

THE TOOL AND IMPLEMENT TRADE

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 tools and implements. 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	6,061	8,421
Cost of materials used	"	2,461	3,499
Paid for work given out to other firms	"	61	89
Net output	"	3,539	4,833
Average number of persons employed	No.	21,658	24,804
Net output per person employed	£	163	195
Power available :—			
Prime movers	H.P.	15,767	20,113
Electric motors driven by purchased electricity	"	40,221	35,750
Number of returns	No.	240	314
Number of establishments	"	280	*

* 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 2,563, the corresponding figure for 1924 being 1,767. The value of the gross output of the small firms in 1924 was £426,000, and particulars of the principal items, including the output of £8,000 in Northern Ireland, are given below :—

	£'000
Tools and implements :—	
Files and rasps	26
Saws and saw blades	22
Carpenters' and joiners' tools	29
Spades and shovels	27
Agricultural and horticultural implements	23
Engineers' tools (except gauges)	34
Other and unclassified tools and implements	143
TOTAL—Tools and implements	304
Other goods made	37
Repair work	46
Work done for the trade	47
TOTAL	434

Of the aggregates recorded for 1924 in respect of repair work and work done for the trade, nearly 43 per cent. of the former and over 46 per cent. of the latter were recorded by the small firms.

In addition, 45 firms to which schedules were sent at the 1930 Census and 90 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.

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
	No.	£'000	£'000	No.	£
11-24 ...	66	293	184	1,146	160
25-49 ...	66	601	376	2,307	163
50-99 ...	46	891	507	3,062	166
100-199 ...	35	1,275	745	4,694	159
200-299 ...	12	832	495	2,907	170
300-399 ...	8	862	505	2,710	186
400 and over ...	7	1,307	727	4,832	150
TOTAL ...	240	6,061	3,539	21,658	163

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	15	242	159	673	237
	1924	27	354	172	845	204
2 ...	1930	13	199	130	695	187
	1924	25	385	218	1,182	184
3 ...	1930	130	3,656	2,132	13,230	161
	1924	148	4,561	2,590	13,455	192
4 and 6 ...	1930	14	131	90	544	165
	1924	27	468	284	1,491	190
5 ...	1930	61	1,648	932	5,808	160
	1924	77	2,411	1,366	6,940	197
9 and 10 ...	1930	7	185	96	708	136
	1924	10	342	203	891	228
TOTAL	1930	240	6,061	3,539	21,658	163
	1924	314	8,421	4,833	24,804	195

* For particulars see page xviii.

Northern Ireland.—Owing to the risk of disclosure of information relating to individual firms, separate details relating to the Tool and Implement Trade in Northern Ireland in 1930 were not published, the particulars received being included with those for the Hardware, Hollow-ware, etc., Trade (see page 91).

At the 1924 Census the gross output value recorded by all firms in the Tool and Implement Trade in Northern Ireland was £8,000 and the average number of persons employed was 32.

Production

Total make of steel.—The total quantity of steel made in 1930 by firms that made returns on schedules for the Tool and Implement Trade, whether used by the makers in the manufacture of tools, etc. or otherwise disposed of, was recorded as 5,389 tons, consisting chiefly of crucible steel. The corresponding total recorded at the 1924 Census was 19,550 tons, of which 8,140 tons consisted of crucible steel. The total production of steel in Great Britain is dealt with in the report on the Iron and Steel (Smelting and Rolling) Trade (page 36).

Principal products.—The following table shows the value and, where available, the quantity of tools and implements made in 1930 and 1924:—

Kind of goods	1930						1924	
	Returned on schedules for						Total	
	The Tool and Implement Trade			All trades				
	Quan- tity	Value	Ent- ries	Quan- tity	Value	Ent- ries	Quan- tity	Value
Th. doz.	£'000	No.	Th. doz.	£'000	No.	Th. doz.	£'000	
Files and rasps ...	1,316	518	52	1,638	630	60	1,734	588
Saws and saw-blades ...	2,278	565	34	2,278	565	34	1,471	599
Axes, hatchets, adzes and matchets ...	170	141	20	178	152	21	228	310
Carpenters' and joiners' tools, not elsewhere specified ...	474	275	35	477	277	37	650	329
Spades and shovels for all purposes ...	*	87	9	*	110	13	*	101
Agricultural and horticultural implements (except spades and shovels):—	539	507	32	547	515	37	492	585
Forks ...	79	144	23	79	144	23	*	140
Other kinds ...	*	30	2	*	30	2	...	1,373
Machine knives and shear blades ...	...	733	41	...	866	67	...	150
Engineers' tools, not elsewhere specified (including stocks and dies, wrenches, spanners, etc., but ex- cluding gauges) ...	...	257	20	...	261	24	...	1,763
	...	1,162	73	...	1,918	150	...	

Kind of goods	1930						1924	
	Returned on schedules for						Total	
	The Tool and Implement Trade			All trades				
	Quantity	Value	Entries	Quantity	Value	Entries	Quantity	Value
	Thous.	£'000	No.	Thous.	£'000	No.	£'000	
Gauges	3.2	5	5	3.2	5	5	...	19
Permanent magnets† ...				*	1	3	...	82
Stamps, brands, dies, etc. (of metal)† ... ..	...	207	5	...	289	9	...	53
Builders', decorators', glaziers' and similar tools not elsewhere specified† ... ..	...	130	11	...	57	10	...	...
Mining tools† ... ..	...	84	8	...	147	16	...	...
Heavy edge tools (picks, mattocks, etc.)† ... ..	...	59	9	...	84	9	...	...
Sheep shears and horse clippers† ... ..	...	48	7	...	59	9	...	943
Press tools† ... ..	...			...	63	9	...	...
Other and unclassified tools and implements ... ..	...	135	18	...	265	46	...	...
TOTAL—PRINCIPAL PRODUCTS	...	5,154	...	...	415	79	...	7,506

* Quantity not stated.

† So far as recorded separately.

Prices.—The average selling values of certain classes of tools and implements 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 the considerable 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	
	Shillings per doz.	Shillings per doz.	Per cent.
Files and rasps	7.73	6.77	114.2
Saws and saw-blades	4.96	8.14	60.9
Axes, hatchets, adzes and matchets	17.03	27.15	62.7
Carpenters' and joiners' tools	11.62	10.11	114.9
Spades and shovels for all purposes	18.85	23.77	79.3

Volume of production in 1930 and 1924.—It is not possible to compare with any precision the total volume of production of tools and implements in 1930 and 1924, since a large proportion of the

output was recorded in both years in terms of value only. In these cases no price factors can be applied but a re-valuation on the basis of such information as is available regarding manufacturing costs in the two years suggests that, at 1930 prices, the total value of the group of miscellaneous tools and implements, of which the recorded value in 1924 was £4,383,000, would be in the neighbourhood of £4,000,000. Using this rough estimate, the following table indicates that the aggregate volume of production of tools and implements in 1930 was some 4 per cent. greater than in 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.
Files and rasps	630	740	845	75
Saws and saw-blades	643	918	559	115
Axes, hatchets, adzes and matchets	152	310	194	78
Carpenters' and joiners' tools, not elsewhere specified	387	430	494	78
Spades and shovels for all purposes	515	725	575	90
Other, including unclassified, tools and implements	4,604	4,383	4,000	115
TOTAL	6,931	7,506	6,667	104

Production, exports and imports.—The following table shows, in relation to production, the quantities of certain classes of tools and implements exported from the United Kingdom in 1930 and 1924, together with the quantities imported and retained. Where no records of quantity are available, the values of production, exports and retained imports are shown. As regards the 1930 figures of production, the deficiencies referred to on page 155 of this report should be borne in mind; the 1924 figures include both the recorded output of firms in Northern Ireland and that of small firms. For the purpose of quantitative comparison, rough estimates are included in the production figures for both years in respect of that part of the output which was returned by value only.

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. doz.	Th. doz.	Per cent.	Th. doz.	Th. doz.	Per cent.	
Files and rasps	1930	1,638	598	36.5	222	1,262	82.4
	1924	2,250	740	32.9	282	1,792	84.3
Saws and saw- blades	1930	2,590	700	27.0	585	2,475	76.4
	1924	2,260	770	34.1	1,543	3,033	49.2
Axes, hatchets, adzes and matchets	1930	178	103	58.0	12	87	86.4
	1924	229	191	83.4	20	58	65.5
Carpenters' and joiners' tools, not elsewhere specified	1930	670	169	25.2	406	907	55.2
	1924	900	314	34.9	285	871	67.3
Spades and shovels for all purposes	1930	547	213	38.9	*	334	100.0
	1924	640	264	41.3	1	377	99.7
Agricultural and horti- cultural implements (except spades and shovels):—	1930	£'000	£'000		£'000		
	1924	174	63		12		
Forks ...	1930	866	466		37		
Other kinds	1930						
TOTAL	1930	1,040	529		49		
	1924	1,415	1,013		44		
Engineers' tools, not elsewhere specified (in- cluding stocks and dies, wrenches, span- ners, etc., but excluding gauges)	1930	1,918	501	†	434		‡
	1924	1,802	580		502		
Other tools and implements	1930	1,645†	572		101		
	1924	1,377†	560		95		

* 149 dozen.

† Including some unclassified tools and implements.

‡ Owing to the different bases of valuation of production (at factory), exports (f.o.b.) and imports (c.i.f.), precise figures are not available for insertion here.

Repair work and work done for the trade.—The total amount recorded as received for work done in 1930 was £105,000, the corresponding total for 1924 being £117,000. The principal kinds of work included in these totals were as follows:—

Kind of work done	1930	1924
	Amount received	Amount received
	£'000	£'000
Repair work ...	48	62
Work done for the trade:—		
On files and rasps ...	22*	24
Other work ...	35	31
TOTAL	105	117

* Including £2,000 returned on schedules for other trades.

Other products.—In addition to the output shown in the table of principal products on pages 157-8, the following goods were produced in 1930 and 1924 by firms that made their returns on schedules for the Tool and Implement Trade. 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
	£'000	£'000
Steel ingots, blooms, billets, bars, etc ...	302	690
Steel forgings and castings in the rough ...	27	350
Machinery and accessories ...	49	271
Cutlery ...	100	29
Other metal manufactures ...	175	366
Handles for tools and implements ...	38	142
Other goods made ...	113	11
TOTAL	804	1,859

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)	2,755	15,661	847	3,322	3,602	18,983
Administrative, technical and clerical staff (as at 18th October) ...	160	1,761	170	914	330	2,675
TOTAL	2,915	17,422	1,017	4,236	3,932	21,658
1924						
Operatives (average for the year)	3,301	18,855	830	2,916	4,131	21,771
Administrative, technical and clerical staff (as at 18th October) ...	170	2,181	115	852	285	3,033
TOTAL	3,471	21,036	945	3,768	4,416	24,804

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	6,416	199	6,615	6,184	1,900	8,084
Steam turbines	—	650	650	575	160	735
Internal combustion engines :—						
Gas	6,410	772	7,182	9,535	1,208	10,743
Petrol, kerosene, or other light oils ...	20	—	20	21	—	21
Heavy oils	792	142	934	191	—	191
Water engines	331	35	366	328	11	339
TOTAL	13,969	1,798	15,767	16,834	3,279	20,113
	Kw.	Kw.	Kw.	Kw.	Kw.	Kw.
ELECTRIC GENERATORS						
Driven by						
Reciprocating steam engines	1,018	150	1,168	961	450	1,411
Steam turbines	—	400	400	320	80	400
Internal combustion engines :—						
Gas	263	71	334	227	92	319
Heavy oils	96	—	96	50	—	50
Water engines	37	—	37	37	—	37
TOTAL	1,414	621	2,035	1,595	622	2,217
	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
ELECTRIC MOTORS						
Driven by						
Electricity generated in same works ...	2,331	138	2,469	2,535	655	3,190
Purchased electricity	36,931	3,290	40,221	30,742	5,008	35,750
TOTAL	39,262	3,428	42,690	33,277	5,663	38,940

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	32,224	50,533*	560
Coke	647	26,450*	192
			B.T.U. (Kw.-hrs.) '000
Electricity used for all purposes :—			
Generated in same works			1,556
Purchased			25,482
			TOTAL—Electricity ...
			27,038

* These figures were recorded by firms representing 95.7 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	5,876	185	6,061
Cost of materials used	"	2,373	88	2,461
Paid for work given out to other firms	"	60	1	61
Net output... ..	"	3,443	96	3,539
Average number of persons employed	No.	20,950	708	21,658
Net output per person employed	£	164	136	163
Power available:—				
Prime movers	H.P.	14,659	1,108	15,767
Electric motors driven by purchased electricity	"	39,929	292	40,221

II. Production

A.—TOTAL MAKE OF STEEL INGOTS AS RETURNED ON SCHEDULES FOR THE TOOL AND IMPLEMENT TRADE

	Tons
England and Wales	5,389

No production of steel ingots was recorded for Scotland.

B.—OUTPUT SOLD OR ADDED TO STOCK AND WORK DONE

Kind of goods made and work done	Unit	England and Wales	Scotland	Great Britain
Tools and implements:—				
Files and rasps	Th. doz.	*	*	1,316
	£'000	*	*	518
Saws and saw-blades	Th. doz.	2,278	—	2,278
{ Quantity stated	£'000	565	—	565
{ Quantity not stated	£'000	*	*	67
Axes, hatchets, adzes and matchets	Th. doz.	170	—	170
	£'000	141	—	141
Carpenters' and joiners' tools, not elsewhere specified	Th. doz.	474	—	474
{ Quantity stated	£'000	275	—	275
{ Quantity not stated	£'000	*	*	87
Spades and shovels for all purposes	Th. doz.	316	223	539
	£'000	431	76	507
Agricultural and horticultural implements (except spades and shovels):—				
Forks	Th. doz.	79	—	79
{ Quantity stated	£'000	144	—	144
{ Quantity not stated	£'000	30	—	30
Other kinds	£'000	*	*	733

Kind of goods made and work done	Unit	England and Wales	Scotland	Great Britain
Machine knives and shear blades	£'000	257	—	257
Engineers' tools, not elsewhere specified (including stocks and dies, wrenches, spanners, etc., but excluding gauges)... ..	"	*	*	1,162
Gauges	Thous.	3.2	—	3.2
	£'000	5	—	5
Permanent magnets and stamps, brands, dies, etc. (of metal)†	£'000	207	—	207
Builders', decorators', glaziers' and similar tools, not elsewhere specified†	"	130	—	130
Mining tools†	"	84	—	84
Heavy edge tools (picks, mattocks, etc.)†	"	59	—	59
Sheep shears and horse clippers†	"	48	—	48
Other and unclassified tools and implements (including press tools)	"	135	—	135
TOTAL—Tools and implements	£'000	5,016	138	5,154
Steel ingots, blooms, billets, bars, etc.	Tons	6,019	—	6,019
{ Quantity stated	£'000	264	—	264
{ Quantity not stated	£'000	38	—	38
Steel forgings and castings in the rough	Tons	1,203	—	1,203
	£'000	27	—	27
Machinery and accessories	£'000	49	—	49
Cutlery	"	100	—	100
Other metal manufactures	"	136	39	175
Handles for tools and implements	"	38	—	38
Other goods made	"	113	—	113
TOTAL VALUE OF GOODS MADE	£'000	5,781	177	5,958
		Amount received	Amount received	Amount received
Repair work	£'000	*	*	48
Work done for the trade:—				
On files and rasps	"	*	*	20
Other work	"	35	—	35
TOTAL AMOUNT RECEIVED FOR WORK DONE	£'000	95	8	103
TOTAL VALUE OF GOODS MADE AND WORK DONE (GROSS OUTPUT)	£'000	5,876	185	6,061

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

† So far as separately recorded.

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	2,655	15,037	831	3,253	3,486	18,290
Administrative, etc.* ...	153	1,679	168	882	321	2,561
TOTAL	2,808	16,716	999	4,135	3,807	20,851
<i>Scotland :—</i>						
Operatives	73	469	8	37	81	506
Administrative, etc.* ...	7	82	2	32	9	114
TOTAL	80	551	10	69	90	620
<i>Great Britain :—</i>						
Operatives	2,728	15,506	839	3,290	3,567	18,796
Administrative, etc.* ...	160	1,761	170	914	330	2,675
TOTAL	2,888	17,267	1,009	4,204	3,897	21,471

* 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 ...	18,756	649	19,405	July 19 ...	18,557	629	19,186
Feb. 15 ...	18,504	647	19,151	Aug. 16 ...	18,097	616	18,713
Mar. 15 ...	18,654	659	19,313	Sept. 13 ...	17,920	521	18,441
Apl. 12 ...	18,815	657	19,472	Oct. 18 ...	18,290	506	18,796
May 17 ...	18,560	641	19,201	Nov. 15 ...	18,197	494	18,691
June 21 ...	18,238	636	18,874	Dec. 13 ...	18,076	478	18,554
AVERAGE FOR THE 12 MONTHS					18,389	594	18,983

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	5,561	199	855	—	6,416	199
Steam turbines	—	650	—	—	—	650
Internal combustion engines :—						
Gas	6,282	647	128	125	6,410	772
Petrol, kerosene or other light oils ...	20	—	—	—	20	—
Heavy oils	792	142	—	—	792	142
Water engines	331	35	—	—	331	35
TOTAL	12,986	1,673	983	125	13,969	1,798
TOTAL OF PRIME MOVERS INSTALLED	14,659		1,108		15,767	
ELECTRIC GENERATORS						
Driven by						
Reciprocating steam engines	325	—	693	150	1,018	150
Steam turbines	—	400	—	—	—	400
Internal combustion engines :—						
Gas	258	6	5	65	263	71
Heavy oils	96	—	—	—	96	—
Water engines	37	—	—	—	37	—
TOTAL	716	406	698	215	1,414	621
TOTAL OF ELECTRIC GENERATORS INSTALLED	1,122		913		2,035	
ELECTRIC MOTORS						
Driven by						
Electricity generated in same works	1,736	68	595	70	2,331	138
Purchased electricity	36,649	3,280	282	10	36,931	3,290
TOTAL	38,385	3,348	877	80	39,262	3,428
TOTAL OF ELECTRIC MOTORS INSTALLED	41,733		957		42,690	

V. Consumption of fuel

Kind of fuel used	England and Wales	Scotland	Great Britain
	Tons	Tons	Tons
Coal used for power*	28,037	4,187	32,224
Coke used for power*	646	1	647
	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	1,303	253	1,556
Purchased	25,351	131	25,482
TOTAL—Electricity	26,654	384	27,038

* In addition, 560 tons of coal and 192 tons of coke (all in England and Wales) were recorded as used for power and for other purposes, not separately distinguished.