

## THE CHAIN, NAIL, SCREW AND MISCELLANEOUS FORGINGS TRADES

*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 anchors, chains, springs, bolts, nuts, nails, screws, etc. The figures shown for 1924 relate to returns made on schedules for the Chain, Nail, Screw and Miscellaneous Forgings Trades and on those for the Blacksmithing Trade, the latter trade having been combined with the former for the purposes of the 1930 Census.

The final report on the Third Census of Production (1924) for the Saddlery, Harness and Leather Goods Trade included a sum of £414,000 in respect of saddlery hardware, harness furniture and cart gear produced by firms employing more than ten persons on the average, the other goods produced by these firms being valued at £12,000. For purposes of comparison these firms have been transferred to the Chain, Nail, Screw and Miscellaneous Forgings Trades in which trade they made their returns in 1930, and particulars relating to these firms are, therefore, included in this report in respect of both years.

The results for 1930 include a large output of goods (mainly of steel) returned under the general description of "drop forgings" or "drop forgings and stampings". At the 1924 Census goods so described were not assigned to any one trade but were included under miscellaneous headings in various trades in the iron and steel group and also in the engineering group. It is estimated that this change in method had the effect of adding to the 1930 aggregates for this trade establishments employing about 5,600 persons, whose output, etc., was returned on schedules for other trades in 1924. This factor should be borne in mind in comparing the general results shown for this trade for the two years.

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	16,465	14,395
Cost of materials used ... ..	"	8,319	7,408
Paid for work given out to other firms ... ..	"	97	82
Net output ... ..	"	8,049	6,905
Average number of persons employed (excluding outworkers) ... ..	No.	47,414	37,692
Net output per person employed (excluding outworkers) ... ..	£	170	183
Power available :—			
Prime movers ... ..	H.P.	22,720	25,482
Electric motors driven by purchased electricity ... ..	"	70,880	28,955
Number of returns ... ..	No.	482	475
Number of establishments ... ..	"	538	*

\* 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 15,538, the corresponding figure for 1924 being 15,015, of which 14,105 were recorded on schedules for the Blacksmithing Trade and 910 on schedules for the Chain, Nail, Screw and Miscellaneous Forgings Trades. In addition, 566 firms to which schedules were sent at the 1930 Census and 2,490 (including 2,300 in respect of the Blacksmithing Trade) at that of 1924 furnished no information; these firms either had small businesses or had ceased productive operations before the end of the censal year.

The value of the gross output of the small firms in 1924 was £3,233,000, of which the Blacksmithing Trade accounted for £2,975,000. Particulars of the principal classes of goods made and work done included in these figures are given below :—

Iron and steel :—	Chain, Nail, etc. Trades	Blacksmithing Trade
	£'000	£'000
Chains and chain cables, including transmission chains ... ..	95	—
Nails, tacks, bolts, screws, etc. ... ..	63	—
Horse-shoes and horse-shoeing ... ..	—	576
Fencing material ... ..	—	57
Builders' ironmongery ... ..	—	62
Other manufactures of iron and steel ... ..	65	88
Other goods made ... ..	9	7
General and jobbing work* ... ..	26	2,185†
<b>TOTAL</b> ... ..	<b>258</b>	<b>2,975</b>

\* Amount received for work done.

† Including repair work and also horse-shoeing when this has not been included with "Horse-shoes and horse-shoeing" above.

Adding together the amounts returned under the heading of horse-shoes and horse-shoeing and that of general and jobbing work—since firms that both made horse-shoes and shod horses were allowed to include the value of the shoeing with the value of the horse-shoes sold, or to return it separately as general and jobbing work—the output of the small firms in 1924 represented rather more than 90 per cent. of the total returned on schedules for the Blacksmithing Trade and about 82 per cent. of the total returned on all schedules. The limitation of the scope of the 1930 Census to the firms employing more than ten persons has therefore led to the practical exclusion of this description of work from the Census, and the figures for the output of the larger firms in 1930 and 1924 given in a later table cannot be regarded as representative. The output of other goods by the small firms in 1924 represented barely 2.5 per cent. of the total, the only description of which any appreciable proportion was returned by the small firms being builders' ironmongery.

**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 (excluding outworkers)	Net output per person employed
	No.	£'000	£'000	No.	£
11-24 ... ..	124	681	360	2,174	166
25-49 ... ..	123	1,497	741	4,338	171
50-99 ... ..	127	3,045	1,477	8,755	169
100-199 ... ..	57	2,845	1,310	8,000	164
200-299 ... ..	22	1,955	959	5,059	189
300-399 ... ..	19	2,600	1,265	6,602	192
400 and over ... ..	10	3,842	1,937	12,486	155
<b>TOTAL</b> ... ..	<b>482</b>	<b>16,465</b>	<b>8,049</b>	<b>47,414</b>	<b>170</b>

**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 these trades are situated :—

\* For particulars see page xviii.

Area	Number of returns	Gross output	Net output	Average number	Net	
				of persons employed (excluding outworkers)	output per person employed	
	No.	£'000	£'000	No.	£	
1 ...	1930	44	870	504	2,975	169
	1924	39	659	401	1,945	206
2 ...	1930	50	1,549	864	4,830	179
	1924	51	1,370	752	4,043	186
3 ...	1930	49	1,699	795	4,483	177
	1924	38	1,365	616	2,870	215
4 ...	1930	13	376	135	829	162
	1924	7	272	70	341	205
5 ...	1930	260	9,897	4,861	29,315	166
	1924	265	8,538	4,174	24,056	174
6 ...	1930	24	588	311	1,249	249
	1924	26	543	292	1,214	241
7 and 8...	1930	7	245	101	628	161
	1924	6	207	76	415	183
9 ...	1930	26	1,036	392	2,616	150
	1924	32	1,357	482	2,575	187
10 ...	1930	9	205	86	489	176
	1924	11	84	42	233	180
TOTAL	1930	482	16,465	8,049	47,414	170
	1924	475	14,395	6,905	37,692	183

**Northern Ireland.**—No production was separately recorded for these trades in Northern Ireland in 1930. In 1924 a gross output of £49,000 was recorded on schedules for the Blacksmithing Trade.

**Sub-divisions of the industry.**—In the following table the results of the 1930 Census are grouped in seven separate sections, each of which comprises firms whose main business consisted in the class of production specified in the first column. Corresponding figures for 1924 are not available.

Group	Number of returns	Gross output	Net output	Average number of persons employed	Net output per person employed
	No.	£'000	£'000	No.	£
Anchors, chain-cables and chains ...	42	2,032	1,083	5,218	208
Springs...	46	1,350	743	3,851	193
Fencing materials ...	30	615	332	1,664	200
Nails, tacks, rivets, washers, etc. ...	57	2,028	734	4,596	160
Bolts, nuts and screws	91	3,988	1,775	13,325	133
Drop forgings and stampings ...	65	2,950	1,395	6,683	209
Miscellaneous ...	151	3,502	1,987	12,077	165
TOTAL ...	482	16,465	8,049	47,414	170

## Production

**Principal products.**—The following table shows the value and, where available, the quantity of anchors, chains, springs, bolts, nuts, screws, etc., made in 1930 and 1924 :—

Kind of goods	1930						1924	
	Returned on schedules for						Total	
	The Chain, Nail, etc., Trades			All trades				
	Quantity	Value	Ent-ries	Quantity	Value	Ent-ries	Quantity	Value
Iron and steel :—	Th. tons	£'000	No.	Th. tons	£'000	No.	Th. tons	£'000
Anchors and grapnels	5.4	107	13	6.0	118	15	4.7	127
Chain cables ...	21.0	571	25	21.0	571	25	19.4	574
Chains :—								
Steel transmission	5.5	673	11	7.8	1,149	26		
For other purposes, including tackle made of chain ...	9.1	399	34	10.2	437	38	19.2	1,987
TOTAL—Anchors and chains ...	41.0	1,750	...	45.0	2,275	...	43.3	2,688
Springs :—								
Laminated ...	22.1	771	26	36.0	1,210	39	42.2	1,661
Coil ...	9.4	613	32	12.4	703	39	13.8	656
Not separately distinguished	*	88	9	*	94	11	*	154
TOTAL—Springs ...	...	20	2	...	182	31	...	84
TOTAL—Springs ...	...	1,492	...	...	2,189	...	...	2,611
Fencing material of cast or wrought iron (other than fencing wire) :—								
Standards ...	2.1	46	13	3.2	65	50	4.1	84
Other sorts (gates, grilles, fences, trellis, etc.) ...	12.8	368	33	25.4	640	62	32.6	815
TOTAL—Fencing material ...	*	105	10	*	237	27	*	
TOTAL—Fencing material ...	...	519	...	...	942	...	36.7	899
Nails and tacks (other than wire nails and staples) ...	24.4	504	38	26.2	539	40	120.3	2,439
Rivets and washers...	78.2	1,160	64	89.3	1,293	75		
Bolts, nuts and screws (for wood or metal)	131.2	3,256	127	134.4	3,311	129	145.3	4,201
TOTAL—Bolts, nuts, nails, screws, etc., of iron or steel ...	*	832	30	*	908	39	*	646
TOTAL—Bolts, nuts, nails, screws, etc., of iron or steel ...	...	5,752	...	...	6,051	...	...	7,286

Kind of goods	1930						1924	
	Returned on schedules for						Total	
	The Chain, Nail, etc., Trades			All trades				
	Quantity	Value	Entries	Quantity	Value	Entries	Quantity	Value
Th. tons	£'000	No.	Th. tons	£'000	No.	Th. tons	£'000	
Iron and Steel— <i>cont.</i>								
Heel tips, boot protectors, boot plates and clog irons† ...	4.1	143	15	4.3	152	18	1.8 *	89 125‡
Hooks, fasteners and shackles ...	2.7	105	20	2.7	105	20	0.8 *	43 169
Horse shoes (sold as such) ...	3.7	55	7	3.7	55	7	2.0 *	45 99
Saddlery hardware, harness furniture, etc., not elsewhere specified ...	1.0	55	7	1.0	55	7	...	427
Brass and copper:—								
Nails, tacks, rivets and washers ...	1.9	220	29	2.0	222	31	...	321
Bolts, nuts and screws	1.1	199	21	1.1	199	21	...	627
TOTAL — Nails, tacks, bolts, nuts, screws, etc., of brass or copper	...	721	...	...	801	...	...	948
Drop forgings and stampings §:—								
Of iron and steel ...	52.1	2,360	53	54.6	2,482	60	1.1 *	36 180
Of brass and copper ...	0.4	49	6	0.4	49	6	—	—
Miscellaneous forgings of iron ...	1.0	25	4	2.7	88	55	...	146
Builders' ironmongery and hardware, not elsewhere specified ...	...	63	1	...	170	22	...	...
Nails, tacks, rivets and washers (other than iron, steel, copper or brass) ...	...	402	44	...	402	44	...	203
TOTAL — PRINCIPAL PRODUCTS ...	...	13,913	...	...	16,284	...	...	16,006

\* Quantity not stated.

† Excluding clog irons returned by clog makers on schedules for the Boot and Shoe Trade (see Part I: pages 407–424).

‡ Includes £24,000 in respect of frost cogs, studs and nails.

§ The figures for 1930 and 1924 are not comparable (see page 113).

|| Forgings in the rough.

**Prices.**—The average selling values of the principal products of the Chain, Nail, Screw and Miscellaneous Forgings Trades 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, some of which are very miscellaneous in character.

Kind of goods	Average value		1930 as a percentage of 1924
	1930	1924	
	£ per ton	£ per ton	Per cent.
Iron and steel:—			
Anchors and grapnels ...	19.6	27.1	72.3
Chain cables ...	27.3	29.5	92.5
Chains:—			
Steel transmission ...	149.0	88.1	103.5
For other purposes including tackle made of chain ...	43.9		
Springs:—			
Laminated ...	33.5	38.4	87.3
Coil ...	56.5	47.6	118.7
Fencing material of cast or wrought iron:—			
Standards ...	20.6	19.3	106.7
Other sorts ...	25.2	25.0	100.8
Nails and tacks (other than wire nails and staples) ...	20.5	15.8	20.3
Rivets and washers ...	14.5		
Bolts, nuts and screws for wood or metal ...	24.5	28.8	85.4
Heel tips, boot protectors, boot plates and clog irons ...	35.1	50.4	69.6
Hooks, fasteners and shackles ...	38.7	56.6	68.4
Horse shoes (sold as such) ...	14.8	23.1	64.1
Drop forgings and stampings ...	45.4	33.4	135.9

**Volume of production in 1930 and 1924.**—The following table compares the volume of production of the principal products of the Chain, Nail, Screw and Miscellaneous Forgings Trades 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	Per cent.
	£'000	£'000	£'000	
<i>Iron and steel:—</i>				
Anchors and grapnels ... ..	118	127	92	128
Chain cables ... ..	571	574	531	108
Chains:—				
Steel transmission ... ..	1,149	1,987	1,691	94
For other purposes, including tackle made of chain ... ..	437			
Springs:—				
Laminated ... ..	1,210	1,717	1,499	86
Coil ... ..	797	810	961	
Not separately distinguished...	182	84	82*	
Fencing material of wrought or cast iron:—				
Standards ... ..	65	84	90	72
Other sorts ... ..	877	815	822	107
Nails, tacks, rivets and washers...	1,832	2,439	1,898	97
Bolts, nuts and screws ... ..	4,219	4,847	4,139	102
Heel tips, boot protectors, boot plates and clog irons ... ..	152	214	149	102
Hooks, fasteners and shackles ...	161	212	145	111
Horse shoes (sold as such) ... ..	79	144	92	86
Saddlery hardware, harness furniture, etc., not elsewhere specified ... ..	153	427	292	52†
<b>TOTAL—Chains, springs, screws, etc. ... ..</b>	<b>12,002</b>	<b>14,481</b>	<b>12,483</b>	<b>96</b>
Drop forgings and stampings ...	2,772	216	294	†
Miscellaneous forgings of iron ...	258	146	303§	218
Builders' ironmongery ... ..	402	203		
<i>Brass and copper:—</i>				
Nails, tacks, rivets and washers...	285	321	291	97
Bolts, nuts and screws ... ..	516	627	581¶	96
Drop forgings and stampings ...	49	—	—	—
Nails, tacks, rivets and washers of metals other than iron, steel, brass or copper ... ..	—	12	11	—
<b>TOTAL ... ..</b>	<b>16,284</b>	<b>16,006</b>	<b>13,963</b>	<b>117</b>

\* Based on average values of laminated and coil springs.

† Based on average values of hooks, fasteners and shackles.

‡ Goods falling under this description cannot be completely identified for 1924 (see page 113) and no figure is therefore inserted here.

§ Based on average values of preceding items in the table.

|| Based on average values of plates, sheets, rods and wire of brass and copper.

¶ Based on average values of brass and copper rods.

**Production, exports and imports.**—The following table shows, in relation to production, the quantities or values of anchors, chains, etc., exported from the United Kingdom in 1930 and 1924, together with the quantities or values of the imports retained in the United Kingdom. In the case of the items for which particulars of value only are available, it should be borne in mind that these values are not strictly comparable since they are based on the factory value for production, f.o.b. value for exports and c.i.f. value for imports. As regards the 1930 figures of production, the minor deficiencies referred to on page 114 of this report should be borne in mind; the figures for 1924 include the output of the small firms.

Kind of goods	Produc- tion	Exports	Propor- tion of produc- tion exported	Retained imports	Available for use in the United Kingdom	Share of home market held by British products
Anchors and grap- nels ... ..	1930 6.0 1924 4.7	2.7 2.5	45.0 53.2	1.3 0.2	4.6 2.4	72.3 93.1
Chain cables ... ..	1930 21.0 1924 20.4	4.2 4.7	20.0 23.0	0.2 0.1	17.0 15.8	98.6 99.4
Steel transmission chains and chains for other purposes, includ- ing tackle made of chain ... ..	1930 18.0 1924 21.4	6.8 8.9	37.8 41.6	2.0 0.5	13.2 13.0	84.8 96.1
Nails and tacks (other than wire nails and staples), rivets and washers, of iron and steel...	1930 115.5 1924 121.2	14.6 17.4	12.6 14.4	8.1 3.8	109.0 107.6	92.6 96.5
Springs*:—	£'000	£'000		£'000	£'000	
Laminated ... ..	1930 1,210 1924 1,733	72 162	7.3 12.1	7 1	2,131 2,341	95.2 99.6
Coil ... ..	1930 797 1924 834	87 163		8 8		
Not separately distinguished ... ..	1930 182 1924 90	— —		— —		
Fencing material of cast or wrought iron (other than fencing wire):—						
Standards ... ..	1930 65 1924 102	18 23	27.8 22.5	4 †	51 79	92.2 99.7
Other sorts (gates, grilles, fences, trellis, etc.) ... ..	1930 877 1924 857	108 76	12.3 8.9	3 1	772 782	99.6 99.9
Bolts, nuts and screws (for wood or metal) of iron and steel ... ..	1930 4,219 1924 4,890	823 1,279	19.5 26.2	390 266	3,786 3,877	92.3 93.1

\* Excluding springs for ordnance, small arms, clocks, watches, motor vehicles and musical instruments, so far as overseas trade is concerned.

† Less than £500.

**Repairs and work done for the trade or on commission, etc.**—The total amount recorded as received for work done for the trade in 1930 was £192,000, the corresponding total for 1924 being £227,000. These totals include, respectively, the sums of £23,000 and £45,000 returned on schedules for other trades. The principal kinds of work included in the totals were as follows:—

	1930 £'000	1924 £'000
Work done for the trade:—		
Chain making ... ..	6	6
Constructional engineering ... ..	52	—
Galvanising ... ..	9	—
Other work ... ..	4	8
Repair and jobbing work (including wheel-wrighting and horse-shoeing) ... ..	121	213
<b>TOTAL ... ..</b>	<b>192</b>	<b>227</b>

**Other products.**—In addition to the output shown in the table of principal products on pages 117-8, the following goods were produced in 1930 and 1924 by firms that made their returns on schedules for the Chain, Nail, Screw and Miscellaneous Forgings Trades. These goods are dealt with in the reports on those trades in which the principal output was recorded.

Kind of goods	1930	1924
	Value	Value
Iron and steel manufactures:—	£'000	£'000
Wire nails ... ..	112	50
Tools and implements (including machine tools) ... ..	42	—
	(5,100 tons)	
Vehicles and parts and accessories (except axles)	484	—
Structural ironwork ... ..	—	162
Other iron and steel manufactures ... ..	848	643
Manufactures of non-ferrous metals ... ..	266	57
Manufactures of metals not separately distinguished...	74	581
Other goods made ... ..	259	37
<b>TOTAL ... ..</b>	<b>2,085</b>	<b>1,530</b>

**Waste products sold.**—The following sales of manufacturers' scrap were recorded by firms in the Chain, Nail, Screw and Miscellaneous Forgings Trades in 1930 and 1924:—

Scrap of	1930		1924	
	Th. tons	£'000	Th. tons	£'000
Iron and steel ... ..	86.0	231	51.1	178
Brass... ..	1.4	51	}	19
Copper ... ..	...	9		
Other and unspecified metals ... ..	1.4	7		
<b>TOTAL ... ..</b>	<b>...</b>	<b>298</b>	<b>...</b>	<b>197</b>

### 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
<b>1930</b>						
Operatives (average for the year)	4,450	28,878	4,108	13,728	8,558	42,606
Administrative, technical and clerical staff (as at 18th October) ... ..	278	3,260	269	1,548	547	4,808
<b>TOTAL ... ..</b>	<b>4,728</b>	<b>32,138</b>	<b>4,377</b>	<b>15,276</b>	<b>9,105</b>	<b>47,414</b>
<b>1924</b>						
Operatives (average for the year)	3,760	21,504	3,863	12,701	7,623	34,205
Administrative, technical and clerical staff (as at 18th October) ... ..	163	2,346	195	1,141	358	3,487
<b>TOTAL ... ..</b>	<b>3,923</b>	<b>23,850</b>	<b>4,058</b>	<b>13,842</b>	<b>7,981</b>	<b>37,692</b>
Average number of outworkers:—						
1930 ... ..	278		177		455	
1924 ... ..	245		312		557	

**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
<b>PRIME MOVERS</b>	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
Reciprocating steam engines ... ..	7,510	1,065	8,575	8,263	538	8,801
Steam turbines ... ..	—	1,000	1,000	3,845	1,340	5,185
Internal combustion engines:—						
Gas ... ..	8,191	964	9,155	10,226	731	10,957
Petrol, kerosene, or other light oils ... ..	13	40	53	81	—	81
Heavy oils ... ..	3,534	160	3,694	363	—	363
Water engines ... ..	243	—	243	95	—	95
<b>TOTAL ... ..</b>	<b>19,491</b>	<b>3,229</b>	<b>22,720</b>	<b>22,873</b>	<b>2,609</b>	<b>25,482</b>

Power equipment	1930			1924		
	Ordinarily in use	In reserve or idle	Total	Ordinarily in use	In reserve or idle	Total
<b>ELECTRIC GENERATORS</b>	Kw.	Kw.	Kw.	Kw.	Kw.	Kw.
Driven by						
Reciprocating steam engines ... ..	1,885	457	2,342	1,649	339	1,988
Steam turbines ... ..	—	750	750	2,802	1,000	3,802
Internal combustion engines :—						
Gas ... ..	418	12	430	406	80	486
Petrol, kerosene, or other light oils ... ..	1	—	1	4	—	4
Heavy oils ... ..	617	6	623	40	—	40
Water engines ... ..	87	—	87	—	—	—
<b>TOTAL ... ..</b>	<b>3,008</b>	<b>1,225</b>	<b>4,233</b>	<b>4,901</b>	<b>1,419</b>	<b>6,320</b>
<b>ELECTRIC MOTORS</b>	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
Driven by						
Electricity generated in same works ... ..	6,287	537	6,824	6,019	242	6,261
Electricity generated in other works under same ownership ... ..	217	—	217	—	—	—
Purchased electricity ... ..	64,991	5,889	70,880	26,214	2,741	28,955
<b>TOTAL ... ..</b>	<b>71,495</b>	<b>6,426</b>	<b>77,921</b>	<b>32,233</b>	<b>2,983</b>	<b>35,216</b>

### 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)	For power and other purposes, not separately distinguished
	Tons	Tons	Tons
Coal ... ..	56,837	144,358*	3,435
Coke ... ..	378	56,067*	908
			B.T.U. (Kw.-hrs.) '000
Electricity used for all purposes :—			
Generated in same works ... ..			3,358
Generated in other works under same ownership ... ..			200
Purchased ... ..			53,906
<b>TOTAL—Electricity ... ..</b>			<b>57,464</b>

\* These figures were recorded by firms representing 94·1 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	15,224	1,241	16,465
Cost of materials used ... ..	"	7,564	755	8,319
Paid for work given out to other firms... ..	"	89	8	97
Net output... ..	"	7,571	478	8,049
Average number of persons employed (excluding outworkers) ... ..	No.	44,309	3,105	47,414
Net output per person employed (excluding outworkers) ... ..	£	171	154	170
Power available :—				
Prime movers ... ..	H.P.	19,789	2,931	22,720
Electric motors driven by purchased electricity ... ..	"	65,585	5,295	70,880

### II. Production

Goods sold or added to stock and work done	Unit	England and Wales	Scotland	Great Britain
<b>Iron and steel :—</b>				
Anchors and grapnels ... ..	<i>Th. tons</i>	5·4	—	5·4
	£'000	107	—	107
Chain cables ... ..	<i>Th. tons</i>	21·0	—	21·0
	£'000	571	—	571
Chains :—				
Steel transmission ... ..	<i>Th. tons</i>	5·5	—	5·5
	£'000	673	—	673
For other purposes, including tackle made of chain ... ..	<i>Th. tons</i>	*	*	9·1
	£'000	*	*	399
<b>TOTAL—Anchors and chains</b>	<i>Th. tons</i>	*	*	41·0
	£'000	*	*	1,750
<b>Springs :—</b>				
Laminated ... ..	<i>Th. tons</i>	*	*	22·1
	£'000	*	*	771
Coil ... ..	<i>Th. tons</i>	*	*	9·4
	£'000	*	*	613
Not separately distinguished ... ..	£'000	*	*	88
	£'000	*	*	20
<b>TOTAL—Springs ... ..</b>	£'000	*	*	1,492

Goods sold or added to stock and work done	Unit	England and Wales	Scotland	Great Britain
<i>Iron and steel—cont.</i>				
Fencing material of cast or wrought iron (other than fencing wire):—				
Standards ... ..	<i>Th. tons</i>	*	*	2.1
	£'000	*	*	46
Other sorts (gates, grilles, fences, trellis, etc.)	<i>Th. tons</i>	11.1	1.7	12.8
	£'000	322	46	368
	£'000	105	—	105
TOTAL—Fencing material ... ..	£'000	*	*	519
Nails and tacks (other than wire nails and staples) ... ..	<i>Th. tons</i>	*	*	24.4
	£'000	*	*	504
Rivets and washers ... ..	<i>Th. tons</i>	50.9	27.3	78.2
	£'000	855	305	1,160
Bolts, nuts and screws (for wood or metal) ... ..	<i>Th. tons</i>	113.4	17.8	131.2
	£'000	2,921	335	3,256
	£'000	725	107	832
TOTAL—Bolts, nuts, screws, nails, etc., of iron and steel ... ..	£'000	*	*	5,752
Heel tips, boot protectors, boot plates and clog irons ... ..	<i>Th. tons</i>	4.1	—	4.1
	£'000	143	—	143
Hooks, fasteners and shackles ... ..	<i>Th. tons</i>	2.7	—	2.7
	£'000	105	—	105
	£'000	56	—	56
Horse shoes (sold as such) ... ..	<i>Th. tons</i>	*	*	3.7
	£'000	*	*	55
	£'000	*	*	24
Saddlery hardware, harness furniture, etc., not elsewhere specified	<i>Th. tons</i>	1.0	—	1.0
	£'000	55	—	55
	£'000	95	—	95
Brass and copper:—				
Nails, tacks, rivets and washers ... ..	<i>Th. tons</i>	*	*	1.9
	£'000	*	*	220
	£'000	*	*	22
Bolts, nuts and screws ... ..	<i>Th. tons</i>	*	*	1.1
	£'000	*	*	199
	£'000	*	*	280
TOTAL—Nails, tacks, bolts, screws, etc., of brass and copper ... ..	£'000	717	4	721
Drop forgings and stampings of iron and steel... ..	<i>Th. tons</i>	46.6	5.5	52.1
	£'000	2,151	209	2,360
	£'000	247	—	247
Drop forgings and stampings of brass and copper ... ..	<i>Th. tons</i>	0.4	—	0.4
	£'000	49	—	49
Miscellaneous forgings of iron ... ..	<i>Th. tons</i>	*	*	1.0
	£'000	*	*	25
	£'000	*	*	63

Goods sold or added to stock and work done	Unit	England and Wales	Scotland	Great Britain
Builders' ironmongery and hardware, not elsewhere specified ... ..	£'000	377	25	402
Iron and steel manufactures:—				
Wire nails ... ..	<i>Th. tons</i>	*	*	5.2
	£'000	*	*	112
Tools and implements ... ..	£'000	41	1	42
Vehicles and parts and accessories (except axles)... ..	"	483	1	484
Other iron and steel manufactures ...	"	838	10	848
Manufactures of non-ferrous metals ...	"	266	—	266
Manufactures of metals, not separately distinguished ... ..	"	74	—	74
Other goods made ... ..	"	259	—	259
Scrap metals sold:—				
Iron and steel ... ..	<i>Th. tons</i>	74.8	11.2	86.0
	£'000	196	35	231
Brass ... ..	<i>Th. tons</i>	1.4	†	1.4
	£'000	51	†	51
Copper ... ..	£'000	9	†	9
Other and unspecified metals	<i>Th. tons</i>	1.4	†	1.4
	£'000	7	†	7
TOTAL VALUE OF GOODS MADE ... ..	£'000	15,020	1,224	16,244
General and jobbing work (including repair work, wheel-wrighting and horse-shoeing) ... ..				
	£'000	85	13	98
Work done for the trade:—				
Chain making ... ..	"	6	—	6
Constructional engineering ... ..	"	51	1	52
Galvanising ... ..	"	9	—	9
Other work ... ..	"	2	2	4
TOTAL AMOUNT RECEIVED FOR WORK DONE ... ..	£'000	153	16	169
TOTAL VALUE OF GOODS MADE AND WORK DONE (GROSS OUTPUT) ... ..	£'000	15,224	1,241	16,465

\* Owing to the possible disclosure of information relating to individual firms, the figures for England and Wales and for Scotland cannot be shown separately.

† Less than 50 tons.

† Less than £500.



## III. Employment

A.—NUMBERS EMPLOYED IN WEEK ENDED 18TH OCTOBER, 1930  
(EXCLUDING OUTWORKERS)

Persons employed (excluding outworkers)	Males		Females		Males and females	
	Under 18	All ages	Under 18	All ages	Under 18	All ages
<i>England and Wales</i> :—						
Operatives ... ..	3,961	26,382	3,836	12,777	7,797	39,159
Administrative, etc.* ...	260	3,039	257	1,456	517	4,495
TOTAL ... ..	4,221	29,421	4,093	14,233	8,314	43,654
<i>Scotland</i> :—						
Operatives ... ..	404	1,943	193	688	597	2,631
Administrative, etc.* ...	18	221	12	92	30	313
TOTAL ... ..	422	2,164	205	780	627	2,944
<i>Great Britain</i> :—						
Operatives ... ..	4,365	28,325	4,029	13,465	8,394	41,790
Administrative, etc.* ...	278	3,260	269	1,548	547	4,808
TOTAL ... ..	4,643	31,585	4,298	15,013	8,941	46,598

\* Administrative, technical and clerical staff.

B.—OPERATIVES (EXCLUDING OUTWORKERS) 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 ...	40,799	2,763	43,562	July 19 ...	39,980	2,630	42,610
Feb. 15 ...	40,662	2,873	43,535	Aug. 16 ...	39,281	2,861	42,142
Mar. 15 ...	40,509	2,908	43,417	Sept. 13... ..	39,245	2,764	42,009
Apl. 12 ...	40,973	2,935	43,908	Oct. 18 ...	39,159	2,631	41,790
May 17 ...	40,894	2,948	43,842	Nov. 15... ..	38,515	2,621	41,136
June 21 ...	39,957	2,951	42,908	Dec. 13 ...	37,792	2,624	40,416
AVERAGE FOR THE 12 MONTHS ... ..					39,814	2,792	42,606

C.—NUMBERS OF OUTWORKERS AT TWO SPECIFIED PERIODS IN 1930

Country	January			July		
	Males	Females	Total	Males	Females	Total
<i>England and Wales</i> ... ..	251	177	428	251	177	428
<i>Scotland</i> ... ..	27	—	27	27	—	27
<i>Great Britain</i> ... ..	278	177	455	278	177	455

## 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 ... ..	5,853	845	1,657	220	7,510	1,065
Internal combustion engines :—						
Gas ... ..	7,955	804	236	160	8,191	964
Petrol, kerosene, or other light oils... ..	13	40	—	—	13	40
Heavy oils ... ..	2,916	120	618	40	3,534	160
Water engines ... ..	243	—	—	—	243	—
TOTAL ... ..	16,980	2,809	2,511	420	19,491	3,229
TOTAL OF PRIME MOVERS INSTALLED	19,789		2,931		22,720	
ELECTRIC GENERATORS						
Driven by	Kw.	Kw.	Kw.	Kw.	Kw.	Kw.
Reciprocating steam engines ... ..	1,318	250	567	207	1,885	457
Steam turbines ... ..	—	750	—	—	—	750
Internal combustion engines :—						
Gas ... ..	379	12	39	—	418	12
Petrol, kerosene, or other light oils ... ..	1	—	—	—	1	—
Heavy oils ... ..	286	6	331	—	617	6
Water engines ... ..	87	—	—	—	87	—
TOTAL ... ..	2,071	1,018	937	207	3,008	1,225
TOTAL OF ELECTRIC GENERATORS INSTALLED ... ..	3,089		1,144		4,233	
ELECTRIC MOTORS						
Driven by	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
Electricity generated in same works ... ..	4,130	371	2,157	166	6,287	537
Electricity generated in other works under same ownership ... ..	217	—	—	—	217	—
Purchased electricity ... ..	60,068	5,517	4,923	372	64,991	5,889
TOTAL ... ..	64,415	5,888	7,080	538	71,495	6,426
TOTAL OF ELECTRIC MOTORS INSTALLED	70,303		7,618		77,921	

## V. Consumption of fuel

Kind of fuel used	England and Wales	Scotland	Great Britain
	Tons	Tons	Tons
Coal used for power* ... ..	49,840	6,997	56,837
Coke used for power* ... ..	364	14	378
	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 ... ..	2,420	938	3,358
Generated in other works under same ownership ... ..	200	—	200
Purchased ... ..	50,355	3,551	53,906
TOTAL—Electricity ...	52,975	4,489	57,464

\* In addition, 3,435 tons of coal and 908 tons of coke (all in England and Wales) were recorded as used for power and for other purposes, not separately distinguished.