THE BRUSH TRADE.

145

Contents.

INTRODUCTORY								Page.
Summary of results	••	•.•.		••	••	••	••	145
Qualifications affecting	••					••	••	145
	compar	isons	••	••	••	••	• •	146
PRODUCTION								146
Brushes						00101378		146
Other products	1010			S. mar	1. 1913	Ser contra		148
Repairs and work done	for the	trade			1	S. 1996	11.1	148
Value of output free from	m dupli	cation						149
Cost of materials								149
Net output		Depa		0.000	or case.	010		149
Kinds of materials used	anna a		and the		. Isrie	a state	••	149
Exports and imports	1.						••	145
WAGES IN 1924							••	
	•••	••	· · · ·	••	••		••	150
EMPLOYMENT			1.11 50				-	150
MECHANICAL POWER	Res alles							
TABLES	the second		••	••	••	••	••	151
TABLES	••	••	••	••				152

Introductory.*

The tables on pages 152 to 156 are based on returns received from firms in Great Britain and Northern Ireland whose business in 1924 consisted wholly or mainly in the manufacture of brushes. The number of such separate returns was 450. About 120 firms to which schedules were sent did not furnish returns, but these firms for the most part had very small establishments and they included some which had ceased operations before the end of the censal year. On the basis of the information available it is estimated that they did not employ more than 350 persons in all and that their total net output probably did not exceed $\frac{450,000}{50,000}$.

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

Particulars,	Unit.	1924.	1912.	1907.
Value of goods made and made			-	
Value of goods made and work done	0000	0		
(Gross output)	£'000	3,578	1,752	1,828
Cost of materials used	,,	1,817	935	969
Net output	,,	1,761	817	859
Average number of persons employed	,,	-,	017	000
(excluding outworkers)	No.	11,192	10,526	11140
Net output per person employed (ex-	140.	11,192	10,526	11,142
ince output per person employed (ex-	1. 1.	The second		
cluding outworkers)	£	157	78	77
Mechanical power available :			a production	Disserve American
Prime movers	H.P.	4,235	2,209	2,116
Electric motors driven by purchased		1,200	2,203	2,110
alastrisity		0.070	1.01	
electricity	,,	2,250	481	(not
		ALL COLORS	A GRADERAN	recorded

* See also the Notes on pages vii to xv.

(4936)

TIMBER TRADES.

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

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

(2) The Censuses of 1907 and 1912 covered Great Britain and the whole of Ireland, but that of 1924 applied only to Great Britain and Northern Ireland. The exclusion of Southern Ireland in 1924 does not, however, seriously affect the comparability of the figures.

(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 required to state only 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 959, or 9 per cent. of the number employed by the remaining firms, as shown in the above table. Moreover, correspondence on defective returns for 1912 had not been completed when the war compelled suspension of this work. 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, however, not important.

Production.

Detailed information regarding the output of the Brush Trade in 1924 is shown in Table II on page 153.

In addition to the output dealt with in this report, brushes valued, on a cost basis, at $\pounds 8,000$ were made in 1924 by Local Authorities and in H.M. Prisons.

Brushes.—The following statement shows, for the years 1924 and 1907, the value of the output of the chief classes of brushes made, the figures for each year being inclusive of the value of similar goods recorded by firms that made their returns on schedules for other trades; the quantities returned as made in 1924 are also shown :—

Kind of brushes.			19	1907.	
Kind of brushes.			Quantity.	Selling value.	Selling value.
Household brooms and brushes Toilet brushes Painters' and decorators' brushes Other trade brushes Artists' brushes Brushes not separately distinguished Parts of brushes		··· ·· ·· ··	Th. dozens. 3,142 1,094 1,133 405 	$\begin{array}{c} \hline \pounds'000.\\ 1,595\\ 886\\ 860\\ 275\\ 64\\ 52\\ 146\\ 43\\ \end{array}$	£'000. 1,028 261 366 102 46 19
Mops, pads, feather brushes, etc.			anti celo e	3,921	1,822

In 1907, firms could not be required to state the quantity of their output in the detail shown in the foregoing table, but firms whose output of brushes was valued at about one-third of the total supplied the following information as to the numbers of brushes made by them :—

Kind of brushes.	Quantity.	Selling value.
Household and trade brooms and brushes Painters', decorators' and whitewashers' brushes Fancy and toilet brushes, not of bone Bone brushes Machinery brushes	Th. dozens. 1,520 123 70 201 28	£'000. 399 101 52 40 32
TOTAL	1,942	624

If the returns summarised in this table may be accepted as furnishing a fair sample of the whole, there were substantial increases in the output of all kinds of brushes in 1924 compared with 1907, except in the case of *household brooms and brushes*; this conclusion is supported by the values shown for the two years.

When arrangements were being made for the Census of 1924 the British Brush Manufacturers' Association advised the Board of Trade that the value of the results of the Census would be greatly enhanced if a more detailed classification of brushes were adopted than that provided in the Import and Export List. Although manufacturers could not be required compulsorily to furnish this greater detail, the recommendation was accepted and the particulars in question were in fact supplied as regards more than 88 per cent. of the value of the total output of brushes. The following table gives particulars regarding the output of brushes in 1924 :—

	1	Returned on	schedules for	- Norman	Trans Sour		
Kind of brushes.	The Brus	h Trade.	Other t	trades.	Total.		
	Quantity.	Selling value.	Quantity.	Selling value.	Quantity.	Selling value.	
Household brooms and brushes :—	Th.doz.	£'000.	Th. doz.	£'000.	Th. doz.	£'000	
Pan set	701	826	3	3	704	829	
Hand drawn	228	182			228	182	
Machine filled Other methods of	2,022	479	13	3	2,035	482	
manufacture Not separately dis-	90	61	4	3	94	64	
tinguished	81	38	-		81	38	
TOTAL-HOUSEHOLD	- attended		and the		and a mar	- here in	
BROOMS AND BRUSHES	• 3,122	1,586	20	9	3,142	1,595	
Toilet brushes :— Tooth brushes—	The ana	rade	e far an	ter in start	a historia an	Rappa	
In celluloid	4	1	257	79	261	80	
In bone	452	238	1	100	452	238	
Shaving brushes	86	98	3	4	89	102	

(4936)

148

TIMBER TRADES.

	12163-6.03	Returned o	on schedules f	or	То	tal.
Kind of brushes.	The Bru	ish Trade.	Other	trades.		ual,
	Quantity.	Selling value.	Quantity.	Selling value.	Quantity.	Selling value.
Toilet brushes (contd.) Other toilet brushes : In wood	Th. doz.	£'000.	Th. doz.	£'000.	Th. doz.	£'000.
Machine filled Hand drawn In celluloid, etc.—	164 71	124 205	*	8	164 71	132 205
Machine filled Hand drawn	1 1 *	1 5	30 9	77 29	31 10 *	78 34
In ivory Toilet brushes, not sepa- rately distinguished	* 16	3 14	-		* 16	3 14
FOTAL-TOILET BRUSHES	795	689	299	197	1,094	886
Painters' and decorators' brushes : Flat pinned varnish brushes Machine compressed	636	287			636	287
brushes Other kinds Not separately dis- tinguished	107 345 43	39 506 25	2 		107 347 43	39 509 25
OTAL—PAINTERS' AND DECORATORS' BRUSHES	1,131	857	2	3	1,133	860
Artists' brushes (fitches, pencils, writers, etc.) fachinery brushes, special trade brushes,	69	15	336	49	405	64
etc. : {Quantity stated Quantity not stated	40 	36 236		—	40 	36 239
Brushes not separately distinguished Parts of brushes (stocks,		52	-	-		52
handles, etc.)		2 39		144 4	••••	146 43
OTAL VALUE		3,512	·· 	409		3,921

* Under 500 dozen.

Other products.—In addition to the output dealt with in the preceding paragraphs, firms that made their returns on schedules for the Brush Trade recorded in 1924 an output of other goods (hair curlers, wire brushes, etc.) valued at $\pounds 45,000$. These goods, being of kinds mainly produced in other trades, are dealt with in the reports on those trades. The corresponding figure for 1907 was $\pounds 23,000$.

Repairs and work done for the trade.—The amount recorded in 1924 on schedules for the Brush Trade as received for repair work was \pounds 3,000 and for work done for the trade, \pounds 18,000. The total amount received for work done in 1907 was \pounds 8,000.

BRUSHES.

Value of output free from duplication.—Out of the total value of the output, £3,578,000, returned by the firms furnishing particulars on schedules for the Brush Trade, duplication may be involved in respect of £2,000 entered as the value of parts of brushes, but this sum may well represent only some addition to parts made and held in stock. The work done for the trade, for which £18,000 was received, was probably work done for merchants on materials supplied by them; no amounts were returned in respect of payments made to other firms in the trade for work given out to them. Thus the total value of the output may be taken as being free from material duplication.

Cost of materials.—The cost of materials used by firms that made their returns on schedules for the Brush Trade was returned as $\pounds 1,817,000$ in 1924, a sum which is substantially free from duplication; the corresponding figure for 1907 was $\pounds 969,000$.

Net output.—The net output in 1924 of the firms that made their returns on schedules for the Brush Trade (whose gross output was valued at £3,578,000) was £1,761,000, 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 ± 157 as compared with ± 77 in 1907.

Kinds of materials used.—All firms receiving schedules for the Brush Trade were asked to state the quantities of certain materials used by them in the year, and firms with an output of $\pounds 1,691,000$, or 47 per cent. of the total output of the trade, furnished the following particulars :—

Bristles :— European a Chinese Indian Piassava :—	nd Sibe	erian 	Th. lb. 336 542 37	Palmyra fibre Cocoa fibre Mexican fibre	··· ··	Th. lb. 689 663 1,062	
Bahia African			971 965	Italian whisk Mexican whisk	•••	218 116	

The quantity of each of the main classes of brushes made by the firms that furnished the above particulars, in relation to the total quantity recorded for each such class of brushes, was as follows :—

Kind of brushes.			Output of firms that furnished particulars of materials used.	Proportion of total output of trade.
Household brooms and brushes Tooth brushes Shaving brushes Other toilet brushes Painters' and decorators' brushes Artists' brushes	··· ·· ·· ··	··· ·· ·· ··	Th. doz. 1,453 389 18 104 497 30	$\begin{array}{c} \text{Per cent.} \\ 46.5 \\ 85.3 \\ 20.9 \\ 43.9 \\ 43.9 \\ 43.5 \end{array}$

149

TIMBER TRADES.

Exports and imports.—The following table, relating to the year 1924, shows the production of the principal kinds of brushes in relation to the exports and imports of similarly described goods :—

this him shan strong and state	internation Dua tanàna	tino t	Net		le for use Kingdom.
Kind of brushes.	Production.	Exports.	imports.	Total.	Of which British- made.
Household brooms and brushes Tooth brushes Other toilet brushes Painters' and decorators' brushes Artists' brushes	Th. doz. 3,142 713 381 1,133 405	234 209 135 155 36	Th. doz. 1,147 706 470 657 203	Th. doz. 4,055 1,210 716 1,635 572	Per cent. 71 · 7 41 · 7 34 · 4 59 · 8 64 · 5
Other descriptions		107	303		

The figures in the last two columns of the table leave out of account any brushes of the classes named that may, for lack of sufficient information, be included under the heading "Other descriptions."

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 Brush Trade that made returns both to the Ministry of Labour and to the Census of Production office. According to the Census records this group of firms employed, in the week ended 18th October, 1924, 6,266 operatives, or 64 per cent. of the total of 9,759 operatives for the trade as a whole, and their net output totalled $f_{1,101,000}$, or 62 per cent. of the aggregate net output of $f_{1,761,000}$ for the trade as a whole. The total wage-bill of these firms, as returned to the Ministry of Labour, was £595,000, representing about 54 per cent. of their aggregate net output.

Employment.

The detailed information relating to employment in 1924 is summarised in Table III on pages 154 and 155. 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 numbers of operatives of each sex returned for 1924 have been divided between the two age-groups in the proportions shown by the data relating to the week ended 18th October.

The numbers of operatives recorded month by month in 1924 ranged from 253 above the average, in May, to 294 below the average, in August (see Table III B, page 155). The period of more active employment extended from March to June inclusive.

BRUSHES.

Average number	Ma	iles.	Fem	ales.	Males and	d females.
(excluding outworkers).	Under 18.	All ages.	Under 18.	All ages.	Under 18.	All ages.
1924. Operatives Administrative, etc	640 57	4,958 1,039	1,236 41	4,858	1,876	9,816 1,376
TOTAL	697	5,997	1,277	5,195	1,974	11,192
1907. Wage earners Salaried	1,016 118	5,838 1,079	1,169 36	4,022 203	2,185 154	9,860 1,282
TOTAL	1,134	6,917	1,205	4,225	2,339	11,142
Average number of out- workers :	5	9	-(Not asce 1.54		 > 5	02

Mechanical Power.

The detailed information relating to mechanical power in 1924 is summarised in Table IV on page 156. 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.

		1924.				
Power equipment.	Ordinarily in use.	In reserve or idle.	Total.	Total.		
PRIME MOVERS : Reciprocating steam engines Steam turbines Gas engines Petrol and light oil engines Heavy oil engines Water power TOTAL	$ \begin{array}{c} 1,533 \\ 24 \\ 244 \\ 40 \end{array} $	H.P. 485 	H.P. 1,914 1,863 24 394 40	$ \begin{array}{c} \text{H.P.} \\ 968 \\ 30 \\ \end{array} $ $ \begin{array}{c} \text{J} \\ 1,064 \\ 54 \\ \end{array} $		
ELECTRIC GENERATORS : Driven by Reciprocating steam engines Gas engines	Kw. 556	965 Kw. 335 65	4,235 Kw. 891 377	2,116 Kw. 260		
Heavy oil engines	070	<u> 100 </u> 500	<u>210</u> 1,478	$\frac{126*}{386}$		

* Recorded as driven by prime movers other than reciprocating steam engines.

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

	Sec. Sec.		
Electric motors.	Ordinarily in use.	In reserve or idle.	Total.
Driven by— Electricity generated in own works Purchased electricity	H.P. 1,588 2.020	H.P. 122 230	H.P. 1,710 2,250

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 91,000.

151

TABLES.

I.—Summary of results.

Particulars.	Unit.	England and Wales.	Scotland.	Great Britain.	Northern Ireland.
Value of goods made and work done		and a test			1
(Gross output)	£'000	3,424	142	3,566	12
Cost of materials used		1,731	80	1,811	6
Net output	.,	1,693	62	1,755	6
ployed	No.	10,757	399	11,156	36
Net output per person employed Mechanical power available :	£	157	156	157	163
Prime movers Electric motors driven by pur-	H.P.	4,224	10	4,234	1
chased electricity	,,	• 2,173	70	2,243	7

BRUSHES.

II.-Production.

	11Property	Dauctio	n.			
Goods sold or added to stock and work done,	England and Wales and N. Ireland.*		Scotland.		United Kingdom.	
	Quantity.	Selling value.	Quantity.	Selling value.	Quantity.	Selling value.
Household brooms and brushes :—	Th. doz.	£'000.	Th. doz.	£'000.	Th. doz.	£'000.
Pan set	651	754	50	72	701	826
Hand drawn Machine filled	212	166	16	16	228	182
Other methods of manufacture	2,004 87	471 59	18 3	82	2,022	479
Not separately distinguished	81	38		Z	90 81	61 38
TOTAL-HOUSEHOLD BROOMS						
AND BRUSHES	3,035	1,488	87	98	3,122	1,586
Toilet brushes :	a summing marks	and the second second second	and the second se			
In hone	452	000	and and			
In celluloid	452	238 1			452	238
Shaving brushes	86	98		_	4 86	1 98
Other toilet brushes :					00	50
In wood— Machine filled	101	101				
Hand drawn	164 71	$\frac{124}{205}$	-		164	124
In celluloid, erinoid, etc	11	200	5	-	71	205
Machine filled	1	1			1	1
Hand drawn In ivory	1	5	-	· · · ·	1	5
Not separately distinguished	15 [†]	3 13	-1		1	3
Total—Toilet Brushes	794	688	1	1	16	14
Painters' and decorators'				1		689
brushes :	1.1				a airea	
Flat pinned varnish brushes	ş	ş	ş	ş	636	287
Machine compressed brushes	107	39		3	107	39
Other kinds	335	479	10	27	345	506
	43	25			43	25
TOTAL—PAINTERS' AND DECO- RATORS' BRUSHES	c	c				
	§	§	<u> </u>	<u>§</u>	1,131	857
Artists' brushes (fitches, pencils, writers, etc.)	c	c				
Machinery brushes, special trade	§	§	§	ş	69	15
brushes, etc. :	Therefore			net state of the		
SQuantity stated	39	35	1	1	40	36
Quantity not stated Brushes, not separately dis-	••	231	••	5		236
tinguished		48		4	· 24/2 (1	50
TOTAL VALUE—BRUSHES OF						52
ALL KINDS		3,329		142		9 471
Parts of brushes (stocks, handles,			··			3,471
etc.)		2				2
Mops, pads, feather brushes, etc.		39	•			39
Other goods made		45				45
Repair work	•••	31		-		3‡
	••	18‡			<u> </u>	18‡
TOTAL VALUE OF GOODS MADE AND WORK DONE (GROSS						
AND WORK DONE (GROSS OUTPUT)		3,436		142		3 570
* In order to avoid the possibl					•• /	3,578

* In order to avoid the possible disclosure of information relating to individual firms in Northern Ireland, the figures for that division of the United Kingdom have been combined with those for England and Wales.
† Less than 500 dozen.
§ In order to avoid the possible disclosure of information relating to individual firms, figures are given only for the United Kingdom as a whole.
‡ Amount received for work done.

153

111.—Employment.

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

	Males.		Fema	ales.	Males and females.		
Kind of staff.	Under 18.	All ages.	Under 18.	All ages.	Under 18.	All ages.	
England and Wales : Operatives Administrative, etc.*	612 50	4,660	1,214 39	4,747 314	1,826 89	9,407 1,280	
Total	662	5,626	1,253	5,061	1,915	10,687	
Scotland : Operatives	17 4	230 61	18 2	93 23	35 6	323 84	
TOTAL	21	291	20	116	41	407	
Great Britain : Operatives Administrative, etc.*	629 54	4,890 1,027	1,232 41	4,840 337	1,861 95	9,730 1,364	
Total	683	5,917	1,273	5,177	1,956	11,094	
Northern Ireland : Operatives Administrative, etc.*	6 3	28 12	-	_1	6 3	29 12	
Total	9	40	-	1	9	41	
United Kingdom :	692	5,957	1,273	5,178	1,965	11,135	

* Administrative, technical and clerical staff.

B.—Operatives employed in one week in each month of 1924.

England and Wales. (Annual average : Males, 4,715 ; Females, 4,762 ; Total, 9,477.)

Week ended.	Males.	Females.	Total.	Week ended.	Males.	Females.	Total.
Jan. 12th .	. 4,690	4,713	9,403	July 19th	4,725	4,723	9,448
Feb. 16th .	. 4,741	4,767	9,508	Aug. 16th	4,604	4,578	9,182
March 15th .	. 4,773	4,798	9,571	Sept. 13th	4,609	4,680	9,289
April 12th .	. 4,787	4,837	9,624	Oct. 18th	4,660	4,747	9,407
May 17th .	. 4,827	4,897	9,724	Nov. 15th	4,671	4,810	9,481
June 21st .	. 4,798	4,794	9,592	Dec. 13th	4,698	4,794	9,492
Jan. 12th .		al average	305	s, 220 ; Females, July 19th	216	97	313
Jan 12th	1 210	1 95			A CONTRACTOR OF A CONTRACTOR		A CARLES
Feb. 16th .	. 223	101	324	Aug. 16th	218	97	315
March 15th .	. 226	102	328	Sept. 13th	218	87	305
April 12th .	. 219	101	320	Oct. 18th	230	93	323
May 17th .	. 219	102	321	Nov. 15th	218	85	303
June 21st .	. 221	98	319	Dec. 13th	221	88	309
Great Britain	. (Annuc	al average	: Males	, 4,935 ; Female	s, 4,857	; Total, §	9,792.)
Jan. 12th .	. 4,900	4,808	9,708	July 19th	4,941	4,820	9,761
Feb. 16th .	4,964	4,868	9,832	Aug. 16th	4,822	4,675	9,497
March 15th .	. 4,999	4,900	9,899	Sept. 13th	4,827	4,767	9,594
April 12th .	5,006	4,938	9,944	Oct. 18th	4,890	4,840	9,730
May 17th	5,046	4,999	10,045	Nov. 15th	4,889	4,895	9,784
June 21st	5,019	4,892	9,911	Dec. 13th	4,919	4,882	9,801

June 21st..5,0194,8929,911Dec. 13th..4,0354,6359,784June 21st..5,0194,8929,911Dec. 13th..4,9194,8829,801Northern Ireland.(Annual average : Males, 23 ; Females, 1 ; Total, 24.)Jan. 12th..23124July 19th..15116Feb. 16th..22123Aug. 16th..24125March 15th..21122Sept. 13th..30131April 12th..23124Nov. 15th..26127June 21st..17118Dec. 13th..26127

155

IV.-Mechanical Power.

PARTICULARS OF PRIME MOVERS, ELECTRIC GENERATORS AND ELECTRIC MOTORS.

A STATE OF THE ATTACK TO A STATE OF THE OWNER	England	England and Wales.		
Power equipment.	Ordinarily in use.	In reserve or idle.		
PRIME MOVERS :	H.P.	H.P.		
Reciprocating steam engines	1,419	485		
Gas engines	1,532	330		
Petrol and light oil engines	24			
Heavy oil engines	244	150		
Water power	40			
TOTAL	3,259	965		
Total of prime movers installed	4,:	224		
ELECTRIC GENERATORS :	Kw.	Kw.		
Driven by—	- E32	Les alters		
Reciprocating steam engines	556	335		
Gas engines	312	65		
Heavy oil engines	110	100		
TOTAL	978	500		
TOTAL OF ELECTRIC GENERATORS INSTALLED	1,	478		
ELECTRIC MOTORS : Driven by	H.P.	H.P.		
Electricity generated in own works	1,588	122		
	1,943	230		

Scotland. Northern Ireland.

Reciprocating steam engines	10 h.p.	
Gas engines		1 h.p.
ELECTRIC MOTORS driven by purchased electricity	70 h.p.	7 h.p.

These engines and motors were all recorded as being ordinarily in use.