

THE SILK AND ARTIFICIAL SILK TRADES.

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THE SILK AND ARTIFICIAL SILK TRADES.

Introductory.*

The tables on pages 132 to 135 are based on Returns received from firms in Great Britain whose business in 1924 consisted wholly or mainly in throwing and weaving silk, in spinning and weaving silk waste, or in the production, spinning and weaving of artificial silk. The number of such separate Returns was 217. Sixteen firms to which schedules were sent did not furnish Returns, but the omission due to this cause is not of importance, since, on the basis of the information available it is estimated that they did not employ more than 150 persons and that their net output was probably about £30,000.

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	20,366	6,457	5,236
Cost of materials used	"	9,547	3,812	3,336
Paid for work given out to other firms	"	636	129	138
Net output	"	10,183	2,516	1,762
Average number of persons employed (excluding outworkers)	No.	40,126	34,808	32,198
Net output per person employed (excluding outworkers)	£	254	72	55
Mechanical power available:—				
Prime movers	H.P.	37,048	23,619	18,867
Electric motors driven by purchased electricity	"	18,227	898	(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. No firms in Northern Ireland were engaged in these trades in 1924. In 1912 the Irish gross output (all in Southern Ireland) was valued at £57,000 and the net output at £30,000; the number of persons employed was 481 and the mechanical power available was 20 horse-power. It cannot now be stated whether all the Irish output in 1907 was made in Southern Ireland or not, but its gross value was £60,000; the net output was £29,000, the number of persons employed 530 and the mechanical power available

* See also the Notes on pages vi-xiv.

19 horse-power. The inclusion of Ireland in the figures for 1907 and 1912 does not, therefore, materially affect comparisons with the results for 1924.

(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 157, or less than 0.5 per cent. of the number employed by the remaining firms, as shown in the above table.

The most noticeable feature of 1924 in comparison with 1907 and 1912 was the growth of the artificial silk trade. Measured by the make of yarns it was seven times as great as it was in 1912, while in 1907 it was merely in its infancy. The make of thrown silk (or net silk yarn) in 1924 was only two-fifths of the output in 1907 and less than half that in 1912. Spun silk yarn did not decline quite so much, being in 1924 about 46 per cent. of the output in 1907 and about 54 per cent. of the output in 1912. The weaving branch of the natural silk trade, though not wholly dependent on British-made yarns, also experienced a serious fall, the quantity of piece-goods sold or added to stock in 1924 being only 62 per cent. of the 1912 quantity, which in turn was over 17 per cent. above the 1907 quantity.

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 Silk and Artificial Silk Trades considered as a whole. The matter is discussed on pp. 125-6, where it is explained that no close estimate can be made of the value, free from duplication, of the output of these trades in 1924. The figures in the table representing the cost of materials used likewise over-state the cost of the materials purchased from sources outside the trade and worked up into its products, but the cost of such materials used in 1924 cannot be estimated with any exactitude from the particulars available (see p. 126).

Production.

Detailed information as to the output of the Silk and Artificial Silk Trades in 1924 will be found in Tables IIA and IIB on pages 132 and 133. In the following pages the output of those trades in the three censal years is dealt with in the following four groups :—

- (1) Natural silk yarn and artificial silk.
- (2) Piece-goods of silk and artificial silk.
- (3) Other manufactures of silk and artificial silk.
- (4) Other products.

(1) Natural silk yarn and artificial silk.

Total make.—Firms were required in 1924 and 1912 to return their total make of thrown silk, spun silk yarn and artificial silk, whether subsequently used by them for further manufacturing purposes or not. Similar information was called for voluntarily for the year 1907, and the replies received were sufficiently representative to enable estimates of the total production to be calculated. The figures thus obtained for the years 1924, 1912 and 1907 were as follows :—

Products.	1924.	1912.	1907.
	Th. lb.	Th. lb.	Th. lb.
Thrown silk	403	850-950	1,000
Spun silk yarn	1,832	3,393	4,000
Artificial silk	22,023	3,100-3,000	(not separately shown).

The quantities of thrown silk and artificial silk made in 1912 cannot be stated with precision as some Returns included both in one aggregate. Artificial silk was not shown as a separate item in the Census schedules used in 1907.

Deliveries.—The following table shows the quantities and selling values of thrown silk, spun silk yarn, and artificial silk made in 1924, 1912 and 1907, and sold or added to stock as such, including, as sales, transfers of yarns to weaving departments of the spinning firms for which separate Returns were made. The figures for each year are inclusive of small items returned on schedules for other trades.

Products.	1924.		1912.		1907.	
	Quantity.	Selling value.	Quantity.	Selling value.	Quantity	Selling value.
	Th. lb.	£'000.	Th. lb.	£'000.	Th. lb.	£'000.
Thrown silk	178	276	426-550	353-453	413	395
Spun silk yarn	1,278	1,096	2,397	847	2,302	937
Artificial silk	21,360	7,017	2,978-2,854	672-572	}	(not separately shown.)
Artificial silk doubled, twisted or otherwise treated	2,624	1,104				
TOTAL VALUE .. ..	..	9,493	..	1,872	..	1,332

(2) Piece-goods.

The quantity and value of piece-goods of silk, artificial silk or mixtures made in the years 1924, 1912 and 1907 and sold or added to

stock, as returned on schedules for all trades, are shown in the following table:—

Piece-goods.	1924.		1912.		1907.	
	Quantity.	Selling value.	Quantity.	Selling value.	Quantity.	Selling value.
	Th. sq. yds.	£'000.	Th. lin. yds.	£'000.	Th. lin. yds.	£'000.
Of natural silk:—						
Wholly of silk	5,860	1,627	} Details not available.	}	10,527	869
Of silk mixed with other materials	7,662	1,931			7,941	720
	13,522	3,558	21,696	2,413	18,468	1,589
Of artificial silk or mixtures*	..	3,308	..	..	..	..

* The output of artificial silk piece-goods (if any) in 1912 and 1907 was not separately returned.

The aggregate for 1912 includes a small quantity of piece-goods containing no silk. Further particulars regarding the output of piece-goods in 1924 are given below:—

Piece-goods, dyed or not dyed.	Returned on schedules for the Silk and Artificial Silk Trades.		Returned on schedules for other trades.*		Total.	
	Quantity.	Selling value.	Quantity.	Selling value.	Quantity.	Selling value.
	Th. sq. yds.	£'000.	Th. sq. yds.	£'000.	Th. sq. yds.	£'000.
Wholly of silk:—						
Pile fabrics	185	59	—	—	185	59
Other fabrics	5,215	1,439	460	129	5,675	1,568
TOTAL—PIECE-GOODS, WHOLLY OF SILK	5,400	1,498	460	129	5,860	1,627
Of silk mixed with other materials, if known as "silks":—						
Pile fabrics	1,656	566	244	84	1,900	650
Other fabrics	5,500	1,223	262	58	5,762	1,281
TOTAL—PIECE-GOODS OF SILK MIXED WITH OTHER MATERIALS	7,156	1,789	506	142	7,662	1,931
Of artificial silk, mixed or not with other materials:—						
Returned by square yardage	7,518	1,284	38	5	7,556	1,289
Returned by weight	Th. lb. 834	612	—	—	Th. lb. 834	612
Quantity not stated .. .. .	..	83	..	1,324	..	1,407
TOTAL VALUE—PIECE-GOODS OF ARTIFICIAL SILK OR MIXTURES	..	1,979	..	1,329	..	3,308
TOTAL VALUE—PIECE-GOODS OF SILK, ARTIFICIAL SILK OR MIXTURES .. .. .	..	5,266	..	1,600	..	6,866

* Including the Glove-making Trades, the Report on which forms part of a separate volume.

Piece-goods woven and used by the manufacturers in the production of finished goods (handkerchiefs, articles of clothing, etc.) are not included in the above statement. The Returns received for 1924 indicate that about 188,000 square yards of piece-goods wholly of silk and about 140,000 square yards of piece-goods of silk mixed with other materials were so used in that year, raising the total make of these fabrics to the following:—

Piece-goods:—

Wholly of silk 6,048,000 sq. yds.
Of silk mixed with other materials .. 7,802,000 „

Similar particulars relating to piece-goods wholly or mainly of artificial silk cannot be given since only about 40 per cent. of the total value of such piece-goods produced for sale was returned in terms of yardage.

(3) Other manufactures of silk, artificial silk or mixtures.

Particulars relating to other manufactures of silk, artificial silk or mixtures (except goods mainly produced in other trades) made in 1924, 1912 and 1907, and sold or added to stock, are shown below, including small quantities returned on schedules for other trades:—

Kind of goods.	1924.	1912.	1907.
	Selling value. £'000.	Selling value. £'000.	Selling value. £'000.
Ribbons of silk or of silk mixed with other materials	161	138	121
Sewing silk, including silk wound or spooled:—			
Wholly of silk	355	} 434	} 314
Of silk or artificial silk mixed with other materials	786		
Smallwares, braids, trimmings, cords, etc.	728	} 714	} 887
Artificial silk manufactures other than piece-goods and articles of clothing ..	154		
Silk waste, noils, etc.	48	} 85	} 36
Artificial silk waste	(791,000 lb.) 23 (465,000 lb.)		
TOTAL VALUE—OTHER MANUFACTURES..	2,255	1,371	1,358

The particulars for 1924 include the following amounts returned mainly on schedules for the Cotton Trades and the Hat, Bonnet and Cap-making Trades*: *sewing silk of silk or artificial silk mixed with other materials*, £20,000; *smallwares, etc.*, £14,000. The aggregates for 1912 and 1907 include sums of £22,000 and £8,000 respectively, returned by the same trades.

(4) Other products.

In addition to the products enumerated above, firms engaged in the Silk and Artificial Silk Trades returned the following goods which

* The Report on the Hat, Bonnet and Cap-making Trades forms part of a separate volume.

are mainly manufactured by other trades and are dealt with in the Reports relating to those trades :—

Kind of goods.	1924.	1912.	1907.
	Selling value.	Selling value.	Selling value.
	£'000.	£'000.	£'000.
Hosiery, clothing and other goods of silk, artificial silk or mixtures	2,668	815	576
Cotton and woollen manufactures	457	72	336
Other products	177	31	6
TOTAL VALUE	3,302	918	918

Work done for the trade.

The following statement gives particulars of the amounts received during each of the years 1924, 1912 and 1907 for work done on commission or for the trade, the figures for each year being inclusive of amounts recorded by firms in other trades (except the Textile Finishing Trades) for work done on goods of silk and artificial silk.

Kind of work done.	1924.	1912.	1907.
	£'000.	£'000.	£'000.
Silk winding and reeling	111	1	—
Silk throwing and spinning	30	34	27
Silk weaving	62	4	17
Silk dyeing and finishing	49	2	19
Other work done	61	—	10
TOTAL AMOUNT RECEIVED FOR WORK DONE..	313	41	73

In addition to the sums shown above for the year 1924, firms that made their Returns on schedules for the Textile Finishing Trades (see pages 208 to 210) stated that they received £1,708,000 for work done in that year on silk and artificial silk goods. The total amount recorded for such work was thus £2,021,000. The value of this work, in so far as it was done for firms which made their Returns on schedules for the Silk and Artificial Silk Trades, was included in the value of the goods produced by those firms; and such firms reported that in 1924 they paid £636,000 for work given out by them to other firms. The difference of £1,385,000 between this sum and the total of £2,021,000 received for work done on silk and artificial silk goods thus represents work done for merchants and other firms outside the Silk and Artificial Silk 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 Silk and Artificial Silk Trades was given to firms whose work is not included in the above-mentioned total of £2,021,000. The data available do not show to what extent the silk and artificial silk goods on which work was done for merchants, etc., as set forth above were produced in the Silk and Artificial Silk Trades or in other trades or

were imported (cf. p. 197); nor how much of the work was done by firms in the Silk and Artificial Silk Trades or by firms in the Textile Finishing or other trades.

Duplication in value of gross output.

The output of the firms that made their Returns on schedules for the Silk and Artificial Silk Trades was valued at £20,366,000, which was made up as follows :—

Silk and artificial silk :—	£'000.
Yarns	9,352
Piece-goods	5,266
Other goods	2,221
Hosiery, clothing, etc.	2,668
Goods not of silk	634
Work done for the trade	225
	<hr/>
	20,366

No close estimate can be made as to the amount of duplication entering into the total shown above, but an indication of the limits within which duplication lies may be framed on the following lines. It appears that about £745,000 out of the total value of yarns recorded (£9,352,000) probably represents duplication in respect of yarns that were submitted to secondary operations by firms other than the makers. Exports of yarns in 1924 were valued f.o.b. at £2,521,000, and their value at factory would be about £2,400,000 on the assumption that yarns exported were of the average quality of all yarns made. Deducting these two items from the total of £9,352,000, a balance of about £6,200,000 remains as representing yarns available for use either by weavers and other makers of silk and artificial silk goods whose output is included above, or by firms in the Cotton, Woollen and Worsted, Hosiery, Lace and other trades. As explained above, the recorded output of yarns includes not only sales of yarn by one firm to another but also any transfers of yarn from the spinning department to the weaving department of the same firm. It appears probable, therefore, that considerable quantities of the yarn which was not exported were used within the Silk and Artificial Silk Trades, in which case its value would be duplicated in the total output value of the trades. In view of the fact, however, that silk and artificial silk yarns valued at £3,696,000 at port of landing were imported and retained in 1924, it is not possible to determine with any exactitude how far the yarn requirements of the Silk and Artificial Silk Trades were met from yarns produced in those trades or from imported yarns. It is known that very considerable quantities of silk and artificial silk yarns were used in other textile trades, e.g. Hosiery (see page 180), Cotton, and Woollen and Worsted; and some part of those quantities was no doubt purchased from firms in the Silk and Artificial Silk Trades

as well as from foreign sources. Taking account of the probable value of yarn (including cotton and wool, as well as silk and artificial silk yarn) used in the production of the piece-goods and "other goods" valued in the above statement at £7,487,000, and in the production of the hosiery which formed part of the miscellaneous item valued at £2,668,000, it does not appear that the amount of duplication included in the gross output value of the Silk and Artificial Silk Trades in respect of yarn can have been less than £2,000,000 or more than £5,000,000.

The gross output value may also include further elements of possible duplication in respect of (1) materials of silk or artificial silk (valued possibly at as much as £1,000,000) used in making the articles of clothing, etc., comprised in the above-mentioned item of £2,668,000 in so far as those materials duplicate the piece-goods and "other goods" shown in the statement; and (2) work done for the trade, the value of which (£225,000) represents duplication in so far as the work was done for other firms in the Silk and Artificial Silk Trades.

From the foregoing particulars it appears that the value, free from duplication, of the output of the Silk and Artificial Silk Trades in 1924 was probably not less than £14,000,000 and may have been greater. In 1907, the value of the output of the Silk Trades as a whole was estimated as lying between £4,250,000 and £4,500,000. If calculated on the same basis as that followed above for 1924, this estimate would probably be increased by about £250,000.

Cost of materials and work given out.

The cost of materials used by firms making their Returns on schedules for the Silk and Artificial Silk Trades was returned as £9,547,000 in 1924. The extent to which these were purchased from other firms in the same trades or from sources outside those trades cannot be determined with any exactitude (see above). For 1907 it was estimated that the cost of the materials used by the Silk Trades which were purchased from outside those trades lay between £2,500,000 and £2,750,000. The amount paid to other firms for work given out to them was returned as £636,000 in 1924, £129,000 in 1912 and £138,000 in 1907.

Net output.

The net output in 1924 of the firms making their Returns on schedules for the Silk and Artificial Silk Trades (whose gross output was valued at £20,366,000) was £10,183,000, 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 (excluding outworkers) in the censal year 1924 was £254, as compared with £72 in 1912 and £55 in 1907.

Exports and imports.

The figures of total production for certain of the main classes of goods manufactured by these trades during the year 1924 are shown in the following table in relation to exports and net imports in that year.

Kind of goods.	Production.	Exports.	Col. (2) as percentage of Col. (1).	Net Imports.	Col. (1) + Col. (4) - Col. (2).	Col. (1) - Col. (2) as percentage of Col. (5).
	Quantity.	Quantity.		Quantity.	Quantity.	
	(1)	(2)	(3)	(4)	(5)	(6)
	Th. lb.	Th. lb.	Per cent.	Th. lb.	Th. lb.	Per cent.
Thrown silk ..	403	21	5.2	27	..	..
Spun silk yarn ..	1,832	280	15.3	668	2,220	69.9
Artificial silk—yarn and thread ..	22,023	6,351	28.8	10,151	25,823	60.7
	Th.sq.yds.	Th.sq.yds.		Th.sq.yds.	Th.sq.yds.	
Piece-goods, wholly of silk ..	6,048	3,003	49.7	55,890	58,935	5.2
Piece-goods of silk mixed with other materials, if known as "silks" ..	7,802	2,305	29.5	20,440	25,937	21.2

The quantities of exports and imports shown in the table do not include any amounts which may, in the case of some items, have been consigned by parcel post. It is probable that some part of the goods exported represents goods imported and bleached, dyed, printed or otherwise finished in the United Kingdom. Subject to these considerations, the figures in column (3) represent the percentage of British-made goods exported in 1924, the figures in column (5) represent the quantities of goods, whether British or imported, which were available for consumption in the United Kingdom, and the percentages in column (6) show what proportion of those quantities consisted of British-made goods. In the case of thrown silk, it appears doubtful whether some part of the imports may have been entered as raw silk during the period concerned, and for this reason no figures in respect of thrown silk have been inserted in columns (5) and (6) of the table.

In the case of spun silk yarn, particulars are also available in regard to the years 1912 and 1907. British exports of spun silk yarn in 1912 were 932,000 lb. or 27.5 per cent. of the production in that year, while retained imports were 700,000 lb. or 20.6 per cent. of British production; in 1907, British exports were 1,036,000 lb. and retained imports 312,000 lb., respectively 25.9 and 7.8 per cent. of British production in that year. The amount available for consumption in this country in 1907 and 1912 was about 3-3¼ million lb., as compared with 2.2 million lb. in 1924. Retained imports of silk piece-goods (pure or mixed) increased from 82,471,000 linear yards in 1907, to 90,293,000 linear yards in 1912, and British exports of similarly classed goods decreased from 13,018,000 linear yards to 11,953,000 linear yards.

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 Silk and Artificial Silk 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, 27,505 operatives or 69 per cent. of the total of 39,872 operatives for the trades as a whole, and their net output totalled £8,084,000 or 79 per cent. of the aggregate net output of £10,183,000 for the trades as a whole. The total wage-bill of these firms, as returned to the Ministry of Labour, was £2,538,000, representing about 31 per cent. of their aggregate net output.

Employment.

The detailed information relating to employment in 1924 is summarised in Table III on pages 134-5. The following table sets out certain particulars for that year together with those relating to the two previous censal years. For the purpose of this comparison the average numbers of operatives of each sex returned for 1924 have been divided between the two age-groups in the proportion shown by the data relating to the week ended 18th October.

Average number (excluding out-workers).	Males.		Females.		Males and females.	
	Under 18.	All ages.	Under 18.	All ages.	Under 18.	All ages.
	1924.					
Operatives	1,298	12,314	7,360	25,162	8,658	37,476
Administrative, etc. ..	118	1,944	80	706	198	2,650
TOTAL	1,416	14,258	7,440	25,868	8,856	40,126
1912.						
Wage-earners	1,988	10,282	7,225	22,761	9,213	33,043
Salaried	147	1,538	66	227	213	1,765
TOTAL	2,135	11,820	7,291	22,988	9,426	34,808
1907.						
Wage-earners	1,990	8,805	5,557	21,905	7,547	30,710
Salaried	133	1,265	56	223	189	1,488
TOTAL	2,123	10,070	5,613	22,128	7,736	32,198
Average number of out-workers :—						
1924	55		390		445	
1912	362		750		1,112	
1907	21		53		74	

The numbers of operatives recorded month by month in 1924 showed a continuous increase from 3,820 below the average, in January, to 2,555 above the average, in December (see Table IIIB, page 134).

In 1924 the outworkers were mainly engaged in making-up ties, scarves, blouses and jumpers, but a few cases (involving at least 50 persons) were found where piece-goods and ribbons were woven by outworkers on their own hand-looms.

The number of wage-earners shown in the above table for 1907 is inclusive of 768 half-timers, of whom 308 were males and 460 were females; the 1912 figure includes 838 half-timers, of whom 297 were males and 541 were females.

Mechanical Power.

The detailed information relating to mechanical power in 1924 is summarised in Table IV, on page 135. The following table sets out the particulars for the three censal years relating to the capacity and kinds of *prime movers* and the capacity of *electric generators* installed.

Power Equipment.	1924.			1912.	1907.
	Ordinarily in use.	In reserve or idle.	Total.	Total.	Total.
PRIME MOVERS :—	H.P.	H.P.	H.P.	H.P.	H.P.
Reciprocating steam engines	13,777	3,423	17,200	20,151	16,887
Steam turbines	13,390	3,740	17,130	1,899	475
Gas engines	1,585	272	1,857	993	} 812
Petrol and light oil engines ..	31	36	67	19	
Heavy oil engines	204	50	254	557	
Water power	536	4	540		693
TOTAL	29,523	7,525	37,048	23,619	18,867
ELECTRIC GENERATORS :—	Kw.	Kw.	Kw.	Kw.	Kw.
Driven by—					
Reciprocating steam engines	2,644	972	3,616	1,881	1,273
Steam turbines	10,000	2,800	12,800	2,025	242
Gas engines	285	60	345	} 123	} 145
Petrol and light oil engines	—	12	12		
Heavy oil engines	40	—	40		
Water power	190	—	190		
TOTAL	13,159	3,844	17,003	4,029	1,660

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

Electric motors.	1924.			1912.
	Ordinarily in use.	In reserve or idle.	Total.	Total.
Driven by—	H.P.	H.P.	H.P.	H.P.
Electricity generated in own works ..	13,694	827	14,521	3,002
Purchased electricity	14,419	3,808	18,227	898

Corresponding information was not required for 1907. The total number of Board of Trade units of electricity purchased for power and lighting purposes in that year was returned as 306,000.

In addition to the power generated at factories, or purchased as electrical energy, some establishments were operated wholly by *rented power*. For 1924, such establishments in the Silk and Artificial Silk Trades returned 1·1 per cent. of the total value of output reported, and employed 1·0 per cent. of the total number of persons employed in those trades. The proportion of output in 1912 reported by firms renting all the power they used was 1·7 per cent., and in 1907, 4·9 per cent.

Machinery Equipment.

In response to a request for voluntary information as to the kinds and numbers of machines at factories, particulars were furnished by firms who produced the following output :—

Products.	Amount.	Proportion of trade total.
	Total make. Th. lb.	Per cent.
Thrown silk	180	44·7
Spun silk yarn	872	47·6
Artificial silk (including yarn)	4,685	21·3
	Output for sale. £'000.	
Piece-goods of silk, artificial silk or mixtures ..	3,267	62·0
Ribbons, wholly of silk, or of silk mixed with other materials	125	77·6
Sewing silks, wholly of silk, or of silk mixed with other materials	427	38·1
Smallwares, braids, trimmings, cords, etc. ..	364	41·9
Hosiery, clothing and other goods of silk, artificial silk or mixtures	1,360	51·0
Products other than silk (including waste) and work done on commission	692	74·4
TOTAL VALUE OF ALL GOODS MADE AND WORK DONE	8,265	40·6

The kinds and numbers of machines at the works of these firms at the end of 1924 were as follows :—

Kind of machines.	In use.	Idle.	Total.	Proportion idle.
	Number.	Number.	Number.	Per cent.
Winding and twisting machines ..	1,359	405	1,764	23·0
Throwing machines	172	73	245	29·8
Warping machines	352	69	421	16·4
Spinning and doubling machines ..	522	140	662	21·1
Power looms :—				
Silk looms—				
Plain, 36 inch and over	1,065	420	1,485	28·3
" under 36 inch	216	148	364	40·7
Dobby, 36 inch and over	1,551	60	1,611	3·7
" under 36 inch	15	1	16	6·3
Jacquard, 36 inch and over ..	742	71	813	8·7
" under 36 inch	41	17	58	29·3
Other and unclassified	684	17	701	2·4
Cotton looms	501	216	717	30·1
Ribbon and smallware looms—				
Jacquard	394	55	449	12·2
Plain, harness and dobbie ..	346	148	494	30·0
Hand looms	209	145	354	41·0
Braid machines	2,318	1,542	3,860	39·9
Embroidery machines	29	8	37	21·6
Sewing machines	760	213	973	21·9
Lace machines	126	73	199	36·7
Knitting machines :—				
Circular hose and fabric machines ..	921	318	1,239	25·7
Flat knitting machines	79	67	146	45·9
Tie knitting machines	343	120	463	25·9
Dyeing machines	97	26	123	21·1
Quilling machines	1,089	30	1,119	2·7
Finishing machines	112	44	156	28·2

TABLES.

Note :—No production was recorded in Northern Ireland.

I.—Summary of results.

Particulars.	Unit.	England and Wales.	Scotland.	Great Britain.
Value of goods made and work done (Gross output)	£'000	20,229	137	20,366
Cost of materials used	"	9,463	84	9,547
Paid for work given out to other firms	"	632	4	636
Net output	"	10,134	49	10,183
Average number of persons employed (excluding outworkers)	No.	39,811	315	40,126
Net output per person employed (excluding outworkers)	£	255	156	254
Mechanical power available :—				
Prime movers	H.P.	36,483	565	37,048
Electric motors driven by purchased electricity	"	18,172	55	18,227

II.—Production.

A.—TOTAL MAKE OF SILK AND ARTIFICIAL SILK IN 1924.

Products.	Great Britain.*
	Th. lb.
Thrown silk	403
Spun silk yarn	1,832
Artificial silk	22,023

* In order to avoid the possible disclosure of particulars relating to individual firms, figures can be given only for Great Britain as a whole.

B.—OUTPUT FOR SALE OR FOR STOCK.

Kind of goods made.	Great Britain.*	
	Quantity.	Selling value.
	Th. lb.	£'000.
<i>Natural silk yarn and artificial silk :—</i>		
Thrown silk	178	276
Spun silk yarn	1,278	1,096
Artificial silk (including yarn)	21,360	7,017
Artificial silk doubled, twisted or otherwise treated	2,268	963
TOTAL VALUE—SILK YARN, ETC. .. .. .	..	9,352
<i>Piece-goods :—</i>	Th. sq. yds.	
Piece-goods, dyed or not dyed—		
Wholly of silk—		
Pile fabrics	185	59
Other fabrics	5,215	1,439
Of silk mixed with other materials, if known as "silks"—		
Pile fabrics	1,656	566
Other fabrics	5,500	1,223
Of artificial silk and of artificial silk mixed with other materials (including plushes)—		
Returned by square yardage	7,518	1,284
Returned by weight	Th. lb.	612
Quantity not stated .. .. .	..	83
TOTAL VALUE—PIECE-GOODS .. .. .	..	5,266

* See Footnote to Table II.A.

B.—OUTPUT FOR SALE OR FOR STOCK—continued.

Kind of goods made.	Great Britain.*	
	Quantity.	Selling value.
	Th. lb.	
<i>Other manufactures of silk, artificial silk or mixtures :—</i>		
Ribbons of silk or of silk mixed with other materials, if known as "silks" .. .. .	..	161
Sewing silk (including silk wound or spooled)—		
Wholly of silk	257	355
Of silk or artificial silk mixed with other materials—		
Quantity stated	871	465
Quantity not stated .. .. .	..	301
Smallwares, braids, trimmings, cords, etc. .. .. .	..	714
Artificial silk manufactures, other than piece-goods and articles of clothing .. .. .	..	154
Silk waste, noils, etc.	791	48
Artificial silk waste	465	23
TOTAL VALUE—OTHER MANUFACTURES .. .. .	..	2,221
<i>Hosiery, clothing and other goods of silk, artificial silk or mixtures :—</i>		£'000
Stockings and hose .. .. .	..	454
Women's garments† .. .. .	..	662
Underwear .. .. .	..	128
Neckties, cravats, etc. .. .. .	..	841
Other articles of clothing .. .. .	..	367
Articles of clothing not separately distinguished .. .. .	..	122
Other goods .. .. .	..	94
TOTAL VALUE—HOSIERY, CLOTHING, ETC. .. .. .	..	2,668
TOTAL VALUE OF SILK, ARTIFICIAL SILK AND MANUFACTURES THEREOF .. .. .	..	19,507
Cotton and woollen manufactures .. .. .	..	457
Other products .. .. .	..	177
TOTAL VALUE OF GOODS MADE .. .. .	..	20,141
Work done on commission or for the trade.		Amount received.
		£'000
Silk winding and reeling .. .. .	..	72
Silk throwing and spinning .. .. .	..	30
Silk weaving .. .. .	..	16
Silk dyeing and finishing .. .. .	..	49
Other work .. .. .	..	58
TOTAL VALUE OF WORK DONE .. .. .	..	225
TOTAL VALUE OF GOODS MADE AND WORK DONE (GROSS OUTPUT) .. .. .	..	20,366

* See Footnote to Table II.A.

† i.e., Costumes, dresses, coats, skirts, blouses, jumpers and the like.

III.—Employment.

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

Kind of staff.	Males.		Females.		Males and females.	
	Under 18.	All ages.	Under 18.	All ages.	Under 18.	All ages.
<i>England and Wales</i> :—						
Operatives	1,386	13,114	7,725	26,421	9,111	39,535
Administrative, etc.*	118	1,931	77	693	195	2,624
TOTAL	1,504	15,045	7,802	27,114	9,306	42,159
<i>Scotland</i> :—						
Operatives	—	37	91	300	91	337
Administrative, etc.*	—	13	3	13	3	26
TOTAL	—	50	94	313	94	363
<i>Great Britain</i> :—						
Operatives	1,386	13,151	7,816	26,721	9,202	39,872
Administrative, etc.*	118	1,944	80	706	198	2,650
TOTAL	1,504	15,095	7,896	27,427	9,400	42,522

* Administrative, technical and clerical staff.

B.—OPERATIVES EMPLOYED IN ONE WEEK IN EACH MONTH OF 1924
(EXCLUDING OUTWORKERS).*England & Wales.* (Annual average : Males, 12,278 ; Females, 24,909 ; Total, 37,187.)

Week ended.	Males.	Females.	Total.	Week ended.	Males.	Females.	Total.
Jan. 12th ..	10,850	22,567	33,417	July 19th ..	12,538	25,452	37,990
Feb. 16th ..	11,274	23,136	34,410	Aug. 16th ..	12,465	25,585	38,050
March 15th ..	11,600	23,342	34,942	Sept. 13th ..	12,727	25,949	38,676
April 12th ..	12,070	23,884	35,954	Oct. 18th ..	13,114	26,421	39,535
May 17th ..	12,134	24,455	36,589	Nov. 15th ..	13,199	26,475	39,674
June 21st ..	12,167	25,142	37,309	Dec. 13th ..	13,203	26,501	39,704

Scotland : (Annual average : Males, 36 ; Females, 253 ; Total, 289.)

Week ended.	Males.	Females.	Total.	Week ended.	Males.	Females.	Total.
Jan. 12th ..	37	202	239	July 19th ..	36	283	319
Feb. 16th ..	36	192	228	Aug. 16th ..	36	304	340
March 15th ..	36	184	220	Sept. 13th ..	36	300	336
April 12th ..	37	214	251	Oct. 18th ..	37	300	337
May 17th ..	33	222	255	Nov. 15th ..	37	290	327
June 21st ..	37	256	293	Dec. 13th ..	37	290	327

Great Britain. (Annual average : Males, 12,314 ; Females, 25,162 ; Total, 37,476.)

Week ended.	Males.	Females.	Total.	Week ended.	Males.	Females.	Total.
Jan. 12th ..	10,887	22,769	33,656	July 19th ..	12,574	25,735	38,309
Feb. 16th ..	11,310	23,328	34,638	Aug. 16th ..	12,501	25,889	38,390
March 15th ..	11,636	23,526	35,162	Sept. 13th ..	12,763	26,249	39,012
April 12th ..	12,107	24,098	36,205	Oct. 18th ..	13,151	26,721	39,872
May 17th ..	12,167	24,677	36,844	Nov. 15th ..	13,236	26,765	40,001
June 21st ..	12,204	25,398	37,602	Dec. 13th ..	13,240	26,791	40,031

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

Country.	January.			July.		
	Males.	Females.	Total.	Males.	Females.	Total.
<i>England and Wales</i>	43	317	360	43	448	491
<i>Scotland</i>	12	7	19	12	7	19
<i>Great Britain</i>	55	324	379	55	455	510

IV.—Mechanical Power.

PARTICULARS OF PRIME MOVERS, ELECTRIC GENERATORS AND
ELECTRIC MOTORS.

Power equipment.	England and Wales.		Scotland.		Great Britain.	
	Ordinarily in use.	In reserve or idle.	Ordinarily in use.	In reserve or idle.	Ordinarily in use.	In reserve or idle.
PRIME MOVERS :—	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
Reciprocating steam engines	13,517	3,243	260	180	13,777	3,423
Steam turbines	13,390	3,740	—	—	13,390	3,740
Gas engines	1,460	272	125	—	1,585	272
Petrol and light oil engines	31	36	—	—	31	36
Heavy oil engines	204	50	—	—	204	50
Water power	536	4	—	—	536	4
TOTAL	29,138	7,345	385	180	29,523	7,525
TOTAL OF PRIME MOVERS INSTALLED	36,483		565		37,048	
ELECTRIC GENERATORS :—	Kw.	Kw.	Kw.	Kw.	Kw.	Kw.
Driven by—						
Reciprocating steam engines	2,517	889	127	83	2,644	972
Steam turbines	10,000	2,800	—	—	10,000	2,800
Gas engines	285	60	—	—	285	60
Petrol and light oil engines	—	12	—	—	—	12
Heavy oil engines	40	—	—	—	40	—
Water power	190	—	—	—	190	—
TOTAL	13,032	3,761	127	83	13,159	3,844
TOTAL OF ELECTRIC GENERATORS INSTALLED	16,793		210		17,003	
ELECTRIC MOTORS :—	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
Driven by—						
Electricity generated in own works	13,624	757	70	70	13,694	827
Purchased electricity	14,369	3,803	50	5	14,419	3,808