

## THE INK, GUM, AND SEALING WAX TRADES.

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### Introductory.\*

The tables on pages 164 to 166 are based on returns received from firms in Great Britain whose business in 1924 consisted wholly or mainly in the manufacture of inks, gums, and sealing-wax. The number of such separate returns was 128. About a dozen firms to which schedules were sent did not furnish returns, but these firms for the most part had very small establishments. On the basis of the information available it is estimated that they did not employ more than 30 persons in all and that their total net output probably did not exceed £10,000. No production was recorded for Northern Ireland in 1924.

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

\* See also the Notes on pages vii to xv.



Particulars.	Unit.	1924.	1912.	1907.
Value of goods made (Gross output)	£'000	3,146	1,144	888
Cost of materials used .. .. .	"	1,441	567	425
Net output .. .. .	"	1,705	577	463
Average number of persons employed	No.	3,604	1,996	1,655
Net output per person employed ..	£	473	289	280
Mechanical power available:—				
Prime movers .. .. .	H.P.	2,095	1,554	2,125
Electric motors driven by purchased electricity .. .. .	"	4,421	1,221	(not recorded)

*Qualifications affecting comparisons.*—In considering the above table and the other tables in this report which show figures for 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 Great Britain and the whole of Ireland, but that of 1924 applied only to Great Britain and Northern Ireland. The exclusion of Southern Ireland in 1924 probably does not materially affect the comparability of the figures since, in the reports on the Census of Production taken by the Government of the Irish Free State in respect of the year 1926, the only product of these trades separately recorded was writing ink, valued at £2,000.

(3) The Censuses of 1907 and 1924 extended to all firms, however small, but in 1912 firms employing not more than five persons (excluding the proprietors) were merely required to state the average number of persons employed by them in the year. According to the information so furnished the number of persons employed in the establishments thus excluded was 136, or 6·8 per cent. of the number employed by the remaining firms, as shown in the above table. Correspondence on defective returns for 1912 had not been completed when the war compelled suspension of this work, and in these circumstances detailed information for 1912 is not given in the remainder of this report. The resulting defects in the aggregate figures given above are probably not important.

### Production.

Detailed information relating to the output of the Ink, Gum, and Sealing-wax Trades in 1924 will be found in Table II on page 164.

*Principal products.*—The following table shows, for the years 1924 and 1907, the value and (where recorded) the quantity of the chief classes of output, including not only the inks, gums, etc., manufactured by firms that made their returns on schedules for the Ink,

Gum, and Sealing-wax Trades, but also similar goods recorded on schedules for other trades.

Kind of goods.	1924.				1907.
	Returned on schedules for—				Total
	The Ink, Gum, and Sealing-wax Trades.		All trades.		
	Quantity.	Selling value.	Quantity.	Selling value.	Selling value.
Printers' ink .. .. .	Th. cwts. 266	£'000 1,515	Th. cwts. 288	£'000 1,733	£'000 536
Printers' sundries (rollers, etc.) ..	..	164	..	167	69
Inks, other than printers' ink (writing, marking, etc., and ink powders) .. .. .	..	419	..	477	254
Gum-mucilage, paste, etc. .. .. .	..	303	..	336	62
Typewriter sundries (ribbons, carbons, etc.) .. .. .	..	537	..	537	84
Sealing-wax .. .. .	..	76	..	77	42
TOTAL: PRINCIPAL PRODUCTS .. .. .	..	3,014	..	3,327	1,047

In 1907 firms were not required to state the quantity of printers' ink made, but it seems clear that there was a considerable increase in output in 1924; the same applies to the other chief products, notably typewriter sundries and gum-mucilage, etc.

*Other products.*—In addition to the output shown in the preceding table, firms that made their returns on schedules for the Ink, Gum, and Sealing-wax Trades recorded an output of the following goods which, being of kinds mainly produced by other trades, are dealt with in the reports on those trades:—

Kind of goods.	1924.	1907.
	Selling value.	Selling value.
Varnish (including litho and letterpress varnishes)	£'000 62 (237,000 galls.)	£'000 18
Stationers' sundries (other than above) .. .. .	48	} 45
Other goods .. .. .	22	
TOTAL VALUE .. .. .	132	63

The aggregate values shown in the above tables are substantially free from duplication.

*Cost of materials.*—The cost of the materials used by firms that made their returns on schedules for the Ink, Gum, and Sealing-wax Trades was returned as £1,441,000 in 1924 and £425,000 in 1907.



*Net output.*—The net output in 1924 of the firms that made their returns on schedules for the Ink, Gum, and Sealing-wax Trades (whose gross output was valued at £3,146,000) was £1,705,000, that sum representing the total amount by which the value, as delivered, of the aggregate output exceeded the cost, as purchased, of the materials used.

The net output per head of persons employed in the censal year 1924 was £473, as compared with £280 in 1907.

*Exports and imports.*—About 27,000 cwt. of printers' ink were exported in 1924 and 12,000 cwt. were imported and retained, so that 273,000 cwt. (of which over 95 per cent. was British made) were available for use in the United Kingdom. Exports of writing ink and ink powder were valued at £183,000 f.o.b. and net imports at £15,000 c.i.f., so that, allowing for the different bases of value, nearly 96 per cent. of the ink available for use in the United Kingdom in 1924 was British made. The other products of the Ink, Gum, and Sealing-wax Trades are not separately specified in the returns of imports or exports, nor were printers' ink and other inks so specified 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 Ink, Gum, and Sealing-wax Trades that made returns both to the Ministry of Labour and to the Census of Production office. According to the Census records this group of firms employed, in the week ended 18th October, 1924, 1,522 operatives, or 60 per cent. of the total of 2,522 operatives for the trades as a whole, and their net output totalled £1,151,000, or 67 per cent. of the aggregate net output of £1,705,000 for the trades as a whole. The total wage-bill of these firms, as returned to the Ministry of Labour, was £211,000, representing about 18 per cent. of their aggregate net output.

#### Employment.

The detailed information relating to employment in 1924 is summarised in Table III on page 165. The following table sets out certain particulars for that year together with those relating to the 1907 Census. For the purpose of this comparison the average number of operatives of each sex returned for 1924 have been divided between the two age-groups in the proportions shown by the data relating to the week ended 18th October.

Average number.	Males.		Females.		Males and females.	
	Under 18.	All ages.	Under 18.	All ages.	Under 18.	All ages.
<b>1924.</b>						
Operatives .. ..	235	1,680	215	802	450	2,482
Administrative, etc. ..	42	776	53	346	95	1,122
TOTAL .. ..	277	2,456	268	1,148	545	3,604
<b>1907.</b>						
Wage earners .. ..	71	967	96	234	167	1,201
Salaried .. ..	23	408	4	46	27	454
TOTAL .. ..	94	1,375	100	280	194	1,655

The numbers of operatives recorded month by month in 1924 ranged from 70 below the average, in January, to 49 above the average, in December (see Table IIIB, page 165). The proportion of female operatives increased from 19 per cent. in 1907 to 32 per cent. in 1924.

#### Mechanical Power.

The detailed information relating to mechanical power in 1924 is summarised in Table IV on page 166. The following table sets out the particulars for 1924 and 1907 relating to the capacity and kinds of *prime movers* and the capacity of *electric generators* installed.

Power equipment.	1924.			1907.
	Ordinarily in use.	In reserve or idle.	Total.	Total.
<b>PRIME MOVERS:—</b>				
Reciprocating steam engines ..	H.P. 819	H.P. 399	H.P. 1,218	H.P. 1,434
Gas engines .. ..	769	97	866	691
Heavy oil engines .. ..	11	—	11	
TOTAL .. ..	1,599	496	2,095	2,125
<b>ELECTRIC GENERATORS:—</b>				
Driven by—	Kw.	Kw.	Kw.	Kw.
Reciprocating steam engines..	158	152	310	39
Gas engines .. ..	12	7	19	—
TOTAL .. ..	170	159	329	39

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

Electric motors.	1924.		
	Ordinarily in use.	In reserve or idle.	Total.
Driven by—	H.P.	H.P.	H.P.
Electricity generated in own works ..	94	65	159
Purchased electricity .. ..	4,062	359	4,421

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 569,000.



## 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 (Gross output) ..	£'000	3,029	117	3,146
Cost of materials used .. .. .	„	1,381	60	1,441
Net output .. .. .	„	1,648	57	1,705
Average number of persons employed	No.	3,417	187	3,604
Net output per person employed ..	£	482	305	473
Mechanical power available:—				
Prime movers .. .. .	H.P.	1,889	206	2,095
Electric motors driven by purchased electricity .. .. .	„	4,280	141	4,421

## II.—Production.

Output sold or added to stock.	England and Wales.		Scotland.		Great Britain.	
	Quantity.	Selling value.	Quantity.	Selling value.	Quantity.	Selling value.
Printers' ink .. .. .	Th. cwts. 259	£'000 1,488	Th. cwts. 7	£'000 27	Th. cwts. 266	£'000 1,515
Inks, other than printers' ink (i.e. writing, marking, endorsing, etc., and ink powders) .. .. .	..	*	..	*	..	419
Printers' sundries (rollers, etc.) .. .. .	..	*	..	*	..	164
Gum-mucilage, paste, etc. .. .. .	..	278	..	25	..	303
Sealing-wax .. .. .	..	*	..	*	..	76
Typewriter ribbons, carbons and other typewriter sundries .. .. .	..	*	..	*	..	537
Varnish (including litho and letterpress varnishes) .. .. .	Th. galls. 237	62	Th. galls. †	§	Th. galls. 237	62
Stationers' sundries (other than above) .. .. .	..	48	—	—	..	48
Other goods made .. .. .	..	22	—	—	..	22
<b>TOTAL VALUE OF GOODS MADE (GROSS OUTPUT)</b> .. .. .	..	3,029	..	117	..	3,146

\* In order to avoid the possible disclosure of information relating to individual firms, figures are given only for Great Britain as a whole.

† Less than 500 gallons.

§ Less than £500.

## 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 .. .. .	238	1,646	190	734	428	2,380
Administrative, etc.*	42	753	49	326	91	1,079
TOTAL .. .. .	280	2,399	239	1,060	519	3,459
<i>Scotland:—</i>						
Operatives .. .. .	2	69	27	73	29	142
Administrative, etc.*	—	23	4	20	4	43
TOTAL .. .. .	2	92	31	93	33	185
<i>Great Britain:—</i>						
Operatives .. .. .	240	1,715	217	807	457	2,522
Administrative, etc.*	42	776	53	346	95	1,122
TOTAL .. .. .	282	2,491	270	1,153	552	3,644

\* Administrative, technical and clerical staff.

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

*England and Wales. (Annual average: Males, 1,611; Females, 727; Total, 2,338.)*

Week ended.	Males.	Females.	Total.	Week ended.	Males.	Females.	Total.
Jan. 12th ..	1,576	691	2,267	July 19th ..	1,588	706	2,294
Feb. 16th ..	1,588	718	2,306	Aug. 16th ..	1,607	700	2,307
Mar. 15th ..	1,600	730	2,330	Sept. 13th ..	1,626	737	2,363
April 12th ..	1,595	742	2,337	Oct. 18th ..	1,646	734	2,380
May 17th ..	1,592	748	2,340	Nov. 15th ..	1,652	739	2,391
June 21st ..	1,605	739	2,344	Dec. 13th ..	1,655	737	2,392

*Scotland. (Annual average: Males, 69; Females, 75; Total, 144.)*

Jan. 12th ..	68	77	145	July 19th ..	68	78	146
Feb. 16th ..	68	77	145	Aug. 16th ..	68	78	146
Mar. 15th ..	67	79	146	Sept. 13th ..	70	74	144
April 12th ..	68	79	147	Oct. 18th ..	69	73	142
May 17th ..	69	78	147	Nov. 15th ..	70	68	138
June 21st ..	69	78	147	Dec. 13th ..	70	69	139

*Great Britain. (Annual average: Males, 1,680; Females, 802; Total, 2,482.)*

Jan. 12th ..	1,644	768	2,412	July 19th ..	1,656	784	2,440
Feb. 16th ..	1,656	795	2,451	Aug. 16th ..	1,675	778	2,453
Mar. 15th ..	1,667	809	2,476	Sept. 13th ..	1,696	811	2,507
April 12th ..	1,663	821	2,484	Oct. 18th ..	1,715	807	2,522
May 17th ..	1,661	826	2,487	Nov. 15th ..	1,722	807	2,529
June 21st ..	1,674	817	2,491	Dec. 13th ..	1,725	806	2,531



## 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.
	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
<b>PRIME MOVERS:—</b>						
Reciprocating steam engines .. ..	784	398	35	1	819	399
Gas engines .. ..	674	22	95	75	769	97
Heavy oil engines ..	11	—	—	—	11	—
<b>TOTAL .. ..</b>	<b>1,469</b>	<b>420</b>	<b>130</b>	<b>76</b>	<b>1,599</b>	<b>496</b>
<b>TOTAL OF PRIME MOVERS INSTALLED .. ..</b>	<b>1,889</b>		<b>206</b>		<b>2,095</b>	
<b>ELECTRIC GENERATORS :</b>	<b>Kw.</b>	<b>Kw.</b>	<b>Kw.</b>	<b>Kw.</b>	<b>Kw.</b>	<b>Kw.</b>
Driven by—						
Reciprocating steam engines .. ..	158	152	—	—	158	152
Gas engines .. ..	12	7	—	—	12	7
<b>TOTAL .. ..</b>	<b>170</b>	<b>159</b>	<b>—</b>	<b>—</b>	<b>170</b>	<b>159</b>
<b>TOTAL OF ELECTRIC GENERATORS INSTALLED</b>	<b>329</b>		<b>—</b>		<b>329</b>	
<b>ELECTRIC MOTORS:—</b>	<b>H.P.</b>	<b>H.P.</b>	<b>H.P.</b>	<b>H.P.</b>	<b>H.P.</b>	<b>H.P.</b>
Driven by—						
Electricity generated in own works ..	94	65	—	—	94	65
Purchased electricity	3,957	323	105	36	4,062	359