

THE PAPER TRADE.

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Introductory.*

The tables on pages 290 to 294 are based on returns received from firms in Great Britain and Northern Ireland whose business in 1924 consisted wholly or mainly in the manufacture of paper and boards. The number of such separate returns was 329.

Summary of results.—The following table shows the main results of the Censuses of 1924, 1912 and 1907, comparisons between the figures for the three years being subject to the qualifications mentioned in the next paragraph :—

Particulars.	Unit.	1924.	1912.	1907.
Value of goods made and work done				
(Gross output)	£'000	36,981	15,956	13,621
Cost of materials used	"	23,999	10,668	9,079
Net output	"	12,982	5,288	4,542
Average number of persons employed	No.	51,390	42,135	40,955
Net output per person employed	£	253	126	111
Mechanical power available :—				
Prime movers	H.P.	248,951	194,220	172,224
Electric motors driven by purchased electricity	"	38,724	4,160	(not recorded).

* See also the Notes on pp. vii to xv.

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 Censuses of 1907 and 1912 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 does not seriously affect the comparability of the figures. In 1907, the average number of persons employed in the Paper Trade in the whole of Ireland was only 599, with a total output valued at £187,000, and according to the Census of Production taken by the Government of the Irish Free State in respect of the year 1926, the only product of this trade separately recorded was 370 tons of unglazed packing and wrapping paper, valued at £4,000.

(3) The Censuses of 1907 and 1924 extended to all firms, however small, but in 1912 firms employing not more than five persons (excluding the proprietors) were merely required to state the average number of persons employed by them in the year. According to the information so furnished, the average number of persons employed in the establishments thus excluded was 49, or 0·1 per cent. of the number employed by the remaining firms, as shewn in the above table. The figures for 1912 are further defective in respect of the business carried on by certain firms from which returns were not received. It is estimated that these firms employed between 900 and 1,000 persons, or between 2 and 2½ per cent. of the total number included in the returns received for that year.

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 page xiii, they probably overstate the value of the output of, and the cost of materials used by, the Paper Trade considered as a whole. The matter is discussed on pages 285 and 286, where it is estimated that in 1924 the value, free from duplication, of the output of this trade lay between £35,230,000 and £36,980,000 and the cost of the materials purchased from sources outside that trade and worked up into its products lay between £22,250,000 and £24,000,000.

Production.

Detailed particulars relating to the output of the Paper Trade in 1924 will be found in Table II on pages 290 to 292.

Total make of paper and board.—In 1912 and 1924 manufacturers of paper were required to state the total weight of paper and board

made by them in the year, whether sold or added to stock or used by them in their works for further manufacture; similar information was not required in 1907, but an estimate of the total make in that year was made in the Census office on the basis of the information furnished in the returns. The following statement compares the total make in the three years:—

Kind of product.	1924.	1912.	1907.
	Th. tons	Th. tons	Th. tons
Paper of all kinds	1,149·8	967·8	} 850
Cardboard and pasteboard	104·7	} 50·4	
Millboard	8·1		
Strawboard	1·5		
Leatherboard	4·2		
TOTAL	1,268·3	1,018·2	850

The total quantity of paper and board made in 1924 was about 50 per cent. greater than the quantity made in 1907 and about 25 per cent. greater than the quantity made in 1912.

Principal products sold or added to stock.—The classification of paper and board adopted for the schedule for the Census of 1924 was much more detailed than that for the Censuses of 1907 and 1912, but in the following table the particulars furnished have been grouped so as to afford a comparison between the aggregates of the main classes for the three years. The figures for each year include the output of similar products recorded on schedules for other trades, the amount so included for 1924 being £318,000.

Kind of goods.	1924.		1912.		1907.	
	Quantity.	Selling value.	Quantity.	Selling value.	Quantity.	Selling value.
	Th. tons	£'000	Th. tons	£'000	Th. tons	£'000
Writing paper ..	115·3	5,261	156·0†	3,880†	118·3†	3,059†
Paper for printing	813·3	17,985	566·2	7,060	454·6	5,894
Packing and wrapping paper ..	168·3	3,770	159·4	1,693	188·2	2,032
Printed and coated papers (not hangings) ..	68·9	3,453	74·1	1,290	43·7	1,112
Other sorts of paper	34·0*	2,197	51·8	1,017	14·2	440
Millboard, pasteboard, cardboard, etc. ..	106·7	2,203	60·8	734	53·6	626
TOTAL ..	1,306·5	34,869	1,068·3	15,674	872·6	13,163

* Including 27,200 tons, valued at £1,754,000, the quantity for the remainder being estimated.

† Paper for writing and drawing and for envelopes.

More detailed particulars of the output of paper and board for sale or for stock in 1924 are given below, including, in addition to the output of paper and board by firms whose returns were made on schedules for the Paper Trade, 2,500 tons of *unglazed packing paper*,

valued at £46,000; 4,600 tons of *coated papers, other sorts*, valued at £256,000; and 800 tons of *cardboard and pasteboard*, valued at £16,000, returned on schedules for other trades. Particulars of exports and imports are also shown:—

Kind of goods.	Output for sale or stock.		Exports.	Net imports.
	Quantity.	Selling value.		
	Th. tons	£'000	Th. tons	Th. tons
Printing paper, not coated:—				
News	499·7	9,147	85·0	169·1
Other sorts	313·6	8,838	65·8	26·7
TOTAL—Printing paper ..	813·3	17,985	150·8	195·8
Packing and wrapping paper:—				
Unglazed	96·1	1,704	32·0	89·9
Glazed and machine-glazed ..	58·4	1,500	1·1	116·0
Waterproof (oiled, waxed, etc.)	6·6	434	1·2	0·6
Not separately distinguished ..	7·2	132	—	—
TOTAL—Packing and wrapping paper ..	168·3	3,770	34·3	206·5
Writing paper in large sheets ..	115·3	5,261	11·2	6·5
Coated papers:—				
Art	36·7	1,700	0·6	0·3
Other sorts (except waterproofed wrappings and roofing paper)	32·2	1,753	2·2	4·4
TOTAL—Coated papers ..	68·9	3,453	2·8	4·7
Tissue paper	5·5	982	0·7	4·0
Blotting paper:—				
Filter	0·1	35	0·1	*
Other sorts	5·3	340	1·4	0·2
TOTAL—Blotting paper ..	5·4	375	1·5	0·2
Vegetable parchment, greaseproof paper and substitutes therefor ..	7·0	208	0·3	14·9
Roofing paper, tarred and other ..	9·3	189	*	1·2
Other sorts of paper	†6·8	206	—	—
Purchased paper, corrugated, etc.		237	—	—
TOTAL—PAPER	1,199·8	32,666	201·6	433·8
Millboard	8·5	239	2·5	43·7
Strawboard and leatherboard ..	2·9	68	0·6	197·6
Cardboard and pasteboard ..	95·3	1,896	4·7	9·9
TOTAL—BOARD	106·7	2,203	7·8	251·2
TOTAL—PAPER AND BOARD ..	1,306·5	34,869	209·4	685·0

* Less than 50 tons.

† Estimated.

About 71 per cent. of the newsprint available for use in the United Kingdom was of British manufacture, about 94 per cent. of the writing paper, about 95 per cent. of the blotting paper, and about

94 per cent. of the coated papers. On the other hand, the packing and wrapping papers returned as sold or added to stock contributed less than 40 per cent. to the total quantity available for use in the United Kingdom in 1924. Of the board available for use in the United Kingdom, only about 28 per cent. was of British production.

Technical classification of output.—Paper makers were requested to furnish voluntarily particulars of their output of paper and board classified according to the technical classification adopted by the Paper Makers' Association of Great Britain and Ireland. Firms with an output of 923,310 tons, or about 73 per cent. of the total of 1,268,300 tons of paper and board made in 1924, furnished the information given in the following table. The output of board appears to be much more fully covered in this table than the output of paper, for which the proportion is, accordingly, less than that stated above. For newsprint, over 80 per cent. of the total was made by firms providing these voluntary particulars, and for other kinds of paper less than 60 per cent.

Classes of paper and board.	1924.	
	Quantity.	Selling value at works.
Hand-made paper	Tons	£'000
Machine-made, tub-sized and air-dried papers (including plate papers) of all kinds, excepting those classified separately	970	221
Tissues, cigarette, copyings	14,870	1,209
Engine-sized writings and cartridges, fine printings and lithos, white or tinted, both machine-finished, water-finish, super-calendered and plate glazed, including fine papers made for coating and enamelling and imitation parchments	3,880	759
Blottings	233,620	6,698
News	2,790	209
Browns, wrappers, grocery and packing papers ..	412,210	7,384
White middles, pulp boards, white or tinted, folding box boards, mill boards, leather boards, glazed boards, etc., straw boards	73,630	1,293
Machine glazed envelopes, printing, litho and cover papers, i.e. pamphlet and copy book backs	105,060	1,847
Machine glazed wrappings of all kinds, including machine glazed krafts and small hands, biscuit caps, wall-papers, together with manilla papers and glazed casings	13,380	345
Wall-papers not glazed	18,470	475
Any other variety	11,870	229
TOTAL	32,560	1,450
TOTAL	923,310	22,119

Other products.—In addition to the principal products dealt with in the preceding paragraphs, firms that made their returns on schedules for the Paper Trade recorded, in each of the three censal years, an output of other goods which are mainly produced in other

trades and which are dealt with in the reports on those trades. The following table gives particulars of such goods returned in 1924, 1912 and 1907.

Kind of goods.	1924.		1912.		1907.	
	Quantity.	Selling value.	Quantity.	Selling value.	Quantity.	Selling value.
Paper bags ..	Th. tons	£'000	Th. tons	£'000	Th. tons	£'000
Paper boxes and cartons ..	33.3	783	27.0	316	32.8	462
Paper tubes and bobbins for Textile Trades ..	18.6	567	..	99	..	59
Other articles of paper ..	..	427	..	..	..	..
Other goods made ..	..	552	..	23	..	37
Waste products ..	..	32	..	1	..	18
TOTAL ..	..	2,368	..	439	..	576

More than half of the total value of paper bags made in 1907 was returned on schedules for the Paper Trade, but in 1924 less than a quarter was so returned.*

Work done for other firms.—Firms that made their returns on schedules for the Paper Trade in 1924 stated that they received £62,000 for coating, waxing, etc., paper for other firms. The amount received for similar work done in 1912 was £11,000 and in 1907, £19,000.

Value of output free from duplication.—Manufacturers were not required, when stating their total make of paper (see Table IIA), to specify in detail the kinds made, but so far as newsprint, writing paper, tissue, and blotting papers are concerned the quantities returned as made for sale or stock (see Table IIB) would have coincided very closely with the total make of each kind, since those papers are not used for further manufacture. Other sorts of printing paper and packing or wrapping papers may, however, have been sold to other firms to be waxed, oiled, stained, or otherwise coated, or to be corrugated, crimped, creped, etc., or to be made into bags, tubes or other articles of paper. Again, cardboard or other boards may be sold to be made into boxes, cartons, tubes, etc., or to be corrugated, lined, etc. It would appear from an examination of the individual returns that firms in this trade that did not themselves make paper or board, manufactured coated papers or other articles of paper or board to the value of about £3,900,000; the total cost of materials for those goods was approximately £2,500,000; of which not more than £2,000,000 would be the cost of the paper or board used. So far as that paper and board were purchased from British makers duplication is involved, but so far as imported paper and board were used there was no duplication. Tubes and other articles made from strawboard and

* See page 338.

articles made from special kraft paper were most probably made from imported materials, and there is evidence that goods to the value of at least £500,000 were so made from imported paper and board costing about £250,000. The origin of the remaining £1,750,000 is unknown and that sum accordingly represents the maximum amount of duplication. The sum of £62,000 recorded as received for coating, waxing, cutting, or otherwise treating paper or board appears to represent work done for merchants.

The gross output of the firms whose returns were made on schedules for the Paper Trade was returned as £36,981,000 in respect of the year 1924, and this sum is reduced to an amount lying (in round figures) between £35,230,000 and £36,980,000, free from duplication, the precise figure depending on the value of the materials purchased from firms in the Paper Trade of whose output they formed part.

Cost of materials.—The cost of materials used by firms that made returns on schedules for the Paper Trade was returned as £23,999,000 in 1924, a sum which, by the exclusion of purchases from firms in that trade is reduced to an amount lying between £22,250,000 and £24,000,000.

Net output.—The net output in 1924 of the firms that made their returns on schedules for the Paper Trade (whose gross output was valued at £36,981,000) was £12,982,000, 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.

The net output per head of persons employed in the censal year 1924 was £253, as compared with £126 in 1912, and £111 in 1907.

Quantities of principal materials used.—Paper-makers were asked to state the quantities of the principal kinds of paper-making materials used by them in the production of their output, and such information was furnished by makers of 883,900 tons of paper and board, or nearly 70 per cent. of the total make of 1,268,300 tons; their output was made up of 788,840 tons of paper (of which newsprint formed about 47 per cent.; other printing paper, 27 per cent.; writing paper, 7 per cent.; packing and wrapping paper, 13 per cent.; and other kinds of paper, 6 per cent.) 86,520 tons of cardboard, 4,210 tons of millboard, 580 tons of strawboard, and 3,750 tons of leatherboard. The quantities of the materials used in the production of this output were as follows:—

Kind of materials.	Quantity.
	Tons.
Mechanical wood pulp	302,140
Chemical wood pulp	293,740
Esparto grass	148,930
Rags	40,540
Waste paper	157,460
Other materials	149,380
TOTAL	1,092,190

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 Paper Trade that 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, 36,066 operatives, or 74 per cent. of the total of 48,472 operatives for the trade as a whole, and their net output totalled £9,730,000, or 75 per cent. of the aggregate net output of £12,982,000 for the trade as a whole. The total wage-bill of these firms, as returned to the Ministry of Labour, was £4,366,000, representing about 45 per cent. of their aggregate net output.

Employment.

The detailed information relating to employment in 1924 is summarised in Table III on page 293. The following table sets out certain particulars for that year together with those relating to the two previous censal years. 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.	Males.		Females.		Males and females.	
	Under 18.	All ages.	Under 18.	All ages.	Under 18.	All ages.
1924.						
Operatives	2,935	34,785	3,161	13,194	6,096	47,979
Administrative, etc.	207	2,528	105	883	312	3,411
TOTAL	3,142	37,313	3,266	14,077	6,408	51,390
1912.						
Wage earners	3,460	27,322	3,056	12,473	6,516	39,795
Salaried	176	2,097	41	243	217	2,340
TOTAL	3,636	29,419	3,097	12,716	6,733	42,135
1907.						
Wage earners	3,331	25,553	2,876	13,089	6,207	38,642
Salaried	211	2,068	48	245	259	2,313
TOTAL	3,542	27,621	2,924	13,334	6,466	40,955

The numbers of operatives recorded month by month in 1924 ranged from 831 above the average, in December, to 743 below the average, in January (see Table IIIB, page 293). In the last quarter of the year the average number exceeded by over 1,000 the average

for the first quarter and by nearly 900 that for the first three quarters. It will be seen from the table that the expansion in the operative staff from Census to Census has been almost wholly a matter of increased male staff.

Mechanical Power.

The detailed information relating to mechanical power in 1924 is summarised in Table IV on page 294. The following table sets out the particulars for the three census years relating to the capacity and kinds of *prime movers* and the capacity of *electric generators* installed.

Power equipment.	1924.			1912.	1907.
	Ordinarily in use.	In reserve or idle.	Total.	Total.	Total.
	H.P.	H.P.	H.P.	H.P.	H.P.
PRIME MOVERS :—					
Reciprocating steam engines	162,664	15,576	178,240	166,141	153,354
Steam turbines	45,007	12,898	57,905	14,415	3,470
Gas engines	3,748	670	4,418	2,932	
Petrol and light oil engines	119	197	316	359	4,784
Heavy oil engines	1,025	533	1,558		
Water power	5,922	592	6,514	10,373	10,578
Other	—	—	—	—	38
TOTAL	218,485	30,466	248,951	194,220	172,224
	Kw.	Kw.	Kw.	Kw.	Kw.
ELECTRIC GENERATORS :—					
Driven by—					
Reciprocating steam engines	28,336	9,184	37,520	20,533	11,172
Steam turbines	30,013	11,155	41,168	10,839	2,609
Gas engines	835	744	1,579		
Petrol and light oil engines	62	25	87	1,568	1,501
Heavy oil engines	633	395	1,028		
Water power	1,656	50	1,706		
TOTAL	61,535	21,553	83,088	32,940	15,282

The capacity of *electric motors* recorded in 1924 and in 1912 was as shown below :—

Electric motors.	1924.			1912.
	Ordinarily in use.	In reserve or idle.	Total.	Total.
	H.P.	H.P.	H.P.	H.P.
Driven by—				
Electricity generated in own works	91,795	17,109	108,904	34,941
Purchased electricity	32,970	5,754	38,724	4,160

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 1,472,000.

Machinery Equipment.

In response to a request for information in respect of the number and capacity of vats and machines at paper mills at the end of 1924, firms with an output of 944,800 tons of paper and board, or 74.5 per cent. of the total make of 1,268,300 tons of paper and board in the year, stated that their machinery equipment was 129 vats and 371 machines, of which 111 vats and 336 machines were recorded as in use and the remainder as idle at the end of the year. The total weekly capacity of the vats in use was returned as 605 tons, and of the machines as 22,286 tons.

TABLES.

I.—Summary of results.

Particulars.	Unit.	England and Wales and N. Ireland*.	Scotland.	United Kingdom.
Value of goods made and work done (Gross output)	£'000	29,459	7,522	36,981
Cost of materials used	"	19,227	4,772	23,999
Net output	"	10,232	2,750	12,982
Average number of persons employed	No.	39,563	11,827	51,390
Net output per person employed ..	£	259	232	253
Mechanical power available :—				
Prime movers	H.P.	193,762	55,189	248,951
Electric motors driven by purchased electricity	"	26,465	12,259	38,724

* In order to avoid the possible disclosure of information relating to individual firms, the figures for Northern Ireland have been combined with those for England and Wales.

II.—Production.

A.—TOTAL MAKE OF PAPER AND BOARD.

Kind of product.	England and Wales and N. Ireland*.	Scotland.	United Kingdom.
	Th. tons	Th. tons	Th. tons
Paper of all kinds	949.6	200.2	1,149.8
Cardboard and pasteboard	97.8	6.9	104.7
Millboard	†	†	8.1
Strawboard	1.5	—	1.5
Leatherboard	4.2	—	4.2
TOTAL	†	†	1,268.3

* See footnote to Table I.

† In order to avoid the possible disclosure of information relating to individual firms, figures are given only for the United Kingdom as a whole.

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

Goods sold or added to stock and work done.	Unit.	England and Wales and N. Ireland*.	Scotland.	United Kingdom.
Printing paper, not coated :—				
News	Th. tons	†	†	499.7
Other	£'000	235.1	78.5	313.6
TOTAL—Printing paper ..	£'000	6,352	2,486	8,838
Packing and wrapping paper :—				
Unglazed	Th. tons	77.8	15.8	93.6
Glazed and machine glazed	£'000	1,173	485	1,658
Oiled, waxed and other water-proof wrappings ..	Th. tons	52.4	6.0	58.4
Not separately distinguished	£'000	1,359	141	1,500
TOTAL—Packing and wrapping paper	Th. tons	†	†	6.6
Writing paper in large sheets	£'000	3.9	3.3	434
Vegetable parchment and grease-proof paper, including substitutes therefor	£'000	53	79	7.2
Tissue paper	£'000	†	†	132
TOTAL—Coated papers :—	Th. tons	†	†	165.8
Art	£'000	†	†	3,724
Other sorts, except waterproof wrappings and roofing paper	Th. tons	74.8	40.5	115.3
TOTAL—Coated papers ..	£'000	3,553	1,708	5,261
Roofing paper, tarred and other	Th. tons	†	†	7.0
TOTAL—Roofing paper ..	£'000	†	†	208
Blotting paper :—				
Filter paper	Th. tons	5.5	—	5.5
Other sorts	£'000	982	—	982
TOTAL—Blotting paper ..	Th. tons	†	†	5.4
Other sorts of paper	£'000	†	†	375
Purchased paper corrugated, creped, crinkled, etc.	£'000	4	202	206
Millboard	Th. tons	237	—	237
Strawboard and leatherboard	£'000	†	†	8.5
	Th. tons	†	†	239
	£'000	2.9	—	2.9
	£'000	68	—	68

*† See notes on page 292.

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

Goods sold or added to stock and work done.	Unit	England and Wales and N. Ireland.†	Scotland.	United Kingdom.
Cardboard and pasteboard ..	<i>Th. tons</i>	87.4	7.1	94.5
	£'000	1,703	177	1,880
Paper bags	<i>Th. tons</i>	28.8	4.5	33.3
	£'000	664	119	783
Boxes and cartons of paper and cardboard, including folding boxes	<i>Th. tons</i>	17.3	1.3	18.6
	£'000	514	53	567
Paper tubes and bobbins for the Textile Trades	£'000	427	—	427
Stationery (notepaper, etc.) ..	£'000	44	12	56
Other articles of paper and cardboard	£'000	489	7	496
Other goods made	£'000	27	5	32
Waste products	£'000	7	—	7
Coating, waxing, etc., paper for other firms	£'000	†	†	62‡
TOTAL VALUE OF GOODS MADE AND WORK DONE (GROSS OUTPUT)	£'000	29,459	7,522	36,981

* See footnote to Table I.

† In order to avoid the possible disclosure of information relating to individual firms, figures are given only for the United Kingdom as a whole.

‡ Amount received for work done.

III.—Employment.

A.—NUMBERS EMPLOYED IN WEEK ENDED 18TH OCTOBER, 1924.

Kind of staff.	Males.		Females.		Males and females.	
	Under 18.	All ages.	Under 18.	All ages.	Under 18.	All ages.
<i>England and Wales and Northern Ireland* :—</i>						
Operatives	2,385	27,592	2,397	9,777	4,782	37,369
Administrative, etc.† ..	172	2,011	83	661	255	2,672
TOTAL	2,557	29,603	2,480	10,438	5,037	40,041
<i>Scotland :—</i>						
Operatives	576	7,507	806	3,596	1,382	11,103
Administrative, etc.† ..	35	517	22	222	57	739
TOTAL	611	8,024	828	3,818	1,439	11,842
<i>United Kingdom :—</i>						
Operatives	2,961	35,099	3,203	13,373	6,164	48,472
Administrative, etc.† ..	207	2,528	105	883	312	3,411
TOTAL	3,168	37,627	3,308	14,256	6,476	51,883

* See footnote to Table I.

† Administrative, technical and clerical staff.

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

England and Wales and Northern Ireland. (Annual average : Males, 27,264 ; Females, 9,627 ; Total, 36,891)*

Week ended.	Males.	Females.	Total.	Week ended.	Males.	Females.	Total.
Jan. 12th ..	27,029	9,403	36,432	July 19th ..	27,092	9,695	36,787
Feb. 16th ..	27,056	9,405	36,461	Aug. 16th ..	27,278	9,583	36,861
March 15th ..	27,129	9,442	36,571	Sept. 13th ..	27,324	9,561	36,885
April 12th ..	27,092	9,508	36,600	Oct. 18th ..	27,592	9,777	37,369
May 17th ..	27,236	9,652	36,888	Nov. 15th ..	27,612	9,842	37,454
June 21st ..	27,090	9,763	36,853	Dec. 13th ..	27,635	9,902	37,537

Scotland. (Annual average : Males, 7,521 ; Females, 3,567 ; Total, 11,088).

Jan. 12th ..	7,389	3,415	10,804	July 19th ..	7,240	3,369	10,609
Feb. 16th ..	7,653	3,609	11,262	Aug. 16th ..	7,479	3,622	11,101
March 15th ..	7,703	3,585	11,288	Sept. 13th ..	7,487	3,623	11,110
April 12th ..	7,515	3,528	11,043	Oct. 18th ..	7,507	3,596	11,103
May 17th ..	7,519	3,610	11,129	Nov. 15th ..	7,614	3,591	11,205
June 21st ..	7,495	3,634	11,129	Dec. 13th ..	7,654	3,619	11,273

United Kingdom. (Annual average : Males, 34,785 ; Females, 13,194 ; Total, 47,979.)

Jan 12th ..	34,418	12,818	47,236	July 19th ..	34,332	13,064	47,396
Feb. 16th ..	34,709	13,014	47,723	Aug. 16th ..	34,757	13,205	47,962
March 15th ..	34,832	13,027	47,859	Sept. 13th ..	34,811	13,184	47,995
April 12th ..	34,607	13,036	47,643	Oct. 18th ..	35,099	13,373	48,472
May 17th ..	34,755	13,262	48,017	Nov. 15th ..	35,226	13,433	48,659
June 21st ..	34,585	13,397	47,982	Dec. 13th ..	35,289	13,521	48,810

* See footnote to Table I.

IV.—Mechanical Power.

PARTICULARS OF PRIME MOVERS, ELECTRIC GENERATORS
AND ELECTRIC MOTORS.

Power equipment.	England and Wales and Northern Ireland.*		Scotland.		United Kingdom.	
	Ordinarily in use.	In reserve or idle.	Ordinarily in use.	In reserve or idle.	Ordinarily in use.	In reserve or idle.
	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
PRIME MOVERS :—						
Reciprocating steam engines	137,530	11,505	25,134	4,071	162,664	15,576
Steam turbines ..	28,262	6,948	16,745	5,950	45,007	12,898
Gas engines	3,748	550	—	120	3,748	670
Petrol and light oil engines	37	155	82	42	119	197
Heavy oil engines ..	1,025	533	—	—	1,025	533
Water power	2,937	532	2,985	60	5,922	592
TOTAL	173,539	20,223	44,946	10,243	218,485	30,466
TOTAL OF PRIME MOVERS INSTALLED	193,762		55,189		248,951	
	Kw.	Kw.	Kw.	K.w	Kw.	Kw.
ELECTRIC GENERATORS :—						
Driven by—						
Reciprocating steam engines	22,921	6,217	5,415	2,967	28,336	9,184
Steam turbines ..	16,082	5,005	13,931	6,150	30,013	11,155
Gas engines	835	654	—	90	835	744
Petrol and light oil engines	22	—	40	25	62	25
Heavy oil engines ..	633	395	—	—	633	395
Water power	512	10	1,144	40	1,656	50
TOTAL	41,005	12,281	20,530	9,272	61,535	21,553
TOTAL OF ELECTRIC GEN- ERATORS INSTALLED ..	53,286		29,802		83,088	
	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
ELECTRIC MOTORS :—						
Driven by—						
Electricity generated in own works ..	62,921	12,987	28,874	4,122	91,795	17,109
Purchased electricity	21,515	4,950	11,455	804	32,970	5,754

* See footnote to Table I.