

IRON AND STEEL FOUNDRIES

Note.—For information regarding the scope of the Census, instructions given to firms for making returns, and definitions of the terms used in this report, reference should be made to the Introductory Notes on pages v to xviii.

Introductory

This trade comprises firms that were engaged wholly or mainly in the manufacture of iron and steel castings, except heavy steel castings, which are dealt with in the report on the Iron and Steel (Smelting and Rolling) Trade (see page 33).

A separate schedule for foundries was issued at the 1930 Census for the first time. At the previous Census the manufacture of cast iron goods was distributed between a number of the metal working industries, pipes and heavy castings being included in the schedule for steel and wrought iron production (see page 27) and stoves, baths, boilers and sanitary cast iron goods in that for the Light Castings Trade, which also covered the production of machined products such as heating, ventilating and sanitary appliances. A large quantity of finished castings was also included for 1924 in the returns made on schedules for the Mechanical Engineering Trade and the Hardware, Hollow-ware, etc., Trade. For purposes of comparison with the results of the 1930 Census, an attempt has been made to re-classify the 1924 returns so as to bring together those received from firms that were chiefly engaged in foundry production. The particulars so obtained are shown in the present report and represent as close an approximation to comparability with the 1930 results as is practicable. Comparison between the two sets of figures is affected by the inclusion in the figures for 1930 of a considerable number of returns made by engineering and other firms that produced rough castings for finishing in their own machine shops; at the 1924 Census these firms as a rule furnished only one return for the whole undertaking, and owing to the absence of separate returns for the foundries in these cases, the 1924 results are not as fully representative of foundry production as are those for 1930.

The following table shows the main results of the Censuses of 1930 and 1924 in respect of firms in Great Britain that employed an average of more than ten persons :—

Particulars	Unit	1930	1924
Value of goods made and work done (Gross output)	£'000	29,423	31,046
Cost of materials used	"	12,226	14,225
Paid for work given out to other firms	"	165	160
Net output	"	17,032	16,661
Average number of persons employed	No.	91,351	84,302
Net output per person employed	£	186	198
Power available :—			
Prime movers	H.P.	30,040	39,971
Electric motors driven by purchased electricity	"	121,161	92,719
Number of returns	No.	792	801
Number of establishments	"	826	*

* Not available.

Deficiencies in 1930 aggregates.—The aggregate number of persons employed in 1930 by firms that stated that they employed not more than ten persons on the average was 2,252. In addition, 71 firms to which schedules were sent furnished no information; these firms either had small businesses or had ceased productive operations before the end of the censal year. Corresponding particulars for 1924 are not available owing to the different classification of the returns for that year.

Size of firms.—In the following table the main particulars recorded at the Census of 1930 are grouped according to the average numbers of persons shown in the returns :—

Size of firm (average numbers employed)	Number of returns	Gross output	Net output	Average number of persons employed	Net output per person employed
11-24 ...	No. 185	£'000 901	£'000 556	No. 3,335	£ 167
25-49 ...	212	2,075	1,222	7,341	167
50-99 ...	175	3,775	2,155	12,443	173
100-199 ...	114	5,016	2,922	16,051	182
200-299 ...	40	2,831	1,629	9,557	170
300-399 ...	20	2,183	1,376	6,703	205
400-499 ...	14	2,064	1,306	6,351	206
500-749 ...	15	3,103	1,891	9,309	203
750-999 ...	8	2,203	1,213	6,768	179
1,000 and over	9	5,272	2,762	13,493	205
TOTAL ...	792	29,423	17,032	91,351	186

Regional distribution.—In the following table the results recorded at the Censuses of 1930 and 1924 are grouped according to the principal areas* of Great Britain in which firms in this trade are situated :—

Area	Number of returns	Gross output	Net output	Average number of persons employed	Net output per person employed
	No.	£'000	£'000	No.	£
1 ...	{ 1930 46 1924 50	1,087 1,179	670 675	2,887 3,317	232 203
2 ...	{ 1930 112 1924 111	3,960 2,725	2,232 1,686	11,985 7,837	186 215
3 ...	{ 1930 92 1924 101	2,023 2,668	1,179 1,393	6,583 6,924	179 201
4 ...	{ 1930 38 1924 41	2,089 3,243	992 1,353	6,298 7,675	157 176
5 ...	{ 1930 202 1924 190	6,518 5,480	3,999 3,226	21,311 15,959	188 202
6 ...	{ 1930 144 1924 134	6,310 7,629	3,576 3,910	18,793 19,450	190 201
7 and 8 ...	{ 1930 32 1924 32	974 1,208	447 502	2,412 2,641	186 190
9 ...	{ 1930 57 1924 77	2,653 2,926	1,484 1,490	7,982 7,968	186 187
10 ...	{ 1930 69 1924 65	3,809 3,988	2,453 2,426	13,100 12,531	187 194
TOTAL {	{ 1930 792 1924 801	29,423 31,046	17,032 16,661	91,351 84,302	186 198

Northern Ireland.—The following table summarises the particulars recorded at the Census of Production taken by the Government of Northern Ireland for 1930. Corresponding figures for 1924 are not available.

Particulars	Unit	1930
Value of goods made and work done (Gross output) ...	£'000	24
Cost of materials used	"	8
Paid for work given out to other firms	"	
Net output	"	16
Average number of persons employed	No.	110
Net output per person employed	£	145
Power available :—		
Prime movers	H.P.	142
Electric motors driven by purchased electricity	"	45

* For particulars see page xviii.

Production

Principal products.—The following table shows the value and, where available, the weight of stoves, grates, baths, boilers, pipes, tubes and other cast iron goods manufactured in 1930 and 1924 :—

Kind of goods	1930						1924	
	Returned on schedules for						Total	
	Iron and Steel Foundries			All trades				
	Quantity	Value	Ent-ries	Quantity	Value	Ent-ries	Quantity	Value
Th. tons	£'000	No.	Th. tons	£'000	No.	Th. tons	£'000	
Cast iron stoves, grates and ranges for cooking and heating, and loose parts therefor :—								
For coal and other solid fuel	97.8	2,782	146	98.5	2,835	153	96.5	3,279
	*	228	8	*	320	17		
For gas ...	65.4	3,555	40	65.4	3,555	40	55.0	3,090
	*	206	4	*	206	4		
For electricity	3.4	183	21	3.4	183	21	†	†
For liquid fuel	0.3	13	6	0.3	13	6	—	—
Unclassified ...	*	17	1	*	28	8	—	—
TOTAL—Cast iron stoves, grates, etc. ...	166.9	6,533	...	167.6	6,586	...	151.5	6,369
	*	451	...	*	554	...		
Cooking and washing boilers of cast iron (including portable boilers and furnace pans)	12.0	350	46	12.1	352	50	5.4	189
	*	60	5	*	93	9		
Sanitary cisterns (flushing tanks) of cast iron ...	12.1	355	30	12.2	357	32	9.5	309
Cast iron baths (porcelain enamelled or other finish) ...	31.7	657	20	31.7	657	20	17.2	715
Sanitary cast iron goods not included above (such as sinks, basins, lavatories, etc.) ...	4.1	136	33	4.1	136	33	6.9	140
TOTAL—Cast iron boilers, cisterns, baths, etc.	59.9	1,498	...	60.1	1,502	...	39.0	1,353
	*	60	...	*	93	...		

Kind of goods	1930						1924	
	Returned on schedules for						Total	
	Iron and Steel Foundries			All trades				
	Quantity	Value	Ent-ries	Quantity	Value	Ent-ries	Quantity	Value
Th. tons	£'000	No.	Th. tons	£'000	No.	Th. tons	£'000	
Iron and steel pipes and fittings, cast :—								
Pipes up to 6 inches diameter :—								
Soil pipes, drain pipes and rain-water pipes (including gutters of all sizes) and fittings therefor ...	136.4	2,028	72	136.4	2,028	72	63.2†§	1,166†§
Gas pipes and fittings therefor ...	32.6	316	25	32.6	316	25		
Hot water pipes (including radiators) and fittings therefor ...	15.6	251	19	15.6	252	20	126.5§	1,289§
Other water pipes (up to 6 inches diameter) and fittings therefor ...	55.5	484	37	55.5	484	37		
Pipes (up to 6 inches diameter) not specified above and fittings therefor ...	10.1	263	36	11.0	276	38	30.5§	424§
Fittings for pipes (including radiators) up to 6 inches diameter ...	||	||	—	||	||	—	9.9	181
Pipes over 6 inches diameter and fittings therefor ...	205.5	1,594	60	205.6	1,595	63	254.4	2,549
Pipes not separately distinguished and fittings therefor ...	57.0	510	3	67.2	726	16	63.9	1,536
TOTAL—Iron and steel pipes and fittings, cast ...	512.7	5,446	...	523.9	5,677	...	548.4	7,145

Kind of goods	1930						1924	
	Returned on schedules for						Total	
	Iron and Steel Foundries			All trades				
	Quantity	Value	Entries	Quantity	Value	Entries	Quantity	Value
Th. tons	£'000	No.	Th. tons	£'000	No.	Th. tons	£'000	
Builders' iron-mongery, cast, not elsewhere specified	1.0	61	4	1.0	61	4	...	125
	*	68	6	*	68	6		
Piano frames ...	2.3	54	5	2.3	54	5	}	
	*	37	4	*	43	5		
Engineering castings	266.4	5,463	469	275.7	5,668	506	}	
				*	199	11		
Castings for roads and drainage (including manhole covers and frames) ...	39.3	417	232	40.5	433	251	}	748.2
				*	30	5		
Other and unclassified iron castings	289.4	5,076	333	443.2	7,570	720	}	14,320
	*	371	34	*	591	83		
TOTAL—PRINCIPAL PRODUCTS	1,337.9	24,548	...	1,514.3	27,551	...	1,487.1	29,187
	*	987	...	*	1,578	...	*	955

* Weight not stated.

† Not separately recorded for 1924.

‡ So far as recorded separately.

§ Exclusive of fittings.

|| Included with the various kinds of pipes.

It may be noted that the particulars given under the headings *Cast iron stoves, grates and ranges, etc.*, and *Cooking and washing boilers, cisterns, baths and other sanitary cast iron goods* cover substantially the same ground in each year and are comparable in detail; those shown for *pipes and fittings* are comparable in the aggregates but not as regards the individual items, since, apart from the large proportion of unclassified output, fittings were recorded separately from pipes at the 1924 Census. In the case of the remaining items, the figures shown for 1924 are subject to the qualification mentioned on page 61.

Prices.—The average selling values of certain kinds of castings in 1930 and 1924, as calculated from the Census returns, are shown in the following table. It should be borne in mind that these comparisons do not take account of any changes that may have occurred since the earlier year in the quality or type of goods included under the specified descriptions.

Kind of goods	Average value		1930 as a percentage of 1924
	1930	1924	
	£ per ton	£ per ton	Per cent.
Iron and steel pipes and fittings, cast :—			
Pipes up to 6 ins. diameter and fittings therefor :—			
Soil pipes, drain pipes and rainwater pipes (including gutters of all sizes) and fittings therefor ...	14.9	18.4*	81.0
Gas pipes and fittings therefor ...	9.7		
Hot water pipes (including radiators) and fittings therefor ...	16.1	10.2*	99.0
Other water pipes (up to 6 ins. diameter) and fittings therefor ...	8.7		
Pipes (up to 6 ins. diameter) not specified above and fittings therefor	25.1	13.9*	180.6
All pipes up to 6 ins. diameter and fittings therefor ...	13.4	13.3†	100.8
Pipes over 6 ins. diameter and fittings therefor ...	7.8	10.0	78.0
Cast iron stoves, grates and ranges for cooking and heating and loose parts therefor :—			
For coal and other solid fuel ...	28.8	33.6	85.7
For gas ...	54.3	56.2	96.6
For electricity ...	54.2	‡	...
For liquid fuel ...	42.9	‡	...
Cooking and washing boilers of cast iron (including portable boilers and furnace pans) ...	29.2	34.9	83.7
Sanitary cisterns (flushing tanks) of cast iron ...	29.3	32.3	90.7
Cast iron baths (porcelain enamelled or other finish) ...	20.8	41.4	50.2
Sanitary cast iron goods not included above (such as sinks, basins, lavatories, closets, etc.) ...	33.1	20.3	163.1
Piano frames ...	24.1		
Engineering castings ...	20.6		
Castings for roads and drainage (including manhole covers and frames) ...	10.7	19.1	94.2
Other and unclassified iron castings ...	17.1		

* Excluding fittings.

† Including fittings.

‡ Not separately recorded.

Volume of production in 1930 and 1924.—The following table compares the volume of production of cast iron and steel goods in 1930 and 1924 :—

Kind of goods	Total production			1930 as a percentage of 1924
	1930	1924		
	As returned	As returned	At 1930 average values	
	£'000	£'000	£'000	Per cent.
Iron and steel pipes and fittings, cast:—				
Pipes up to 6 ins. diameter and fittings therefor	3,356	3,060	3,075	109
Pipes over 6 ins. diameter and fittings therefor	1,595	2,549	1,988	80
Pipes not separately distin- guished and fittings therefor...	726	1,536	691	105
TOTAL—Pipes and fittings, cast	5,677	7,145	5,754	99
Cast iron stoves, grates and ranges for cooking and heating and loose parts therefor:—				
For coal and other solid fuel ...	3,155	3,279	2,810	112
For gas	3,761	3,090	2,985	126
For electricity, liquid fuel and unclassified fuel	224	*	...	...
Cooking and washing boilers of cast iron (including portable boilers and furnace pans)	445	189	158	282
Sanitary cisterns (flushing tanks), baths and other sanitary cast iron goods	1,150	1,164	867	133
Builders' ironmongery, cast, not elsewhere specified	129	125	118†	109
Other and unclassified iron castings (including engineering castings, castings for roads and drainage, etc.)	14,588	15,150	14,272	102
TOTAL	29,129	30,142	26,964	108

* Not separately recorded.

† Based on average values of all iron castings.

Production, exports and imports.—The following table shows, in relation to production, the quantities of iron castings of the specified kinds exported from the United Kingdom in 1930 and 1924, together with the quantities imported and retained. As regards the 1930 figures of production, the deficiencies referred to on page 62 of this report should be borne in mind; the figures for 1924 include the output of the small firms. For the purpose of comparison between production and overseas trade rough estimates of weight have been made for that part of the 1930 output which was returned by value only. The 1930 production figures for stoves, grates and ranges are exclusive of the small unclassified output.

Kind of goods	Produc- tion	Ex- ports	Propor- tion of produc- tion ex- ported	Retained imports	Avail- able for use in the United Kingdom	Share of home market held by British products
					Th. tons	Th. tons	Per cent.
Stoves, grates and ranges for cooking and heat- ing:—						
For coal and other solid fuel	1930 109.6 1924 97.3	7.4 6.7	6.7 6.9	0.8 0.3	103.1 90.9	99.2 99.7
For gas	1930 69.2* 1924 56.1*	3.0 2.0	...	0.1 †	66.3* 54.1*	...
For liquid fuel	1930 0.3* 1924 ...	0.2 ...	...	1.5 ...	1.6* ...	...
Sanitary cisterns (flushing tanks)	1930 12.2 1924 10.1	4.7 3.3	38.5 32.7	† †	7.5 6.8	99.7 99.9
Baths (porcelain enamelled or other finish) ...	1930 31.7|| 1924 18.1||	1.5 3.1	4.8 17.1	7.5 4.2	37.7 19.2	80.0 78.1
Other sanitary cast-iron goods (sinks, basins, lavatories, etc.)	1930 4.1 1924 7.9	0.4 0.4	9.6 5.1	0.2 0.1	3.9 7.6	95.1 99.1
Cooking and washing boilers	1930 15.2 1924 5.5	0.7 0.5	4.6 9.4	0.2 0.1	14.8 5.1	98.8 97.8
Iron and steel tubes, pipes and fittings, cast‡	1930 523.9 1924 552.6	116.3 84.5	22.2 15.3	20.5 25.6	428.1 493.7	95.2 94.8
Castings for roads and drainage (manhole covers, frames, etc.)§ ...	1930 43.3	1.5	3.4	0.1	41.9	99.8

* Not including stoves, etc., of sheet iron (see Report on the Hardware, Hollow-ware, etc., Trades, page 99).

† Less than 50 tons.

|| Cast iron baths.

‡ Detailed comparisons cannot be made owing to differences in the classification used for Census purposes and for recording exports and imports and also owing to the large proportion of production that was unclassified in each year.

§ Not recorded separately in the trade returns for 1924.

Iron and steel structural work, work done for the trade, etc.—

The following amounts were received for work done in 1930 and 1924 by firms classified in this trade:—

	1930 £'000	1924 £'000
Iron and steel structural work	425*	1,103*
General and jobbing engineering	175	445
Work done for the trade	23	} 23
Other work done	21	
TOTAL	644	4,571

* Exclusive of the value of materials made and supplied by the firm.

Other products.—In addition to the output shown in the table of principal products on pages 64-66, the following goods were produced in 1930 and 1924 by firms classified in this trade. These goods are dealt with in the reports on those trades in which the principal output was recorded.

Kind of goods	1930		1924	
	Quantity	Value	Quantity	Value
	Th. tons	£'000	Th. tons	£'000
Fencing material (other than fencing wire) of cast or wrought iron	2.2	45	...	3
Railway materials (including wheels and axles, spikes, sleepers and fishplates)... ..	105.2	1,015	117.3	1,555
Metal casements and window frames	2.0	81	*	*
Hollow-ware and utensils for domestic and industrial use	1.9	100	...	128
Parts and accessories for motor cars, motor cycles and cycles... ..	...	86	*	*
Machinery and appliances (including parts and accessories) ... ..	...	302	...	642
Steel castings	18.7	632	52.4	1,841
Iron forgings	0.4	13	0.3	8
Heavy steel forgings	0.9	26	4.8	207
Other manufactures of iron and steel ... ..	...	82	...	490
Castings of brass and other alloys of copper ... ..	...	438	...	71
Other manufactures of non-ferrous metals ... ..	...	204	...	117
Other goods made ... ..	...	158	...	473
TOTAL VALUE ... ..	...	3,182	...	5,535

* Not separately recorded.

Waste products sold.—The following sales of scrap metals were recorded by firms classified in this trade for 1930 and 1924 :—

	1930		1924	
	Th. tons	£'000	Th. tons	£'000
Iron and steel scrap	23.0	47	10.3	40
Scrap of non-ferrous metals	1.0	15	—	—
TOTAL ... ..	...	62	...	40

Employment and Wages

Employment.—The following table shows the average numbers of persons employed in 1930 and 1924 :—

Persons employed	Males		Females		Total	
	Under 18	All ages	Under 18	All ages	Under 18	All ages
1930						
Operatives (average for the year)	10,393	78,712	1,177	4,219	11,570	82,931
Administrative, technical and clerical staff (as at 18th October)	647	6,592	305	1,828	952	8,420
TOTAL	11,040	85,304	1,482	6,047	12,522	91,351
1924						
Operatives (average for the year)	10,527	73,571	1,050	3,189	11,577	76,760
Administrative, technical and clerical staff (as at 18th October)	635	6,015	245	1,527	880	7,542
TOTAL	11,162	79,586	1,295	4,716	12,457	84,302

Wages.—The available information as to the amount of wages paid in 1930 and 1924 is given on pages 18 and 19.

Power

The following table shows the capacity of prime movers, electric generators and electric motors ordinarily in use and in reserve or idle in 1930 and 1924 :—

Power equipment	1930			1924		
	Ordinarily in use	In reserve or idle	Total	Ordinarily in use	In reserve or idle	Total
	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
PRIME MOVERS						
Reciprocating steam engines	5,994	2,215	8,209	10,564	4,258	14,822
Steam turbines	5,667	1,150	6,817	10,582	702	11,284
Internal combustion engines :—						
Gas	9,132	2,863	11,995	10,914	1,939	12,853
Petrol, kerosene, or other light oils	161	67	228	287	18	305
Heavy oils	2,434	244	2,678	300	—	300
Water engines	88	25	113	407	—	407
TOTAL	23,476	6,564	30,040	33,054	6,917	39,971

Power equipment	1930			1924		
	Ordinarily in use	In reserve or idle	Total	Ordinarily in use	In reserve or idle	Total
	Kw.	Kw.	Kw.	Kw.	Kw.	Kw.
ELECTRIC GENERATORS						
Driven by						
Reciprocating steam engines ...	2,305	1,136	3,441	2,792	2,146	4,938
Steam turbines ...	4,250	800	5,050	8,455	540	8,995
Internal combustion engines :—						
Gas ...	3,579	2,027	5,606	3,084	543	3,627
Petrol, kerosene or other light oils	89	30	119	44	11	55
Heavy oils ...	814	16	830	153	60	213
Water engines ...	8	20	28	177	20	197
TOTAL ...	11,045	4,029	15,074	14,705	3,320	18,025
ELECTRIC MOTORS						
Driven by						
Electricity generated in same works ...	13,341	1,376	14,717	17,256	5,785	23,041
Electricity generated in other works under same ownership ...	14,446	2,783	17,229	1,306	140	1,446
Purchased electricity	110,468	10,693	121,161	81,952	10,767	92,719
TOTAL ...	138,255	14,852	153,107	100,514	16,692	117,206

Consumption of fuel

The following table shows the quantities of coal, coke and electricity recorded as used in 1930 :—

Kind of fuel used	For power (driving engines)	For other purposes (so far as recorded)
	Tons	Tons
Coal ...	56,720	227,190*
Coke ...	1,262	257,780*
		B.T.U. (Kw.-hrs.) '000
Electricity used for all purposes :—		
Generated in same works ...		12,713
Generated in other works under same ownership ...		23,703
Purchased ...		70,192
TOTAL—Electricity ...		106,608

*These figures were recorded by firms representing 95·3 per cent. of the net output of the whole trade.

TABLES

I. Summary of results

Particulars	Unit	England and Wales	Scotland	Great Britain
Value of goods made and work done (Gross output) ...	£'000	22,961	6,462	29,423
Cost of materials used ...	"	9,721	2,505	12,226
Paid for work given out to other firms...	"	146	19	165
Net output ...	"	13,094	3,938	17,032
Average number of persons employed...	No.	70,269	21,032	91,351
Net output per person employed ...	£	186	187	186
Power available :—				
Prime movers ...	H.P.	26,350	3,690	30,040
Electric motors driven by purchased electricity ...	"	85,967	35,194	121,161

II. Production

Goods sold or added to stock and work done	Unit	England and Wales	Scotland	Great Britain
Cast iron stoves, grates and ranges for cooking and heating, and loose parts therefor :—				
For coal and other solid fuel ...	Weight stated { Th. tons £'000	60·1 1,659	37·7 1,123	97·8 2,782
	Weight not stated { £'000			228
For gas ...	Weight stated { Th. tons £'000	57·3 3,095	8·1 460	65·4 3,555
	Weight not stated { £'000			206
For electricity ...	Th. tons £'000	2·3 118	1·1 65	3·4 183
For liquid fuel ...	Th. tons £'000	*	*	0·3
Unclassified ...	£'000	17	—	17
TOTAL—Cast iron stoves, grates, etc. ...	Weight stated { Th. tons £'000	* *	* *	166·9 6,533
	Weight not stated { £'000			451
Cooking and washing boilers of cast iron (including portable boilers and furnace pans) ...	Weight stated { Th. tons £'000	6·0 203	6·0 147	12·0 350
	Weight not stated { £'000			60
Sanitary cisterns (flushing tanks) of cast iron ...	Th. tons £'000	* *	* *	12·1 355
Cast iron baths (porcelain enamelled or other finish) ...	Th. tons £'000	22·0 339	9·7 318	31·7 657
Sanitary cast iron goods, not included above (such as sinks, basins, lavatories, etc.) ...	Th. tons £'000	2·8 99	1·3 37	4·1 136

III. Employment

A.—NUMBERS EMPLOYED IN WEEK ENDED 18TH OCTOBER, 1930

Persons employed	Males		Females		Males and females	
	Under 18	All ages	Under 18	All ages	Under 18	All ages
<i>England and Wales :—</i>						
Operatives	8,164	59,232	952	3,414	9,116	62,646
Administrative, etc.*	509	4,944	243	1,373	752	6,317
TOTAL	8,673	64,176	1,195	4,787	9,868	68,963
<i>Scotland :—</i>						
Operatives	1,961	17,448	194	696	2,155	18,144
Administrative, etc.*	138	1,648	62	455	200	2,103
TOTAL	2,099	19,096	256	1,151	2,355	20,247
<i>Great Britain :—</i>						
Operatives	10,125	76,680	1,146	4,110	11,271	80,790
Administrative, etc.*	647	6,592	305	1,828	952	8,420
TOTAL	10,772	83,272	1,451	5,938	12,223	89,210

*Administrative, technical and clerical staff.

B.—OPERATIVES EMPLOYED IN ONE WEEK IN EACH MONTH OF 1930

Week ended	Males and females			Week ended	Males and females		
	England and Wales	Scotland	Great Britain		England and Wales	Scotland	Great Britain
Jan. 18 ...	65,909	20,110	86,019	July 19 ...	64,359	18,781	83,140
Feb. 15 ...	65,812	19,831	85,643	Aug. 16 ...	62,857	18,773	81,630
Mar. 15 ...	65,448	19,458	84,906	Sept. 13 ...	62,570	18,453	81,023
Apl. 12 ...	65,122	19,711	84,833	Oct. 18 ...	62,646	18,144	80,790
May 17 ...	64,793	19,509	84,302	Nov. 15 ...	61,975	17,971	79,946
June 21 ...	64,503	19,110	83,613	Dec. 13 ...	61,429	17,897	79,326
AVERAGE FOR THE 12 MONTHS					63,952	18,979	82,931

IV. Power

PARTICULARS OF PRIME MOVERS, ELECTRIC GENERATORS AND ELECTRIC MOTORS

Power equipment	England and Wales		Scotland		Great Britain	
	Ordinarily in use	In reserve or idle	Ordinarily in use	In reserve or idle	Ordinarily in use	In reserve or idle
PRIME MOVERS						
Reciprocating steam engines	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
Steam turbines	4,306	2,003	1,688	212	5,994	2,215
Internal combustion engines :—	5,667	400	—	750	5,667	1,150
Gas	8,694	2,699	438	164	9,132	2,863
Petrol, kerosene or other light oils	161	67	—	—	161	67
Heavy oils	2,006	244	428	—	2,434	244
Water engines	78	25	10	—	88	25
TOTAL	20,912	5,438	2,564	1,126	23,476	6,564
TOTAL OF PRIME MOVERS INSTALLED	26,350		3,690		30,040	
ELECTRIC GENERATORS						
Driven by	Kw.	Kw.	Kw.	Kw.	Kw.	Kw.
Reciprocating steam engines	1,752	1,136	553	—	2,305	1,136
Steam turbines	4,250	300	—	500	4,250	800
Internal combustion engines :—	3,509	2,027	70	—	3,579	2,027
Gas	89	30	—	—	89	30
Petrol, kerosene or other light oils	571	16	243	—	814	16
Heavy oils	8	20	—	—	8	20
Water engines	10,179	3,529	866	500	11,045	4,029
TOTAL	13,708	1,366			15,074	
TOTAL OF ELECTRIC GENERATORS INSTALLED	13,708		1,366		15,074	
ELECTRIC MOTORS						
Driven by	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
Electricity generated in same works	12,133	1,220	1,208	156	13,341	1,376
Electricity generated in other works under same ownership	11,929	2,633	2,517	150	14,446	2,783
Purchased electricity	79,123	6,844	31,345	3,849	110,468	10,693
TOTAL	103,185	10,697	35,070	4,155	138,255	14,852
TOTAL OF ELECTRIC MOTORS INSTALLED	113,882		39,225		153,107	

V. Consumption of fuel

Kind of fuel used	England and Wales	Scotland	Great Britain
		Tons	Tons
Coal used for power	47,187	9,533	56,720
Coke used for power	1,242	20	1,262
	B.T.U. (Kw.-hrs.) '000	B.T.U. (Kw.-hrs.) '000	B.T.U. (Kw.-hrs.) '000
Electricity used for all purposes :—			
Generated in same works	11,240	1,473	12,713
Generated in other works under same ownership	21,869	1,834	23,703
Purchased	50,148	20,044	70,192
TOTAL—Electricity	83,257	23,351	106,608