

THE WATCH AND CLOCK MAKING TRADE.

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Introductory.*

The tables on pages 438 to 441 are based on returns received from firms in Great Britain and Northern Ireland whose business in 1924 consisted wholly or mainly in the manufacture or repair of watches and clocks. The number of such separate returns was 1,080. About 370 firms to which schedules were sent did not furnish returns, but these firms for the most part had very small repairing establishments and they included a number which had ceased operations before the end of the censal year. On the basis of the information available, it is estimated that they did not employ more than 600 persons and that their net output probably did not exceed £60,000.

Summary of results.—The following table shows the main results of the Censuses of 1924 and 1907, comparisons between the figures

* See also the Notes on pages vii–xv.

for the two years being subject to the qualifications mentioned in the next paragraph. The information obtained in connexion with the Census of 1912, when details of output were not required from firms employing five persons or less, was not sufficiently complete to warrant its use for purposes of comparison.

Particulars.	Unit.	1924.	1907.
Value of goods made and work done (Gross output)	£'000	1,064	613
Cost of materials used	"	354	219
Paid for work given out to other firms.. .. .	"	14	12
Net output	"	696	382
Average number of persons employed (excluding outworkers)	No.	4,391	5,301
Net output per person employed (excluding outworkers)	£	159	72
Mechanical power available :—			
Prime movers	H.P.	209	550
Electric motors driven by purchased electricity	"	806	(not recorded.)

Qualifications affecting comparisons.—In considering the above table and the other tables in this report which show figures for different censal years, it should be borne in mind that :—

(1) The comparability of figures relating to value or cost is affected by the changes which have taken place in the general purchasing power of money.

(2) The Census of 1907 covered Great Britain and the whole of Ireland, but that of 1924 applied only to Great Britain and Northern Ireland. The exclusion of Southern Ireland in 1924, however, does not seriously affect the comparability of the figures.

Value of output and cost of materials.—The figures in the above table representing the value of goods made and work done, and the cost of materials used, are the aggregates of the figures recorded by the firms that made returns, and, for the reasons explained in paragraphs (i) and (ii) on pages xii and xiii, they may over-state the value of the output of the Watch and Clock Making Trade considered as a whole. The matter is discussed on page 434, where it is estimated that the value, free from duplication, of the output of this trade in 1924 was between £1,000,000 and £1,064,000., and the cost of the materials purchased from sources outside the trade and worked up into its products was between £304,000 and £354,000.

Production.

Detailed information relating to the output of the Watch and Clock Making Trade in 1924 will be found in Table II on page 438.

Principal products.—The following statement shows, for 1924 and 1907, the output of watches, clocks and parts, including the output of similar goods returned on schedules for trades other than the Watch and Clock Making Trade :—

Watches, clocks and parts.	1924.		1907.
	Returned on schedules for		Total
	The Watch and Clock Making Trade.	All Trades.	
	Selling value.	Selling value.	Selling value
Watches, complete	£'000. 66 (5,250)	£'000. 66 (5,250)	£'000. 142 (74,000)
Parts of watches :—			
Cases	216 (168,550)*	246 (182,230)*	122† (163,000)
Other parts (including movements, but excluding glasses)	10	10	
Total value—Watches and parts ..	292	322	264
Clocks, complete	100 (27,830)	210 (118,000)	79‡
Time - recording clocks, chronometers and electrically-controlled clocks	37 (2,320)	58 (4,470)	
Parts of clocks :—			
Cases, of wood or metal	80 (288,940)	82 (296,260)	62§
Movements	20 (8,600)	20 (8,600)	
Other parts (except glasses)	19	26	
Total value—Clocks and parts ..	256	396	141
TOTAL VALUE—WATCHES, CLOCKS AND PARTS	548	718	405

* Including an estimate in respect of cases, valued at £2,000, for which no particulars of quantity were recorded.

† Including £1,000 for which no particulars of quantity were recorded.

‡ Made up of 41,200 clocks, valued at £47,000; turret clocks (no quantity stated), valued at £18,000; and 600 marine chronometers, valued at £14,000.

§ Including £19,000 in respect of parts of clocks and watches not separately distinguished.

It would appear that between 1907 and 1924 there was a considerable decrease in the output of watches and a marked increase in the output of clocks.

The number of watch cases (182,230) and clock cases (296,260) returned as made greatly exceeds the number of complete watches and clocks and complete sets of movements made, and it seems probable that the great bulk of the cases was sold to distributing

firms to be used with imported movements, or with watches and clocks assembled by those firms from imported parts. The overseas trade in parts of watches and clocks in 1924 was as follows:—

Parts of watches and clocks.	Exports.		Net imports.	
	Number.		Number.	
Parts of watches :—				
Cases	1,398		111,551	
Complete movements	61		174,601	
	£		£	
Other parts (except glasses)	1,171		25,566	
	Number.		Number.	
Parts of clocks :—				
Complete movements	727		498,909	
Other parts (except glasses)	8,483		42,543	

Other products.—In addition to the watches, clocks and parts dealt with in the previous section, firms that made their returns on schedules for the Watch and Clock Making Trade recorded an output in 1924 of other goods, mainly instruments and parts, valued at £28,000. These goods, being of kinds mainly produced by other trades, are dealt with in the reports on those trades. The output of other products recorded in 1907 was valued at £19,000.

Repair work and work done for the trade.—The amount returned as received for repair work on customers' goods in 1924 was £472,000, and for work done for the trade (turning, chasing and repairs to watches and clocks), £16,000. The total amount received for repair work in 1907 was £189,000 and for work done for the trade, £9,000.

It should be observed that, in both years, retailers who employed one or two assistants for carrying out repairs to customers' watches and clocks were not required to make returns. It is also probable that many of the 370 firms that failed to make returns for 1924 were engaged either in repair work or in working for the trade.

Value of output free from duplication.—The gross output in 1924 of the firms that made their returns on schedules for the Watch and Clock Making Trade was returned as £1,064,000. An examination of the returns suggests that the sale of parts of watches and clocks to manufacturers and repairers may have involved duplication not exceeding £50,000; it is possible also that the £14,000 recorded as paid to other firms for work given out to them was duplicated in the £16,000 received for work done for the trade. The value of the output, free from duplication, of the Watch and Clock Making Trade in 1924 may, therefore, be estimated as lying between £1,000,000 and £1,064,000. The corresponding estimate for 1907 lay between £478,000 and £613,000.

Cost of materials and work given out.—The cost of materials used by firms that made their returns on schedules for the Watch and Clock Making Trade was returned as £354,000 in 1924, a sum which,

by the exclusion of purchases of the products of other firms in the same trade, may be reduced to about £304,000; the corresponding net figure for 1907 could not be estimated with precision, but was thought to lie between £96,000 and £219,000.

The amount paid to other firms for work given out to them was returned as £14,000 in 1924, and £12,000 in 1907.

Net output.—The net output in 1924 of the firms that made their returns on schedules for the Watch and Clock Making Trade (whose gross output was valued at £1,064,000) was £696,000, that sum representing, without duplication, the total amount by which the value, as delivered, of the aggregate output exceeded the cost, as purchased, of the materials used and the amount paid to other firms for work given out to them.

The net output per head of persons employed (excluding out-workers) in the censal year 1924 was £159 as compared with £72 in 1907.

Exports and imports.—The following table, relating to the year 1924, shows the exports and retained imports of complete watches and clocks in relation to production in that year. The production of watches cannot be classified according to the metal of which the cases were composed because such classification would disclose information relating to individual firms.

Complete watches and clocks.	Production.	Exports.	Net imports.
	Number.	Number.	Number.
Watches with cases of :—			
Gold	5,250	5,846	261,118
Silver		370	461,495
Other metals		3,102	3,492,945
Total—Watches	5,250	9,318	4,215,558
Clocks	122,470	16,772	3,838,484

The excess in the recorded exports of watches over the home production is probably due to many of the watches exported consisting of imported movements fitted with British cases.

In 1907 the retained imports of complete watches amounted to 1,737,251, and of complete clocks, 1,492,494. Exports were not separately recorded, the total value of clocks, watches and parts exported in that year being £67,949, f.o.b.

The overseas trade in watches and clocks in 1908 was as follows :—

	Exports.	Net imports.
	Number.	Number.
Watches with cases of—		
Gold	203	101,298
Silver	1,705	198,269
Other metals	4,807	1,573,714
Clocks	18,779	1,849,509

Wages in 1924.

Under the Census of Production Act, 1906, the powers of the Board of Trade to require information do not extend to particulars of the amount of wages paid, and, consequently, no information on this head was secured in connexion with the Census of 1924. As a result, however, of the voluntary enquiry undertaken by the Ministry of Labour into wages and hours in the United Kingdom in 1924 information was obtained as to the total wage-bill of a group of firms in the Watch and Clock Making Trade which made returns both to the Ministry of Labour and to the Census of Production office. According to the Census records this group of firms employed, in the week ended 18th October, 1924, 849 operatives, or 26 per cent. of the total of 3,258 operatives for the trade as a whole, and their net output totalled £198,000 or 28 per cent. of the aggregate net output of £696,000 for the trade as a whole. The total wage-bill of these firms as returned to the Ministry of Labour, was £126,000, representing about 64 per cent. of their aggregate net output.

Employment.

The detailed information relating to employment in 1924 is summarised in Table III on pages 439 and 440. The following table sets out certain particulars for that year, together with those obtained at the 1907 Census. For the purpose of this comparison, the average numbers of operatives of each sex returned for 1924 have been divided between the two age-groups in the proportions shown by the data relating to the week ended 18th October.

Average number (excluding outworkers).	Males.		Females.		Males and females.	
	Under 18.	All ages.	Under 18.	All ages.	Under 18.	All ages.
	1924.					
Operatives	427	2,700	191	536	618	3,236
Administrative, etc.	6	985	42	170	48	1,155
Total	433	3,685	233	706	666	4,391
1907.						
Wage earners	608	3,289	340	1,159	948	4,448
Salaries	23	752	25	101	48	853
Total	631	4,041	365	1,260	996	5,301
Average number of outworkers—						
1924	18		5		23	
1907	286		16		302	

The numbers of operatives recorded month by month in 1924 ranged from 66 above the average, in November, to 46 below the average, in August (see Table IIIB, page 440).

Mechanical Power.

The detailed information relating to mechanical power in 1924 is summarised in Table IV on page 441. The following table sets out the particulars for 1924 and 1907 relating to the capacity and kinds of *prime movers* and the capacity of *electric generators* installed.

Power equipment.	1924.	1907.
	Total.*	Total.
	H.P.	H.P.
PRIME MOVERS :—		
Reciprocating steam engines	102	264
Gas engines	103	
Petrol and light oil engines	4	
Heavy oil engines	—	
TOTAL	209	550
ELECTRIC GENERATORS :—		
Driven by—		
Reciprocating steam engines	76	16
Gas engines	2	
Petrol and light oil engines	1	
Heavy oil engines	—	
TOTAL	79	52

* The prime movers and electric generators shown were all reported as being ordinarily in use during the year.

The capacity of *electric motors* recorded in 1924 was as shown below :—

Electric motors.	1924.		
	Ordinarily in use.	In reserve or idle.	Total.
	H.P.	H.P.	H.P.
Driven by—			
Electricity generated in own works	56	—	56
Purchased electricity	750	56	806

Corresponding information was not required for 1907. The total number of Board of Trade units of electricity purchased for power and lighting purposes in that year was returned as 85,000.

TABLES.

I.—Summary of Results.

Particulars.	Unit.	England and Wales.	Scotland.	Great Britain.	Northern Ireland.
Value of goods made and work done (Gross output)	£'000	967	84	1,051	13
Cost of materials used	"	333	19	352	2
Paid for work given out to other firms..	"	12	2	14	*
Net output	"	622	63	685	11
Average number of persons employed (excluding outworkers)	No.	3,760	550	4,310	81
Net output per person employed (excluding outworkers)	£	165	115	159	139
Mechanical power available:—					
Prime movers	H.P.	209	—	209	—
Electric motors driven by purchased electricity	"	785†	21	806†	†

* Under £500.

† In order to avoid the possible disclosure of information relating to individual firms, the figure for Northern Ireland has been included with that for England and Wales and for Great Britain.

II.—Production.

Goods sold or added to stock.	United Kingdom.*	
	Quantity.	Selling value.
	Number.	£'000.
Watches, complete	5,254	66
Parts of watches:—		
Cases	167,659	214
Other parts (including complete movements but excluding glasses) .. .. .	..	2
Total value—Watches and parts .. .. .	..	10
Total value—Watches and parts .. .. .	..	292
Clocks, complete	27,834	100
Time-recording clocks, chronometers and electrically-controlled clocks	2,315	37
Parts of clocks:—		
Cases, of wood or metal	288,934	80
Movements, complete	8,604	20
Parts of electrically-controlled clocks .. .. .	..	3
Other parts (except glasses) .. .. .	..	16
Total value—Clocks and parts .. .. .	..	256
Other goods made .. .. .	..	28
Repair work on customers' goods .. .. .	..	472†
Work done for the trade:—		
Turning, chasing, etc. .. .. .	..	6†
Repairs to watches, clocks, etc. .. .. .	..	10†
TOTAL VALUE OF GOODS MADE AND WORK DONE (GROSS OUTPUT) .. .. .	..	1,064

* The gross output returned for Scotland was £84,000, of which £82,000 was in respect of repairs to customers' goods; for Northern Ireland the gross output was returned as £13,000, all in respect of repair work on customers' goods.

† Amount received for work done.

III.—Employment.

A.—NUMBERS EMPLOYED IN WEEK ENDED 18TH OCTOBER, 1924 (EXCLUDING OUTWORKERS).

Kind of staff.	Males.		Females.		Males and females.	
	Under 18.	All ages.	Under 18.	All ages.	Under 18.	All ages.
<i>England and Wales:—</i>						
Operatives	362	2,342	190	521	552	2,863
Administrative, etc.*	4	769	34	147	38	916
Total	366	3,111	224	668	590	3,779
<i>Scotland:—</i>						
Operatives	59	324	4	22	63	346
Administrative, etc.*	—	188	6	18	6	206
Total	59	512	10	40	69	552
<i>Great Britain:—</i>						
Operatives	421	2,666	194	543	615	3,209
Administrative, etc.*	4	957	40	165	44	1,122
Total	425	3,623	234	708	659	4,331
<i>Northern Ireland:—</i>						
Operatives	9	49	—	—	9	49
Administrative, etc.*	2	28	2	5	4	33
Total	11	77	2	5	13	82
<i>United Kingdom:—</i>						
Total	436	3,700	236	713	672	4,413

* Administrative, technical and clerical staff.

B.—OPERATIVES EMPLOYED IN ONE WEEK IN EACH MONTH OF 1924.

England and Wales. (Annual average : Males, 2,330 ; Females, 514 ; Total, 2,844.)

Week ended.	Males.	Females.	Total.	Week ended.	Males.	Females.	Total.
Jan. 12th ..	2,311	498	2,809	July 19th ..	2,311	504	2,815
Feb. 16th ..	2,318	499	2,817	Aug. 16th ..	2,300	502	2,802
March 15th ..	2,328	511	2,839	Sept. 13th ..	2,345	512	2,857
April 12th ..	2,335	521	2,856	Oct. 18th ..	2,342	521	2,863
May 17th ..	2,327	522	2,849	Nov. 15th ..	2,363	541	2,904
June 21st ..	2,317	504	2,821	Dec. 13th ..	2,363	531	2,894

Scotland. (Annual average : Males, 322 ; Females, 22 ; Total, 344.)

Week ended.	Males.	Females.	Total.	Week ended.	Males.	Females.	Total.
Jan. 12th ..	325	21	346	July 19th ..	324	22	346
Feb. 16th ..	320	21	341	Aug. 16th ..	317	22	339
March 15th ..	322	22	344	Sept. 13th ..	316	22	338
April 12th ..	323	22	345	Oct. 18th ..	324	22	346
May 17th ..	324	22	346	Nov. 15th ..	327	22	349
June 21st ..	323	22	345	Dec. 13th ..	322	23	345

Great Britain. (Annual average : Males, 2,652 ; Females, 536 ; Total, 3,188.)

Week ended.	Males.	Females.	Total.	Week ended.	Males.	Females.	Total.
Jan. 12th ..	2,636	519	3,155	July 19th ..	2,635	526	3,161
Feb. 16th ..	2,638	520	3,158	Aug. 16th ..	2,617	524	3,141
March 15th ..	2,650	533	3,183	Sept. 13th ..	2,661	534	3,195
April 12th ..	2,658	543	3,201	Oct. 18th ..	2,666	543	3,209
May 17th ..	2,651	544	3,195	Nov. 15th ..	2,690	563	3,253
June 21st ..	2,640	526	3,166	Dec. 13th ..	2,685	554	3,239

Northern Ireland. (Annual average : Males, 48 ; Females, — ; Total, 48.)

Week ended.	Males.	Females.	Total.	Week ended.	Males.	Females.	Total.
Jan. 12th ..	49	—	49	July 19th ..	46	—	46
Feb. 16th ..	47	—	47	Aug. 16th ..	49	—	49
March 15th ..	47	—	47	Sept. 13th ..	48	—	48
April 12th ..	47	—	47	Oct. 18th ..	49	—	49
May 17th ..	47	—	47	Nov. 15th ..	49	—	49
June 21st ..	46	—	46	Dec. 13th ..	49	—	49

C.—NUMBER OF OUTWORKERS AT TWO SPECIFIED PERIODS IN 1924.

Country.*	January.			July.		
	Males.	Females.	Total.	Males.	Females.	Total.
England and Wales ..	19	5	24	18	4	22

* No outworkers were recorded for Scotland or Northern Ireland.

IV.—Mechanical Power.

PARTICULARS OF PRIME MOVERS, ELECTRIC GENERATORS AND ELECTRIC MOTORS.

Power equipment.	United Kingdom.*	
	Ordinarily in use.	In reserve or idle.
	H.P.	H.P.
PRIME MOVERS :—		
Reciprocating steam engines	102	—
Gas engines	103	—
Petrol and light oil engines	4	—
TOTAL	209	—
	Kw.	Kw.
ELECTRIC GENERATORS :—		
Driven by—		
Reciprocating steam engines	76	—
Gas engines	2	—
Petrol and light oil engines	1	—
TOTAL	79	—
ELECTRIC MOTORS :—		
Driven by—		
Electricity generated in own works	56	—
Purchased electricity	750	56

* The power equipment returned for Scotland and Northern Ireland consisted wholly of electric motors (in use) driven by purchased electricity ; the capacity of those in Scotland was 21 horse-power, but the capacity of those in Northern Ireland cannot be stated separately owing to the risk of disclosure of information relating to individual firms.