

THE WOOLLEN AND WORSTED TRADES.

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THE WOOLLEN AND WORSTED TRADES.

Introductory.*

The tables on pages 108 to 117 are based on Returns received from firms in Great Britain and Northern Ireland engaged in the sorting, cleaning, blending, carding, combing, spinning and weaving of sheep's and lambs' wool, alpaca, vicuna, llama, mohair, cashmere, camels' hair, and other hair (except horse hair†), either on their own account or on commission for others. There are also included Returns received from firms engaged in the extraction of recovered wool and in the manufacture of goods therefrom. The number of separate Returns received was 2,080. About 300 firms to which schedules were sent did not furnish Returns, but these firms for the most part had very small establishments and they included a number which ceased operations in the course of the censal year. On the basis of the information available it is estimated that they did not employ more than 1,700 persons, and that their net output probably did not exceed £175,000.

The following table shows the main results of the Censuses of 1924, 1912 and 1907, comparisons between the results 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	196,771	82,259	75,905
Cost of materials used	"	136,420	56,983	55,369
Paid for work given out to other firms	"	6,806	2,191	1,939
Net output	"	53,545	23,085	18,597
Average number of persons employed	No.	276,465	283,871	264,021
Net output per person employed	£	194	81	70
Mechanical power available:—				
Prime movers	H.P.	449,953	363,185	325,244
Electric motors driven by purchased electricity	"	77,591	11,984	(not recorded).

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

(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 the whole of Great Britain and Ireland, but that of 1924 applied only to Great Britain and Northern Ireland. According to the Census of Production taken by the Government of the Irish Free State in respect of the year 1926, the total value of the goods made

* See also the Notes on pages vi-xiv. † As regards horse hair, see pages 254 *et seq.*

‡ See also pp. 76, 80 and 265.

and work done in the Woollen and Worsted Industry in that year was returned as £737,000, and the average number of persons employed as 2,327.

(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 1,469, or about 0.5 per cent. of the number employed by the remaining firms, as shown in the above table.

(4) In the Census of 1924, manufacturers of hosiery who owned departments in which the spinning of woollen or worsted yarns was carried on were required to furnish separate Returns relating to these spinning departments on schedules for the Woollen and Worsted Trades and the figures shown above for 1924 cover all establishments of this kind. In the Censuses of 1907 and 1912 such firms were allowed to furnish Returns covering their business as a whole on schedules for the Hosiery Trades (see page 176), and the figures shown above for these two years are, accordingly, exclusive of spinning establishments owned by such firms. The total quantity of woollen and worsted yarns spun in mills owned by hosiery manufacturers in 1912 was returned as 2,864,000 lb. of which 486,000 lb. were woollen yarns and 2,378,000 lb. were worsted yarns: no corresponding record in respect of 1907 was obtained.

(5) A larger number of Returns was received for 1924 than for 1912 or 1907 from wool merchants who gave out wool to be sorted, cleaned, combed, etc. by commission firms. The effect of this increase in number was to swell by an important amount, as compared with the other two years, the 1924 figures of gross output, cost of materials and value of work given out. The total amounts returned by these merchants in 1924 were as follows: gross output, £27,882,000; cost of materials used, £23,591,000; and amount paid for work given out, £2,145,000. The number of persons employed by these firms was 3,218. Further reference to this point is made in the sections dealing with *Wool sorting, blending and cleaning* (p. 76), *Waste* (p. 79) and *Tops and noils* (p. 80).

Value of output and cost of materials.—The figures in the above table representing the value of goods made and work done are the aggregates of the figures recorded by the firms making Returns, and owing to the duplication involved (see the Notes on pages xi-xiii), they over-state the value of the output of the Woollen and Worsted Trades considered as a whole. The matter is discussed on pages 94-96, where it is estimated that, on the assumptions there

stated, the value, free from duplication, of the output of the trades in 1924 was within a few million pounds of £141,000,000. The figures in the table representing the cost of materials used likewise over-state the cost of the materials purchased from sources outside the Woollen and Worsted Trades and worked up into their products. When the necessary deduction on this account has been made, the cost of such materials used in 1924 is estimated on page 98 at about £85,000,000 or possibly less.

Production.*

Summary of production in 1924, 1912 and 1907.

The following table shows in summary form the quantities which were made for sale, and the selling values, of the leading classes of products of the wool textile industry, together with the quantities made on commission and the amounts received for commission work done, in the three censal years. The table not only covers the particulars returned on schedules for the industry in question but, with the exceptions mentioned below, it includes also those returned on schedules for other trades. The amounts thus included in respect of other trades in 1924 were small, namely £406,000 in respect of goods made for sale, and £5,000 in respect of goods made on commission. In this connection, it should be remembered that yarn produced in the Hosiery Trades is regarded as forming part of the output of the Woollen and Worsted Trades and is therefore not reckoned amongst the goods returned on schedules for other trades.

Goods made for sale.	1924.		1912.		1907.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Mill.lb.	£'000.	Mill.lb.	£'000.	Mill.lb.	£'000.
Wool sorted, etc.	86.2	8,123	13.4	537	31.3	1,453
Recovered wool	80.9	3,167	110.1	2,030	127.2	1,859
Waste	29.7	1,659	26.0	668	30.3	762
Tops	154.5	24,960	32.9	2,818	57.6	4,751
Noils	27.9	3,453	17.7	936	17.3	866
Yarns	263.0	55,160	257.9	24,528	218.7	21,348
	Mill. sq.		Mill. lin.		Mill. lin.	
	yds.		yds.		yds.	
Woollen tissues	252.5	39,621	202.3	19,683	178.5	16,811
Worsted tissues	151.7	29,469	186.3	17,570	187.1	15,663
Carpets and rugs	21.6	9,844	..	4,747	..	4,104
Flannels and delaines ..	25.8	2,593	45.0	1,698	..	1,854
Other woven goods .. ..	..	11,471	..	3,941	..	3,960
VALUE OF MANUFACTURES OF WOOL .. ..	..	189,520	..	79,156	..	73,431
Other goods made (rags, flocks, other textiles, etc.) .. ..	..	2,281	..	776	..	1,236

* See Tables II.A and II.B on pp. 108, 109 *et seq.*

Goods made and work done on commission.	1924.		1912.		1907.	
	Quantity.	Amount received.	Quantity.	Amount received.	Quantity.	Amount received.
Wool sorted, etc.	Mill. lb. 20.1	£'000. 151	Mill. lb. 18.2	£'000. 65	Mill. lb. 16.5	£'000. 43
Tops	199.4	} 3,573	208.6	} 1,447	178.1	} 1,096
Noils	22.2		26.1		22.6	
Waste	5.5		3.4		7.3	
Yarns	27.3		40.6		38.0	
	Mill. sq. yds. 8.0	146	Mill. lin. yds. 6.5	57	Mill. lin. yds. 9.6	83
Woollen tissues	13.9	236	35.4	188	22.0	137
Worsted tissues .. ..	..	44	..	6	..	7
Other fabrics of wool .. ..	..	520	..	126	..	120
Other work done .. ..	..	..	..	..	..	..
TOTAL AMOUNT RECEIVED ..	..	5,381	..	2,327	..	1,902
GRAND TOTAL .. ..	..	197,182	..	82,259	..	76,569

Woven fabrics returned on schedules for other trades have been unavoidably omitted in 1912, but neither the quantity nor the value was large. The value of the work done on wool and wool textile products by firms in the Textile Finishing Trades or the Packing Trade is not shown in the second section of the table (see pp. 193 and 275).

Wool Sorting, Blending and Cleaning.

The first stage in the working of wool fibre is the sorting of wool by qualities, blending wools, and cleaning the fleece from grease, dirt, etc. By far the greater quantity of the wool used is subjected to this preliminary treatment by firms that comb, card, spin, or weave and include the value of sorting, blending and cleaning in the value of the more finished products recorded by them. The following statement gives particulars of the quantity and value of wool sorted, cleaned, etc., by firms that specified such work separately in their Census Returns for 1924.

Wool sorted, etc.	For sale.		On commission.	
	Quantity.	Selling value.	Quantity.	Amount received for work done.
	Th. lb.	£'000.	Th. lb.	£'000.
Sheep's and lambs' wool	81,724	7,683	} 20,153	} 151
Alpaca, vicuna and llama (including camels' hair)	492	45		
Mohair	3,999	395		
TOTAL	86,215	8,123	20,153	151

The figures obtained in regard to this class of work are not strictly comparable with those obtained at the Censuses of 1907 and 1912, for in 1924 many merchant firms that bought wool and gave it out to commission houses to be sorted, cleaned, etc., furnished particulars regarding the value, etc., of such wool, whereas in the two earlier years Returns were generally obtained in such cases

only from the commission firms and not from the firms that gave out the work. The preceding statement includes the Returns of such merchant firms as furnished particulars. It embodies, therefore, a considerable amount of duplication, but the value involved cannot have exceeded about £150,000.

Products intermediate between Wool and Fabrics.

In order to provide measures of the magnitude of the wool textile industry at important stages, firms in the trade were required to state the total quantities of some leading intermediate products (recovered wool, waste, tops, noils, and woollen and worsted and other yarns) produced by them, whether these were subsequently used by them in further manufacture or were sold or added to stock. They were also requested to furnish separate particulars of the clean weight of tops combed by them, and of their output of alpaca, mohair, cashmere, camels' hair, and other yarns which in the Import and Export List were grouped into two classes only. Except as regards a relatively small quantity of yarns, these fuller details were supplied. The information thus obtained is discussed in the paragraphs which follow. For convenient reference, the particulars furnished regarding each of the products in question (except waste) are summarised in the following table, together with the corresponding particulars for 1912 and 1907, so far as they are available; goods of the same denominations returned on schedules for other trades than the Woollen and Worsted Trades are also included:—

Total output of intermediate products.

Products.	1924.	1912.	1907.
		In thousand lb.	
Recovered wool	170,000	204,000	221,000
Tops or slubbing:—			
Weight in oil*—			
Merino	75,608	} 304,542	} 243,500
Other	205,139		
Dry-combed—			
Merino	1,667		
Other	3,136		
TOTAL TOPS OR SLUBBING ..	285,550	304,542	243,500
Noils	35,042	39,790	30,000
Yarns (single):—			
Woollen (carded only)	311,978	315,732	} 260,000
Worsted (combed)	214,358	203,554	
Alpaca	1,409	} 25,511	} 186,000
Mohair	13,068		
Cashmere	447		
Camels' hair	1,600		
Other hair	2,710	} 20,321	
Mixed and fancy	7,028		
Other and unclassified yarns	1,950		
TOTAL YARNS	554,548	565,118	446,000

* Clean weight:—Merino, 73,177,000 lb.; Other, 195,322,000 lb.

Recovered wool.

Recovered wool (pulled rags, shoddy, mungo) is produced from used wool goods, the best qualities from new cloth clippings of pure wool and all-wool stockings, lower qualities from mixed material from which the cotton has to be removed by carbonising. There has been a progressive decline in the use of recovered wool, as the following table shows:—

Recovered wool.	1924.	1912.	1907.
	In million lb.		
Produced in United Kingdom	170.0	204.0	221.0
Exported	13.7	13.4	14.2
Retained imports	156.3	190.6	206.8
	3.3	2.7	3.3
Available for use in United Kingdom .. .	159.6	193.3	210.1

This decline may be connected with reductions in the supply of suitable material, caused by changes of fashion; at the same time, imports of rags have fallen off since 1907 and exports of the best qualities of rags appear to have increased.

About 45 per cent. of the total quantity of recovered wool produced in 1924 was made by firms for their own use, compared with about 37.6 per cent. in 1912, and 42.5 per cent. in 1907. The output of recovered wool made for sale by firms owning the material and the output of firms working on commission were as follows:—

Recovered wool.	Returned on schedules for the Woollen and Worsted Trades.		Returned on schedules for other trades.		Total.	
	Th. lb.	£'000.	Th. lb.	£'000.	Th. lb.	£'000.
Made for sale by owners of the material ..	78,578	3,096	2,293	71	80,871	3,167
Made by commission firms	12,743	93*	101	†	12,844	93*

* Amount received for work done.

† Under £500.

It appears probable that the recovered wool produced by firms working on commission was not made for firms extracting recovered wool for sale, but for manufacturing firms in the woollen trades. The average value of the recovered wool produced for sale by owners of the material was about 9.4*d.* per lb., compared with about 4.4*d.* in 1912 and with 3.5*d.* in 1907.

Waste.

Waste is produced at every stage and in every branch of the wool textile industry. Some is exported, some is sold to the hat trade or (as flocks) to the upholstery and bedding trades, some may be added to spinners' stocks, and large quantities of soft waste are used in the mills where it is produced. All firms were required to state the total quantity of waste produced by them in 1924, but a considerable number appear to have misunderstood the Census schedule in this respect, and the Returns are consequently believed to be seriously defective. The total quantity of waste that was sold, or added to stock, was returned as 29,697,000 lb., but this figure includes 5,132,000 lb. returned by merchant firms that gave out wool to be combed on commission. This latter amount is duplicated in the output recorded by firms working on commission, and these firms returned an aggregate of 5,521,000 lb. of waste. Omitting the quantity returned by merchant firms, the total quantity of waste shown in the Returns for 1924 was thus 30,086,000 lb.

Of this total, the output of firms that carried out wool combing (on their own account or on commission) amounted to 13,831,000 lb., the average value of the waste made for sale being about 1*s.* 3*d.* per lb. An output amounting to 5,098,000 lb. consisted of higher grade waste averaging about 1*s.* 9*d.* per lb., and was mainly the product of the worsted section of the trade; and a further amount of 7,226,000 lb. was of an average value of about 1*s.* per lb. The remainder consisted of low grade waste and was made up of 3,154,000 lb. averaging about 2½*d.* per lb., and 777,000 lb. the low value of which suggests that it was not suitable for use as material for any manufacturing purposes.

While the output of 13,831,000 lb. of waste, returned by firms engaged in wool combing, is believed to approximate reasonably closely to the total production in this section of the trade, the recorded information as to the quantities produced in other sections probably understates considerably the actual total amounts. In these circumstances no estimate can be made of the total output of waste in the Woollen and Worsted Trades in 1924.

Exports of waste in 1924 amounted to 19,723,000 lb., of an average f.o.b. value of about 1*s.* 11*d.* per lb. (i.e., a value corresponding to that returned by worsted spinners and weavers), while the retained imports amounted to 4,239,000 lb. of an average c.i.f. value of about 1*s.* 5*d.* per lb.

Tops and noils.

The total output of tops in 1924 was 273,302,000 lb. clean weight and 285,550,000 lb. in oil (including 4,803,000 lb. dry-combed). These figures represent first combing only. The weight in oil of tops produced in 1924 (including dry-combed tops) was about 17 per cent. greater than in 1907, but 6 per cent. less than in 1912.

The following are the particulars relating to quantities available for use in the United Kingdom in 1924, 1912 and 1907 :—

Particulars.	1924.		1912.		1907.	
	Th. lb.		Th. lb.		Th. lb.	
Tops made in the United Kingdom :—						
Combed in oil	280,747	} 304,542	}	243,500*		
Dry-combed	4,803					
Tops exported	285,550 41,129		44,826		35,811	
Tops, retained imports	244,421 4,694		259,716 (not separately recorded.)		207,689	
Tops available for use in United Kingdom ..	249,115		..		..
Noils made in United Kingdom	35,042		39,790		30,000*	
Noils exported	20,758		19,568		12,690	
Noils, retained imports	14,284 2,029		20,222 (not separately recorded.)		17,310	
Noils available for use in United Kingdom ..	16,313		..		..

* Estimated.

Noils not exported may be regarded, for the most part, as having been transferred to the woollen trade or other branch of the industry using carded wool.

The actual particulars as to the output of tops and noils in 1907, 1912 and 1924, furnished by firms that combed wool on their own account or for others, are shown below. Firms that gave out wool to be combed were required to include such combed wool as part of their output in the Returns which they made to the Census, and, consequently, there is duplication with the Returns made by commission combers in respect of the same wool. Wool combed by firms that afterwards converted the tops into yarn in their own works is not included in the figures shown for goods *made for sale*. The total of tops and noils so described was swollen in 1924 by the receipt in that year of a greater number of Returns than in 1912 or 1907 from wool merchants who gave out wool to be combed.

Tops and noils.	1924.		1912.		1907.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Th. lb.	£'000.	Th. lb.	£'000.	Th. lb.	£'000.
Made for sale (including those made on commission for the firm) :—						
Tops	154,505	24,960	32,935	2,818	57,609	4,751
Noils	27,931	3,453	17,653	936	17,306	866
Made on commission :—						
Tops	199,360	} 3,573*	208,578	} 1,437*	178,100	} 1,078*
Noils	22,164		26,083		22,558	

* Amount received for work done.

With the help of the particulars given as to total make the following division can be made :—

Tops and noils.	1924.		1912.		1907.	
	Quantity.	Per-centage.	Quantity.	Per-centage.	Quantity.	Per-centage.
	Th. lb.		Th. lb.		Th. lb.	
Tops made :—						
For others by commission combers	199,360	69·8	208,578	68·5	178,100	73·1
By owners of wool at own works	86,190	30·2	95,964	31·5	65,400	26·9
TOTAL	285,550	100·0	304,542	100·0	243,500	100·0
Noils made :—						
For others by commission combers	22,164	63·2	26,083	65·6	22,558	75·2
By owners of wool at own works	12,878	36·8	13,707	34·4	7,442	24·8
TOTAL	35,042	100·0	39,790	100·0	30,000	100·0

The change in the structure of the trade does not appear from the figures to have been great. An indication of changes in the quality of the wool combed or of changes in average efficiency is given by the proportion of top to noil as shown below :—

Proportion of top to noil.	1924.	1912.	1907.
Made by commission combers	9·00 : 1	8·00 : 1	7·90 : 1
Made by other combers	6·69 : 1	7·00 : 1	8·79 : 1

As stated above, 249,115,000 lb. of tops (including imports) were available for use in the United Kingdom in 1924. Against this there was a production of 242,570,000 lb. of single yarn, of which 214,358,000 lb. were yarns of combed sheep's and lambs' wool, and the remainder alpaca, mohair, cashmere, camels' hair, other hair, mixed, fancy, and unclassified yarns. The difference between the weight of tops and the weight of yarn (both of which are taken in oil) is 6,545,000 lb., part of which may be due to the different moisture content of tops and yarns respectively. It is not possible to determine how far, if at all, the difference is accounted for by the production of waste, for, as explained above, the Returns do not yield reliable information as to the amount of waste produced by the Woollen and Worsted Trades; but the proportion of waste occurring in worsted spinning is believed to be small. In any case, however, the difference between the weight of the tops available in 1924 and the weight of the wool or hair contained in the worsted yarn produced in that year was greater than the figure stated above, since in the processes of drawing that come between combing and spinning, a considerable quantity of cotton is "drawn in" with the combed wool for the purpose of making both weaving and hosiery

yarns. Artificial silk may also have been used to some extent for mixing. Information is not available as to the quantities of cotton and other textile materials which were used in the production of the yarn in question, but the particulars set forth above appear to indicate some addition to the stock of tops during the censal year.

Yarns.

Output.—The woollen branch of the industry (including the makers of all fabrics from wool carded only, from recovered wool, from wastes, or from mixtures of these with cotton or artificial silk) generally conducts the operations of preparing, spinning, and weaving in the same establishment. The worsted branch (using carded and combed sheep's and lambs' wool, alpaca, mohair, etc.) separates to a considerable extent topmaking, spinning, and weaving. In 1924, firms that wove as well as spun made 81·6 per cent. of the total output of woollen yarns, whereas similar firms in the worsted branch made only 9·2 per cent. of all yarns produced in that branch.

The following table gives details for 1924 :—

Made by firms whose main business was that of	Woollen yarns.	Worsted yarns.		
		Sheep's wool.	Alpaca and other yarns.	Total.
	Th. lb.	Th. lb.	Th. lb.	Th. lb.
Topmakers	7,800	73,137	11,502	84,639
Spinners	48,758	122,480	13,230	135,710
Weavers	254,574	18,741	3,480	22,221
Manufacturers of recovered wool ..	686	—	—	—
Firms in other trades	160	—	—	—
TOTAL	311,978	214,358	28,212	242,570

The comparative changes in the two branches since 1907 are shown below :—

Kind of yarns.	1924.	1912.	1907.
	Mill. lb.	Mill. lb.	Mill. lb.
Woollen yarns	312·0	315·7	260·0
Worsted yarns	214·3	203·6	186·0
Alpaca, etc., yarns	28·2	45·8	
TOTAL	554·5	565·1	446·0
	Percentages of 1907 make.		
Woollen yarns	120·0	121·4	100·0
Worsted and other yarns	130·4	134·1	100·0
All yarns	124·3	126·7	100·0

Considering that production of yarns in the counties now forming the Irish Free State is included in the figures for 1907 and 1912, but excluded from those for 1924, the figures indicate a very substantial growth in the whole spinning industry between 1907 and 1912, which was more pronounced in the worsted than in the

woollen branch, but, apparently, a slight falling-off in 1924, as the information published as to the production of yarns of wool in the Irish Free State in 1926 indicate that the quantity spun was not more than 2,000,000 to 3,000,000 lb. The worsted branch was responsible for 41·7 per cent. of the total output of yarns shown in the table for 1907, for 44·1 per cent. in 1912, and for 43·7 per cent. in 1924.

The average values of woollen and worsted yarns returned as made for sale in the three years were as follows :—

Yarns.	1924.	1912.	1907.
	In pence per lb.		
Average value at factory of yarns of sheep's wool :—			
Woollen yarns (carded)	27·66	12·96	13·56
Worsted yarns (combed)	57·68	26·19	26·17
	Percentages of 1907 prices.		
Woollen yarns (carded)	203·98	95·58	100·00
Worsted yarns (combed)	220·41	100·01	100·00

Production, exports and imports.—The following table compares production, exports and retained imports of yarns in 1924, 1912 and 1907. In order to preserve comparability, exports of yarns to the Irish Free State* in 1924 have been omitted; they amounted to 1,648,000 lb., namely :—woollen yarns, 651,000 lb.; worsted yarns, 955,000 lb.; other yarns, 42,000 lb. For the same reason imports of 53,000 lb. of woollen yarns from the Irish Free State have been omitted. As already stated, production in 1907 and 1912 includes yarns made in Southern Ireland, which are excluded in 1924.

Kind of yarns.	1924.	1912.	1907.
	Th. lb.	Th. lb.	Th. lb.
Woollen yarns (carded) :—			
Production	311,978	315,732	260,000
Exports	7,649	6,247	2,577
Retained imports	304,329	309,485	257,423
	16,736	29,275	26,100
Total available for use	321,065	338,760	283,523
Worsted yarns (combed) :—			
Production	214,358	203,554	186,000†
Exports	44,606	56,779	80,127†
Retained imports	169,752	146,775	105,873†
	834	873	789†
Total available for use	170,586	147,648	106,662†

† Including alpaca, mohair, cashmere and other yarns.

* From 1st April, 1923, shipments to Southern Ireland were recorded as exports from the United Kingdom.

Kind of yarns.	1924.	1912.	1907.
Alpaca, mohair and cashmere yarns :—	Th. lb.	Th. lb.	Th. lb.
Production	14,924	25,511	*
Exports	8,338	15,494	(17,780)
	6,586	10,017	*
Retained imports	1	—	*
Total available for use	6,587	10,017	*
Other yarns :—			
Production	13,288	20,321	*
Exports	3,651	9,369	(6,826)
	9,637	10,952	*
Retained imports	16	—	*
Total available for use	9,653	10,952	*
All yarns :—			
Production	554,548	565,118	446,000
Exports	64,244	87,889	82,704
	490,304	477,229	363,296
Retained imports	17,587	30,148	26,889
Total available for use	507,891	507,377	390,185

* Included with worsted yarns.

The record of the output of yarns in the Woollen and Worsted Trades has been taken as in the "single" state, but a considerable quantity of such yarns is "doubled" with yarns of other textile materials such as cotton and artificial silk. This consideration must be kept in mind in comparing figures of exports with those of production.

In 1907 and 1912 the classification of imported yarns was different from that of exported yarns, but an approximate division has been made for the purpose of the above table. The recorded details of retained imports in 1907 and 1912 are as follows :—

Yarns.	1912.	1907.
	Th. lb.	Th. lb.
Woollen and worsted yarn :—		
For weaving : woollen	29,275	} 26,431
" " : worsted	394	
For other purposes	479		458
TOTAL	30,148	26,889

The total output of yarns rose between 1907 and 1924 by at least 24·3 per cent., exports decreased by 22·3 per cent., and retained imports by 34·6 per cent. ; and the quantity of yarns available for use in the censal year increased by about 30 per cent. Comparing 1924 with 1912 there were decreases of approximately 2 per cent. in production, of over 26·9 per cent. in exports and of 41·7 per cent. in

retained imports, resulting in only a very slight change in the total quantity of yarns available for use at home. The home market in 1924 thus took about the same quantity as in 1912, a year of good trade, and much more than in 1907. Export trade, however, had seriously declined since 1912, clearly as a result of the war, for while exports to Germany were less in 1924 than in 1912 by 26,801,000 lb., exports to other foreign countries were greater by 2,613,000 lb. and exports to British countries other than the Irish Free State increased by 543,000 lb. The share in our export trade borne by the different kinds of yarns has also varied, woollen and worsted yarns gaining, while the other varieties of yarn shown in the following table fell off in relative importance.

Exports.	1924.	1912.	1907.
	Per cent.	Per cent.	Per cent.
Woollen yarns (carded)	11·9	7·1	3·1
Worsted yarns (combed)	69·4	64·6	67·1
Alpaca, mohair and cashmere yarns	13·0	17·6	21·5
Other kinds	5·7	10·7	8·3
TOTAL	100·0	100·0	100·0

Disposal of yarns.—Yarns retained for use in the United Kingdom are mainly consumed in the weaving sections of the wool textile industry in the production of woollen and worsted tissues ; mohair, alpaca and cashmere fabrics ; wool and mohair plushes and other pile fabrics ; damasks, tapestry and other furniture stuffs ; flannels and delaines ; blankets ; shawls ; travelling rugs, coverlets and wrappers ; carpets ; smallwares and sundry manufactures. The second large market for wool yarns is hosiery, and a relatively small quantity of knitting yarns is still sold for use in private households. It is a matter of extreme difficulty, if it is not, in fact, impossible, to apportion the home use of yarns among those three markets.

As shown above, the total output of single yarn in 1924 was 554½ million lb. Exports amounted to 64½ million lb. (part of which may represent yarn of cotton, artificial silk or other fibres doubled with yarns of wool) ; and retained imports aggregated 17½ million lb. The makers of hosiery were requested to state the quantities of yarns of different kinds used by them and firms that manufactured about 39 per cent. of the output of wool hosiery furnished particulars of the quantities of woollen and worsted yarns which they used.* If the sample could be regarded as representative it would point to a consumption of between 65 and 70 million lb. of woollen and worsted yarns by the Hosiery Trades in 1924, but, apart from the slender basis on which this estimate is founded, there is no information showing to what extent imported yarns entered into the consumption of the Hosiery Trades, or how far the calculation is disturbed by the

* See p. 180.

inclusion of yarns of wool doubled with cotton or other materials. As, however, these factors, if present, would tend to reduce the quantities of home-produced woollen and worsted yarn used by the Hosiery Trades, it may probably be concluded that, if the sample of hosiery Returns does not under-represent the use of wool yarns in knitted goods, at least three-fourths of the total output of yarn in 1924 was used in the weaving of fabrics of various kinds.

Fabrics of wool.

Production in the three censal years.

Comparisons of the output of fabrics of wool in 1924 with the output in 1907 and 1912 are limited since not only was much greater detail required to be given in the latest year, but the classification of the most important groups of fabrics (woollen and worsted tissues) was greatly altered. In the two earlier years manufacturers were only asked to divide their output of woollen tissues into *broad* and *narrow*, and their output of worsted tissues into *worsted coatings and trouserings* (and these into *broad* and *narrow*) and *worsted stuffs, dress goods, linings, lastings, etc.*, without distinction between all-wool goods and mixtures. In 1924, on the other hand, they were required to distinguish between all-wool goods and mixtures, and to divide their output of woollen tissues into four weight classes and that of worsted tissues into *linings, lastings, etc.*, and two weight classes of other tissues, thus giving 14 classes instead of 4. An even more serious difficulty arises because in 1924 the unit of measurement was changed from the linear yard to the square yard, following the alteration of the Import and Export List in 1920. In order, however, to provide a link with the past, manufacturers were invited in 1924 to state, in addition to the square yardage, the linear yardage of the cloth made by them, and this information was obtained in respect of nearly 60 per cent. of the total output of the fabrics concerned. The sample thus obtained furnishes information as to the average widths of the various kinds of tissues produced in 1924 by the firms concerned (see pages 91-2), and may throw some light on the comparison between the amount produced in that year and in the previous censal years, provided that the sample is representative.

The following table, which includes goods made for sale, goods made on commission, and a small quantity of goods returned on schedules other than those for the Woollen and Worsted Trades,*

* *Production on commission, etc.*—Only a small part of the output of fabrics in 1924 was made on commission, namely, 7,758,000 square yards of woollen tissues (or 3.06 per cent.), 13,929,000 square yards of worsted tissues (or 8.41 per cent.), 348,000 square yards of tissues of mohair, etc. (or 2.50 per cent.), and small quantities of other goods. The quantities returned on schedules for trades other than the Woollen and Worsted Trades were also small in magnitude, the value of goods made for sale being only £240,000 and the amount received for weaving done on commission being £4,000.

sets out the production in the three censal years of those classes of fabrics for which quantity measurements are available.

Returned on schedules for all trades.	1924.	1912.	1907.
	Mill. sq. yds.	Mill. lin. yds.	Mill. lin. yds.
Woollen tissues, all-wool and mixtures ..	260.5	208.7	188.1
Worsted tissues, all-wool and mixtures ..	165.6	221.7	209.1
Tissues of mohair, etc., not pile fabrics ..	13.9		
Damasks, tapestry and furniture-stuffs ..	3.5	5.4	6.9
Wool and mohair plushes	6.3		
Flannels and delaines	25.9	45.2	50.6
		Mill. sq. yds.	Mill. lin. yds.
Carpets and rugs	21.6	24.4*	25.7*
	Th. pairs.	Th. pairs.	Th. pairs.
Blankets	3,017	3,611	3,130
	Thousands.	Thousands.	Thousands.
Shawls	892	1,362	1,320†
Coverlets, travelling rugs, etc.	1,160	(not ascertained).	889

* Exclusive of rugs.

† Estimated.

As already explained the particulars for 1924 do not include the output of firms in the Irish Free State, but this omission does not materially affect the comparability of the figures, since the output recorded in the Census conducted by the Irish Free State Government in respect of the year 1926 showed the following quantities produced in that year:—

Woollen tissues	1,282,000 sq. yds.
Worsted tissues	535,000 "
Flannels and delaines	80,500 "
Blankets	78,600 pairs.
Rugs, other than floor rugs	21,416 rugs.

The figures given in the main table above indicate clearly that as between 1907 and 1912 there was a substantial increase in the quantity of woollen and worsted* tissues produced, and, if any increase in the average width of the tissues in question took place during the period, the actual increase was greater than that indicated by the figures. It may be noted that the weight of woollen, worsted and other similar yarns available for all purposes (including the manufacture of hosiery) increased from 390 million lb. in 1907 to 508 million lb. in 1912.

As between 1912 and 1924, the change in the unit of measurement prevents direct comparisons of the figures for most of the categories shown, but a reduction in the output of worsted* tissues is indicated, unless the average width of such tissues in 1924 was less than 29 inches. As regards woollen tissues the figures show that if the average width of such tissues in 1912 exceeded about 45 inches, the square yardage produced in that year was greater than the square yardage recorded in 1924. For comparison with the above-mentioned widths, it may be mentioned that the average widths of the woollen and the worsted* cloths covered by the sample Returns for 1924 referred to above, were about 51½ and 52½ inches respectively.

* Including mohair, etc., tissues not being pile fabrics.

The other items shown in the table are of little relative importance when considering the output of the whole trade, but the figures indicate a decline in 1924 compared with 1912 in the case of carpets and rugs, blankets and shawls.

The weight of woollen, worsted and other similar yarns available in 1924 was practically the same as in 1912, but it is probable that the amount consumed by the Hosiery Trades was considerably larger, and the quantity used in the Woollen and Worsted Trades correspondingly smaller, in the post-war than in the pre-war year.

Production, exports and imports.

It is well known in the trade that manufacturers and merchants are not at one in their understanding of the proper classification of goods under the general headings of *woollen tissues* and *worsted tissues*, and, in fact, the Bradford Chamber of Commerce has recently taken steps to secure greater uniformity in this respect. Consequently, in the following table, comparing the relative sizes of the home market and the export market in 1924, 1912 and 1907, woollen and worsted tissues are taken together. Flannels and delaines have also been included, since in 1907 and 1912, imports of these goods were not distinguished from those of *stuffs*. For purposes of comparison, exports to the Irish Free State in 1924 have been omitted; these amounted to 4,423,000 sq. yds., viz., 3,542,000 sq. yds. of woollen tissues, 512,000 sq. yds. of worsted tissues and 369,000 sq. yds. of flannels and delaines. In the absence of reliable information as to average widths (which were not necessarily, or even probably, the same for exported cloths as for all cloths produced in each year), the conversion of the yardage to a uniform basis for all the three years has not been attempted.

Tissues, flannels, and delaines (omitting damasks, tapestry, furniture stuffs, and plushes).	1924.	1912.	1907.
	Mill. sq. yds.	Mill. lin. yds.	Mill. lin. yds.
Production	465.9	475.6	447.8
Exports	224.9	180.2	192.6
Retained imports	241.0	295.4	255.2
	27.2	58.0	67.0
All goods retained	268.2	353.4	322.2
Exports per cent. of production ..	48.3	37.9	43.0
Home market :—	Per cent.	Per cent.	Per cent.
British goods	89.9	83.6	79.2
Imported goods	10.1	16.4	20.8
Total retained	100.0	100.0	100.0

The classes of goods included in the table contributed about 75 per cent. of the value of all woven goods made in 1924. A similar comparison between production, exports and imports of all woven goods at each of the three periods cannot be made owing to differences in classification.

Apart from the measurement in different units at the different periods, the table indicates that exported goods were a larger percentage of production and at the same time the home market was relatively more largely supplied with British goods in 1924 than at either of the two earlier periods.

That the total imports of goods of the classes shown in the above table were (on the basis of square yardage) a progressively smaller element in the home market relative to home-manufactured fabrics in the three censal years from 1907 to 1924 will necessarily follow from the percentages given in the table, unless the average width of the imports was under 60 per cent. of that of the home supplies to the home market in 1912 and well under half in 1907. The actual extent of the diminution may, of course, have been less than is indicated by the sequence of percentage figures in the table.

Although no comparison in terms of actual quantities can be made between 1924 and the two pre-war years, the figures lead to the conclusion that the position in 1924, as compared with 1912 and 1907, was much less favourable in respect of production than in respect of exports, and that the supplies of these classes of wool fabrics for home market purposes were considerably smaller in the later than in the earlier years.

The next table (page 90) relates to the year 1924, and shows the quantities of the various classes of goods produced and exported and the retained imports of each class in that year. For this purpose the figures relating to woollen tissues and worsted tissues weighing under 12 oz. per square yard are not reproduced in the detail shown in Table II.B on pp. 110-1 and 113-4 since it is clear that the classification of such tissues as *woollen* and as *worsted* by exporters has not corresponded to that adopted by manufacturers; while in the case of imports, the uncertainty of the distinction between woollen tissues and worsted tissues has frequently attracted attention. The point may be illustrated by reference to the category of woollen tissues weighing under 8 oz. per square yard, in which the recorded exports both of *all-wool* and of *mixed* fabrics show yardages shipped in 1924 more than double those recorded as made in the same year. In the case of woollen tissues weighing between 8 and 12 oz. per square yard, the yardage of the recorded exports also bears a relatively high proportion to the yardage made, suggesting that some misdescription may have occurred, particularly in respect of *all-wool* fabrics. For the purpose of comparing exports with production, therefore, it appears expedient, while maintaining the distinction between all-wool and mixed fabrics, to combine the particulars relating to woollen tissues under 8 oz. and from 8 to 12 oz. per square yard with those relating to the corresponding categories of worsted tissues. Since the records of worsted tissues under 12 oz. per square yard do not distinguish between those over and under 8 oz., combination of the woollen with the worsted fabrics involves the formation of two groups covering respectively *all-wool fabrics* (*woollen and worsted*)

under 12 oz. per square yard and mixed fabrics (woollen and worsted) under 12 oz. per square yard as shown in the table below.

Kind of goods.	Production.	Exports.	Net imports.	Available for use in the United Kingdom.	Exports as percentage of production.	British share of home market.
	Th. sq. yds.	Th. sq. yds.	Th. sq. yds.	Th. sq. yds.	Per cent.	Per cent.
Woollen tissues, all-wool :—						
16 oz. and over*	14,009	6,296	563	8,276	44.9	93.2
12 oz. and under 16 oz.* ..	17,684	9,095	5,167	13,756	51.4	62.4
Woollen tissues, mixed :—						
16 oz. and over*	49,452	12,710	135	36,877	25.7	99.6
12 oz. and under 16 oz.* ..	56,829	14,083	951	43,697	24.8	97.8
Worsted tissues, all-wool :—						
Linings, lastings, etc. .. .	899	593	10	316	66.0	96.8
Other tissues, 12 oz. and over*	14,232	2,570	70	11,732	18.1	99.4
Worsted tissues, mixed :—						
Linings, lastings, etc. .. .	25,056	8,562	2	16,496	34.2	100.0
Other tissues, 12 oz. and over*	3,329	2,171	13	1,171	65.2	98.9
Woollen and worsted tissues :—						
All-wool, under 12 oz.* .. .	142,488†	82,241	17,370	77,617	57.7	77.6
Mixtures, under 12 oz.* .. .	116,053	83,262	2,850	35,641	71.7	92.0
TOTAL—WOOLLEN AND WORSTED TISSUES ..	440,031†	221,583	27,131	245,579	50.4	89.0
Damasks, tapestry and other furniture stuffs	3,557	325	1,237	4,469	9.1	72.3
Wool and mohair plushes and other pile fabrics	6,324	2,229	222	4,317	35.2	94.9
Flannels and delaines	25,891	7,787	67	18,171	30.1	99.6
Coverlets, travelling rugs and wrappers	3,271	894	51	2,428	27.3	97.9
Blankets	Th. prs. 3,017	Th. prs. 2,146	Th. prs. 80	Th. prs. 951	71.1	91.6
Shawls, other than knitted ..	Thous. 892	Thous. 451	Thous. 119	Thous. 560	50.6	78.7
Carpets, etc. :—						
Printed tapestry and tapestry velvet	Th. sq. yds. 6,693	Th. sq. yds. 1,859	Th. sq. yds. 91	Th. sq. yds. 91		
Brussels and Wilton	3,415	687	(with other sorts)	†	†	†
Axminster	9,766	2,543				
Ingrain and seamless squares	491	6				
Other sorts	1,251	2,151	3,248			
TOTAL—CARPETS, ETC.	21,616	7,246	3,543	17,913	33.5	80.2

* Weight per square yard. † Including mohair, etc., tissues, not being pile fabrics.
‡ The amounts available for use in the United Kingdom, and detail percentages, have not been calculated for *carpets*, as *other sorts* exported appears to have included items not adequately classified.

Woollen and worsted tissues contributed 84 per cent. to the total value of exports of fabrics of wool in 1924, carpets, 7.1 per cent., blankets, 3.3 per cent., and other fabrics, 5.6 per cent. The quantity of woollen and worsted tissues exported in 1924 slightly exceeded one half of the quantity made; and the quantity imported and retained represented 11 per cent. of the total available for use from

production and imports in 1924. That year, however, appears to have had some special features both in exports and in imports, as the following figures show :—

	1923.	1924.	1925.	1926.	1927.	1928.
Retained imports of sheep's wool	326.2	401.6	387.5	473.5	475.5	440.4
Exports of woollen and worsted tissues	211.5	221.6	180.2	163.3	172.3	173.2
Retained imports of woollen and worsted tissues	21.0	27.1	34.0	34.6	35.6	38.2

It should be remembered that the distribution of war-stocks of wool in 1921-4 considerably affected the relation between current imports and current consumption of that raw material.

Weights and widths.

Manufacturers were required to state the weight as well as the square yardage of the chief classes of goods made by them, and, as already explained, they were asked to state voluntarily the linear yardage. The results of these two enquiries are summarised in the following table. The classes of fabrics in which the sample of voluntary information was not in excess of 50 per cent. of the total were *woollen tissues, all wool, 16 oz. and over per square yard* (38.3 per cent.); *worsted tissues, all wool, linings, etc.* (41.2 per cent.); *worsted tissues, all wool, 12 oz. and over per square yard* (37.5 per cent.); *tissues of mohair, etc.* (44.2 per cent.); and *wool and mohair plushes* (10.2 per cent.). These classes (which are marked with an asterisk in the table) cover in the aggregate, however, only one-ninth of the whole production of the goods for which the information was desired, and include most of the large deviations shown in the table below between the average weight of the sample and that of the total output of goods of like description. With these exceptions, the samples ranged from 50 to 82 per cent., and represented in the aggregate 61.33 per cent. Including all classes the aggregate sample covered 58.33 per cent. of the whole square yardage returned.

Kinds of goods.	Average of all returns.	Average of sample.	
	Weight per sq. yd.	Width.	Weight per sq. yd.
Woollen tissues, all wool :—	Oz.	Inches.	Oz.
*16 oz. and over per sq. yd.	19.79	53.74	18.27
12 oz. and under 16 oz. per sq. yd. ..	13.43	53.44	13.62
8 oz. and under 12 oz. per sq. yd. ..	9.88	55.29	9.94
Under 8 oz. per sq. yd.	6.11	54.61	6.10
All weights per sq. yd.	11.90	54.55	11.15
Woollen tissues, mixtures :—			
16 oz. and over per sq. yd.	18.53	52.32	18.11
12 oz. and under 16 oz. per sq. yd. ..	13.24	52.64	13.31
8 oz. and under 12 oz. per sq. yd. ..	10.14	52.60	10.17
Under 8 oz. per sq. yd.	6.28	35.36	6.37
All weights per sq. yd.	13.00	50.18	13.00

Kinds of goods.	Average of all returns.	Average of sample.	
	Weight per sq. yd.	Width.	Weight per sq. yd.
Worsted tissues, all wool :—	Oz.	Inches.	Oz.
*Linings, lastings, etc.	6·12	41·61	5·69
*Other tissues, 12 oz. and over per sq. yd.	13·35	55·42	12·96
Ditto, under 12 oz. per sq. yd.	7·48	53·55	7·60
All weights per sq. yd.	8·23	53·62	8·03
Worsted tissues, mixtures :—			
Linings, lastings, etc.	4·28	49·57	4·20
Other tissues, 12 oz. and over per sq. yd.	13·33	53·58	13·22
Ditto, under 12 oz. per sq. yd.	6·95	51·52	6·75
All weights per sq. yd.	6·29	50·93	6·17
*Tissues of mohair, alpaca and cashmere . .	4·39	52·20	4·44
Damasks, tapestry and other furniture stuffs	11·00	64·05	11·01
*Wool and mohair plushes	17·45	43·44	16·38
Flannels and delaines	6·65	28·33	6·57

Fabrics exported differ in character, in some cases substantially, from the average of goods produced, as the following table shows, though in considering the table it must be remembered (1) that export values, being reckoned f.o.b., are greater than production values at factory, and (2) that, in the case of fabrics exported after a process of finishing, that process may take place after the goods leave the factory, and may result in some change in weight or in square yardage. For reasons already given, the distinction between *woollen* and *worsted* tissues is not made in the table in respect of tissues of less than 12 oz. weight per square yard.

Kind of goods.	Production.			Exports.		
	Weight per sq. yd.	Value at factory.		Weight per sq. yd.	Value f.o.b.	
		Per sq. yd.	Per lb.		Per sq. yd.	Per lb.
Woollen tissues, all wool :—	Oz.	d.	d.	Oz.	d.	d.
16 oz. and over per sq. yd.	19·79	82·82	66·77	19·39	74·30	61·31
12 oz. and under 16 oz. per sq. yd.	13·43	59·78	71·15	13·10	70·35	85·89
Woollen tissues, mixtures :—						
16 oz. and over per sq. yd.	18·53	32·27	27·86	18·32	39·68	34·65
12 oz. and under 16 oz. per sq. yd.	13·24	28·86	34·90	13·73	36·53	42·55
Worsted tissues, all wool :—						
Linings, lastings, etc.	6·12	28·10	68·68	5·25	25·97	79·08
Other tissues, 12 oz. and over per sq. yd.	13·35	80·94	97·11	15·42	71·01	73·66
Worsted tissues, mixtures :—						
Linings, lastings, etc.	4·28	17·59	66·72	4·20	21·42	81·61
Other tissues, 12 oz. and over per sq. yd.	13·35	75·04	88·63	15·29	47·09	49·38
Woollen and worsted tissues and mohair, etc., tissues :—						
All wool, under 12 oz. per sq. yd.	7·98	49·00	98·08	7·94	53·15	107·10
Mixtures, under 12 oz. per sq. yd.	8·41	31·58	59·90	7·29	32·02	70·26
Damasks, tapestry, etc.	11·00	55·32	80·46	14·33	74·16	82·80
Wool and mohair plushes	17·45	82·16	75·30	13·98	74·16	84·88
Flannels and delaines	6·65	24·14	58·14	7·17	24·21	54·06

Manufactures of wool, other than fabrics.

In addition to the fabrics of wool discussed in the foregoing paragraphs, there were recorded, on schedules for all trades, the following amounts in respect of other manufactures of wool, mohair, etc., sold or added to stock in the three censal years :—

Kind of goods.	1924.	1912.	1907.
	£'000	£'000	£'000
Braids, laces and other smallwares :	206	42	155
Felts	1,175	1,097	1,008
Hearthrugs	189		
Manufactures not separately distinguished	1,333		
TOTAL	2,903	1,139	1,163

Other products.

Certain firms that made their Returns on schedules for the Woollen and Worsted Trades included in their output other products, chiefly other textiles. The particulars for 1924 are as follows :—

Selling value.

	£
Cotton piece-goods	771,000 (9,610,000 sq. yds).
Other cotton goods	47,000
Silk piece-goods	205,000
Artificial silk piece-goods	848,000
Other textile goods	99,000
Other goods made	10,000
TOTAL	1,980,000

Work done on commission or for the trade.

Firms that made their Returns on schedules for the Woollen and Worsted Trades included in their statements of output the amounts they received for work done by them on materials given out to them by other wool textile firms, by other manufacturing firms or by merchants. The chief classes of such work are set out below :—

Kind of goods made or work done.	1924.		1912.		1907.	
	Quantity.	Amount received.	Quantity.	Amount received.	Quantity.	Amount received.
	Mill. lb.	£'000.	Mill. lb.	£'000.	Mill. lb.	£'000.
Tops	199·4	3,573	208·6	1,447	178·1	1,096
Noils	22·2		26·1		22·6	
Waste	5·5		3·4		7·3	
Yarns	27·3	711	40·6	438	38·0	416
	Mill. sq. yds.		Mill. lin. yds.		Mill. lin. yds.	
Woollen tissues	7·8	143	6·5	57	9·6	83
Worsted tissues	13·9	236	35·4	188	22·0	137
Other fabrics of wool . . . . .	..	43	..	6	..	7
Other work done . . . . .	..	670	..	191	..	163
TOTAL . . . . .	..	5,376	..	2,327	..	1,902

In addition to the amount shown above for 1924, £5,930,000 was recorded as received by firms in the Textile Finishing Trades for finishing work done on raw wool and on yarns and other manufactures of wool, except hosiery and knitted fabrics (see pp. 208-10) and £52,000 was recorded for work done on wool products by other firms not in the Woollen and Worsted Trades, thus making, with the amount shown in the table, a total of £11,358,000. The value of the work represented by this sum, in so far as the work was done for firms which made their Returns on schedules for the Woollen and Worsted Trades, was included in the value of the goods produced by those firms; and such firms reported that in 1924 they paid £6,806,000 for work given out by them to other firms. The difference of £4,552,000 between this sum and the total of £11,358,000 mentioned above thus represents work done for merchant and other firms outside the Woollen and Worsted Trades. The figure is a minimum one which would be increased if and so far as any of the work given out by firms in the Woollen and Worsted Trades was given to firms whose work is not included in the above mentioned total of £11,358,000, for example, work done by warehouses engaged in packing goods for export (see page 275). The data available do not show to what extent the wool textile goods on which the work valued at the minimum figure of £4,552,000 was done, were produced by firms in this country or were imported; nor how much of the work was done by firms in the Woollen and Worsted Trades or by firms in the Textile Finishing or other trades.

Value of output of Woollen and Worsted Trades free from duplication.

So far as concerns the following classes of goods made in 1924 and returned on schedules for the Woollen and Worsted Trades, the values shown appear not to be duplicated in the Returns of different firms:—

	<i>Selling value.</i>
	£'000.
Tissues	76,008
Carpets, blankets and other manufactures of wool	16,755
Manufactures not of wool	1,980
TOTAL	94,743

The case is different, however, with the remaining, semi-manufactured, goods, valued at about £97 millions, which were recorded as having been produced for sale. Except in so far as these goods were exported, sold to other industries, or added to stock at the end of the year (over and above the stocks at the beginning of the year), they form part of the materials used in the manufacture of the more finished goods covered by the above table, and to that extent their value is included in the total of £94·7 millions

there shown. The following statement contains an estimate of the value (at works) of the various classes of goods in question which were exported in 1924.

	<i>Million</i>
	£
Scoured wool (£4,415,000 f.o.b.) value at works about	4·0
Recovered wool (£802,000 f.o.b.) value at works about	0·7
Waste (£1,880,000 f.o.b.) value at works about	1·5
Tops (£6,465,000 f.o.b.) value at works about	5·8
Noils (£3,206,000 f.o.b.) value at works about	2·9
Yarn (£13,459,000 f.o.b.) value at mill about	12·1
	<hr/>
	27·0

The values shown above as making up the total of £27,000,000 are somewhat rough estimates the precision of which may vary considerably, but any error involved will not materially affect the final result shown below.

As regards goods sold to firms in other trades or added to stock during the census year, the main items requiring consideration are tops and yarn. It has already been pointed out (page 82) that the available information indicates some addition to the stock of tops during 1924, and though the amount or value of the tops in question must be a matter of conjecture, it is proposed to assume for the present purpose that their value was about £4 millions. The question of the disposal of yarns has been discussed above (pages 85-6), and while in this case also no exact data exist, the value of yarn sold to the Hosiery and other trades and for private use may be roughly estimated at about £15 millions. The position as regards waste is very uncertain (see p. 79), but as the recorded output of waste, over and above that probably accounted for by exports, was valued at works at only about £150,000, the question of the allocation of this amount is not of importance, having regard to the approximate character of the figures now under discussion. The same applies to the output of carbonised rags valued at £296,000, which is the only item shown in Table II.B, pages 109 *et seq.*, not already taken into account above.

The total of the semi-manufactured goods exported, sold to other trades, or added to stock in 1924 thus appears to have been about £46 millions, from which it follows that the amount of duplication in the total value of £97 millions recorded in respect of semi-manufactured goods is about £51 millions, though by reason both of the conjectural nature of some of the elements in the calculation, and also of the considerations explained below relating to work done on commission, the figures must be regarded as very rough.

Adding to the above sum of £46 millions the value of goods not involving duplication, which is shown above to have been

£94.7 millions, the resulting total of £141 million, in round figures, may be taken to express, within a few million pounds, the value of the output of goods in 1924 free from duplication.

The foregoing calculation is based on the assumption that the goods which are there reckoned as exported, sold to other trades, or added to stock, were entirely derived from the goods recorded in the Census Returns as being made for sale, and not at all from goods made on commission for merchants. In so far as this assumption is not valid, the values shown above in respect of goods so disposed of would be reduced, and the amount of duplication included in the total recorded value of the output of semi-manufactured goods would be correspondingly increased. At the same time the values of the commission work relating to similar goods, instead of being duplicated in the value of the more finished goods returned by other firms, would constitute an addition to the output value of the Woollen and Worsted Trades, the values of the goods themselves, as thus completed, not being recorded in the Census of Production Returns.

If it be assumed that all the tops, noils, waste and yarn recorded as being made on commission by firms in the Woollen and Worsted Trades were made for other firms in the same trades (the value of the work involved thus being duplicated in the recorded value of goods produced), and that the only items of commission work done for firms outside those trades were the commission weaving valued at £422,000, and the work, valued at £66,000, done on goods other than wool textiles, the addition to be made to the above total of £141 millions in respect of work done on commission would be under £500,000. On the same assumptions, the total value of the work given out to firms outside the Woollen and Worsted Trades would be about £2,000,000.

Value of output of all wool textile goods.

The preceding estimates refer to goods made and work done as shown on the Returns for the Woollen and Worsted Trades. Those Returns included products not of wool valued at £1,980,000; and an additional output of wool textile manufactures valued at £406,000 was returned by firms in other trades*. Hence, if it be desired to evaluate the total output in the United Kingdom of such manufactures of wool in 1924, the above total of £141 millions must be decreased by about £1½ millions in respect of the balance of the items just enumerated. Secondly, on the assumption stated above regarding work done on commission by firms in the Woollen and

*These goods may include (1) yarn sold to firms in the Woollen and Worsted Trades and used by them in making piece-goods, or (2) piece-goods made on commission for, or woven from yarn spun by, firms in the Woollen and Worsted Trades. To this extent their value would be included in items elsewhere taken into account, and should not also be included here; but the sum involved is not large enough to affect the broad results arrived at in the text.

Worsted Trades, an addition has to be made in respect of the fabrics for the weaving of which £422,000 was received. If these fabrics be taken at the same average values as the corresponding goods made for sale, their value would be about £4½ millions. Lastly, it is necessary to take account of possible additions to the value of the output as a result of work (such as textile finishing) which may have been done on goods after passing into the hands of merchants. The minimum value of work done for merchants by firms in the Woollen and Worsted Trades and the Textile Finishing and other trades in 1924 was shown on page 94 above to be £4,552,000, which may include £66,000 for work on goods other than wool textiles, and may also include the £422,000 for weaving which has already been taken into account above. Further, some of the work done for merchants may enter into the output of wool textile goods of which account has already been taken. This would occur, for example, in the case of raw wool or yarn dyed for merchants, if the dyed wool (or yarn) were sold to spinning (or weaving) firms and used in the production of goods included by those firms in their returns of goods made. The total amount returned to the Census as representing the value of dyeing and other finishing processes applied to raw wool and yarns in 1924 was £1,492,000 but there are no means of ascertaining what part, if any, of that total may have entered, in the manner described above, into the recorded value of the wool textile goods already taken into account. Making allowance for this item, and for the sums of £66,000 and £422,000 mentioned above, as possible deductions from the value of work done on wool textile goods, and taking account, as an addition, of the sum of about £660,000 as representing the estimated value of packing work done on such goods (see page 275), a sum of between, say, £3 and £5 millions is left as representing work done on wool textile goods in addition to that already included in the calculation. As explained on page 94, this sum may be subject to increase under certain assumptions, but, on the other hand, it may include some work on imported goods. If it be taken without adjustment on either of these two accounts, the value of the 1924 output of wool textile goods of the kinds produced by the Woollen and Worsted Trades, valued as ready for export or consumption, may be estimated at a sum within a few million pounds of £148 millions, on the assumptions indicated above.

The value of the output of wool textile goods in 1907, calculated on a generally similar basis, was estimated at about £65 or £66 millions.

Cost of materials and work given out.

The cost of materials used by firms making their Returns on schedules for the Woollen and Worsted Trades was returned as £136,420,000 in 1924, a sum which, by the exclusion of purchases

of the products of other firms in these trades, may be reduced to a figure of about £85,000,000 or possibly less (see pages 94-5). The corresponding net figure for 1907 was estimated as lying between £38,000,000 and £41,000,000.

The amount paid to other firms for work given out to them was returned as £6,806,000 in 1924, £2,191,000 in 1912, and £1,939,000 in 1907.

Net output.

The net output in 1924 of the firms making their Returns on schedules for the Woollen and Worsted Trades (whose gross output was valued at £196,771,000) was £53,545,000, that sum representing, without duplication, the total amount by which the value (at works) of the aggregate output exceeded the cost (at works) 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 in the censal year 1924 was £194, as compared with £81 in 1912, and £70 in 1907.

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 Woollen and Worsted Trades 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, 207,048 operatives, or 79 per cent. of the total of 262,768 operatives for the trades as a whole, and their net output totalled £41,769,000, or 78 per cent. of the aggregate net output of £53,545,000 for the trades as a whole. The total wage-bill of these firms, as returned to the Ministry of Labour, was £20,943,000, representing about 50 per cent. of their aggregate net output. If it may be assumed that the above group of firms, covering over three-quarters of the Woollen and Worsted Trades, was representative of those trades as a whole in respect of the relations of wages to numbers employed and to net output, then, on the basis of the percentages shown, the aggregate wage-bill for the Woollen and Worsted Trades in 1924 may be estimated as probably not less than £26,500,000 or more than £27,500,000.

Employment.

Position in 1924.—The number of persons employed in the establishments covered by the Tables on pages 108 to 117, in the week ended 18th October, 1924, was returned as 277,450, viz., 262,768 returned as operative staff (wage-earners), and 14,682 returned as administrative, technical, and clerical staff. The distribution of these by sex and age was as follows:—

Sex and age. Week ended 18th October, 1924.	Operative staff.	Administrative, technical and clerical staff.	Total.
<i>Males:—</i>			
Under 18 years	15,516	720	16,236
Over 18 years	91,418	11,012	102,430
TOTAL—MALES	106,934	11,732	118,666
<i>Females:—</i>			
Under 18 years	30,426	410	30,836
Over 18 years	125,408	2,540	127,948
TOTAL—FEMALES	155,834	2,950	158,784
<i>All persons:—</i>			
Under 18 years	45,942	1,130	47,072
Over 18 years	216,826	13,552	230,378
TOTAL	262,768	14,682	277,450

The variation in the numbers of operatives employed in the course of the censal year is shown by the following total numbers employed in a week in each month of the censal year:—

Week ended	Number of operatives.	Percentage of average.	Week ended	Number of operatives.	Percentage of average.
12th January ..	258,149	98.6	19th July ..	263,065	100.5
16th February ..	259,981	99.3	16th August ..	260,635	99.6
15th March ..	260,172	99.4	13th September ..	261,965	100.1
12th April ..	262,903	100.5	18th October ..	262,768	100.4
17th May ..	265,077	101.3	15th November ..	262,205	100.2
21st June ..	263,662	100.7	13th December ..	260,813	99.6

The average for the twelve weeks was 261,783 persons of whom 107,214 were males and 154,569 were females. Employment increased from January to May, when the maximum recorded for the year (265,077) was reached, and then declined till August; an autumn expansion then set in, culminating in October (262,768) somewhat below the May peak, and then employment decreased through the remaining two months of the year. As shown in Table III.B on page 116, the extent of variation was somewhat greater for female operatives than for males, and in the autumn movement the reduction of males below the average had set in by October, while that month was the culminating point of expansion for females.

There was but little variation at the three Censuses in the proportion of males to females, but the adult staff, after falling from 79·3 per cent. of the total in 1907 to 77·8 per cent. in 1912, rose to 83·0 per cent. in 1924.

Seasonal variations in employment.—The seasonal variations in employment, so far as the records of the earlier Censuses suffice for their determination, are shown below, the figures representing the numbers of operative staff (wage-earners) only. In 1907 and 1912 the numbers relate to those employed on the last Wednesdays of the months named, and in 1924 to those employed in the second or third week of the month.

Month.	1924.		1912.		1907.	
	Number of operatives.	Per-centage of average.	Number of wage-earners.	Per-centage of average.	Number of wage-earners.	Per-centage of average.
January	258,149	98·6	272,468	99·6	258,872	99·5
April	262,903	100·5	273,752	100·1	260,448	100·1
July	263,065	100·5	272,283	99·6	260,779	100·2
October	262,768	100·4	275,829	100·8	261,113	100·4
Average for these dates	261,721	100·0	273,583	100·0	260,303	100·0

Mechanical Power.

Prime movers.—The following statement shows the capacity and kinds of *prime movers* at factories in 1924, 1912, and 1907, exclusive of those factories occupied by firms that rented their power:—

Kind of prime movers.	1924.			1912.	1907.
	Ordinarily in use.	In reserve or idle.	Total.	Total.	Total.
	H.P.	H.P.	H.P.	H.P.	H.P.
Reciprocating steam engines ..	342,777	47,943	390,720	334,187	297,501
Steam turbines	25,318	6,587	31,905	2,776	2,025
Gas engines	13,352	2,128	15,480	13,070	} 10,822
Oil engines	1,519	307	1,826	743	
Water power	9,113	909	10,022	12,409		14,896
TOTAL	392,079	57,874	449,953	363,185	325,244

The figures for 1912 are not strictly comparable with those for 1924 and 1907 in that the power equipment of small factories employing not more than five persons is excluded, but the equipment of such factories included in the 1907 Census was under 3,000 horse-power. Further, all Ireland was included in 1907 and 1912, but only Northern Ireland in 1924; the capacity of the prime movers in wool textile factories in the Irish Free State was, however, only 4,116

horse-power in 1926. These differences are not of sufficient magnitude to invalidate the comparison of the figures. The percentage of prime movers returned as *in reserve or idle* cannot be taken to represent the degree of inactivity in the industry, for, while it includes engines which would have been in use had trade been brisker, it is in part made up of engines available as a "stand-by" in case of break-down or other emergency; and it may even include engines not intended to be brought into use again but not yet dismantled. As firms were not asked in 1907 and 1912 to distinguish between engines *ordinarily in use* and engines *in reserve or idle*, it is not possible to make a direct comparison of the engine-activity in those years with the activity in 1924.

The total capacity of prime movers installed in 1924 was 38·3 per cent. greater than the capacity in 1907 and 23·9 per cent. greater than that in 1912, but the total capacity of prime movers in use in 1924 was only 20·5 per cent. greater than the capacity of all prime movers in 1907. Steam power formed the great bulk of the mechanical power available, and, in fact, had gained slightly in 1924, when it was 93·9 per cent. of the whole, compared with 1907 and 1912 when it furnished 92·1 and 92·8 per cent. respectively. Internal combustion engines furnished 3·9 per cent. in 1924, and had increased slightly, whereas the relative importance of water-power had diminished by one-half. The most conspicuous change was the growth of steam turbines from 2,025 horse-power in 1907 to 31,905 horse-power in 1924. Such turbines in factories were mainly used to actuate electric generators.

Electric generators.—The following statement shows the capacity of *electric generators* at factories in the wool textile industry in 1924, 1912 and 1907:—

Electric generators.	1924.			1912.	1907.
	Ordinarily in use.	In reserve or idle.	Total.	Total.	Total.
	Kw.	Kw.	Kw.	Kw.	Kw.
Driven by—					
Reciprocating steam engines ..	42,271	6,364	48,635	31,272	17,677
Steam turbines	15,998	4,454	20,452	2,044	562
Gas and oil engines	2,272	349	2,621	} 1,167	897
Water power	1,816	79	1,895		
TOTAL	62,357	11,246	73,603	34,483	19,136

It will be seen that 15·3 per cent. of the capacity of electric generators installed was in reserve or idle in 1924. The total capacity of electric generators installed in 1924 was over 3½ times the capacity in 1907, and over twice that in 1912. The increase in electric generators driven by steam turbines is noteworthy.

Electric motors.—Particulars were also required to be given in 1912 and 1924 as to the horse-power of *electric motors*, and the following statement summarises the information furnished :—

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 ..	60,695	5,905	66,600	19,141
Purchased electricity	69,416	8,175	77,591	11,984

Particulars of electric motors installed were not required to be stated in 1907, but in that year 2,309,000 Board of Trade units of electricity were purchased for power and lighting purposes, and 10,414,000 units were generated in their own works by firms possessing dynamos of 12,311 Kw. capacity out of a total of 19,136 Kw. for all firms in the trade.

The proportion of the capacity of electric motors recorded as being in reserve or idle in 1924 was 8.9 per cent. for motors driven by electricity generated in the same works, and 10.5 per cent. for those driven by purchased electricity. The capacity of electric motors installed in 1924 was $3\frac{1}{2}$ times the capacity installed in 1912 in the case of motors driven by electricity generated in the same works, and nearly $6\frac{1}{2}$ times in the case of motors driven by purchased electricity.

Power rented.—In addition to the power generated at factories, or purchased as electrical energy, a certain number of firms rented the power which they used as well as the factories which they occupied. Such establishments in the wool textile industry returned, in 1924, 7.4 per cent. of the total value of output reported, and employed 7.2 per cent. of the persons employed in that industry. The proportion of output reported in 1912 and 1907 by firms renting their power was in each year 11.2 per cent., while the number of persons employed by such firms was 10.5 per cent. of the total in 1912 and 11.0 per cent. in 1907. What addition to the power equipment of the industry is represented by rented power cannot be estimated.

Mechanical and electrical transmission of power of prime movers.—Taking 746 watts of electrical energy as the equivalent of 1 horse-power and allowing a loss of 10 per cent. in the conversion of mechanical energy to electrical energy except in the case of steam turbines, which are usually coupled direct to the shafting of the generator, the estimated capacity of prime movers whose power was

transmitted electrically and mechanically was as follows in 1924, 1912 and 1907 :—

Power transmitted	1924.			1912.	1907.
	Ordinarily in use.	In reserve or idle.	Total.	Total.	Total.
	H.P.	H.P.	H.P.	H.P.	H.P.
Electrically	90,466	16,082	106,548	51,041	28,410
Mechanically	301,613	41,792	343,405	312,144	296,834

Thus, there was required for the actuation of electric generators about 8.7 per cent. of the total capacity of prime movers installed in 1907, about 14.1 per cent. in 1912, and about 23.7 per cent. in 1924. The power transmitted electrically includes electrical energy used for lighting and heating as well as that used for driving motors, and the proportion of the latter to the total motive power used was thus in each year less than is expressed by the percentages calculated from the table. The available information indicates that the major part of the increase in the proportion of the power of prime movers which was transmitted electrically was due to the expansion in the use of electric motors.

Proportion of available motive power applied electrically.—Making a suitable allowance in respect of electrical energy used for lighting and heating, it appears that in 1924 somewhat under one-third of all the power available for driving machinery and other manufacturing purposes was applied electrically as compared with about one-tenth in 1912.

Power per head of operatives employed.—If the horse-power of the electric motors be added to that of the prime movers whose power was transmitted mechanically, the total for 1924 is about 488,000 horse-power and that for 1912 about 343,000 horse-power. For 1907 the total may have been about 310,000 horse-power. Measuring the power available in relation to the number of operatives employed by firms that did not rent their power, there was available in 1907 and 1912 about $1\frac{3}{8}$ horse-power per operative and in 1924 rather over 2 horse-power; the horse-power actually in use in 1924 was about $1\frac{3}{8}$ horse-power per operative.

Quantity of electricity used.—In 1924, firms possessing generators with a capacity of 26,611 Kw. (or 42.7 per cent. of the total capacity in use) stated that they generated 35,706,000 Board of Trade units of electricity, of which 22,460,000 units were for power, 2,231,000 units for lighting, transport, etc., and 11,015,000 units for purposes not distinguished. The electric motors driven from the generators in these factories had an aggregate capacity of 28,906 horse-power or 47.6 per cent. of all electric motors (in use) driven from the

dynamos in factories in the wool textile industry. At the same time firms possessing electric motors, driven by purchased electricity, with a capacity of 38,001 horse-power (or 54·7 per cent. of the total capacity of all motors in use which were driven by purchased electricity) stated that they purchased 22,274,000 units of electricity for power, 2,055,000 units for lighting, transport, etc., and, 10,696,000 units for purposes not distinguished, or 35,025,000 units in all.

Machinery Equipment.

In response to a request for information regarding the kinds and numbers of machines in their works at the end of 1924 (excluding obsolete machines) a considerable proportion of the firms furnished particulars of their equipment. It would not be safe to apply this information for the purpose of calculating by simple arithmetical process all the machinery available and in use in each branch of the industry, but it is summarised below, together with data showing the output of the firms concerned :—

Recovered wool.—Firms with an output of 116,363,000 lb. of recovered wool (shoddy or mungo), or 71·7 per cent. of the total output, returned the following *rag-grinding* and *waste-opening machines* :—

Kind of machine.	In use.	Idle.	Total.	Percentage idle.
Rag-grinding ..	692	143	835	17·1
Waste-opening ..	364	49	413	11·9

Tops and noils.—Firms with an output of 222,278,000 lb. or 72·1 per cent. of the total output of tops and noils returned 2,267 *combing machines*, of which 394 or 17·4 per cent. were idle at the end of 1924.

Yarns.—Information was given by firms whose output was as shown below :—

Products.	Output of firms stating numbers and kinds of their spindles and carding sets.	
	Quantities produced.	Percentage of total output of the trade.
	lb.	
Woollen yarns (carded)	249,224,000	79·9
Worsted yarns (combed)	139,138,000	64·9
Other yarns	19,419,000	68·8
TOTAL	407,781,000	73·5

The numbers and kinds of *spindles* and *carding sets* in the establishments of these firms are shown below :—

Kind of machine.	In use.	Idle.	Total	Percentage idle.
Woollen carding sets (excluding narrow sample carding sets) ..	4,205	249	4,454	5·6
Worsted cards	1,332	333	1,665	20·0
Spinning spindles :—				
Woollen mule	2,093,400	164,800	2,258,200	7·3
Worsted mule	204,400	26,900	231,300	11·6
Frame	2,018,700	236,700	2,255,400	10·5
Doubling and twisting spindles ..	915,700	127,600	1,043,300	12·2

Fabrics.—Information was furnished by firms who produced the following output :—

Products.	Output of firms who stated the numbers and kind of their looms.	
	Quantities made.	Percentage of total output of the trade.
	sq. yds.	
Woollen tissues	187,820,000	72·3
Worsted tissues	108,653,000	65·6
Tissues wholly or mainly of mohair, alpaca and cashmere, not being pile fabrics	9,743,000	70·0
Damasks, tapestry and other furniture stuffs ..	2,370,000	66·6
Wool and mohair plushes	1,645,000	26·0
Flannels and delaines	23,443,000	90·5
Carpets, carpeting and rugs of wool (with wool or jute backs)	11,150,000	51·6
Coverlets, travelling rugs, etc.	2,579,000	83·8
Blankets	12,233,000 lb.	55·7

The numbers and kinds of *looms* in the establishments of these firms are shown below :—

Kind of loom.	In use.	Idle.	Total.	Percentage idle.
Power looms :—				
Less than 54 in. reed space	10,470	4,450	14,920	29·8
54 in. to 70 in. reed space	12,860	3,860	16,720	23·1
70 in. to 84 in. reed space	12,520	3,830	16,350	23·4
Over 84 in. reed space	22,300	4,550	26,850	17·0
Hand looms	760	430	1,190	36·1

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	182,001	14,405	196,406	365
Cost of materials used	"	127,523	8,683	136,206	214
Paid for work given out to other firms	"	6,515	283	6,798	8
Net output	"	47,963	5,439	53,402	143
Average number of persons employed	No.	247,676	27,689	275,365	1,100
Net output per person employed	£	194	196	194	130
Mechanical power available:—					
Prime movers	H.P.	421,623	25,834	447,457	2,496
Electric motors driven by purchased electricity	"	67,718	9,833	77,551	40

II.—Production.

A.—TOTAL MAKE OF TOPS, NOILS, YARNS, ETC.

Products.	England and Wales and N. Ireland.*	Scotland.	United Kingdom.
Tops or slubbing (first combed):—	Th. lb.	Th. lb.	Th. lb.
Weight in oil—			
Merino	†	†	75,608
Other	201,987	3,152	205,139
Clean weight—			
Merino	†	†	73,177
Other	192,503	2,818	195,322
Dry-combed—			
Merino	1,667	—	1,667
Other	3,136	—	3,136
Noils	34,604	438	35,042
Recovered wool (shoddy or mungo) ..	†	†	162,246
Yarns:—			
Woollen (carded)	286,765	25,053	311,818
Worsted (combed)	207,050	7,308	214,358
Alpaca	†	†	1,409
Mohair	†	†	13,068
Cashmere	240	207	447
Camels' hair	1,540	60	1,600
Other hair	2,710	—	2,710
Mixed and fancy	7,028	—	7,028
Other and unclassified	1,932	18	1,950

* The combination of the figures for Northern Ireland with those for England and Wales affects only two items in this table, viz., *Recovered wool* and *Woollen yarns*. The Irish output of the former cannot be stated without disclosing information relating to the business of the few firms concerned; the total make of woollen yarns in Northern Ireland in 1924 was returned as 1,048,000 lb.

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

B.—OUTPUT SOLD OR ADDED TO STOCK

Kind of goods made.	Unit.	England and Wales and N. Ireland.†	Scotland.	United Kingdom.
GOODS MADE FOR SALE. (Quantities of goods and net selling value.)				
<i>Wool, rags, tops, etc.</i>				
Wool, sorted, blended, etc.—				
Sheep's and lambs' wool	Th. lb.	80,934	790	81,724
	£'000	7,578	105	7,683
Alpaca, vicuna and llama (including camels' hair)	Th. lb.	492	—	492
	£'000	45	—	45
Mohair (Angora goats' hair)	Th. lb.	3,999	—	3,999
	£'000	395	—	395
Total—Wool, sorted, blended, etc.	Th. lb.	85,425	790	86,215
	£'000	8,018	105	8,123
Woollen rags, carbonized, dyed, etc.	Th. lb.	12,237	—	12,237
	£'000	296	—	296
Tops	Th. lb.	154,505	—	154,505
	£'000	24,960	—	24,960
Noils	Th. lb.	27,483	448	27,931
	£'000	3,400	53	3,453
Flocks	Th. lb.	136	—	136
	£'000	5	—	5
Waste	Th. lb.	28,997	700	29,697
	£'000	1,632	27	1,659
Recovered wool (shoddy or mungo)	Th. lb.	*	*	78,578
	£'000	*	*	3,096
<i>Yarns.</i>				
Yarns (all wool or mixed with other materials)—				
Woollen (carded)	Th. lb.	45,145	11,113	56,258
	£'000	4,766	1,641	6,407
Worsted (combed or carded) ..	Th. lb.	178,308	6,978	185,286
	£'000	42,564	1,968	44,532
Alpaca, mohair and cashmere—				
Alpaca yarn	Th. lb.	1,129	—	1,129
	£'000	254	—	254
Mohair yarn	Th. lb.	11,708	—	11,708
	£'000	2,585	—	2,585
Cashmere yarn	Th. lb.	*	*	297
	£'000	*	*	195
Total—Alpaca, mohair and cashmere yarns	Th. lb.	*	*	13,134
	£'000	*	*	3,034
Camels' hair and other yarns—				
Camels' hair yarn	Th. lb.	*	*	1,393
	£'000	*	*	281
Other yarns	Th. lb.	6,721	7	6,728
	£'000	808	3	811
Total—Camels' hair and other yarns	Th. lb.	*	*	8,121
	£'000	*	*	1,092
TOTAL—YARNS	Th. lb.	244,524	18,275	262,799
	£'000	51,351	3,714	55,065

* See footnote (†) to Table II.A.

† 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.

B.—OUTPUT SOLD OR ADDED TO STOCK—*continued.*

Kind of goods made.	Unit.	England and Wales and N. Ireland.†	Scotland.	United Kingdom.
GOODS MADE FOR SALE. (Quantities of goods and net selling value).— <i>contd.</i>				
<i>Tissues.</i>				
Woollen tissues, all wool:—				
Weighing 16 oz. and over to the sq. yd.	<i>Th. sq. yds.</i>	11,499	2,161	13,660
	<i>Th. lb.</i>	14,361	2,583	16,944
	£'000	3,691	1,023	4,714
,, 12 oz. and under 16 oz. to the sq. yd.	<i>Th. sq. yds.</i>	13,565	3,260	16,825
	<i>Th. lb.</i>	11,404	2,734	14,138
	£'000	2,938	1,253	4,191
,, 8 oz. and under 12 oz. to the sq. yd.	<i>Th. sq. yds.</i>	26,878	7,301	34,179
	<i>Th. lb.</i>	16,481	4,661	21,142
	£'000	5,450	2,260	7,710
,, under 8 oz. to the sq. yd.	<i>Th. sq. yds.</i>	9,928	544	10,472
	<i>Th. lb.</i>	3,756	226	3,982
	£'000	1,363	142	1,505
Total—Woollen tissues, all wool	<i>Th. sq. yds.</i>	61,870	13,266	75,136
	<i>Th. lb.</i>	46,002	10,204	56,206
	£'000	13,442	4,678	18,120
Woollen tissues, of wool mixed with other materials, if known as "woollens"—				
Weighing 16 oz. and over to the sq. yd.	<i>Th. sq. yds.</i>	*	*	48,107
	<i>Th. lb.</i>	*	*	55,685
	£'000	*	*	6,468
,, 12 oz. and under 16 oz. to the sq. yd.	<i>Th. sq. yds.</i>	55,631	380	56,011
	<i>Th. lb.</i>	45,994	323	46,317
	£'000	6,608	126	6,734
,, 8 oz. and under 12 oz. to the sq. yd.	<i>Th. sq. yds.</i>	54,170	1,896	56,066
	<i>Th. lb.</i>	34,223	1,344	35,567
	£'000	6,400	364	6,764
,, under 8 oz. to the sq. yd.	<i>Th. sq. yds.</i>	11,135	5,441	16,576
	<i>Th. lb.</i>	4,664	1,890	6,554
	£'000	721	750	1,471
Total—Woollen tissues, of wool mixed with other materials	<i>Th. sq. yds.</i>	*	*	176,760
	<i>Th. lb.</i>	*	*	144,123
	£'000	*	*	21,437
TOTAL—WOOLLEN TISSUES	<i>Th. sq. yds.</i>	*	*	251,896
	<i>Th. lb.</i>	*	*	200,329
	£'000	*	*	39,557
Worsted tissues, all wool—				
Linings, lastings, etc.	<i>Th. sq. yds.</i>	*	*	743
	<i>Th. lb.</i>	*	*	304
	£'000	*	*	87
Other tissues weighing 12 oz. and over to the sq. yd.	<i>Th. sq. yds.</i>	11,878	87	11,965
	<i>Th. lb.</i>	9,903	69	9,972
	£'000	3,998	37	4,035
Other tissues weighing under 12 oz. to the sq. yd.	<i>Th. sq. yds.</i>	73,545	761	74,306
	<i>Th. lb.</i>	36,913	431	37,344
	£'000	16,142	292	16,434
Total—Worsted tissues, all wool	<i>Th. sq. yds.</i>	*	*	87,014
	<i>Th. lb.</i>	*	*	47,620
	£'000	*	*	20,556

* See footnote (†) to Table II.A.

† 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.

B.—OUTPUT SOLD OR ADDED TO STOCK—*continued.*

Kind of goods made.	Unit.	England and Wales and N. Ireland.†	Scotland.	United Kingdom.
GOODS MADE FOR SALE. (Quantities of goods and net selling value).— <i>contd.</i>				
<i>Tissues—continued.</i>				
Worsted tissues, of wool mixed with other materials, if known as "worsted"—				
Linings, lastings, etc.	<i>Th. sq. yds.</i>	24,040	—	24,040
	<i>Th. lb.</i>	6,338	—	6,338
	£'000	1,762	—	1,762
Other tissues weighing 12 oz. and over to the sq. yd.	<i>Th. sq. yds.</i>	2,510	20	2,530
	<i>Th. lb.</i>	2,126	16	2,142
	£'000	783	8	791
Other tissues weighing under 12 oz. to the sq. yd.	<i>Th. sq. yds.</i>	37,944	103	38,047
	<i>Th. lb.</i>	16,289	58	16,347
	£'000	6,316	40	6,356
Total—Worsted tissues, of wool mixed with other materials..	<i>Th. sq. yds.</i>	64,494	123	64,617
	<i>Th. lb.</i>	24,753	74	24,827
	£'000	8,861	48	8,909
TOTAL—WORSTED TISSUES	<i>Th. sq. yds.</i>	*	*	151,631
	<i>Th. lb.</i>	*	*	72,447
	£'000	*	*	29,465
Tissues, wholly or mainly of mohair, alpaca and cashmere, not being pile fabrics	<i>Th. sq. yds.</i>	*	*	13,566
	<i>Th. lb.</i>	*	*	3,741
	£'000	*	*	1,408
Damasks, tapestry and other furniture stuffs	<i>Th. sq. yds.</i>	*	*	3,557
	<i>Th. lb.</i>	*	*	2,446
	£'000	*	*	820
Wool and mohair plushes	<i>Th. sq. yds.</i>	*	*	6,324
	<i>Th. lb.</i>	*	*	6,900
	£'000	*	*	2,165
Flannels and delaines	<i>Th. sq. yds.</i>	*	*	25,775
	<i>Th. lb.</i>	*	*	10,704
	£'000	*	*	2,593
<i>Carpets, blankets and other manufactures of wool.</i>				
Carpets, carpeting and rugs of wool (with wool or jute backs)—				
Printed tapestry and tapestry velvet carpets and rugs	<i>Th. sq. yds.</i>	4,127	2,566	6,693
	£'000	1,012	605	1,617
	<i>Th. sq. yds.</i>	2,810	605	3,415
Brussels and Wilton carpets and rugs	£'000	1,896	373	2,269
	<i>Th. sq. yds.</i>	6,655	3,111	9,766
	£'000	3,392	1,827	5,219
Axminster (including chenille Axminster) carpets and rugs	<i>Th. sq. yds.</i>	237	254	491
	£'000	68	65	133
	Ingrain carpets and seamless squares	<i>Th. sq. yds.</i>	*	*	1,249
£'000		*	*	606
Woollen carpets and rugs (including copies of Oriental carpets and rugs) not elsewhere specified		<i>Th. sq. yds.</i>	*	*	1,249
	£'000	*	*	606
	Total—Carpets and rugs	<i>Th. sq. yds.</i>	*	*	21,614
£'000		*	*	9,844

* See footnote (†) to Table II.A.

† 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.

B.—OUTPUT SOLD OR ADDED TO STOCK—*continued.*

Kind of goods made.	Unit.	England and Wales and N. Ireland.†	Scotland.	United Kingdom.
GOODS MADE FOR SALE. (Quantities of goods and net selling value).— <i>contd.</i>				
<i>Carpets, blankets and other manufactures of wool—continued.</i>				
Blankets	<i>Th. pairs.</i>	2,718	225	2,943
	<i>Th. lb.</i>	19,751	1,518	21,269
Shawls, other than knitted	£'000	2,819	261	3,080
	<i>Thousands.</i>	490	348	838
Coverlets, travelling rugs and wrappers	£'000	172	136	308
	<i>Thousands.</i>	1,016	75	1,091
Wool and mohair braids, laces and other smallwares	<i>Th. sq. yds.</i>	2,811	265	3,076
	£'000	646	84	730
Other woollen manufactures—	£'000	*	*	187
Felts	"	1,175	—	1,175
Hearthrugs	"	*	*	189
Manufactures of wool or worsted, not separately distinguished ..	"	1,065	172	1,237
<i>Manufactures not of wool.</i>				
<i>Manufactures of cotton—</i>				
<i>Piece-goods—</i>				
Unbleached, grey	<i>Th. sq. yds.</i>	*	*	3,709
	<i>Th. lb.</i>	*	*	1,507
	£'000	*	*	319
Other	<i>Th. sq. yds.</i>	5,514	387	5,901
	<i>Th. lb.</i>	1,582	131	1,713
	£'000	414	38	452
Other cotton goods	£'000	*	*	47
<i>Silk piece-goods—</i>				
Wholly of silk	"	*	*	121
Of silk mixed with other materials, if known as "silks"	"	*	*	84
<i>Artificial silk piece-goods—</i>				
Wholly of artificial silk (including plushes)	"	16	—	16
Of artificial silk mixed with other materials	"	812	20	832
Manufactures of other textiles ..	"	99	—	99
Other products	"	9	1	10
TOTAL VALUE OF GOODS MADE FOR SALE OR FOR STOCK	£'000	177,077	14,318	191,395
WORK DONE ON COMMISSION. (Quantities of goods and amount received for work done.)				
<i>Wool, rags, tops, etc.</i>				
Wool of all kinds, sorted, blended, etc.	<i>Th. lb.</i>	*	*	20,153
	£'000	*	*	151
Woollen rags, carbonized, dyed, etc.	<i>Th. lb.</i>	15,300	—	15,300
	£'000	44	—	44
Tops	<i>Th. lb.</i>	*	*	199,360
Noils	"	*	*	22,164
Waste	£'000	*	*	5,521
	<i>Th. lb.</i>	*	*	3,573
Recovered wool (shoddy or mungo) ..	£'000	*	*	12,743
				93

* See footnote (†) to Table II.A.

† 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.

B.—OUTPUT SOLD OR ADDED TO STOCK—*continued.*

Kind of goods made.	Unit.	England and Wales and N. Ireland.†	Scotland.	United Kingdom.
WORK DONE ON COMMISSION. (Quantities of goods and amount received for work done).— <i>contd.</i>				
<i>Yarns.</i>				
<i>Yarns (all wool or mixed with other materials)—</i>				
Woollen (carded)	<i>Th. lb.</i>	13,976	858	14,834
	£'000	286	25	311
Worsted (combed or carded) ..	<i>Th. lb.</i>	11,308	307	11,615
	£'000	373	10	383
Mohair yarn	<i>Th. lb.</i>	108	—	108
Other yarns (including camels' hair yarn)	£'000	2	—	2
	<i>Th. lb.</i>	*	*	742
	£'000	*	*	15
TOTAL—YARNS	<i>Th. lb.</i>	*	*	27,299
	£'000	*	*	711
<i>Tissues and other manufactures of wool.</i>				
<i>Woollen tissues, all wool—</i>				
Weighing 16 oz. and over to the sq. yd.	<i>Th. sq. yds.</i>	335	14	349
	<i>Th. lb.</i>	363	17	380
	£'000	9	1	10
" 12 oz. and under 16 oz. to the sq. yd.	<i>Th. sq. yds.</i>	*	*	859
	<i>Th. lb.</i>	*	*	709
" 8 oz. and under 12 oz. to the sq. yd.	£'000	*	*	15
	<i>Th. sq. yds.</i>	*	*	1,628
" under 8 oz. to the sq. yd.	<i>Th. lb.</i>	*	*	976
	£'000	*	*	25
Woollen tissues, of wool mixed with other materials, if known as "woollens"—	<i>Th. sq. yds.</i>	*	*	789
	<i>Th. lb.</i>	*	*	320
Weighing 16 oz. and over to the sq. yd.	£'000	*	*	14
	<i>Th. sq. yds.</i>	1,345	—	1,345
" 12 oz. and under 16 oz. to the sq. yd.	<i>Th. lb.</i>	1,573	—	1,573
	£'000	28	—	28
" 8 oz. and under 12 oz. to the sq. yd.	<i>Th. sq. yds.</i>	*	*	818
	<i>Th. lb.</i>	*	*	701
" under 8 oz. to the sq. yd.	£'000	*	*	19
	<i>Th. sq. yds.</i>	*	*	988
" 8 oz. and under 12 oz. to the sq. yd.	<i>Th. lb.</i>	*	*	586
	£'000	*	*	19
" under 8 oz. to the sq. yd.	<i>Th. sq. yds.</i>	*	*	982
	<i>Th. lb.</i>	*	*	343
	£'000	*	*	13
TOTAL—WOOLLEN TISSUES	<i>Th. sq. yds.</i>	6,901	857	7,758
	<i>Th. lb.</i>	5,266	322	5,588
	£'000	129	14	143

* See footnote (†) to Table II.A.

† 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.

B.—OUTPUT SOLD OR ADDED TO STOCK—*continued.*

Kind of goods made.	Unit.	England and Wales and N. Ireland.†	Scotland.	United Kingdom.
WORK DONE ON COMMISSION. (Quantities of goods and amount received for work done).— <i>contd.</i>				
<i>Tissues and other manufactures of wool— contd.</i>				
Worsted tissues, all wool— Linings, lastings, etc.	<i>Th. sq. yds.</i>	156	—	156
	<i>Th. lb.</i>	40	—	40
	£'000	2	—	2
Other tissues, weighing 12 oz. and over to the sq. yd.	<i>Th. sq. yds.</i>	2,267	—	2,267
	<i>Th. lb.</i>	1,900	—	1,900
	£'000	49	—	49
Other tissues, weighing under 12 oz. to the sq. yd.	<i>Th. sq. yds.</i>	*	*	7,182
	<i>Th. lb.</i>	*	*	3,444
	£'000	*	*	107
Worsted tissues, of wool mixed with other materials, if known as "worsted"— Linings, lastings, etc.	<i>Th. sq. yds.</i>	1,016	—	1,016
	<i>Th. lb.</i>	371	—	371
	£'000	16	—	16
Other tissues, weighing 12 oz. and over to the sq. yd.	<i>Th. sq. yds.</i>	799	—	799
	<i>Th. lb.</i>	631	—	631
	£'000	17	—	17
Other tissues, weighing under 12 oz. to the sq. yd.	<i>Th. sq. yds.</i>	2,509	—	2,509
	<i>Th. lb.</i>	1,265	—	1,265
	£'000	45	—	45
TOTAL—WORSTED TISSUES	<i>Th. sq. yds.</i>	*	*	13,929
	<i>Th. lb.</i>	*	*	7,651
	£'000	*	*	236
Tissues, wholly or mainly of mohair, alpaca and cashmere, not being pile fabrics	<i>Th. sq. yds.</i>	348	—	348
	<i>Th. lb.</i>	77	—	77
	£'000	5	—	5
Flannels and delaines	<i>Th. sq. yds.</i>	116	—	116
	<i>Th. lb.</i>	52	—	52
	£'000	2	—	2
Blankets	<i>Th. pairs.</i>	*	*	71
	<i>Th. lb.</i>	*	*	675
	£'000	*	*	25
Manufactures of wool or worsted, unenumerated	£'000	11	—	11
	<i>Other work done on woollen goods.</i>			
	<i>Th. lb.</i>	9,925	—	9,925
Re-combing wool and worsted	£'000	98	—	98
	£'000	86	—	86
Burling and mending	"	45	—	45
	"	60	—	60
Dyeing and finishing of woollen and worsted goods	"	60	—	60
	"	25	2	27
Waste, cleaning, carbonizing, etc. Other work done on woollen goods	"	25	2	27
	"	25	2	27
<i>Manufactures not of wool.</i>				
Cotton piece-goods	"	13	25	38
Manufactures of silk and artificial silk	"	28	—	28
TOTAL AMOUNT RECEIVED FOR WORK DONE ON COMMISSION	£'000	5,289	87	5,376
TOTAL VALUE OF GOODS MADE AND WORK DONE (GROSS OUTPUT)	£'000	182,366	14,405	196,771

* See footnote (†) to Table II.A.

† 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.

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 :—</i>						
Operatives	14,265	97,278	26,131	138,438	40,396	235,716
Administrative, etc.*	632	10,459	325	2,444	957	12,903
TOTAL	14,897	107,737	26,456	140,882	41,353	248,619
<i>Scotland :—</i>						
Operatives	1,174	9,204	4,158	16,926	5,332	26,130
Administrative, etc.*	87	1,224	83	483	170	1,707
TOTAL	1,261	10,428	4,241	17,409	5,502	27,837
<i>Great Britain :—</i>						
Operatives	15,439	106,482	30,289	155,364	45,728	261,846
Administrative, etc.*	719	11,683	408	2,927	1,127	14,610
TOTAL	16,158	118,165	30,697	158,291	46,855	276,456
<i>Northern Ireland :—</i>						
Operatives	77	452	137	470	214	922
Administrative, etc.*	1	49	2	23	3	72
TOTAL	78	501	139	493	217	994
<i>United Kingdom :—</i>						
TOTAL	16,236	118,666	30,836	158,784	47,072	277,450

* Administrative, technical and clerical staff.

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

England & Wales. (Annual average : Males, 97,483 ; Females, 137,290 ; Total, 234,773.)

Week ended.	Males.	Females.	Total.	Week ended.	Males.	Females.	Total.
Jan. 12th..	96,547	134,884	231,431	July 19th..	97,965	138,249	236,214
Feb. 16th..	97,266	135,784	233,050	Aug. 16th..	97,300	136,483	233,783
Mar. 15th..	97,539	135,686	233,225	Sept. 13th..	97,649	137,392	235,041
April 12th..	98,200	137,445	235,645	Oct. 18th..	97,278	138,438	235,716
May 17th..	98,533	139,091	237,624	Nov. 15th..	96,905	138,324	235,229
June 21st..	98,153	138,254	236,407	Dec. 13th..	96,461	137,452	233,913

Scotland. (Annual average : Males, 9,226 ; Females, 16,756 ; Total, 25,982.)

Jan. 12th..	9,135	16,493	25,628	July 19th..	9,300	16,546	25,846
Feb. 16th..	9,203	16,601	25,804	Aug. 16th..	9,207	16,687	25,894
Mar. 15th..	9,229	16,589	25,818	Sept. 13th..	9,239	16,798	26,037
April 12th..	9,292	16,804	26,096	Oct. 18th..	9,204	16,926	26,130
May 17th..	9,323	17,006	26,329	Nov. 15th..	9,169	16,912	26,081
June 21st..	9,287	16,903	26,190	Dec. 13th..	9,127	16,805	25,932

Great Britain. (Annual average : Males, 106,709 ; Females, 154,046 ; Total, 260,755.)

Jan. 12th..	105,682	151,377	257,059	July 19th..	107,265	154,795	262,060
Feb. 16th..	106,469	152,385	258,854	Aug. 16th..	106,507	153,170	259,677
Mar. 15th..	106,768	152,275	259,043	Sept. 13th..	106,888	154,190	261,078
April 12th..	107,492	154,249	261,741	Oct. 18th..	106,482	155,364	261,846
May 17th..	107,856	156,097	263,953	Nov. 15th..	106,074	155,236	261,310
June 21st..	107,440	155,157	262,597	Dec. 13th..	105,588	154,257	259,845

Northern Ireland. (Annual average : Males, 505 ; Females, 523 ; Total, 1,028.)

Jan. 12th..	543	547	1,090	July 19th..	506	499	1,005
Feb. 16th..	551	576	1,127	Aug. 16th..	477	481	958
Mar. 15th..	546	583	1,129	Sept. 13th..	445	442	887
April 12th..	556	606	1,162	Oct. 18th..	452	470	922
May 17th..	558	566	1,124	Nov. 15th..	428	467	895
June 21st..	516	549	1,065	Dec. 13th..	482	486	968

IV.—Mechanical Power.

PARTICULARS OF PRIME MOVERS, ELECTRIC GENERATORS AND ELECTRIC MOTORS.

	(a) Ordinarily in use. (b) In reserve or idle.	England and Wales.	Scotland.	Great Britain.	Northern Ireland.
		H.P.	H.P.	H.P.	H.P.
PRIME MOVERS :—					
Reciprocating steam engines ..	{ (a) 326,827 (b) 43,958	14,810	341,637	1,140	290
Steam turbines	{ (a) 24,203 (b) 6,567	1,115	25,318	—	—
Gas engines	{ (a) 10,712 (b) 1,609	2,359	13,071	281	83
Petrol and light oil engines ..	{ (a) 217 (b) 137	43	260	25	—
Heavy oil engines	{ (a) 899 (b) 5,766	215	1,114	120	526
Water power	{ (a) 728 (b) 150	2,821	8,587	526	31
TOTAL	{ (a) 368,624 (b) 52,999	21,363	389,987	2,092	404
TOTAL OF PRIME MOVERS INSTALLED					
		421,623	25,834	447,457	2,496
ELECTRIC GENERATORS :—					
Driven by—					
Reciprocating steam engines	{ (a) 38,385 (b) 5,576	3,481	41,866	405	160
Steam turbines	{ (a) 15,998 (b) 4,454	—	15,998	—	—
Gas engines	{ (a) 1,561 (b) 108	372	1,933	11	8
Petrol and light oil engines ..	{ (a) 25 (b) 53	12	37	—	—
Heavy oil engines	{ (a) 291 (b) 875	—	291	—	—
Water power	{ (a) 57 (b) —	919	1,794	22	22
TOTAL	{ (a) 57,135 (b) 10,248	4,784	61,919	438	190
TOTAL OF ELECTRIC GENERATORS INSTALLED					
		67,383	5,592	72,975	628
ELECTRIC MOTORS :—					
Driven by—					
Electricity generated in own works	{ (a) 55,597 (b) 5,317	4,423	60,020	675	—
Purchased electricity	{ (a) 60,724 (b) 6,994	8,667	69,391	25	15