



BOARD OF TRADE

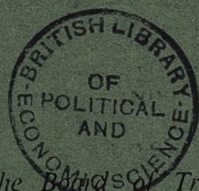
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THE REPORT
on the
CENSUS OF PRODUCTION
FOR 1951

Volume 3

Trade B

IRON AND STEEL (MELTING AND ROLLING)



*Presented by the Board of Trade to Parliament
in pursuance of the Statistics of Trade Act, 1947
(10 & 11 Geo. 6, Ch. 39, Sec. 7).*

LONDON: HER MAJESTY'S STATIONERY OFFICE

1955

TWO SHILLINGS NET

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* Not applicable to this trade

IRON AND STEEL (MELTING AND ROLLING) TRADE

THIS REPORT on the Iron and Steel (Melting and Rolling) Trade relates to establishments engaged wholly or mainly in the production of ferro-alloys not made in blast furnaces; of refined pig-iron; of puddled and wrought iron; and of steel ingots, steel castings and rolled steel products. The production of tubes, sheets and tinplate is excluded, but the production of materials for conversion into these products is included.

This trade corresponds to minimum list heading 41 in the Standard Industrial Classification.

The figures for 1948 and later years include establishments engaged wholly or mainly in the production of miscellaneous steel forgings other than drop forgings. Figures for 1937 and 1935 exclude these establishments (which in 1948, employed 4,305 persons and accounted for a total net output of £2,724,000). For 1937 and 1935 particulars relating to all miscellaneous steel forgings have been included in the report on the Chain, Nail, Screw and Miscellaneous Forgings Trade (Volume 5, Trade C).

Special arrangements made within the steel industry had the effect of reducing the cost of certain materials, e.g., imported scrap, pig-iron, and iron ore, to individual establishments below the actual cost in 1951, 1950 and 1949. This was financed by a levy on the Iron and Steel (Melting and Rolling) Trade. To arrive at the full cost of materials to this trade as a whole the amounts would have to be added to the total cost of materials, etc., shown in this report and corresponding deductions made from the net output figures for these years. The amount involved for the year ended March 31st, 1952, was £14,600,000, for the year ended March 31st, 1951, £12,700,000 and for the year ended March 31st, 1950, £20,500,000.

No production was recorded in Northern Ireland in this trade for any year.

IMPORTANT NOTES and definitions appear on the inside of the back cover of this report. In interpreting the data in the following tables, it is essential to bear these in mind.

METAL MANUFACTURE
IRON AND STEEL (MELTING AND ROLLING) TRADE

Summary

Larger establishments (a)

TABLE 1

	Great Britain					
	1951	1950	1949	1948	1937	1935
Gross output (production) (b)	£'000 542,993	£'000 464,569	£'000 423,820	£'000 367,565	£'000 143,247	£'000 87,481
Cost of materials and fuel used (c)	348,591	308,787	279,794	244,861	97,135	57,674
Payment for work done on materials given out	5,202	4,506	4,030	3,907	1,214	772
Transport payments (d)	16,099	..	..	..	..	..
Net output	173,101	151,276	139,996	118,797	44,898	29,035
Wages and salaries of persons employed	92,201	84,977	81,598	76,409	..	..
	No.	No.	No.	No.	No.	No.
Average number of persons employed (e)	204,897	203,281	204,187	200,138	144,270	114,139
	£	£	£	£	£	£
Net output per person employed (e)	845	744	686	594	311	254
	£'000	£'000	£'000	£'000	£'000	£'000
Stocks at end of year						
Products on hand for sale and work in progress	35,398	28,766	28,722	24,737	..	..
Materials and fuel	39,609	39,695	37,762	29,112	..	..
	No.	No.	No.	No.	No.	No.
Number of establishments	398	399	401	398	..	282

The values of gross output and of materials and fuel used are derived in the following way:-

	£'000	£'000	£'000	£'000	£'000	£'000
Output of firms in this trade (f)						
Principal products (g)	492,413	476,699	431,088	344,364(h)	129,733	80,106
Other output (i)	44,500					
Changes in stocks and work in progress (j)	+ 6,080	+ 819	+ 3,990	+ 3,399		
	542,993	477,518	435,078	377,494	143,247	87,481
Less payment for transport outwards (d)	..	12,949	11,258	9,929		
Gross output (production)	542,993	464,569	423,820	367,565	143,247	87,481
Materials and fuel used by firms in this trade						
Purchases	348,606	309,909	288,389	249,399	97,135	57,674
Changes in stocks (j)	- 15	- 1,123	- 8,595	- 4,538		
Materials and fuel used	348,591	308,787	279,794	244,861	97,135	57,674

(a) For small firms' summary see Table 2.

(b) Gross output for 1951 includes payments to other firms and undertakings and to firms' own separate transport organisations for transport services. For other years payments for transport services outwards on finished goods sold are excluded.

(c) Amounts paid for delivery services are excluded for 1951 but included for other years.

(d) Payments to other firms and undertakings and to firms' own separate transport organisations. For 1951 they cover payments for transport of both goods sold and materials and fuel purchased. For other years payments cover only transport outwards of finished goods sold.

(e) Excluding outworkers but including working proprietors. For an estimate of the total numbers of persons employed in this trade see Table 3.

(f) Total value of sales (1951, 1950, 1949 and 1948) or production for sale (1937 and 1935).

(g) For details for 1951 and 1948 see Table 8.

(h) Corrected figure.

(i) For details for 1951 and 1948 see Table 10.

(j) For details for 1951 see Table 21.

IRON AND STEEL (MELTING AND ROLLING)

Summary

Small firms (a)

TABLE 2

	Great Britain			
	1951	1950	1949	1948
Number of returns	43	33	32	40
Average number of persons employed (b)				
Males	244	181	178	235
Females	38	23	29	36
Total	282	204	208	271

(a) Small firms (employing on the average ten or fewer persons) that made satisfactory returns.

(b) Including working proprietors.

Estimated average employment (a)

All firms

TABLE 3

	Great Britain				Number
	1951	1950	1949	1948	
As returned by firms					
Employing on the average more than ten persons (b)	204,897	203,281	204,187	200,138	271
Employing on the average ten or fewer persons (c)	282	204	208	271	
	205,179	203,485	204,395	200,409	
Estimated average employment in firms not making satisfactory returns	47	43	13	151	
Estimated average employment in all firms	205,226	203,528	204,408	200,560	

(a) Including working proprietors.

(b) See Tables 13(iv) and 14.

(c) See Table 2.

Analysis by size, 1951

Larger establishments in Great Britain

TABLE 4

Average number employed	Establishments	Gross output	Net output	Persons employed	Remuneration			Net output per person employed
					Operatives	Other employees (a)	Total	
	No.	£'000	£'000	No.	£'000	£'000	£'000	£
11 - 24	40	2,802	890	704	206	119	326	1,264
25 - 49	59	6,491	1,959	2,122	685	243	927	923
50 - 99	55	12,894	3,725	3,903	1,353	375	1,728	954
100 - 199	70	29,399	8,688	10,021	3,659	808	4,467	867
200 - 299	46	29,510	9,478	11,109	3,731	963	4,694	853
300 - 399	24	23,387	8,361	8,291	3,050	630	3,679	1,008
400 - 499	13	12,694	4,969	5,928	2,112	462	2,574	838
500 - 749	27	43,561	13,670	16,264	6,042	1,117	7,159	841
750 - 999	8	15,395	5,166	7,039	2,532	631	3,164	734
1,000 - 1,499	13	44,798	13,418	15,186	5,779	1,213	6,992	884
1,500 - 1,999	13	58,303	20,896	22,578	8,224	1,742	9,966	925
2,000 - 2,499	9	60,417	16,154	20,444	7,877	1,456	9,333	790
2,500 - 2,999	6	54,862	14,460	16,068	6,364	1,368	7,732	900
3,000 - 3,999	8	58,896	18,752	26,275	9,791	1,756	11,547	714
4,000 and over	7	89,583	32,514	38,965	14,428	3,485	17,913	834
Total	398	542,993	173,101	204,897	75,833	16,369	92,201	845

(a) Administrative, technical and clerical employees.

Analysis by standard region, 1951

Larger establishments in Great Britain

TABLE 5

Region	Estab- lish- ments	Gross output	Net output		Persons employed	Remuneration			Net output per person employed
			Value	Percent- age of total		Operatives	Other employees (a)	Total	
	No.	£'000	£'000		No.	£'000	£'000	£'000	£
England	41	90,544	23,712	13.7	33,704	12,985	1,903	14,888	704
Northern									
East and West Ridings	143	137,268	55,142	31.9	68,017	23,257	6,362	29,619	811
North Midland	20	52,875	14,597	8.4	16,090	6,252	1,609	7,861	907
Eastern	4	12,834	4,575	2.6	3,745	1,254	434	1,688	1,222
London and South Eastern; and Southern	4	382	204	0.1	165	72	19	91	1,238
South Western	-	-	-	-	-	-	-	-	-
Midland	75	49,664	15,493	9.0	17,666	6,976	1,379	8,354	877
North Western	34	40,731	14,081	8.1	15,725	5,791	1,211	7,002	895
Total England	321	384,297	127,806	73.8	155,112	56,586	12,917	69,503	824
Wales	31	96,543	23,414	13.5	25,730	10,423	1,929	12,352	910
Scotland	46	62,153	21,881	12.6	24,055	8,823	1,523	10,346	910
Great Britain	398	542,993	173,101	100.0	204,897	75,833	16,369	92,201	845

(a) Administrative, technical and clerical employees.

Analysis according to specialisation within the trade, 1951

Larger establishments in Great Britain

TABLE 6

	Estab- lish- ments	Gross output	Sales of charac- teristic products	Net output	Persons employed	Remuneration			Net output per person employed
						Operatives	Other employees (a)	Total	
	No.	£'000	£'000	£'000	No.	£'000	£'000	£'000	£
Specialist producers of Ferro alloys (except ferro-manganese)	10	18,760	9,863	5,553	2,748	936	358	1,294	2,021
Steel manufactures (with melting) other than of alloy steel	116	323,443	287,008	98,174	116,983	45,717	8,364	54,080	839
Steel manufactures (with melting), of alloy steel	70	81,930	44,261	37,205	47,428	15,652	4,507	20,159	784
Steel manufactures (without melting)	131	105,723	90,535	26,445	30,217	10,711	2,614	13,326	875
Steel forgings, other than drop forgings	32	6,421	5,985	2,891	3,490	1,267	292	1,559	828
Iron puddling and wrought iron, etc. (b)	12	3,946	3,572	1,244	1,887	730	103	833	659
Remainder of the trade	27	2,771		1,589	2,144	819	131	950	741
Total	398	542,993		173,101	204,897	75,833	16,369	92,201	845

(a) Administrative, technical and clerical employees.

(b) Including refined pig-iron.

Total make of intermediate products
Larger establishments in Great Britain

TABLE 7

Principal products	Returned in this trade		Returned in all trades			
	1951		1948	1951		1948
	Quantity	Entries	Quantity	Quantity	Entries	Quantity
	Th. tons	No.	Th. tons	Th. tons	No.	Th. tons
Ferro alloys						
Ferro-molybdenum	1.0	..	0.6	1.0	..	0.6
Ferro-tungsten	2.9	6	3.1	2.9	6	3.1
Ferro-vanadium	0.7	..	0.5	0.7	..	0.5
Ferro-titanium	(a)	..	(a)	1.8	7	1.0
Other ferro alloys, except ferro-manganese and spiegeleisen	(a)	..	16.3	25.2	9	16.4
Refined pig-iron	135.3	8	100.8	229.3	17	188.2
Steel ingots, other than of alloy steel	(a)	..	(a)	13,905.5	88	13,211.5
Ingots of alloy steel						
Stainless and heat-resisting	92.3	17	(a)	92.3	17	57.5
Other descriptions	701.3	..	(a)	701.3	49	625.6
Steel castings, in the rough or machined, excluding rolls for rolling mills						
Of non-alloy steel						
Railway material, i.e., castings for locomotives, rolling stock and permanent way	24.4	26	..	24.7	28	..
Castings for crushers (including jaw, roll, gyratory and cone), pan mills, ball, tube and rod mills, including those used for cement grinding	(a)	..	..	2.2	19	..
Valve castings	(a)	..	..	9.4	33	..
Turbine castings	0.6	11	..	0.6	12	..
Castings for collieries, quarries, and brickwork haulage and underground mining machinery	12.7	36	..	13.7	42	..
Electrical engineering castings	7.0	29	..	7.4	33	..
Motor and cycle industry castings	5.1	20	..	12.7	27	..
Castings for blast furnaces and steel works plant, including steel and non-ferrous metal rolling mills	21.8	39	..	26.4	52	..
Castings for excavators and grabs	(a)	..	..	15.6	22	..
Castings for ship structures	(a)	..	..	2.8	22	..
Marine castings (such as castings for turbines, other marine engines and parts, deck and hull auxiliary machinery, propellers)	10.6	22	..	11.2	25	..
Castings for cranes, and lifting and conveying appliances	(a)	..	..	5.5	26	..
Other descriptions	49.2	52	..	52.7	61	..
Unclassified	-	-	..	33.0	41	..
Of alloy steel						
Castings for crushers (including jaw, roll, gyratory and cone), pan mills, ball, tube and rod mills, including those used for cement grinding	10.1	11	..	10.1	11	..
Austenitic manganese steel castings, other than those included in castings for crushers, pan mills, ball, tube and rod mills, etc.	14.6	11	..	14.6	11	..

TABLE 7 (contd.)

	Returned in this trade		Returned in all trades			
	1951		1948	1951		1948
	Quantity	Entries	Quantity	Quantity	Entries	Quantity
	Th. tons	No.	Th. tons	Th. tons	No.	Th. tons
Principal products (contd.)						
Steel castings, in the rough or machined, excluding rolls for rolling mills (contd.)						
Of alloy steel (contd.)						
Low alloy steel castings of all types, not elsewhere specified	5.8	14	..	5.8	14	..
High alloy steel castings of all types, not elsewhere specified	3.3	17	..	3.8	21	..
Other descriptions	19.7	24	..	20.7	30	..
Unclassified	-	-	..	10.0	21	..
Steel blooms, billets and slabs (excluding sheet and tinplate slabs)						
Other than of alloy steel	7,756.8	51	7,487.9	7,756.8	51	7,487.9
Of alloy steel						
Stainless and heat-resisting	36.0	16	23.2	36.0	16	23.2
Other descriptions	(a)	..	369.0	444.1	31	369.0
Steel bars and rods, etc., other than of alloy steel						
Sheet bars	(a)	..		758.0	25	
Tinplate bars	656.6	14	2,694.0(b)	656.6	14	2,694.0(b)
Sheet slab and tinplate slabs	1,489.7	8		1,489.7	8	
Wire rods						
In straight lengths	(a)	..		15.8	8	31.4
In coils	(a)	..	706.3	746.3	16	709.2
Unclassified	-	-	-	38.4	6	-
Bars and rods for reinforcing purposes	(a)	..	184.1	202.6	17	184.1
Bright steel bars	239.7	34	172.1	274.4	40	181.7
Flats						
5 inches and under in width	453.6	103		453.6	103	524.5
Over 5 inches in width	126.5	54	657.7	126.5	54	133.7
Other, including rounds, squares and hexagons	(a)	..	1,078.8	983.0	172	1,080.3
Steel bars and rods of alloy steel						
Flats						
Stainless and heat-resisting	6.8	18		6.8	18	5.5
Other descriptions	46.5	50		46.5	50	22.0
Other, including rounds, squares and hexagons			214.2			
Stainless and heat-resisting	(a)	..		20.5	33	14.3
Other descriptions	(a)	..		213.2	81	177.9
Iron bars, rods, blooms, billets and slabs	76.5	19	178.1(b)	76.5	19	181.1(b)
Angles, shapes and sections						
Of iron	1.3	5	14.7	1.3	5	14.7
Of steel, other than alloy steel						
Channels						
3 inch web and under	23.6	22	31.0	23.6	22	31.0
Over 3 inch web	180.4	16	207.4	180.4	16	207.4
Other descriptions						
Over 4 united ins.	(a)	..	680.5	715.5	24	680.5
4 united ins. and under	381.3	45	(a)	381.3	45	254.1
Of alloy steel	0.5	..	2.9	0.5	14	2.9

TABLE 7 (contd.)

	Returned in this trade		Returned in all trades			
	1951		1948	1951		1948
	Quantity	Entries	Quantity	Quantity	Entries	Quantity
	Th. tons	No.	Th. tons	Th. tons	No.	Th. tons
Principal products (contd.)						
Girders, beams, joists and pillars (rolled)						
3 inch web and over	(a)	..	496.4	464.5	12	496.4
Under 3 inch web	120.0	..	31.3	120.0	..	31.3
Steel arches for collieries and similar purposes	384.9	19	310.0	384.9	19	312.4
Hot rolled strip from wide continuous mills						
In straight lengths	(a)	..	(a)	146.8	..	84.4
In coils	289.6	6	(a)	1,396.7	9	774.5
Hoop and strip						
Other than of alloy steel						
Bright cold rolled	(a)	..	(a)	318.9	32	246.2
Other than bright cold rolled						
Baling and barrel	33.0	7	25.6	35.0	13	25.6
For tubes	460.3	8	307.7	461.6	11	307.7
For all other purposes	266.4	29	169.2	267.1	33	169.2
Of alloy steel						
Stainless and heat-resisting	5.6	9	4.0	5.6	11	4.0
Other descriptions	(a)	..	(a)	1.1	6	2.8
Steel plates, uncoated, 1/8 inch thick and over						
Other than of alloy steel						
Boiler plates	98.2	9	105.1	98.2	9	105.1
Other plates under 3/16 inch thick	60.1	16	55.4	193.7	38	159.0
Other plates 3/16 inch thick and over	1,656.2	21	1,493.5	1,747.5	35	1,558.2
Of alloy steel						
Armour and bullet-proof plate	13.3	..	3.1	13.3	..	3.1
Other plates under 3/16 inch thick	(a)	..	(a)	0.7	9	
Other plates 3/16 inch thick and over	(a)	..	(a)	10.2	17	12.6
Other products						
Rolls for metal rolling mills (c)						
Steel castings of non-alloy steel	2.2	6	..			
Steel castings of alloy steel	4.0	9	..			
Steel sheets, uncoated, under 1/8 inch thick (d)						
Black sheets of non-alloy steel	21.1	18	17.5			
Of alloy steel						
Stainless and heat-resisting	13.6	13	17.3			
Other descriptions	2.2	14	1.3			

(a) Owing to the risk of disclosure of information relating to individual firms separate particulars cannot be given.

(b) Corrected figure.

(c) For total output returned in all trades see the Mechanical Engineering (General) Trade (Volume 4, Trade I).

(d) For total make returned in all trades see the Steel Sheets Trade (Volume 3, Trade D).

Sales of the principal products of the trade, including sales of these products by establishments classified to other trades

Larger establishments in Great Britain

TABLE 8

	1951			1948	
	Quantity Th.tons	Value £'000	Entries No.	Quantity Th.tons	Value £'000
Ferro alloys					
Ferro-molybdenum	1.1	782	..	0.6	366
Ferro-tungsten	2.8	6,229	6	3.1	2,648
Ferro-vanadium	0.7	608	..	0.5	431
Ferro-titanium	1.7	346(a)	7	1.0	143
Other ferro alloys except ferro-manganese and spiegeleisen (b)	26.0	2,456	10	17.8	1,152
Refined pig-iron	231.1	3,387	17	188.1	2,285
Steel ingots, other than of alloy steel	1,036.1	16,295	57	1,217.2	14,543
Ingots of alloy steel					
Stainless and heat-resisting	38.3	2,557	8	23.1	1,592
Other descriptions	24.2	1,463	33	18.5	910
Steel castings, in the rough or machined, excluding rolls for rolling mills					
Of non-alloy steel					
Railway materials (i.e., castings for locomotives, rolling stock and permanent way)	22.9	2,535	28	28.4	2,560
Castings for crushers (including jaw, roll, gyratory and cone), pan mills, ball, tube and rod mills, including those used for cement grinding	2.1	214	19	3.3	305
Valve castings	9.2	911	33	7.1	627
Turbine castings	0.6	132	12	1.5	257
Castings for collieries, quarries and brickwork haulage and underground mining machinery	12.1	1,327	42	12.5	982
Electrical engineering castings	7.1	868	33	5.9	647
Motor and cycle industry castings	12.3	1,575	27	5.3	744
Castings for blast furnaces and steel works plant, including steel and non-ferrous metal rolling mills	24.9	2,130	52	21.5	1,592
Castings for excavators and grabs	15.5	1,686	22	11.8	1,034
Castings for ship structures	2.6	409	22	7.3	994
Marine castings (such as castings for turbines, other marine engines and parts, deck and hull auxiliary machinery, propellers)	10.7	1,069	25	43.9	3,988
Castings for cranes, and lifting and conveying appliances	5.3	562	26	..	501
Other descriptions	46.1	5,064	61		
Unclassified	3.5	385	15	12	837
Of alloy steel					
Castings for crushers (including jaw, roll, gyratory and cone), pan mills, ball, tube and rod mills, including those used for cement grinding	8.2	910	11	6.4	623
Austenitic manganese steel castings, other than those included in castings for crushers, etc.	12.5	1,632	11	1.4	191
Low alloy steel castings of all types, not elsewhere specified	5.5	881	14	5.5	517
High alloy steel castings of all types, not elsewhere specified	3.5	1,358	21	2.2	813

TABLE 8 (contd.)

	1951			1948	
	Quantity Th.tons	Value £'000	Entries No.	Quantity Th.tons	Value £'000
Steel castings, in the rough or machined, excluding rolls for rolling mills (contd.)					
Of alloy steel (contd.)					
Other descriptions	16.5	3,890	30	11.6	1,923
Unclassified	..	17	..	2.6	330
Steel blooms, billets and slabs (excluding sheet and tinplate slabs)					
Other than of alloy steel	2,958.4	61,330	47	2,719.1	41,942
Of alloy steel					
Stainless and heat-resisting	7.9	1,091	13	8.4	1,241
Other descriptions	262.8	10,383	30	212.6	6,347
Steel bars and rods, etc., other than of alloy steel					
Sheet bars	755.9	14,922	25		
Tinplate bars	655.4	12,566	14	2,682.4	38,397(c)
Sheet slab and tinplate slabs	1,376.6	26,849	8		
Wire rods					
In straight lengths	16.2	612	8	29.6	907
In coils	628.6	16,291	16	588.3	11,679
Unclassified	23.0	775	6	-	-
Bars and rods for reinforcing purposes	201.2	5,192	17	177.9	3,621
Bright steel bars	277.8	11,410	40	173.3	6,043
Flats					
5 inches and under in width	422.9	12,400	105	492.8	11,309
Over 5 inches in width	126.5	3,027	56	131.8	2,492
Other, including rounds, squares and hexagons					
Under 3 inches	822.8	23,920	114	923.3	22,018
3 inches and over	133.7	3,932	62	139.2	3,139
Steel bars and rods of alloy steel					
Flats					
Stainless and heat-resisting	6.8	1,168	20	4.9	724
Other descriptions	43.8	4,257	50	19.8	2,380
Other, including rounds, squares and hexagons					
Stainless and heat-resisting	17.8	3,590	33	12.9	2,166
Other descriptions	200.2	21,629	82	169.1	12,548
Iron bars, rods, blooms, billets and slabs	75.1	2,444	19	81.7	2,337(c)
Angles, shapes and sections					
Of iron	1.3	41	5	14.7	411
Of steel other than alloy steel					
Channels					
3 inch web and under	23.6	666	22	31.4	731
Over 3 inch web	180.8	4,028	16	209.7	3,697
Other descriptions					
Over 4 united ins.	663.8	15,062	24	640.9	11,760
4 united ins. and under	337.4	11,267	45	256.5	6,202
Of alloy steel	0.7	58	15	2.4	88
Girders, beams, joists and pillars (rolled)					
3 inch web and over	427.0	9,498	12	472.3	8,279
Under 3 inch web	65.7	1,465	..		

TABLE 8 (contd.)

	1951			1948	
	Quantity	Value	Entries	Quantity	Value
	Th. tons	£'000	No.	Th. tons	£'000
Steel arches for collieries and similar purposes	384.3	9,553	19	318.0	6,373
Hot rolled strip from wide continuous mills					
In straight lengths	22.0	748	..	29.7	626
In coils	360.4	10,246	8	194.2	4,310
Hoop and strip					
Other than of alloy steel					
Bright cold rolled	310.7	14,968	32	245.4	9,919
Other than bright cold rolled					
Baling and barrel	33.7	1,389	13	25.5	776
For tubes	460.4	11,061	11	296.3	5,749
For all other purposes	233.9	6,597	33	155.1	3,431
Of alloy steel					
Stainless and heat-resisting	5.5	1,684	11	3.7	1,051
Other descriptions	0.8	173	6	2.7	387
	..	57			
Steel plates, uncoated, 1/8 inch thick and over					
Other than of alloy steel					
Boiler plates	100.3	2,857	9	104.2	2,134
Other plates under 3/16 inch thick	184.6	5,613	38	157.6	3,897
Other plates 3/16 inch thick and over	1,749.3	42,875	34	1,538.7	29,438
Of alloy steel					
Armour and bullet-proof plate	10.0	2,038	..	2.6	446
Other plates under 3/16 inch thick	0.7	154	10	1.6	153
Other plates 3/16 inch thick and over	9.9	1,376	19	9.0	1,084
Railway, etc. material, not elsewhere specified					
Steel rails, new					
Grooved for trams	8.6	237	..	16.2	326
Railways					
Rails (including conductor rails for electric traction)					
Weighing 36 lbs. per yard and over	437.6	9,974	13	370.2	6,605
Weighing under 36 lbs. per yard	40.2	1,055	13	57.4	1,198
Points, switches and crossings	46.1	2,036	17	33.4	1,354
	..	375		..	575
Rails, points, switches and crossings, unclassified	14.9	414	5	-	-
Sleepers	70.1	1,999	11	42.3	1,006
Fishplates and soleplates	31.8	1,047	20	27.8	731
Axles, tyres and wheels for locomotives, carriages, wagons and trucks (all gauges)					
Wheels and axles, complete sets	No. of sets 78,118 Th. tons 73.2	4,077	18	No. of sets 110,751 Th. tons 89.9 1.8	4,176 126
Other than complete sets	151.8	7,240	20	154.5	6,031
Railway spikes	20.2	1,222	19	..	893
Other railway equipment, excluding railway signals and signalling apparatus and railway chairs	30.9	1,149	16	30.7	972

TABLE 8 (contd.)

	1951			1948	
	Quantity	Value	Entries	Quantity	Value
	Th. tons	£'000	No.	Th. tons	£'000
Steel forgings, other than drop forgings					
Of alloy steel					
In the rough	33.7	4,994	64	51.6	5,686
Machined	24.3	4,451	27	16.8	2,732
Of non-alloy steel					
In the rough	77.4	5,366	89	73.9	4,734
Machined	59.2	7,453	49	38.5	4,102
Other and unclassified melting and rolling products	31.8	836	22	..	92
	..	265			
Waste and by-products, other than scrap metals, phosphatic ground basic slag for manure, waste steam and waste heat	630.5	848	120	..	719 (c)
Work done for the trade or on commission (d)					
Tilting, rolling, etc.		4,137	110		4,181
Annealing		389	31		329
Other work		1,577	91		1,201
Total		514,083	..		361,538
Sales in other trades (see Table 9)		21,670	..		17,174
Principal products of this trade sold by establishments in the trade		492,413	366		344,364

(a) So far as recorded separately.

(b) Including ferro alloy briquettes.

(c) Corrected figure.

(d) Amount charged.

Sales of principal products of the trade by establishments classified to other trades

Larger establishments in Great Britain

TABLE 9

	1951			1948	
	Quantity	Value	Entries	Quantity	Value
	Th. tons	£'000	No.	Th. tons	£'000
Ferro alloys (except molybdenum, tungsten, vanadium, manganese and spiegeleisen)	0.4	70	..	0.4	52
Refined pig-iron	93.9	1,376	9	87.3	1,067
Steel castings, in the rough or machined, excluding rolls for rolling mills					
Of non-alloy steel					
Castings for collieries, quarries and brick-work haulage and underground mining machinery	1.0	115	6	1.1	88
Electrical engineering castings	0.4	46	..	0.5	56
Motor and cycle industry castings	7.6	892	7	3.1	395
Castings for blast furnaces and steel works plant, including steel and non-ferrous metal rolling mills	4.6	288	13	6.6	326
Marine castings (such as castings for turbines, other marine engines and parts, deck and hull auxiliary machinery, propellers)	0.6	114	..		
Other descriptions, including railway materials (i.e., castings for locomotives, rolling stock and permanent way); castings for crushers, etc.; valve castings; turbine castings; castings for excavators and grabs; castings for ship structures; and castings for cranes, and lifting and conveying appliances	5.6	570	..	11.8	1,184
				..	241

TABLE 9 (contd.)

	1951			1948	
	Quantity	Value	Entries	Quantity	Value
	Th.tons	£'000	No.	Th.tons	£'000
Steel castings, in the rough or machined, excluding rolls for rolling mills (contd.)					
Of non-alloy steel (contd.)					
Unclassified	3.5	385	16	9.1	593
Of alloy steel					
High alloy steel castings of all types, not elsewhere specified	0.5	82	..	4.4	668
Other descriptions	0.9	123	5		
Unclassified	..	17	..		
Steel bars and rods etc., other than of alloy steel					
Wire rods	25.4	866	14	19.0	399
Bright steel bars	30.1	1,151	5	9.6	323
Flats	-	-	-	0.5	43
Other, including rounds, squares and hexagons; sheet bars; and bars and rods for reinforcing purposes	3.4	186	..	1.4	90
Steel bars and rods of alloy steel, including rounds, squares and hexagons	1.6	179	..	5.6	438
Angles, shapes and sections of iron	-	-	-	-	1
Steel arches for collieries	-	-	-	2.4	57
Steel plates, uncoated, 1/8 inch thick and over					
Other than of alloy steel, except boiler plates					
Under 3/16 inch thick	126.3	3,815	21	170.3	4,094
3/16 inch thick and over	90.7	2,714	14		
Of alloy steel, except armour and bullet-proof plate	1.0	218	5		
Railway, etc. material, not elsewhere specified					
Steel rails, new					
Grooved for trams	-	-	-	-	1
Railways					
Rails (including conductor rails for electric traction)	-	-	-	1.7	50
Points, switches and crossings	0.3	20	5	14.9	462
	..	375		..	339
Rails, points, switches and crossings, unclassified	14.9	414	5	-	-
Axles, tyres and wheels for locomotives, carriages, wagons and trucks (all gauges)	No. of sets			No. of sets	
Wheels and axles, complete sets	2,163	171	12	11,947	250
	Th.tons			4.4		Th.tons
	2.0			1.6	
Other than complete sets	2.4	145	7	4.5	166
Railway spikes	12.9	744	10	..	711
Other railway equipment, excluding railway signals and signalling apparatus and railway chairs, but including sleepers, fishplates and soleplates	2.3	78	5	21.6	704
Steel forgings, other than drop forgings					
Of alloy steel					
In the rough	4.8	646	12	9.3	974
Machined	0.4	106	6	0.9	145

TABLE 9 (contd.)

	1951			1948	
	Quantity	Value	Entries	Quantity	Value
	Th.tons	£'000	No.	Th.tons	£'000
Steel forgings, other than drop forgings (contd.)					
Of non-alloy steel					
In the rough	13.0	1,093	32	7.4	593
Machined	6.1	633	20	8.6	466
Hot rolled strip from wide continuous mills	101.9	3,184	..	79.8	1,982
Hoop and strip					
Other than alloy steel	5.1	275	8		
Of alloy steel	0.2	56	..		
	..	57	..		
All other melting and rolling products	2.6	157	6		
Work done for the trade or on commission (a)		308	10		98
Total		21,670	..		17,174

(a) Amount charged.

Sales in the trade of other than principal products
Larger establishments in Great Britain

TABLE 10

	1951		1948		
	Quantity	Value	Quantity	Value	
	Th.tons	£'000	Th.tons	£'000	
Springs	32.1	2,595	26.7	1,959	
Steel drop forgings	23.5	2,761	23.0	2,497	
Bolts, nuts, rivets, washers, nails, etc.	53.1	2,566	49.8	1,857	
			..	372	
Rolls for metal rolling mills	10.0	738	11.8	1,038	
Other machinery and plant (including military and naval stores, etc.)	1.2	204			
	..	806	..	315	
Permanent magnets	Thous.	8,554	563	..	305
Tools and implements	Th.do.			Th.do.	
Machine tools and engineers' small tools	260.3	1,007	..	1,699	
	..	1,588			
Other (including cutlery)	48.9	316	36	76	
	..	356	..	423	
Steel plates and sheets, uncoated, under 1/8 in. thick	Th.tons	36.2	6,071	33.2	4,114
Iron castings	44.4	1,501	44.2	911	
			..	11	
Railway equipment, signalling apparatus, etc.	1.6	248	8.3	400	
	..	36	..	63	
Other manufactures of iron and steel (a)	153.4	5,977	90.1	3,011	
Other manufactures of non-ferrous metals	14.9	5,556	10.4	2,068	

TABLE 10 (contd.)

	1951		1948	
	Quantity	Value	Quantity	Value
	Th.tons	£'000	Th.tons	£'000
Phosphatic ground basic slag for manure	394.3	785	257.7	374
Other goods, including metallic compounds	19.0 ..	743 1,150	3.3 ..	381 308
	Mill.B.T.U. (kWh)		Mill.B.T.U. (kWh)	
Electricity supplied to other undertakings of the firm or to outside consumers	170.5	674	334.1	1,254
Scrap metals sold	Th.tons		Th.tons	
Iron and steel	712.9	4,479	748.6	4,008
Other descriptions	23.1 ..	335 90	9.6	207
Steam and waste heat sold	..	1,468	..	786(b)
Contract work, structural steelwork on buildings, etc. (c)		800		572
Other work (d)		1,087		723
Total		44,500		29,731

(a) Including ferro-manganese.

(b) Corrected figure.

(c) Value of work done during the year, exclusive of the value of goods used by firms and recorded as their output. The values of these goods were recorded as £1,793,000 in 1951 and £478,000 in 1948.

(d) Amount charged.

Production, exports and imports of certain principal products (a)

TABLE 11

		Production (b) (c)	Exports	Retained imports
		Th.tons	Th.tons	Th.tons
Ferro alloys				
Ferro-tungsten	{ 1951 1948 1937	2.9 3.1 3.6(d)	0.4 1.1 1.1	- - -
Other sorts				
Ferro-molybdenum	{ 1951 1948	1.0 0.6	0.1 0.1	- -
Ferro-vanadium	{ 1951 1948	0.7 0.5	0.1 0.1	- -
Other ferro alloys (except ferro-manganese and spiegeleisen)	{ 1951 1948	27.0 17.4	0.9 0.6	99.5 86.4
Total other sorts	{ 1951 1948 1937	28.7 18.6 10.0(d)	1.0 0.8 1.5	99.5 86.4 73.1
Steel ingots	{ 1951 1948 1937	14,699.1 13,894.6 12,461.4	0.1 0.1 1.0	1.3 19.1 32.6
Steel blooms, billets and slabs				
Other than of alloy steel	{ 1951 1948 1937	7,756.8 7,487.9 7,414.7	4.4 3.9 10.4	102.7 162.4 434.3
Of alloy steel	{ 1951 1948 1937	480.1 392.3 173.7	0.7 1.7 0.1	- 11.8 2.4

TABLE 11 (contd.)

		Production (b) (c)	Exports	Retained imports
		Th.tons	Th.tons	Th.tons
Steel bars and rods, etc., other than of alloy steel				
Sheet bars, tinplate bars, sheet slab and tinplate slabs (e)	{ 1951 1948 1937	2,904.3 2,694.0 2,527.6	0.1 0.1 19.3	35.6 14.0 151.4
Wire rods				
In straight lengths	{ 1951 1948 1937	15.8 31.4 ..	0.9 2.0 0.7	0.8 - 2.9
In coils	{ 1951 1948 1937	746.3 709.2 ..	10.2 2.4 4.9	41.9 26.6 94.0
Total wire rods	{ 1951 1948 1937	800.5(f) 740.6 562.3	11.1 4.4 5.6	42.7 26.6 96.9
Bright steel bars	{ 1951 1948 1937	274.4 181.7 169.4	28.8 23.1 8.2	2.4 0.5 10.8
Flats				
5 inches and under in width	{ 1951 1948 1937	453.6 524.5 314.1	37.7 26.8 13.0	4.0 17.5 48.6
Over 5 inches in width	{ 1951 1948 1937	126.5 133.7 111.4	12.7 4.8 8.3	0.1 0.2 1.4
Other, including rounds, squares and hexagons, and rods for reinforcing purposes	{ 1951 1948 1937	1,185.6 1,264.4 1,127.2	114.4 85.0 102.1	44.0 31.8 82.8
Steel bars and rods of alloy steel				
Flats	{ 1951 1948 1937	53.4 27.5 33.3	1.5 1.9 0.3	.. 0.1 0.3
Other, including rounds, squares and hexagons	{ 1951 1948 1937	233.7 192.2 137.8	14.2 16.3 4.4	3.3(g) 2.4 2.7
Iron bars, rods, blooms, billets and slabs	{ 1951 1948 1937	76.5 181.1 127.4(d)	8.3 6.5 8.0	0.8 1.1 25.7
Angles, shapes and sections				
Of iron	{ 1951 1948 1937	1.3 14.7 39.4	0.8 2.9 0.3	- 1.6 0.3
Of steel, other than alloy steel				
Channels				
3 inch web and under	{ 1951 1948 1937	23.6 31.0 12.1	12.2 10.1 4.6	0.5 0.6 6.2
Over 3 inch web	{ 1951 1948 1937	180.4 207.4 209.6	15.3 9.4 8.3	4.8 2.6 11.3
Other descriptions				
Over 4 united inches	{ 1951 1948	715.5 680.5	71.7 59.1	5.5 7.4
4 united inches and under	{ 1951 1948	381.3 254.1	37.1 19.1	3.1 3.4
Total other descriptions	{ 1951 1948 1937	1,096.7 934.6 805.7	108.9 78.2 63.0	8.6 10.8 54.8

TABLE 11 (contd.)

		Production (b) (c)	Exports	Retained imports
		Th. tons	Th. tons	Th. tons
Angles, shapes and sections (contd.)				
Of alloy steel	{ 1951 1948 1937	0.5 2.9 4.4	0.4 0.6 0.1	- - 0.1
Girders, beams, joists and pillars (rolled) (h)				
3 inch web and over	{ 1951 1948 1937	464.5 496.4 568.4(d)	35.0 11.2 24.0	25.9 16.1 60.5
Under 3 inch web	{ 1951 1948 1937	120.0 31.3 4.1(d)	1.4 2.4 3.4	0.1 0.2 8.0
Hoop and strip				
Other than of alloy steel				
Bright cold rolled	{ 1951 1948 1937	318.9 246.2 125.5(d)	20.9 10.7 3.5(i)	6.1 0.9 5.2(i)
Other than bright cold rolled				
Ealing and barrel	{ 1951 1948 1937	35.0 25.6 63.6(d)	27.1 23.7(i) 42.7(i)	.. - (i) 3.6(i)
Other hoop and strip and hot rolled strip from wide continuous mills	{ 1951 1948 1937	2,279.7 1,342.5 594.5(d)	24.7 7.5 11.5	20.3 32.8 63.1
Steel plates, uncoated, 1/8 inch thick and over				
Other than of alloy steel	1951	2,039.4	262.2	29.3
Of alloy steel	1951	24.2	1.0	0.1
Total	{ 1951 1948 1937	2,063.6 1,838.0 1,620.3	263.2 127.6 195.4	29.3 10.2 31.0
Railway, etc. material, not elsewhere specified (j)				
Steel rails, new				
Grooved for trams	{ 1951 1948 1937	8.6 16.2 21.1	1.5 1.3 3.5	.. - -
Railways				
Rails (including conductor rails for electric traction) (k)				
Weighing 36 lbs. per yard and over	{ 1951 1948 1937	437.6 370.2 427.5	104.9 81.0 147.3	- - 0.2
Weighing under 36 lbs. per yard	{ 1951 1948 1937	40.2 57.4 43.0	6.8 28.3 1.2	0.5 0.1 5.1
Points, switches and crossings	{ 1951 1948 1937	54.3(l) 47.6(l) 22.8(l) (m)	5.1 4.0 3.8	.. - 0.3
Total steel rails, new, for railways	{ 1951 1948 1937	547.0(n) 475.2 493.3(m)	116.8 113.3 152.3	.. 0.1 5.6
Sleepers	{ 1951 1948 1937	70.1 42.3 19.6	59.4 46.7 16.2	- - 1.7
Fishplates and soleplates	{ 1951 1948 1937	31.8 27.8 31.7(m)	15.4 9.9 16.0	- - 0.4

TABLE 11 (contd.)

		Production (b) (c)	Exports	Retained imports
Railway, etc. material, not elsewhere specified (j) (contd.)				
Axles, tyres and wheels for locomotives, carriages, wagons and trucks (all gauges)		No. of sets	No. of sets	No. of sets
	{ 1951	78,118	32,284	57
		Th. tons	Th. tons	Th. tons
		73.2	16.8	0.1
Wheels and axles, complete sets	{ 1948	No. of sets	No. of sets	No. of sets
		115,283(l)	63,098	82
		Th. tons	Th. tons	Th. tons
		91.7	34.9	-
	{ 1937	No. of sets	No. of sets	No. of sets
		98,576	26,874	5,914
		Th. tons	Th. tons	Th. tons
		62.4(m)	9.9	0.3
Other than complete sets	{ 1951 1948 1937	151.8 154.5 96.4(o)	64.1(o) 48.3 23.0(o)	- - -
Railway spikes	1951	20.2	6.4	..

(a) Figures of production (or sales) refer only to larger establishments. All recorded exports from and imports into the United Kingdom are given in the table. The figures, therefore, are not strictly comparable.

(b) Production whether for sale or for further manufacture in the same works, except where otherwise stated.

(c) Including production (or sales) by establishments classified to other trades.

(d) Production for sale.

(e) The 1937 production figure and the oversea trade figures for all years are described as relating to 'Sheet bars and tinplate bars'.

(f) Including 38,400 tons of unclassified wire rods.

(g) Including flats.

(h) The 1937 figures relate to 'Over 3 in. web' and '3 in. web and under', respectively.

(i) Including alloy steel.

(j) Production figures relate to sales in 1951 and 1948 and to production for sale in 1937.

(k) The 1937 figures relate to rails weighing 'Over 36 lbs.' and '36 lbs. and under' per yard, respectively.

(l) Partly estimated.

(m) The output of railway companies was not ascertained for 1937. Their output in 1935 was

Points, switches and crossings	Th. tons	28.9
Fishplates and soleplates	Th. tons	0.2

Wheels and axles complete	No. of sets	888
	Th. tons	1.0

(n) Including 14,900 tons of unclassified rails, points, switches and crossings.

(o) Described as tyres and axles.

Usage of certain specified purchased materials, 1951

Larger establishments in Great Britain

TABLE 12

Materials used	Quantity
Iron	Th. tons
Pig iron	7,137.9
Iron castings, in the rough	67.9
Non-alloy steel	
Ingots	1,131.9
Billets, blooms and slabs	3,117.6
Alloy steel	
Ingots	53.3
Billets, blooms and slabs	91.8
Other iron and steel, except finished parts and scrap	884.6
Zinc and zinc alloys in all forms, except finished parts and scrap	Th. cwt.
	1.6

Employment in September

TABLE 13

Larger establishments (a)

	Great Britain					Number
	1951(b)	1950(b)	1949(b)	1948(c)	1937(c)		1935(c)
Males						
Under 18	7,203	6,816	7,031	7,087	9,368	6,857
All ages	164,947	165,153	165,914	163,769	129,593	102,423
Females						
Under 18	174	199	230	276	140	178
All ages	6,907	6,347	6,533	6,617	680	632
Total						
Under 18	7,377	7,015	7,261	7,363	9,508	7,035
All ages	171,854	171,500	172,447	170,386	130,273	103,055

(ii) Administrative, technical and clerical employees (d)

	Great Britain					Number
	1951	1950	1949	1948	1937		1935
Males						
Under 18	1,171	1,233	1,289	1,131	1,340	840
All ages	24,465	23,349	22,896	21,918	11,249	8,973
Females						
Under 18	1,763	1,665	1,576	1,522	652	411
All ages	8,826	8,470	8,134	7,819	2,748	2,111
Total						
Under 18	2,934	2,898	2,865	2,653	1,992	1,251
All ages	33,291(e)	31,819(e)	31,030(e)	29,737(e)	13,997	11,084

(iii) Total employees

	Great Britain					Number
	1951	1950	1949	1948	1937		1935
Males						
Under 18	8,374	8,049	8,320	8,218	10,708	7,697
All ages	189,412	188,502	188,810	185,687	140,842	111,396
Females						
Under 18	1,937	1,864	1,806	1,798	792	589
All ages	15,733	14,817	14,667	14,436	3,428	2,743
Total						
Under 18	10,311	9,913	10,126	10,016	11,500	8,286
All ages	205,145(e)	203,319(e)	203,477(e)	200,123(e)	144,270	114,139

(a) Excluded employees. The following persons were employed at the larger establishments in this trade in 1951 but are not included in the above tables or in any other Census of Production report (e.g., employees engaged in merchanting):-

Canteen workers	111	Males	1,351	Females	
Other workers	275	Males	261	Females	

(b) In week ended September 22, 1951, September 30, 1950, and September 24, 1949.

(c) Average for the year.

(d) In week ended September 22, 1951, September 30, 1950, September 24, 1949, September 25, 1948, October 16, 1937 and October 12, 1935.

(e) Working proprietors. In addition working proprietors, shown in Table 13 (iv) below, were engaged in this trade in larger establishments. The 1937 and 1935 figures include working proprietors.

(iv) Working proprietors

	Great Britain				Number
	1951	1950	1949	1948	
Males	14	11	12	15	
Females	-	-	-	-	
Total	14	11	12	15	

Average employment
Larger establishments (a)

TABLE 14

	Great Britain					Number
	1951	1950	1949	1948	1937		1935
Operatives	172,034	171,671	173,201	170,386	130,273	103,055
Administrative, technical and clerical employees	32,849	31,599	30,974	29,737 (b)	13,997 (b)	11,084 (b)
Total	204,883	203,270	204,175	200,123	144,270	114,139

(a) For employment in small firms (employing on the average ten or fewer persons) that made satisfactory returns, see Table 2.

(b) In week ended September 25, 1948, October 16, 1937, and October 12, 1935. The 1937 and 1935 figures include working proprietors.

Outworkers. In addition to the employees shown above the firms in this trade employed outworkers whose numbers are shown below.

	Great Britain					
	1951	1950	1949	1948	1937	1935
Males	4	6	7	6	..	..
Females	1	-	-	-	..	..
Total	5	6	7	6	..	..

Shift working, 1951 (a)
Larger establishments in Great Britain

TABLE 15

	Total number of man-shifts worked in the week	Total number of shift-hours worked in the week	Number of returns showing the systems stated
Continuous 3 shift systems per 24 hours averaging 8 hours per shift	434,961	3,499,828	150
Continuous 4 shift systems per 24 hours averaging 6 hours per shift	-	-	-
All 2 shift systems	72,678	693,976	90
Other shift systems	4,368	39,133	13
Total	512,007	4,232,937	(b)

(a) Shift working during week ended September 22, 1951.

(b) The number and percentage of returns showing shift working and of operatives on shift work were as follows:-

	Returns		Operatives		
	Total in trade	Showing shift work	Total in trade	Total on returns showing shift work	Number employed on shift work
Number	366	222	171,854	159,092	90,325
Percentage of total in trade, showing shift work	100.0	60.7	100.0	92.5	52.5
				100.0	56.7

Wages and salaries and employers' National Insurance
contributions paid during the year

Larger establishments

	Great Britain			
	1951	1950	1949	1948
Wages and salaries (a) of				
Operatives	75,833	70,190	67,812	63,644
Administrative, technical and clerical employees	16,369	14,787	13,786	12,764
Total	92,201	84,977	81,598	76,409
Employers' contributions to all National Insurance Schemes	2,119	2,077	2,080	1,596

(a) Including bonus and commission payments, but excluding payments to outworkers shown below.

Great Britain			
1951	1950	1949	1948
1	1	2	3

Plant, machinery and vehicles - acquisitions and disposals,
and capital expenditure on new building work

Larger establishments

	Great Britain		
	1951	1949	1948
Plant, machinery and vehicles			
Acquisitions			
Plant and machinery			
New	15,807	10,890	8,850
Second-hand	434	604	771
Vehicles			
New	557	342	304
Second-hand	62	69	77
Total acquisitions	16,861	11,905	10,002
Disposals			
Plant and machinery	455	547	217
Vehicles	97	58	46
Total disposals	552	605	263
New building work			
Capital expenditure on new building and other constructional work of a capital nature (excluding site values and development charges)	3,203	2,532	2,091

1951

Summary

Larger establishments

TABLE 18

	England	Wales	Scotland	Great Britain
	£'000	£'000	£'000	£'000
Gross output (production)	384,297	96,543	62,153	542,993
Cost of materials and fuel used	240,318	70,423	37,851	348,591
Payment for work done on materials given out	4,715	13	473	5,202
Transport payments	11,459	2,693	1,947	16,099
Net output	127,806	23,414	21,881	173,101
Wages and salaries of persons employed	69,503	12,352	10,346	92,201
	No.	No.	No.	No.
Average number of persons employed (a)	155,112	25,730	24,055	204,897
	£	£	£	£
Net output per person employed (a)	824	910	910	845
	£'000	£'000	£'000	£'000
Stocks at end of year				
Products on hand for sale and work in progress	29,037	3,088	3,273	35,398
Materials and fuel	28,703	6,408	4,499	39,609
	No.	No.	No.	No.
Number of establishments	321	31	46	398

The values of gross output and of materials and fuel used are derived in the following way:-

	£'000	£'000	£'000	£'000
Output of firms in this trade				
Total value of sales (see Table 20)	379,495	95,681	61,736	536,913
Changes in stocks and work in progress (see Table 21)	+ 4,802	+ 862	+ 417	+ 6,080
Gross output (production)	384,297	96,543	62,153	542,993
Materials and fuel used by firms in this trade				
Purchases	241,128	70,629	36,849	348,606
Changes in stocks (see Table 21)	- 811	- 206	+ 1,002	- 15
Materials and fuel used	240,318	70,423	37,851	348,591

(a) Excluding outworkers but including working proprietors.

Summary

Small firms (a)

TABLE 19

	England	Wales	Scotland	Great Britain
Number of returns	40	-	3	43
Average number of persons employed (b)				
Males	223	-	21	244
Females	36	-	2	38
Total	259	-	23	282

(a) Small firms (employing on the average ten or fewer persons) that made satisfactory returns.
(b) Including working proprietors.

Sales in the trade
Larger establishments

TABLE 20

	England and Wales		Scotland		Great Britain	
	Quantity	Value	Quantity	Value	Quantity	Value
	Th.tons	£'000	Th.tons	£'000	Th.tons	£'000
Principal products						
Ferro alloys						
Ferro-molybdenum	1.1	782	-	-	1.1	782
Ferro-tungsten	2.8	6,229	-	-	2.8	6,229
Ferro-vanadium	0.7	608	-	-	0.7	608
Other ferro alloys, except ferro-manganese and spiegeleisen	27.3	2,732	-	-	27.3	2,732
Refined pig-iron	137.1	2,011	-	-	137.1	2,011
Ingots of alloy steel, stainless and heat-resisting	..	(a)	..	(a)	38.3	2,557
Steel castings, in the rough or machined, excluding rolls for rolling mills						
Of non-alloy steel						
Castings for collieries, quarries and brickwork haulage and underground mining machinery	7.4	730	3.7	482	11.1	1,212
Electrical engineering castings	5.7	698	1.0	124	6.7	822
Motor and cycle industry castings	..	(a)	..	(a)	4.8	683
Castings for blast furnaces and steel works plant, including steel and non-ferrous metal rolling mills	17.3	1,503	3.1	340	20.4	1,843
Marine castings (such as castings for turbines, other marine engines and parts, deck and hull auxiliary machinery, propellers)	5.2	424	4.9	531	10.1	955
Other descriptions, including railway material (i.e., castings for locomotives, rolling stock and permanent way); castings for crushers, etc.; valve castings; turbine castings; castings for excavators and grabs; castings for ship structures; and castings for cranes, and lifting and conveying appliances	78.8	8,428	20.0	2,514	98.8	10,942
Of alloy steel						
Castings for crushers (including jaw, roll, gyratory and cone), pan mills, ball, tube and rod mills, including those used for cement grinding	..	(a)	..	(a)	8.2	910
Austenitic manganese steel castings, other than those included in castings for crushers, etc.	..	(a)	..	(a)	12.5	1,632
Low alloy steel castings of all types, not elsewhere specified	..	(a)	..	(a)	5.5	881
High alloy steel castings of all types, not elsewhere specified	..	(a)	..	(a)	3.1	1,275
Other descriptions	..	(a)	..	(a)	15.5	3,767
Steel blooms, billets and slabs (excluding sheet and tinplate slabs)	..	(a)	..	(a)	2,958.4	61,330
Other than of alloy steel	..	(a)	..	(a)	7.9	1,091

TABLE 20 (contd.)

	England and Wales		Scotland		Great Britain	
	Quantity	Value	Quantity	Value	Quantity	Value
	Th.tons	£'000	Th.tons	£'000	Th.tons	£'000
Principal products (contd.)						
Steel bars and rods, etc., other than of alloy steel						
Tinplate bars	655.4	12,566	-	-	655.4	12,566
Sheet slab and tinplate slabs	..	(a)	..	(a)	1,376.6	26,849
Wire rods	..	(a)	..	(a)	642.4	16,813
Bright steel bars	..	(a)	..	(a)	247.8	10,260
Flats						
5 inches and under in width	..	(a)	..	(a)	422.9	12,400
Over 5 inches in width	..	(a)	..	(a)	126.5	3,027
Other, including rounds, squares and hexagons; sheet bars; and bars and rods for reinforcing purposes	..	(a)	..	(a)	1,910.2	47,781
Steel bars and rods of alloy steel						
Flats						
Stainless and heat-resisting	..	(a)	..	(a)	6.8	1,168
Other descriptions	..	(a)	..	(a)	43.8	4,257
Other, including rounds, squares and hexagons	..	(a)	..	(a)	216.3	25,039
Iron bars, rods, blooms, billets and slabs	..	(a)	..	(a)	75.1	2,444
Angles, shapes and sections						
Of iron	..	(a)	..	(a)	1.3	41
Of steel, other than alloy steel						
Channels						
3 inch web and under	..	(a)	..	(a)	23.6	666
Over 3 inch web	..	(a)	..	(a)	180.8	4,028
Other descriptions, 4 united inches and under	..	(a)	..	(a)	337.4	11,267
Girders, beams, joists and pillars (rolled), under 3 inch web	..	(a)	..	(a)	65.7	1,465
Steel arches for collieries and similar purposes	344.4	8,554	40.0	999	384.3	9,553
Steel plates, uncoated, 1/8 inch thick and over						
Other than of alloy steel						
Boiler plates	..	(a)	..	(a)	100.3	2,857
Other plates under 3/16 inch thick	..	(a)	..	(a)	58.3	1,798
Other plates 3/16 inch thick and over	..	(a)	..	(a)	1,658.6	40,160
Of alloy steel						
Armour and bullet-proof plate	..	(a)	..	(a)	10.0	2,038
Other	..	(a)	..	(a)	9.6	1,312
Railway, etc. material, not elsewhere specified						
Steel rails, new						
Grooved for trams	8.6	237	-	-	8.6	237
Railways						
Rails (including conductor rails for electric traction) weighing 36 lbs. per yard and over	..	(a)	..	(a)	437.6	9,974
Weighing under 36 lbs. per yard	..	(a)	..	(a)	40.2	1,055

TABLE 20 (contd.)

	England and Wales		Scotland		Great Britain	
	Quantity	Value	Quantity	Value	Quantity	Value
Principal products (contd.)	Th.tons	£'000	Th.tons	£'000	Th.tons	£'000
Railway, etc. material, not elsewhere specified (contd.)						
Steel rails, new (contd.)						
Points, switches and crossings	45.8	2,016	-	-	45.8	2,016
Axles, tyres and wheels for locomotives, carriages, wagons and trucks (all gauges)						
Wheels and axles, complete sets	..	(a)	..	(a)	No. of sets 75,955 Th.tons 71.2	3,906
Other than complete sets	..	(a)	..	(a)	149.4	7,095
Railway spikes	..	(a)	..	(a)	7.3	478
Other railway equipment, excluding railway signals and signalling apparatus and railway chairs, but including sleepers, fishplates and soleplates	..	(a)	..	(a)	130.5	4,117
Steel forgings, other than drop forgings						
Of alloy steel						
In the rough	..	(a)	..	(a)	28.9	4,348
Machined	..	(a)	..	(a)	23.8	4,345
Of non-alloy steel						
In the rough	51.8	3,015	12.6	1,257	64.4	4,273
Machined	46.1	5,863	7.0	957	53.1	6,820
Hot rolled strip from wide continuous mills	280.5	7,810	-	-	280.5	7,810
Hoop and strip						
Other than of alloy steel	..	(a)	..	(a)	1,033.6	33,742
Of alloy steel	..	(a)	..	(a)	6.1	1,801
Other and unclassified melting and rolling products	..	(a)	..	(a)	2,443.9	53,438
					..	265
Waste and by-products, other than scrap metals, phosphatic ground basic slag for manure, waste steam and waste heat	448.0	720	182.4	128	630.5	848
Work done for the trade on commission (b)						
Tilting, rolling, etc. and annealing		(a)		(a)		4,218
Other work		(a)		(a)		1,577
Total principal products		433,343		59,070		492,413
Other output						
Springs	32.1	2,595	-	-	32.1	2,595
Steel drop forgings	23.5	2,761	-	-	23.5	2,761
Bolts, nuts, rivets, washers, nails, etc.	..	(a)	..	(a)	53.1	2,566
Rolls for metal rolling mills	..	(a)	..	(a)	10.0	738
Other machinery and plant (including military and naval stores, etc.)	..	(a)	..	(a)	1.2	204
					..	806
Permanent magnets	..	(a)	..	(a)	Thous. 8,554	563
Tools and implements	Th.do.				Th.do.	
Machine tools and engineers' small tools	260.3	1,007	-	-	260.3	1,007
	..	1,588			..	1,588
Other (including cutlery)	48.9	316	-	-	48.9	316
	..	356			..	356

TABLE 20 (contd.)

	England and Wales		Scotland		Great Britain	
	Quantity	Value	Quantity	Value	Quantity	Value
Other output (contd.)	Th.tons	£'000	Th.tons	£'000	Th.tons	£'000
Steel plates and sheets, uncoated, under 1/8 inch thick	..	(a)	..	(a)	36.2	6,071
Iron castings	44.4	1,501	-	-	44.4	1,501
Railway equipment, signalling apparatus, etc.	1.6	248	-	-	1.6	248
	..	36			..	36
Other manufactures of iron and steel	149.2	5,752	4.2	225	153.4	5,977
Other manufactures of non-ferrous metals	14.8	5,541	-	14	14.9	5,556
Phosphatic ground basic slag for manure	..	(a)	..	(a)	394.3	785
Other goods, including metallic compounds	..	(a)	..	(a)	19.0	743
					..	1,150
Electricity supplied to other undertakings of the firm or to outside consumers	..	(a)	..	(a)	Mill. B.T.U. (kWh) 170.5	674
Scrap metals sold					Th.tons	
Iron and steel	..	(a)	..	(a)	712.9	4,479
Other descriptions	..	(a)	..	(a)	23.1	335
					..	90
Steam and waste heat sold	..	(a)	..	(a)	..	1,468
Contract work, structural steelwork on buildings, etc. (c)		(a)		(a)		800
Other work (b)		(a)		(a)		1,087
Total		475,176		61,736		536,913

(a) Owing to the risk of disclosure of information relating to individual firms separate particulars cannot be given.

(b) Amount charged.

(c) Value of work done during the year, exclusive of the value of goods used by firms and recorded as their output. The value of these goods was recorded as £1,793,000.

Stocks of products on hand for sale and work in progress,
and stocks of materials and fuel

Larger establishments

TABLE 21

		£'000		
		England and Wales	Scotland	Great Britain
Products on hand for sale	{ at beginning of year	10,954	1,281	12,235
	{ at end of year	13,320	877	14,197
Work in progress	{ at beginning of year	15,507	1,576	17,083
	{ at end of year	18,805	2,397	21,202
Total products on hand for sale and work in progress	{ at beginning of year	26,461	2,857	29,318
	{ at end of year	32,125	3,273	35,398
Materials and fuel	{ at beginning of year	34,093	5,501	39,594
	{ at end of year	35,110	4,499	39,609

Employment in September
Larger establishments (a)(b)

TABLE 22
(i) Operatives

	Number		
	England and Wales	Scotland	Great Britain
Males			
Under 18	6,014	1,189	7,203
All ages	144,452	20,495	164,947
Females			
Under 18	161	13	174
All ages	6,703	204	6,907
Total			
Under 18	6,175	1,202	7,377
All ages	151,155	20,699	171,854

(ii) Administrative, technical and clerical employees

	Number		
	England and Wales	Scotland	Great Britain
Males			
Under 18	1,017	154	1,171
All ages	22,027	2,438	24,465
Females			
Under 18	1,627	136	1,763
All ages	8,088	738	8,826
Total			
Under 18	2,644	290	2,934
All ages (c)	30,115	3,176	33,291

(iii) Total employees

	Number		
	England and Wales	Scotland	Great Britain
Males			
Under 18	7,031	1,343	8,374
All ages	166,479	22,933	189,412
Females			
Under 18	1,788	149	1,937
All ages	14,791	942	15,733
Total			
Under 18	8,819	1,492	10,311
All ages (c)	181,270	23,875	205,145

(a) Excluded employees. The number of persons employed at the larger establishments in this trade but not included in the above tables or in any other Census of Production report (e.g., employees engaged in merchandising) are shown in Table 22(v) below.

(b) Number employed in the week ended September 22, 1951.

(c) Working proprietors. In addition working proprietors, shown in Table 22(iv) below, were engaged in this trade in larger establishments.

(iv) Working proprietors

	Number		
	England and Wales	Scotland	Great Britain
Males	10	4	14
Females	-	-	-
Total	10	4	14

(v) Excluded employees

	Number		
	England and Wales	Scotland	Great Britain
Canteen workers			
Males	108	3	111
Females	1,210	141	1,351
Total	1,318	144	1,462
Other workers			
Males	258	17	275
Females	223	38	261
Total	481	55	536
Total excluded employees	1,799	199	1,998

Average employment
Larger establishments (a)

TABLE 23

	Number		
	England and Wales	Scotland	Great Britain
Operatives	151,163	20,871	172,034
Administrative, technical and clerical employees	29,669	3,180	32,849
Total	180,832	24,051	204,883

(a) For employment in small firms (employing on the average ten or fewer persons) that made satisfactory returns see Table 19.

Outworkers. In addition to the employees shown above the firms in this trade employed 4 male and 1 female outworkers (all in England and Wales).

Wages and salaries and employers' National Insurance
contributions paid during the year

Larger establishments

TABLE 24

	£'000		
	England and Wales	Scotland	Great Britain
Wages and salaries (a) of			
Operatives	67,009	8,823	75,833
Administrative, technical and clerical employees	14,846	1,523	16,369
Total	81,855	10,346	92,201
Employers' contributions to all National Insurance Schemes ^a	1,872	247	2,119

(a) Including bonus and commission payments but excluding payments, amounting to £1,000, to outworkers in England and Wales.

Plant, machinery and vehicles - acquisitions and disposals,
and capital expenditure on new building work

Larger establishments

TABLE 25

	£'000		
	England and Wales	Scotland	Great Britain
Plant, machinery and vehicles			
Acquisitions			
Plant and machinery			
New	14,835	972	15,807
Second-hand	256	178	434
Vehicles			
New	537	20	557
Second-hand	55	7	62
Total acquisitions	15,684	1,177	16,861
Disposals			
Plant and machinery			
Vehicles	396	59	455
Vehicles	89	8	97
Total disposals	485	67	552
New building work			
Capital expenditure on new building and other constructional work of a capital nature (excluding site values and development charges)	3,042	161	3,203

Payments for transport services for finished goods
sold and materials and fuel purchased

Larger establishments

TABLE 26

£'000

	England and Wales	Scotland	Great Britain
Amounts paid to other firms and undertakings	13,634	1,947	15,581
Amount paid or credited to firms' own separate transport organisations	518	1	518
Total	14,152	1,947	16,099

GENERAL NOTES

The following brief notes refer to Great Britain and, unless otherwise stated, to the census of production for 1951. Reference should be made to the separate booklet in this series entitled 'The Report on the Census of Production for 1951: Introductory Notes' (price 1s.6d. net) for particulars of the minor differences in the Northern Ireland censuses and other details about the census of production.

Trade classification: Establishments are classified to trades according to the nature of their output. Certain products, called principal products, are identified as characteristic of the production of individual trades, the principal products for a given trade being of a similar nature or commonly associated in production. An establishment is classified to a trade if its output of principal products of that trade accounted for a greater proportion of the value of its output than did its output of principal products of any other trade.

The establishment: The basic unit for the collection of information is generally the establishment which in most cases comprises the whole of the premises under the same ownership or management at a particular address (e.g., a factory). Offices, warehouses and other ancillary places of business situated apart from the producing works are included in the return for the works.

Larger establishments and small firms: Larger establishments are those which employed more than 10 persons on the average during the year; small firms are those employing on the average 10 or fewer persons.

Working proprietors are proprietors of businesses other than limited companies, and include members of their families who work in the business without receiving fixed wages or salaries. Any persons working less than half the normal hours are excluded.

Persons employed: Administrative employees include directors other than those paid by fee only, managers, superintendents and works foremen; research, experimental, development, technical and design employees (other than operatives); draughtsmen and tracers; and travellers and office (including works office) employees. Operatives include all other classes of employees, that is, broadly speaking, all manual workers.

All these figures exclude canteen employees and persons engaged in merchanting or any other activity not covered by a firm's return who are shown separately as excluded employees.

Figures for employees include only persons on the pay-roll (that is whose National Insurance cards were held by the firm), whether full-time or part-time employees.

Outworkers, who are shown separately, are persons employed by the firm who work on materials supplied by the firm, but do not work on the premises; operatives directly employed who work out of doors (e.g., maintenance workers) and sub-contractors are not included as outworkers.

Wages and salaries include all overtime payments, bonuses, and commissions, without any deduction for income tax, insurance, contributory pensions, etc. They exclude payments to working proprietors.

Capital expenditure: Expenditure on plant, machinery and vehicles relates to expenditure charged to capital account during the year of return, including transport and installation costs involved. Expenditure on new building work is similarly that charged to capital account during the year.

Materials and fuel: The cost of materials and fuel purchased includes all purchases during the year of materials for use in production and of fuel (including oil, gas, and electricity for all purposes, including heating and lighting); all packing materials, including the full cost of returnable containers when first purchased; workshop materials; office materials; water charges; materials for repairs to firms' own buildings, plant and vehicles when carried out by

their own work people included in the return; and consumable tools and parts for machinery purchased as replacement. Materials, components, etc. which were purchased and re-sold in the same state (that is, merchanting or factored goods) were excluded. For 1951 firms in many trades were required to state the quantities of certain purchased materials used.

Stocks and work in progress: Firms were instructed to give these at income tax value.

Output: Sales means sales during the year of goods made in the establishment covered by the return or made on commission for it, whether produced in the year or not. For all post-war censuses the value of sales was the net selling value, that is, the amount charged to customers, whether on an ex-works or delivered basis, and net of any trade discounts, agents' commissions, allowances for returnable cases, purchase tax, etc. For goods charged on a delivered basis to customers overseas, firms were required to give the f.o.b. value.

Gross output of a trade is the total value of goods made and other work done during the year; this means the value of sales and work done during the year adjusted for changes in the values of stocks.

Net output is the amount left after deducting from the value of gross output the aggregate of the cost of materials and fuel used and the amount paid for work given out and, for 1951, any transport payments included in firms' returns. This represents the value added to materials by the process of production, and constitutes the fund from which wages, salaries, rents, rates and taxes, advertising and other selling expenses and all other similar charges have to be met as well as depreciation and profits.

Customs and Excise Duty paid on materials purchased is included in the cost of materials, but where it is especially important separate figures are shown.

Later reports: Reports will be published later summarising the main census results and giving information about power equipment and fuel consumption.

Disclosure of information: The report has been prepared in conformity with the disclosure provisions of the Statistics of Trade Act, 1947. Figures have been combined with others of a similar nature in certain cases where publication of separate details might disclose the operations of an individual firm.

Symbols used: '..' for 'Not available', '-' for 'Nil or negligible (less than half the final digit shown)'

The figures in the tables have been rounded off to the nearest final digit, and there may be an apparent slight discrepancy between the sums of the constituent items and the totals shown.

Tables 1 to 17 show figures for the United Kingdom (or Great Britain).

Tables 18 to 26 are country tables and give, where practicable, separate details for England and Wales, Scotland and Northern Ireland.

Table 6: Specialist producers refer to those establishments 50 per cent. or more of whose total output by value is accounted for by the groups of products specified.

Table 8 (or 8(i)) shows the total sales of principal products of the trade, and includes therefore the sales of these products returned by establishments whether classified to the trade or to other trades. Those produced by establishments in other trades are shown in Table 9.

Table 10 shows the sales by establishments in the trade of products other than those regarded as principal products of the trade.

Table 20 (or 20(i)) shows sales by establishments in the trade of products, whether principal products or not, and broadly the aggregates here are equal to the corresponding figures in Table 8 (or 8(i)) less those in Table 9, plus those in Table 10.

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