

THE WATCH AND CLOCK 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 watches and clocks and parts thereof. 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	898	626
Cost of materials used	"	407	245
Paid for work given out to other firms	"	7	3
Net output	"	484	378
Average number of persons employed (excluding outworkers)...	No.	2,587	1,970
Net output per person employed (excluding outworkers)	£	187	192
Power available:—			
Prime movers	H.P.	83	164
Electric motors driven by purchased electricity	"	1,090	685
Number of returns	No.	53	49
Number of establishments	"	70	*

* Not available.

Deficiencies in 1930 aggregates.—The aggregate number of persons recorded for 1930 by firms that stated that they employed not more than ten persons on the average was 3,110, the corresponding figure for 1924 being 2,340. These figures do not include retail firms employing one or two assistants for carrying out repairs to customers' goods, such firms being excluded from the Census in both years.

The value of the gross output of the small firms in 1924 was £425,000 and particulars of the principal items of output included in this figure are given below:—

	£'000
Repair work	354
Watches, clocks and parts thereof made	55
Work done for the trade	16
TOTAL	425

Only about 10 per cent. of the value of all watches, clocks and parts made by firms in this trade in 1924 was recorded on returns made by the small firms, but these firms contributed 75 per cent. of the total value of the repair work done and the whole of the work done for the trade. The greater part of the repair and other work done on watches and clocks in 1930 thus escaped record in consequence of the exclusion of the small firms and of the retailers referred to above, but the figures for manufactured goods were not greatly affected.

Of the total number of persons employed by all firms that furnished particulars, about 54 per cent. in each year was returned by firms that employed not more than ten persons. 48 firms to which schedules were sent at the 1930 Census and 370 at that of 1924 furnished no information; these outstanding cases consisted almost entirely of the smaller firms. Assuming that these small firms employed the same average number of persons as those that furnished particulars, the numbers employed by the small firms as a whole would be practically identical in the two years. The numbers employed by the larger firms increased between 1924 and 1930 by 31 per cent. It may therefore be said that on the manufacturing side there was a considerable expansion between 1924 and 1930, but that the repair work on watches and clocks was about the same in the two years.

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	18	119	62	320	195
25-49	19	242	118	636	185
50-99	11	219	131	748	175
100 and over ...	5	318	173	883	195
TOTAL ...	53	898	484	2,587	187

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 (excluding outworkers)	Net output per person employed	
	No.	£'000	£'000	No.	£	
1	1930	24	495	276	1,238	223
	1924	21	232	154	794	194
2	1930	5	35	17	126	136
	1924	5	61	30	174	172
5	1930	13	301	145	898	161
	1924	10	251	139	723	192
3, 4 and 6	1930	6	48	33	235	142
9 and 10	1930	5	19	13	90	138
3, 4, 6 and 10	1924	13	82	55	279	197
TOTAL...	1930	53	898	484	2,587	187
	1924	49	626	378	1,970	192

* For particulars see page xviii.

Northern Ireland.—Owing to the risk of disclosing particulars relating to individual firms, separate details as to the production of the Watch and Clock Trade in Northern Ireland in 1930 were not published, the information being combined with that for the Plate and Jewellery Trade. These figures are given below and relate to firms that employed an average of more than five persons. Particulars for 1924 relating to each trade, but covering all firms, are also included in the table:

Particulars	Unit	Plate, Jewellery, Watch and Clock Trades	Watch and Clock Trade	Plate and Jewellery Trade
		1930	1924	1924
Value of goods made and work done (Gross output)	£'000	13	13	10
Cost of materials used and amount paid for work given out to other firms	"	2	2	1
Net output... ..	"	11	11	9
Average number of persons employed (excluding outworkers)	No.	93	81	48
Net output per person employed (excluding outworkers) ...	£	118	139	176
Power available:—				
Electric motors driven by purchased electricity	H.P.	19	*	30

* Not published.

Production

Principal products.—The following table shows the value and, where available, the quantity of watches and clocks and parts thereof made in 1930 and 1924 for sale:—

Kind of goods	1930						1924	
	Returned on schedules for						Total	
	The Watch and Clock Trade			All trades				
Quan- tity	Value	Ent- ries	Quan- tity	Value	Ent- ries	Quan- tity	Value	
Watches, complete ...	No.	£'000	No.	No.	£'000	No.	No.	£'000
Parts of watches:—	*	*	*	6,698	36	15	4,072	44
Cases	284,855	204	13	289,844	212	19	180,041	227
Other parts (including movements, but excluding glasses) ... ..	...	19	9	...	20	10	...	11
TOTAL—Watches and parts ...	...	*	...	...	268	...	...	282
Clocks, complete	99,194	196	13	189,325	283	21	117,562	206

Kind of goods	1930						1924	
	Returned on schedules for						Total	
	The Watch and Clock Trade			All trades				
	Quantity	Value	Entries	Quantity	Value	Entries	Quantity	Value
No.	£'000	No.	No.	£'000	No.	No.	£'000	
Time recording clocks, chronometers and electrically controlled clocks†	5,341	77	4	5,341	77	4	2,023	34
{ Number stated ...	—	—	—	...	31	4	...	21
{ Number not stated	—	—	—	...	—	—	...	—
Parts of clocks:—								
Movements, complete ...	*	*	*	21,080	36	7	8,100	17
Cases ...	...	139	12	...	145	17	268,120	75
Other parts (excluding glasses) ...	...	21	13	...	21	14	...	17
TOTAL—Clocks and parts ...	...	*	...	...	593	...	...	370
TOTAL—PRINCIPAL PRODUCTS ...	...	712	...	...	861	...	...	652

* Owing to the possible disclosure of information relating to individual firms in the Watch and Clock Trade, figures cannot be inserted here.

† So far as recorded separately.

The number of watch cases made in each year was very much larger than that of the complete watches returned; for 1924 the position was the same as regards the output of clock cases and complete clocks, and the substantial value of clock cases shown for 1930 suggests that there may also have been a large excess of clock cases in that year over the recorded output of complete clocks. It is probable that the bulk of the watch and clock cases made were sold to distributing firms and used, with imported movements, for assembling complete watches and clocks, the finished products so assembled not being regarded as "production" for the purpose of the Census (see Production, exports and imports below).

Repair work and work done for the trade.—The total amount recorded as received for repair work carried out on customers' goods and work done for the trade in 1930 was £127,000, of which £22,000 was returned on schedules for other trades; the corresponding total for 1924 was £106,000, all of which was recorded in the Watch and Clock Trade. The large deficiencies in these totals, due to the exclusion of firms employing not more than ten persons, have already been referred to.

Prices.—The average selling values of watches and clocks and parts thereof in 1930 and 1924, as calculated from the Census returns, are shown in the following table. It should be borne in

mind that goods of many different varieties and qualities are included under the headings shown and that any differences between the two years in the types of goods made are not taken into account in these comparisons.

Kind of goods	Average value		1930 as a percentage of 1924
	1930	1924	
	£ each	£ each	Per cent.
Watches, complete:—			
Gold ...	4.86	12.58	38.6
Other (including platinum) ...	5.97	6.25	95.5
Watch cases:—			
Of gold ...	0.70	1.53	45.5
Of other metals (including platinum)	0.92	0.88	104.1
Clocks, complete ...	1.50	1.75	85.7
Clock movements, complete ...	1.61	2.11	76.3
Time recording clocks, chronometers and electrically controlled clocks ...	14.45	15.57	92.8

Volume of production in 1930 and 1924.—The following table compares the volume of production of watches and clocks and parts thereof and of repair work 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.
Watches, complete ...	£'000 36	£'000 44	£'000 21	171
Parts of watches:—				
Cases ...	212	227	142	149
Other parts ...	20	11	10*	200
Clocks, complete ...	283	206	177	160
Time recording clocks, chronometers and electrically controlled clocks ...	108	55	52	†
Parts of clocks:—				
Movements ...	36	17	13	274
Cases and other parts (except glasses) ...	166	92	79‡	211
Repair work and work done for the trade ...	127	106	80§	159
TOTAL ...	988	758	574	172

* Based on the average values of complete watches of materials other than gold.

† This figure would have no significance.

‡ Based on average values of complete clocks.

§ Based on average value of all preceding items.

Production, exports and retained imports.—The following table gives particulars of the exports and retained imports of watches and clocks and parts thereof in 1930 and 1924 :—

Watches, clocks and parts	Exports		Retained imports	
	Number	Value	Number	Value
		£'000		£'000
Watches, complete ...	1930 2,387	3	6,101,207	1,301
	1924 9,318	15	4,215,558	977
Watch movements, complete ...	1930 19	*	363,714	156
	1924 61	†	174,601	41
Watch cases... ..	1930 1,023	‡	§	§
	1924 1,398	1	111,551	27
Parts of watches other than complete movements, cases and watch glasses...	1930 ...	1	...	39
	1924 ...	1	...	26
Clocks, complete ...	1930 21,031	45	3,594,973	535
	1924 16,772	49	3,838,484	669
Clock movements, complete	1930 118	1	1,497,410	254
	1924 727	2	498,909	67
Parts of clocks other than complete movements and clock glasses ...	1930 ...	7	...	31
	1924 ...	8	...	43

* £14. † £177. ‡ £232. § Re-exports in excess of imports.

The number of complete watches exported in 1930 was nearly 36 per cent. of the recorded production in that year, but the average value of watches exported was £1.26 each compared with £5.31 for all watches made. It is probable that the exports consisted very largely of imported watch movements fitted by distributing firms in this country to cases of British manufacture, and it will be noted in this connection that the average value of imported movements (£0.43) and of watch cases manufactured in this country (£0.73), taken together, approximate fairly closely to that of the exports of complete watches in 1930. The number of complete clocks exported in 1930 was less than one-ninth of the output returned at the Census.

The following figures show the total value of the output of watches and clocks and parts thereof (except glasses) in 1930 and 1924 and that of exports and of retained imports of such goods in the same years. In comparing the production figures for 1930 with those relating to external trade, the deficiencies due to the exclusion of the small firms should be borne in mind. The production total for 1924 includes the output of the small firms and of firms in Northern Ireland.

	1930	1924
	£'000	£'000
Production (at factory) ...	861	718
Exports (f.o.b.) ...	57	76
Retained imports (c.i.f.) ...	2,316	1,850

It may be noted that up to August 1st, 1924, and during the whole of 1930, there was a customs duty of 33½ per cent. *ad valorem* on imported clocks, watches and parts thereof.

Other products.—In addition to the output shown in the table of principal products on pages 487-8, other goods, valued at £54,000 in 1930 and £28,000 in 1924, were produced by firms that made their returns on schedules for the Watch and Clock Trade. These goods are dealt with in the reports on those trades in which the principal output was recorded.

Waste products sold.—The value of waste products sold by firms making returns on schedules for the Watch and Clock Trade was £27,000 in 1930. Corresponding particulars for 1924 were not recorded.

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) ...	230	1,518	287	796	517	2,314
Administrative, technical and clerical staff (as at 18th October) ...	9	153	21	120	30	273
TOTAL ...	239	1,671	308	916	547	2,587
1924						
Operatives (average for the year) ...	141	1,208	182	479	323	1,687
Administrative, technical and clerical staff (as at 18th October) ...	1	168	26	115	27	283
TOTAL ...	142	1,376	208	594	350	1,970
Average number of outworkers :—						
1930 ...	25	—	—	—	25	—
1924 ...	2	—	1	—	3	—

Wages.—The available information as to the amount of wages paid in 1930 and 1924 is given on pages 406-7.

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
PRIME MOVERS	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
Reciprocating steam engines	12	—	12	102	—	102
Internal combustion engines:—						
Gas	60	—	60	62	—	62
Heavy oils	11	—	11	—	—	—
TOTAL	83	—	83	164	—	164
ELECTRIC GENERATORS	Kw.	Kw.	Kw.	Kw.	Kw.	Kw.
Driven by						
Reciprocating steam engines	9	—	9	76	—	76
Gas engines	15	—	15	—	—	—
TOTAL	24	—	24	76	—	76
ELECTRIC MOTORS	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
Driven by						
Electricity generated in same works	2	—	2	55	—	55
Purchased electricity	960	130	1,090	647	38	685
TOTAL	962	130	1,092	702	38	740

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
	Tons	Tons	Tons
Coal	86	85	85
Coke	—	—	217
			B.T.U. (Kw.-hrs.) '000
Electricity used for all purposes:—			
Generated in same works			3
Purchased			895
TOTAL—Electricity			898

TABLES

I. Summary of results

Particulars	Unit	England and Wales	Scotland	Great Britain
Value of goods made and work done (Gross output)	£'000	879	19	898
Cost of materials used	"	402	5	407
Paid for work given out to other firms	"	6	1	7
Net output	"	471	13	484
Average number of persons employed (excluding outworkers)	No.	2,497	90	2,587
Net output per person employed (excluding outworkers)	£	189	138	187
Power available:—				
Prime movers	H.P.	83	—	83
Electric motors driven by purchased electricity	"	1,084	6	1,090

II. Production

Goods sold or added to stock and work done	Great Britain*	
	Quantity	Selling value
	No.	£'000
Watches, complete	†	†
Parts of watches:—		
Cases	284,855	204
Other parts (including complete movements, but excluding glasses) ... ..	...	19
Clocks, complete	99,194	196
Time-recording clocks, chronometers and electrically controlled clocks†	5,341	77
Parts of clocks:—		
Movements, complete	†	†
Cases ... ..	...	139
Other parts (excluding glasses) ... ..	...	21
TOTAL—Watches, clocks and parts ... ..	...	712
Jewellery, gem-set or not, of gold and platinum ... ..	...	19
Other wares of gold, silver, electro-plate, etc. ... ..	...	12
Other goods made ... ..	...	23
Waste products sold... ..	...	27
Repair work on customers' goods and work done for the trade ... ..	...	105§
TOTAL VALUE OF GOODS MADE AND WORK DONE (GROSS OUTPUT) ... ..	...	898

* The value of the gross output for Scotland was £19,000. Detailed particulars cannot be given without the risk of disclosure of information relating to individual firms.

† Owing to the possible disclosure of information relating to individual firms figures cannot be inserted here.

‡ So far as recorded separately.

§ Amount received for work done.

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	231	1,470	292	809	523	2,279
Administrative, etc.* ...	8	143	20	116	28	259
TOTAL	239	1,613	312	925	551	2,538
<i>Scotland</i> :—						
Operatives	3	74	—	—	3	74
Administrative, etc.* ...	1	10	1	4	2	14
TOTAL	4	84	1	4	5	88
<i>Great Britain</i> :—						
Operatives	234	1,544	292	809	526	2,353
Administrative, etc.* ...	9	153	21	120	30	273
TOTAL	243	1,697	313	929	556	2,626

* 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 ...	2,181	78	2,259	July 19 ...	2,209	73	2,282
Feb. 15 ...	2,214	78	2,292	Aug. 16 ...	2,215	76	2,291
Mar. 15 ...	2,213	77	2,290	Sept. 13 ...	2,267	75	2,342
Apl. 12 ...	2,204	77	2,281	Oct. 18 ...	2,279	74	2,353
May 17 ...	2,232	76	2,308	Nov. 15 ...	2,325	75	2,400
June 21 ...	2,247	76	2,323	Dec. 13 ...	2,272	77	2,349
AVERAGE FOR THE 12 MONTHS					2,238	76	2,314

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

Country	January			July		
	Males	Females	Total	Males	Females	Total
<i>England and Wales</i> * ...	25	—	25	25	—	25

* No outworkers were recorded for Scotland.

IV. Power

PARTICULARS OF PRIME MOVERS, ELECTRIC GENERATORS AND
ELECTRIC MOTORS

Power equipment	Great Britain	
	Ordinarily in use	In reserve or idle
PRIME MOVERS		
Reciprocating steam engines	H.P. 12	H.P. —
Internal combustion engines :—		
Gas	60	—
Heavy oils	11	—
TOTAL	83	—
TOTAL OF PRIME MOVERS INSTALLED ...	83	
ELECTRIC GENERATORS		
Driven by	Kw.	Kw.
Reciprocating steam engines	9	—
Gas engines	15	—
TOTAL	24	—
TOTAL OF ELECTRIC GENERATORS INSTALLED	24	
ELECTRIC MOTORS		
Driven by	H.P.	H.P.
Electricity generated in same works	2	—
Purchased electricity	960	130
TOTAL	962	130
TOTAL OF ELECTRIC MOTORS INSTALLED ...	1,092	

The only power equipment recorded for Scotland consisted of electric motors driven by purchased electricity of a total capacity of 6 horse-power, all of which were stated to have been ordinarily in use during the year.

V. Consumption of fuel

Kind of fuel used	England and Wales	Scotland	Great Britain
Coal used for power	Tons 86	Tons —	Tons 86
Electricity used for all purposes :—	B.T.U. (Kw.-hrs.) '000	B.T.U. (Kw.-hrs.) '000	B.T.U. (Kw.-hrs.) '000
Generated in same works	3	—	3
Purchased	884	11	895
TOTAL—Electricity	887	11	898