38	25.00	48.00	77.50	57.00	57.00
March.....	33.00	29.00	25.00	30.00	26.50	25.00	54.80	82.50	57.00	55.75
April.....	32.50	29.00	25.00	30.00	26.00	25.00	60.00	85.00	57.00	52.00
May.....	32.00	29.00	25.00	30.00	25.50	25.00	60.00	86.00	57.00	52.00
June.....	30.80	28.25	25.00	29.50	24.50	25.00	53.75	93.75	57.00	52.00
July.....	29.25	27.00	25.00	28.30	24.50	25.62	53.75	95.00	57.00	52.00
August...	28.25	27.00	25.80	28.00	25.00	27.00	55.00	92.00	57.00	52.00
September..	28.00	27.00	27.00	27.37	26.20	29.40	55.00	88.75	57.00	52.00
October....	28.50	26.00	28.50	26.60	25.88	31.75	55.00	68.20	57.00	52.00
November..	28.12	25.30	29.75	25.87	25.25	36.25	63.00	57.00	57.00	54.50
December..	28.00	24.50	30.00	25.17	25.00	39.60	68.75	57.00	57.00	59.60
Average..	\$30.37	\$27.40	\$26.28	\$28.40	\$25.52	\$28.30	\$55.84	\$79.73	\$57.00	\$53.99

STEEL SHIP PLATES AT PITTSBURGH, PER GROSS TON.

[Furnished by a manufacturer in Western Pennsylvania.]

Months.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
January...	\$34.72	\$31.36	\$25.85	\$32.48	\$26.88	\$24.64	\$42.76	\$81.54	\$72.80	\$67.20
February..	34.72	31.36	25.33	32.48	26.88	24.64	49.12	84.00	72.80	67.20
March.....	34.72	31.36	26.23	32.48	26.43	25.20	57.25	96.99	72.80	64.42
April.....	34.72	31.36	27.22	32.48	25.76	26.32	63.06	100.80	72.80	59.36
May.....	34.72	31.36	28.00	32.48	25.54	26.32	64.96	100.80	72.80	59.36
June.....	33.38	30.24	28.22	32.48	24.86	27.44	64.96	100.80	72.80	59.36
July.....	31.85	29.57	29.14	32.48	25.09	28.67	64.96	100.80	72.80	59.36
August...	31.36	29.12	30.24	32.48	26.66	29.70	66.91	100.80	72.80	59.36
September..	31.36	28.54	30.91	30.24	26.88	30.49	67.20	95.20	72.80	59.36
October....	31.36	25.70	32.26	29.79	26.43	32.23	67.56	72.80	72.80	59.36
November..	31.36	24.47	32.48	27.55	24.86	36.64	74.84	72.80	72.80	59.36
December...	31.36	26.57	32.48	26.88	23.74	39.38	79.25	72.80	72.80	59.36
Average..	\$32.97	\$29.25	\$29.03	\$31.19	\$25.83	\$29.31	\$63.57	\$90.01	\$72.80	\$61.09

SOFT STEEL BARS AT PITTSBURGH, PER 100 LBS.

[Compiled from weekly quotations in the Iron Age.]

Months.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
January...	\$1.50	\$1.40	\$1.15	\$1.70	\$1.20	\$1.10	\$2.03	\$3.15	\$2.90	\$2.70
February..	1.50	1.40	1.12	1.70	1.20	1.10	2.31	3.25	2.90	2.70
March.....	1.45	1.40	1.10	1.85	1.20	1.15	2.65	3.63	2.90	2.61
April.....	1.45	1.40	1.16	1.84	1.15	1.20	2.88	3.75	2.90	2.35
May.....	1.45	1.37	1.20	1.70	1.14	1.20	3.00	4.00	2.90	2.35
June.....	1.45	1.25	1.20	1.60	1.11	1.21	2.75	4.38	2.90	2.35
July.....	1.45	1.23	1.25	1.50	1.12	1.25	2.63	4.50	2.90	2.35
August.....	1.40	1.20	1.30	1.40	1.19	1.30	2.56	4.30	2.90	2.35
September..	1.40	1.19	1.37	1.40	1.20	1.34	2.60	4.00	2.90	2.35
October....	1.40	1.12	1.45	1.39	1.15	1.44	2.75	2.90	2.90	2.39
November..	1.40	1.08	1.55	1.29	1.10	1.62	2.83	2.90	2.90	2.69
December..	1.40	1.12	1.60	1.21	1.07	1.84	3.00	2.90	2.80	2.75
Average..	\$1.44	\$1.26	\$1.29	\$1.55	\$1.15	\$1.31	\$2.67	\$3.64	\$2.89	\$2.49

BEST REFINED BAR IRON AT PITTSBURGH, PER 100 LBS.

[Furnished by a manufacturer in Western Pennsylvania.]

Months.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
January...	\$1.75	\$1.50	\$1.35	\$1.75	\$1.40	\$1.35	\$1.80	\$2.75	\$4.00	\$4.50
February..	1.75	1.50	1.35	1.75	1.35	1.40	1.90	2.90	4.25	4.50
March.....	1.75	1.45	1.35	1.75	1.35	1.45	1.92	2.90	4.50	4.50
April.....	1.70	1.45	1.35	1.75	1.35	1.40	2.00	3.25	4.25	4.50
May.....	1.70	1.40	1.35	1.75	1.30	1.40	2.00	3.50	4.50	4.25
June.....	1.65	1.40	1.35	1.75	1.30	1.45	2.10	3.90	4.25	4.25
July.....	1.65	1.40	1.40	1.75	1.30	1.50	2.20	4.25	4.00	4.25
August....	1.60	1.40	1.40	1.70	1.30	1.50	2.20	4.50	4.25	4.00
September.	1.60	1.35	1.45	1.70	1.30	1.55	2.25	4.50	4.25	3.75
October....	1.55	1.35	1.50	1.70	1.30	1.55	2.25	4.50	4.50	3.50
November..	1.55	1.35	1.65	1.50	1.35	1.60	2.50	4.50	4.50	3.50
December..	1.50	1.35	1.75	1.40	1.30	1.60	2.50	4.50	4.50	3.75
Average..	\$1.65	\$1.41	\$1.44	\$1.69	\$1.32	\$1.48	\$2.14	\$3.83	\$4.31	\$4.10

BAR IRON FROM STORE AT PHILADELPHIA, PER 100 LBS.

[Furnished by Harrison I. Potts, Secretary, Iron Merchants' Assn., Philadelphia.]

Months.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
January...	\$1.96	\$1.67	\$1.62	\$2.06	\$1.66	\$1.52	\$2.70	\$3.92	\$4.41	\$5.00
February...	1.96	1.67	1.62	2.06	1.66	1.52	2.84	3.92	4.41	4.85
March.....	1.96	1.67	1.62	2.06	1.66	1.52	3.07	4.21	4.41	3.51
April.....	1.90	1.67	1.62	1.96	1.57	1.55	3.19	4.41	4.41	3.32
May.....	1.86	1.69	1.64	1.96	1.57	1.57	3.19	4.41	4.41	3.32
June.....	1.86	1.62	1.67	1.96	1.57	1.58	3.19	4.56	4.41	3.32
July.....	1.86	1.62	1.71	1.96	1.57	1.62	3.19	5.10	4.64	3.32
August....	1.76	1.62	1.71	1.96	1.66	1.73	3.33	5.10	4.64	3.56
September.	1.76	1.62	1.81	1.86	1.66	1.89	3.33	5.10	4.64	3.56
October....	1.76	1.62	1.96	1.76	1.52	1.97	3.53	5.10	4.68	3.56
November..	1.76	1.62	1.96	1.76	1.52	2.14	3.72	4.75	4.74	3.56
December..	1.76	1.62	2.06	1.66	1.52	2.33	3.92	4.41	4.74	3.56
Average..	\$1.85	\$1.64	\$1.75	\$1.92	\$1.59	\$1.74	\$3.27	\$4.58	\$4.55	\$3.70

TINPLATES AT PITTSBURGH, PER BASE BOX.

[Compiled from weekly quotations in the Iron Age.]

Months.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
January...	\$3.60	\$3.60	\$3.40	\$3.60	\$3.32	\$3.10	\$3.75	\$7.00	\$7.75	\$7.35
February...	3.60	3.67	3.35	3.60	3.29	3.10	3.94	7.37	7.75	7.35
March.....	3.60	3.70	3.30	3.60	3.30	3.25	4.15	8.00	7.75	7.26
April.....	3.60	3.70	3.30	3.60	3.30	3.25	4.50	8.00	7.75	7.00
May.....	3.60	3.70	3.33	3.60	3.30	3.15	5.30	8.40	7.75	7.00
June.....	3.60	3.70	3.40	3.60	3.30	3.11	5.81	10.50	7.75	7.00
July.....	3.60	3.70	3.43	3.60	3.27	3.10	6.00	12.00	7.75	7.00
August.....	3.60	3.70	3.50	3.55	3.41	3.10	5.95	11.40	7.75	7.00
September..	3.60	3.67	3.58	3.50	3.35	3.15	5.75	12.00	7.75	7.00
October....	3.60	3.52	3.60	3.50	3.24	3.15	5.81	.....	7.75	7.00
November..	3.60	3.40	3.60	3.40	3.15	3.28	5.95	7.75	7.75	7.00
December..	3.60	3.40	3.60	3.40	3.13	3.52	6.63	7.75	7.55	7.00
Average..	\$3.60	\$3.62	\$3.45	\$3.55	\$3.28	\$3.19	\$5.30	\$9.11	\$7.73	\$7.08

CUT NAILS AT PHILADELPHIA, PER 100-LB. KEG.

[Furnished by Edward L. Hand & Co., Philadelphia.]

Months.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
January...	\$2.15	\$2.00	\$1.90	\$2.00	\$1.90	\$1.90	\$2.20	\$3.80	\$5.00	\$5.75
February...	2.15	2.05	1.90	2.00	1.90	1.90	2.40	4.00	5.00	5.75
March.....	2.15	2.05	1.90	2.00	1.90	1.90	2.80	4.00	5.00	5.75
April.....	2.15	2.05	1.90	2.00	1.90	1.90	2.80	4.25	5.00	5.25
May.....	2.15	2.05	1.90	2.00	1.90	1.90	2.90	4.50	5.00	5.25
June.....	2.15	2.05	1.90	2.00	1.90	1.90	3.00	4.50	5.00	5.50
July.....	2.15	2.05	1.90	2.05	1.90	1.90	3.00	4.75	5.00	5.50
August....	2.10	2.00	1.90	2.00	1.90	1.90	3.00	4.75	5.00	5.50
September..	2.05	2.00	1.95	2.00	1.90	1.95	3.00	4.75	5.00	5.75
October....	2.05	2.00	1.95	2.00	1.90	1.95	3.10	4.75	5.75	5.75
November..	2.00	1.95	1.95	1.95	1.90	2.00	3.50	5.00	5.75	6.00
December..	1.90	1.95	2.00	1.90	1.90	2.20	3.80	5.00	5.75	6.50
Average..	\$2.10	\$2.02	\$1.92	\$1.99	\$1.90	\$1.94	\$2.96	\$4.50	\$5.19	\$5.69

WIRE NAILS AT PITTSBURGH, PER 100-LB. KEG.

[Compiled from weekly quotations in the Iron Age.]

Months.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
January...	\$1.85	\$1.71	\$1.57	\$1.75	\$1.54	\$1.54	\$2.13	\$3.00	\$3.50	\$3.50
February...	1.85	1.75	1.60	1.75	1.60	1.57	2.25	3.00	3.50	3.50
March.....	1.85	1.79	1.60	1.76	1.60	1.60	2.40	3.20	3.50	3.44
April.....	1.85	1.80	1.60	1.80	1.60	1.56	2.40	3.28	3.50	3.25
May.....	1.82	1.80	1.60	1.80	1.56	1.55	2.50	3.50	3.50	3.25
June.....	1.80	1.75	1.60	1.80	1.50	1.55	2.50	3.75	3.50	3.25
July.....	1.75	1.70	1.62	1.70	1.52	1.60	2.50	4.00	3.50	3.25
August....	1.70	1.69	1.66	1.65	1.56	1.61	2.58	4.00	3.50	3.25
September..	1.70	1.65	1.70	1.65	1.60	1.69	2.60	4.00	3.50	3.25
October....	1.70	1.64	1.70	1.63	1.60	1.80	2.65	....	3.50	3.31
November..	1.70	1.55	1.70	1.59	1.50	1.87	2.85	3.50	3.50	3.50
December..	1.70	1.53	1.72	1.55	1.51	2.04	3.00	3.50	3.50	4.20
Average..	\$1.77	\$1.70	\$1.64	\$1.70	\$1.56	\$1.66	\$2.53	\$3.52	\$3.50	\$3.41

WIRE NAILS AT CHICAGO, PER 100-LB. KEG.

[Compiled from weekly quotations in the Iron Age.]

Months.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
January...	\$2.03	\$1.89	\$1.74	\$1.93	\$1.71	\$1.71	\$2.31	\$3.19	\$3.71	\$3.77
February...	2.03	1.93	1.78	1.93	1.78	1.78	2.44	3.19	3.71	3.77
March.....	2.03	1.97	1.78	1.93	1.78	1.79	2.57	3.39	3.71	3.71
April.....	2.03	1.98	1.78	1.98	1.78	1.79	2.59	3.39	3.71	3.52
May.....	2.03	1.98	1.78	1.98	1.75	1.74	2.69	3.39	3.71	3.52
June.....	2.03	1.94	1.78	1.98	1.70	1.74	2.69	3.79	3.72	3.52
July.....	1.94	1.88	1.78	1.98	1.70	1.76	2.69	4.19	3.77	3.52
August....	1.88	1.88	1.84	1.86	1.74	1.76	2.77	4.19	3.77	3.52
September..	1.88	1.88	1.88	1.83	1.78	1.88	2.79	4.19	3.77	3.52
October....	1.88	1.87	1.88	1.82	1.78	1.96	2.81	4.21	3.77	3.58
November..	1.88	1.80	1.88	1.77	1.77	2.06	3.04	3.71	3.77	3.77
December..	1.88	1.73	1.90	1.73	1.74	2.21	3.19	3.71	3.77	4.47
Average..	\$1.96	\$1.89	\$1.82	\$1.89	\$1.75	\$1.85	\$2.72	\$3.71	\$3.74	\$3.68

DOMESTIC PRICES OF LAKE SUPERIOR IRON ORE
AND CONNELLSVILLE COKE.PRICES OF LAKE SUPERIOR IRON ORE AND DATE OF IRON
ORE BUYING MOVEMENT, 1889-1920.

[From the Iron Trade Review.]

Season.	Date of buying movement.	Old range Bessemer.	Old range non- Bessemer.	Mesabi Bessemer.	Mesabi non- Bessemer.
1890	December 15, 1889....	\$5.50	\$5.25	No sale	No sale
1891	June 1, 1891.....	4.50	4.25	No sale	No sale
1892	January 31, 1892.....	4.50	3.65	No sale	No sale
1893	March 15, 1893.....	3.85	3.20	\$3.00	No sale
1894	March 1, 1894.....	2.75	2.50	2.35	No sale
1895	April 1, 1895.....	2.90	2.25	2.19	\$1.95
1896	May 1, 1896.....	4.00	2.70	3.50	2.25
1897	May 20, 1897.....	2.60	2.15	2.25	1.90
1898	March 20, 1898.....	2.75	1.85	2.25	1.75
1899	February 1, 1899.....	3.00	2.15	2.40	2.00
1900	December 15, 1899....	5.50	4.25	4.50	4.00
1901	April 15, 1901.....	4.25	3.00	3.25	2.75
1902	February 1, 1902.....	4.25	3.25	3.25	2.75
1903	March 20, 1903.....	4.50	3.60	4.00	3.20
1904	April 15, 1904.....	3.25	2.75	3.00	2.50
1905	February 1, 1905.....	3.75	3.20	3.50	3.00
1906	December 5, 1905.....	4.25	3.70	4.00	3.50
1907	November 5, 1906.....	5.00	4.20	4.75	4.00
1908	June 15, 1908.....	4.50	3.70	4.25	3.50
1909	May 10, 1909.....	4.50	3.70	4.25	3.50
1910	December 24, 1909....	5.00	4.20	4.75	4.00
1911	April 21, 1911.....	4.50	3.70	4.25	3.50
1912	March 20, 1912.....	3.75	3.00	3.50	2.85
1913	November 19, 1912....	4.40	3.60	4.15	3.40
1914	May 1, 1914.....	3.75	3.00	3.50	2.85
1915	April 19, 1915.....	3.75	3.00	3.45	2.80
1916	December 7, 1915.....	4.45	3.70	4.20	3.55
1917	November 22, 1916....	5.95	5.20	5.70	5.05
*1918	{ April 1, 1918.....	5.95	5.20	5.70	5.05
	{ July 1, 1918.....	6.40	5.65	6.15	5.50
	{ October 1, 1918....	6.65	5.90	6.40	5.75
1919	April 28, 1919.....	6.45	5.70	6.20	5.55
1920	February 2, 1920.....	7.45	6.70	7.20	6.55

* Prices for 1918 are the Government maximum prices.

The above classification of iron ores conforms to that adopted by the Lake Superior Iron Ore Association. Since 1907 the base for Bessemer iron ores is a hypothetical ore containing 55 per cent. of metallic iron in the natural state, 0.045 per cent. of phosphorus, and 10 per cent. of moisture. The base for the non-Bessemer ores is an ore containing 51.50 per cent. natural iron and 12 per cent. of moisture.

AVERAGE PRICES OF CONNELLSVILLE COKE, 1910-1919.

The following table gives the average monthly prices per net ton of 2,000 pounds of prompt Connellsville furnace and foundry coke at ovens in the last ten years. The prices for furnace coke were compiled by the Connellsville *Courier*; for foundry coke they have been compiled from weekly quotations in the *Iron Age*.

CONNELLSVILLE FURNACE COKE AT OVENS, PER NET TON.

[Compiled from quotations in the Connellsville Courier.]

Months.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
January....	\$2.60	\$1.40	\$1.88	\$3.85	\$1.88	\$1.55	\$3.14	\$9.44	\$6.00	\$5.84
February..	2.25	1.47	1.84	2.60	1.90	1.55	3.41	10.57	6.00	4.72
March.....	2.00	1.57	2.04	2.47	1.92	1.53	3.45	9.58	6.00	4.05
April.....	1.80	1.58	2.53	2.20	1.90	1.55	2.45	8.00	6.00	3.71
May.....	1.70	1.50	2.32	2.15	1.83	1.50	2.34	8.40	6.00	3.80
June.....	1.65	1.45	2.21	2.20	1.80	1.50	2.54	10.20	6.00	3.92
July.....	1.65	1.45	2.34	2.50	1.75	1.67	2.65	12.32	6.00	4.06
August....	1.65	1.53	2.25	2.50	1.74	1.54	2.75	13.42	6.00	4.32
September.	1.60	1.50	2.42	2.37	1.70	1.66	2.94	11.85	6.00	4.42
October....	1.55	1.50	3.46	2.10	1.65	2.18	5.69	6.00	6.00	4.60
November..	1.45	1.50	3.95	1.88	1.60	2.35	6.91	6.00	6.00	6.05
December..	1.50	1.68	4.00	1.80	1.60	2.85	9.00	6.00	6.00	6.81
Average..	\$1.78	\$1.51	\$2.60	\$2.38	\$1.77	\$1.79	\$3.94	\$9.32	\$6.00	\$4.69

CONNELLSVILLE FOUNDRY COKE AT OVENS, PER NET TON.

[Compiled from quotations in the Iron Age.]

Months.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
January...	\$3.05	\$2.00	\$1.97	\$4.35	\$2.50	\$2.00	\$3.50	\$10.00	\$7.00	\$6.25
February..	2.75	2.10	2.06	3.25	2.50	2.00	3.50	11.75	7.00	5.00
March.....	2.60	2.15	2.41	3.00	2.47	2.00	3.75	10.87	7.00	4.94
April.....	2.40	2.10	2.71	3.00	2.41	2.00	3.56	9.38	7.00	4.30
May.....	2.25	2.00	2.58	2.87	2.40	2.00	3.15	8.90	7.00	4.31
June.....	2.20	1.95	2.42	2.75	2.33	2.00	3.25	12.12	7.00	4.56
July.....	2.15	1.90	2.40	2.75	2.27	2.00	3.25	13.00	7.00	5.00
August....	2.15	1.90	2.40	2.90	2.21	2.00	3.30	13.50	7.00	5.25
September.	2.15	1.85	2.57	2.90	2.09	2.09	3.31	14.00	7.00	5.80
October...	2.10	1.85	3.45	2.80	2.00	2.35	3.88	6.00	7.00	6.25
November.	2.00	1.90	4.06	2.60	1.92	2.87	7.10	6.75	7.00	7.00
December..	2.00	1.95	4.44	2.50	1.94	2.95	8.63	7.00	7.00	7.00
Average.	\$2.32	\$1.97	\$2.79	\$2.97	\$2.25	\$2.19	\$4.18	\$10.27	\$7.00	\$5.47

ENGLISH PRICES OF PIG IRON AND RAILS.

PRICES OF BESSEMER PIG IRON IN THE NORTHWEST OF ENGLAND,
PER GROSS TON.

[Compiled from quotations in the Iron and Coal Trades Review. Converted into American currency at the par rate of exchange—\$4.866.]

Months.	1910.	1911.	1912.	1913.	1914.	1915.	* 1916.	* 1917.	* 1918.	* 1919.
January....	\$15.79	\$16.60	\$16.28	\$21.02	\$15.67	\$20.35	\$32.03	\$31.02	\$31.02	\$31.02
February...	16.20	16.58	16.28	20.99	15.88	22.20	31.02	31.02	31.02	31.02
March.....	16.52	16.26	16.28	20.83	15.91	23.26	31.02	31.02	31.02	31.02
April.....	17.07	15.99	16.83	20.65	15.73	26.03	31.02	31.02	31.02	31.02
May.....	16.66	15.81	17.45	20.30	15.60	25.70	31.02	31.02	31.02	43.91
June.....	16.46	15.57	17.68	19.65	15.55	25.54	31.02	31.02	31.02	44.83
July.....	16.12	15.33	18.62	18.88	15.55	26.27	31.02	31.02	31.02	47.53
August....	16.16	15.43	19.05	18.13	17.15	25.91	31.02	31.02	31.02	49.75
September.	16.46	15.57	19.93	17.52	18.12	25.85	31.02	31.02	31.02	49.75
October....	16.36	15.39	20.65	17.11	17.25	26.47	31.02	31.02	31.02	49.75
November..	16.18	15.20	20.73	16.46	15.88	30.53	31.02	31.02	31.02	49.75
December..	16.08	15.75	21.02	15.64	16.96	32.21	31.02	31.02	31.02	49.75
Average..	\$16.34	\$15.79	\$18.40	\$18.93	\$16.27	\$25.86	\$31.10	\$31.02	\$31.02	\$42.42

* Control prices to home consumers from April, 1916, to April, 1919, inclusive.

AVERAGE PRICES OF NO. 3 CLEVELAND PIG IRON, PER GROSS TON.

[Compiled from quotations in the Iron and Coal Trades Review. Converted into American currency at the par rate of exchange—\$4.866.]

Months.	1910.	1911.	1912.	1913.	1914.	1915.	* 1916.	* 1917.	* 1918.	* 1919.
January....	\$12.65	\$12.14	\$12.16	\$16.27	\$12.38	\$13.56	\$19.52	\$21.29	\$23.11	\$23.11
February...	12.54	11.96	12.00	15.48	12.51	13.78	22.50	21.29	23.11	23.11
March.....	12.56	11.78	12.39	15.72	12.41	14.72	20.07	21.29	23.11	23.11
April.....	12.42	11.43	12.95	16.32	12.50	16.21	20.07	22.50	23.11	23.11
May.....	12.18	11.29	13.21	16.10	12.51	15.85	20.07	22.50	23.11	37.10
June.....	12.02	11.33	13.33	13.80	12.51	16.26	20.07	22.50	23.11	38.93
July.....	11.96	11.41	13.99	13.67	12.49	16.40	21.29	22.50	23.11	38.93
August....	12.12	11.51	14.83	13.54	12.70	16.08	21.29	22.50	23.11	38.93
September.	12.02	11.43	16.13	13.44	12.49	15.83	21.29	23.11	23.11	38.93
October....	12.08	11.35	16.20	12.89	12.21	16.09	21.29	23.11	23.11	38.93
November..	12.08	11.57	16.38	12.05	12.15	17.05	21.29	23.11	23.11	38.93
December..	12.14	12.08	16.42	12.21	12.89	18.51	21.29	23.11	23.11	38.93
Average..	\$12.23	\$11.61	\$14.17	\$14.29	\$12.48	\$15.86	\$20.84	\$22.40	\$23.11	\$33.50

* Control prices to home consumers from March, 1916, to April, 1919, inclusive.

PRICES OF STEEL RAILS AT MILLS IN ENGLAND.

[Compiled from weekly quotations in the Iron and Coal Trades Review. Converted into American currency at the par rate of exchange—\$4.866.]

Months.	1910.	1911.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.
January....	\$26.15	\$27.21	\$27.52	\$32.84	\$31.63	\$31.75	\$53.22	\$52.92	\$52.92	\$52.92
February...	26.15	27.97	27.97	32.84	31.63	33.45	53.53	52.92	52.92	65.08
March.....	26.15	27.97	27.97	32.84	31.16	35.28	53.53	52.92	52.92	65.08
April.....	26.30	27.97	28.12	32.39	30.41	37.10	53.07	52.92	52.92	65.08
May.....	26.76	27.67	29.56	32.23	29.95	37.10	52.92	52.92	52.92	72.99
June.....	26.76	27.37	30.71	32.23	29.80	38.31	52.92	52.92	52.92	75.42
July.....	26.76	27.37	31.02	32.23	28.58	43.18	52.92	52.92	52.92	77.86
August.....	26.76	27.37	31.14	32.23	30.25	44.40	52.92	52.92	52.92	80.29
September..	26.76	27.37	31.78	32.07	32.84	44.40	52.92	52.92	52.92	80.29
October....	26.76	27.37	32.23	31.63	31.99	44.40	52.92	52.92	52.92	80.29
November..	26.76	27.37	32.23	31.63	31.02	45.62	52.92	52.92	52.92	80.29
December..	26.76	27.37	32.53	31.63	31.02	51.21	52.92	52.92	52.92	83.94
Average..	\$26.57	\$27.53	\$30.23	\$32.23	\$30.86	\$40.52	\$53.06	\$52.92	\$52.92	\$73.29

STATISTICS FOR CANADA.

PIG IRON.

PRODUCTION OF PIG IRON BY GRADES, GROSS TONS, 1904-1919.

Years.	Basic.	Bessemer.*	Foundry.†	All other.	Total.
1904.....	70,133	26,016	155,035	19,758	270,942
1905.....	172,102	149,203	139,528	7,170	468,003
1906.....	246,228	165,609	124,361	5,759	541,957
1907.....	341,257	154,910	78,901	6,078	581,146
1908.....	335,410	112,811	109,471	5,980	563,672
1909.....	357,965	169,545	108,608	40,972	677,090
1910.....	365,090	221,494	143,986	9,640	740,210
1911.....	413,303	186,274	190,324	34,467	824,368
1912.....	489,799	228,742	194,208	129	912,878
1913.....	558,524	227,662	225,231	3,701	1,015,118
1914.....	331,456	184,053	174,346	16,117	705,972
1915.....	660,369	13,714	125,769	25,568	825,420
1916.....	851,453	12,575	181,748	23,765	1,069,541
1917.....	861,728	13,968	168,964	41,321	1,085,981
1918.....	857,839	41,474	150,158	57,093	1,106,564
1919.....	515,359	6,795	257,315	83,397	862,866

* Includes low-phosphorus. † Includes ferro-silicon.

PRODUCTION OF PIG IRON BY GRADES, 1918-1919, SHOWING INCREASE OR DECREASE BY GRADES, GROSS TONS.

Grades.	1918.	Per cent.	1919.	Per cent.	Increase.	Per cent.
Basic.....	857,839	77.52	515,359	59.73	*342,480	*39.92
Bessemer.....	41,474	3.75	6,795	.79	*34,679	*83.62
Foundry.....	150,158	13.57	257,315	29.82	107,157	71.36
All other.....	57,093	5.16	83,397	9.66	26,304	46.07
Total.....	1,106,564	100.00	862,866	100.00	243,698	22.02

* Decrease.

PRODUCTION OF PIG IRON BY FUELS, GROSS TONS, 1900-1919.

Years.	Coke.	Char-coal.*	Total.	Years.	Coke.	Char-coal.*	Total.
1900...	70,349	15,741	86,090	1910...	724,174	16,036	740,210
1901...	228,893	16,083	244,976	1911...	799,716	24,652	824,368
1902...	302,712	16,845	319,557	1912...	886,506	26,372	912,878
1903...	247,905	17,513	265,418	1913...	986,848	28,270	1,015,118
1904...	251,671	19,271	270,942	1914...	690,880	15,092	705,972
1905...	432,870	35,133	468,003	1915...	803,646	21,774	825,420
1906...	525,716	16,241	541,957	1916...	1,028,530	41,011	1,069,541
1907...	572,025	9,121	581,146	1917...	1,030,517	55,464	1,085,981
1908...	556,671	7,001	563,672	1918...	1,042,425	64,139	1,106,564
1909...	660,856	16,234	677,090	1919...	837,303	25,563	862,866

* Includes pig iron made with charcoal and coke, electricity and coke, etc.

PIG IRON MADE FOR SALE OR USE OF MAKERS, 1919.

Grades.	For sale.	For own use.	Total.
Foundry and ferro-silicon.....	*249,382	7,933	257,315
Other grades.....	74,885	530,666	605,551
Total.....Gross tons.	324,267	538,599	862,866

* Sand cast, 175,260 tons; machine cast, 72,072 tons; chill cast, 2,050 tons.

METHODS BY WHICH ALL PIG IRON WAS CAST OR DELIVERED.

Years.	Molten condition.	Sand cast.	Machine cast.	Chill cast.	Direct castings.	Total. Gross tons.
1913.....	672,065	215,541	127,477	.....	35	1,015,118
1914.....	449,713	188,135	68,106	.....	18	705,972
1915.....	598,221	180,770	46,410	.....	19	825,420
1916.....	758,912	213,796	96,741	19	73	1,069,541
1917.....	804,725	216,097	62,885	2,039	235	1,085,981
1918.....	799,312	234,096	65,472	7,666	18	1,106,564
1919.....	456,603	244,655	158,172	3,374	62	862,866

RAW MATERIALS CONSUMED IN BLAST FURNACES, 1911-1919.

Years	Total consumption of—				Consumption per ton of iron made.			
	Ore, cinder, etc. Gross tons.	Lime-stone. Gross tons.	Coke. Net tons.	Charcoal. Bushels.	Ore, cinder, etc. Pounds.	Lime-stone. Pounds.	Coke. Pounds.	Charcoal. Bushels.
1911.	1,607,354	567,462	*	*	4,367.5	1,541.9	.....	.....
1912.	1,915,165	666,214	1,275,349	1,886,748	4,699.4	1,634.7	2,854.6	97.3
1913.	2,045,780	705,483	1,413,111	2,206,191	4,514.3	1,556.7	2,843.3	104.2
1914.	1,358,184	419,864	910,887	883,625	4,309.4	1,332.2	2,611.4	105.5
1915.	1,609,032	512,379	1,070,437	1,314,357	4,366.5	1,390.5	2,632.4	108.3
1916.	1,985,581	630,796	1,342,405	1,843,209	4,260.3	1,353.5	2,610.3	119.3
1917.	2,009,812	721,726	1,358,619	1,288,390	4,321.1	1,551.7	2,636.8	113.8
1918.	2,060,063	674,855	1,429,855	.....	4,426.7	1,450.1	2,743.3	.....
1919.	1,691,506	532,479	1,108,353	177,795	4,520.0	1,422.8	2,647.4	185.5

* Consumption of coke and charcoal not determined prior to 1912.

CAPACITY OF BLAST FURNACES, DECEMBER 31, 1919.

Provinces.	Coke.		Charcoal.		Total.	
	No. stacks.	Gross tons.	No. stacks.	Gross tons.	No. stacks.	Gross tons.
Ontario.....	10	997,500	1	22,000	11	1,019,500
Nova Scotia.....	9	700,000	0	.....	9	700,000
Total.....	19	1,697,500	1	22,000	20	1,719,500

On December 31, 1919, 9 furnaces were in blast, 11 were idle, and 2 were being built. Fifteen furnaces were active during the year and 5 idle throughout the year.

STEEL INGOTS AND CASTINGS.

PRODUCTION OF ALL KINDS OF STEEL INGOTS AND CASTINGS.

Years.	Gross tons.	Years.	Gross tons.	Years.	Gross tons.
1894.....	25,685	1903.....	181,514	1912.....	853,031
1895.....	17,000	1904.....	148,784	1913.....	1,042,503
1896.....	16,000	1905.....	403,449	1914.....	743,352
1897.....	18,400	1906.....	570,889	1915.....	912,755
1898.....	21,540	1907.....	646,754	1916.....	1,286,509
1899.....	22,000	1908.....	509,957	1917.....	1,562,289
1900.....	23,577	1909.....	678,751	1918.....	1,694,977
1901.....	26,084	1910.....	741,924	1919.....	927,641
1902.....	182,037	1911.....	790,871	.....	.....

Statistics for years prior to 1894 are not available.

PRODUCTION OF STEEL INGOTS AND CASTINGS, 1904-1919.

Years.	Ingots.	Castings.	Total.	Years.	Ingots.	Castings.	Total.
1904.....	142,279	6,505	148,784	1912....	820,792	32,239	853,031
1905.....	394,055	9,394	403,449	1913....	1,006,149	36,354	1,042,503
1906.....	555,913	14,976	570,889	1914....	724,596	18,756	743,352
1907.....	629,026	17,728	646,754	1915....	873,265	39,490	912,755
1908.....	500,300	9,657	509,957	1916....	1,255,196	31,313	1,286,509
1909.....	664,789	13,962	678,751	1917....	1,513,256	49,033	1,562,289
1910....	723,002	18,922	741,924	1918....	1,622,122	72,855	1,694,977
1911....	768,559	22,312	790,871	1919....	891,309	36,332	927,641

PRODUCTION OF STEEL INGOTS AND CASTINGS BY PROCESSES.

Years.	Open-hearth.	Bessemer.	Other kinds.	Total.
1905.....	238,681	164,488	280	403,449
1906.....	347,778	219,791	3,320	570,889
1907.....	440,936	202,268	3,550	646,754
1908.....	401,119	108,433	405	509,957
1909.....	496,142	182,304	305	678,751
1910.....	542,354	199,570	...	741,924
1911.....	601,074	189,797	...	790,871
1912.....	645,062	207,569	400	853,031
1913.....	768,663	273,391	449	1,042,503
1914.....	556,910	186,158	284	743,352
1915.....	884,736	22,521	5,498	912,755
1916.....	1,245,488	10,968	30,053	1,286,509
1917.....	1,517,698	7,168	37,423	1,562,289
1918.....	1,579,927	7,674	107,376	1,694,977
1919.....	902,628	6,007	19,006	927,641

In 1919, 27 works made steel ingots or castings, against 29 works in 1918. Eleven works made ingots and 24 made castings. Eight plants made open-hearth, 9 made Bessemer, 2 made crucible, and 9 made electric steel ingots or castings.

FINISHED ROLLED IRON AND STEEL.

PRODUCTION OF FINISHED ROLLED PRODUCTS, 1895-1909.

Years.	Gross tons.	Years.	Gross tons.	Years.	Gross tons.
1895.....	66,402	1900.....	100,690	1905.....	385,826
1896.....	75,043	1901.....	112,007	1906.....	571,742
1897.....	77,021	1902.....	161,485	1907.....	600,179
1898.....	90,303	1903.....	129,516	1908.....	496,517
1899.....	110,642	1904.....	180,038	1909.....	662,741

PRODUCTION OF FINISHED ROLLED FORMS, SHOWING IRON AND STEEL SEPARATELY, GROSS TONS, 1906-1919.

Years.	Iron.	Steel.	Total.	Years.	Iron.	Steel.	Total.
1906...	78,898	492,844	571,742	1913...	95,881	871,216	967,097
1907...	81,093	519,086	600,179	1914...	47,309	612,210	659,519
1908...	65,505	431,012	496,517	1915...	40,797	612,521	653,318
1909...	79,636	583,105	662,741	1916...	76,478	887,332	963,810
1910...	83,918	655,893	739,811	1917...	101,795	874,403	976,198
1911...	86,383	695,541	781,924	1918...	96,296	905,012	1,001,308
1912...	109,012	752,212	861,224	1919...	59,410	683,589	742,999

PRODUCTION OF FINISHED ROLLED FORMS BY LEADING PRODUCTS.

Products.	1915.	1916.	1917.	1918.	1919.
Rails.....	209,752	81,497	41,349	145,309	282,415
Structural shapes and wire rods..	114,829	174,490	189,687	141,978	163,489
Plates and sheets, nail plate, merchant bars, tie-plate bars, etc..	328,737	707,823	745,162	714,021	297,095
Total .....Gross tons.	653,318	963,810	976,198	1,001,308	742,999

In 1919, 25 works rolled finished forms of iron or steel.

PRODUCTION OF STEEL RAILS, 1900-1919.

Years.	Gross tons.	Years.	Gross tons.	Years.	Gross tons.	Years.	Gross tons.
1900...	700	1905...	178,885	1910...	366,465	1915...	209,752
1901...	891	1906...	312,877	1911...	360,547	1916...	81,497
1902...	33,950	1907...	311,461	1912...	423,885	1917...	41,349
1903...	1,243	1908...	268,692	1913...	506,709	1918...	145,309
1904...	36,216	1909...	344,830	1914...	382,344	1919...	282,415

Of the total production of rails in 1919, 2,863 tons weighed less than 50 pounds per yard, 3,694 tons weighed over 50 but less than 85 pounds, 232,796 tons weighed 85 but less than 100 pounds, and 43,062 tons weighed 100 pounds and over per yard.

MISCELLANEOUS IRON AND STEEL STATISTICS.

PRODUCTION OF CUT AND WIRE NAILS.

We estimate the total production of iron and steel cut and wire nails in Canada in 1919 as amounting to 1,447,000 kegs of 100 pounds, as compared with an estimated production of 1,609,000 kegs in 1918, 1,822,000 kegs in 1917, 1,757,000 kegs in 1916, 1,636,000 kegs in 1915, and 1,144,000 kegs in 1914.

Cut or wire nails were made by 20 works in 5 Provinces in 1919. Fifteen works made wire nails but not cut nails, 1 works made cut but not wire nails, and 4 works made both cut and wire nails. In 1918 cut or wire nails were made by 19 works in 5 Provinces.

PRODUCTION OF FINISHED ANGLE SPLICE BARS, ETC.

The production of finished angle splice bars, tie plates, fish plates, and other rail joints and fastenings in Canada by rolling mills and steel works in 1919, all steel, not including spikes, bolts, nuts, and similar fastenings, amounted to 36,478 gross tons, against 17,195 tons in 1918, 8,472 tons in 1917, 6,479 tons in 1916, 9,406 tons in 1915, and 34,165 tons in 1914.

PRODUCTION OF FORGED IRON AND STEEL BY ROLLING MILLS AND STEEL WORKS, 1910-1919.

Years.	Production—Gross tons.			Years.	Production—Gross tons.		
	Iron.	Steel.	Total.		Iron.	Steel.	Total.
1910...	1,258	16,907	18,165	1915...	323	21,775	22,098
1911...	787	18,045	18,832	1916...	854	142,554	143,408
1912...	867	21,548	22,415	1917...	1,287	189,158	190,445
1913...	2,578	20,827	23,405	1918...	3,022	321,081	324,103
1914...	1,792	6,346	8,138	1919...	2,010	13,795	15,805

PRODUCTION OF WROUGHT IRON AND STEEL PIPE.

In 1919 Canada made 62,670 gross tons of wrought iron and steel pipe, against 54,712 tons in 1918 and 52,235 tons in 1917.

PRODUCTION OF CAST IRON PIPE.

We estimate the total production of cast iron gas and water pipe and fittings and cast iron soil and plumbers' pipe and fittings in Canada in 1919 as amounting to 37,530 net tons of 2,000 pounds, as compared with an estimated production in 1918 of 20,150 tons, 26,970 tons in 1917, 43,850 tons in 1916, 53,700 tons in 1915, and 93,200 tons in 1914.

PRODUCTION OF COAL, COKE, IRON ORE, ETC.

PRODUCTION, IMPORTS, AND EXPORTS OF COAL, NET TONS.

Cal- endar years.	Produc- tion.	Imports.	* Exports.	Calendar years.	Produc- tion.	Imports.	* Exports.
1904..	8,254,595	6,936,959	1,557,412	1912...	14,512,829	14,595,810	2,127,133
1905..	8,667,948	7,430,672	1,635,287	1913...	15,012,178	18,201,953	1,562,020
1906..	9,762,601	7,443,664	1,835,041	1914...	13,637,529	14,721,057	1,423,126
1907..	10,511,426	10,651,281	1,894,074	1915...	13,267,023	12,465,902	1,766,543
1908..	10,886,311	10,297,425	1,729,833	1916...	14,483,395	17,580,603	2,135,359
1909..	10,501,475	9,872,924	1,588,099	1917...	14,046,759	20,857,460	1,733,156
1910..	12,909,152	10,597,982	2,377,049	1918...	14,977,926	21,678,587	1,817,195
1911..	11,323,388	14,558,892	1,500,639	1919...	13,681,218	17,308,837	2,070,050

* Exports of Canadian coal only.

PRODUCTION, IMPORTS, AND EXPORTS OF COKE, NET TONS.

Cal- endar years.	Produc- tion.	* Imports.	Exports.	Calendar years.	Produc- tion.	* Imports.	Exports.
1904..	554,083	221,050	102,463	1912...	1,406,028	628,174	57,744
1905..	700,488	371,593	116,071	1913...	1,517,133	723,906	68,235
1906..	782,055	480,222	37,003	1914...	1,015,253	553,046	67,838
1907..	842,003	†400,536	70,617	1915...	1,200,766	637,857	35,869
1908..	858,257	619,269	58,708	1916...	1,448,782	757,116	48,539
1909..	862,011	661,425	74,067	1917...	1,231,865	970,106	23,595
1910..	902,715	737,088	57,971	1918...	1,258,284	1,165,590	29,612
1911..	935,651	751,359	9,852	1919...	1,160,470	383,374	14,709

* Fiscal years from 1904 to 1908; calendar years from 1909 to 1919. † For 9 months only.

SHIPMENTS, IMPORTS, AND EXPORTS OF IRON ORE, NET TONS.

Cal- endar years.	Ship- ments.	* Imported ore consumed.	Exports.	Calendar years.	Ship- ments.	* Imported ore consumed.	Exports.
1904..	219,046	454,671	†	1912...	215,883	2,019,165	118,129
1905..	291,097	861,847	†	1913...	307,634	2,110,828	126,124
1906..	248,831	982,740	74,778	1914...	244,854	1,324,326	135,451
1907..	312,856	1,117,260	25,901	1915...	398,112	1,463,488	79,770
1908..	238,082	1,051,445	†	1916...	275,176	1,964,598	161,260
1909..	268,043	1,235,000	21,956	1917...	215,302	2,084,231	164,004
1910..	259,418	1,377,035	114,499	1918...	211,608	2,146,995	130,250
1911..	210,344	1,628,368	37,686	1919...	197,170	1,674,194	14,480

* Imported iron ore consumed by Canadian blast furnaces.

† Not available.

† Exports for these years, though available, are incorrect, owing to duplication of entries.

In 1919 the imports of pig iron, ferro-manganese, etc., into Canada amounted to 52,022 net tons, against 102,680 tons in 1918. The exports in 1919 amounted to 86,054 net tons, against 25,911 tons in 1918.

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