

## THE TIMBER TRADES

### GENERAL REPORT

The following report summarises in comparable form the principal results of the Censuses of 1930 and 1924 for the timber group of trades, of which detailed particulars are given in the succeeding reports on individual trades. The particulars in this report relate to the United Kingdom except where otherwise specified, and are confined to production carried out by private firms.

#### Principal results

The main particulars obtained for 1930 and 1924 are set out in the following table:—

Trade (1)	Gross output (selling value of goods made and value of work done) (2)	Cost of materials used and amount paid for work given out (3)	Net output (excess of Col. (2) over Col. (3)) (4)	Average number of persons em- ployed (except out- workers) (5)	Net output per person em- ployed (6)	Power avail- able    (7)
	£'000	£'000	£'000	No.	£	Th. H.P.
1 Timber (Saw- milling, etc.)†... {	1930 27,276	16,221	11,055	57,536	192	162·7
	1924 24,129	14,275	9,854	49,615	199	129·9
2 Furniture and Up- holstery‡ ... {	1930 33,815	16,669	17,146	91,948	187	77·8
	1924 26,358	12,659	13,699	68,442	200	42·8
3 Cane and Wicker Furniture and Basketware* ... {	1930 806	349	457	2,800	163	1·6
	1924 583	225	358	2,324	154	0·3
4 Wooden Crates, Cases, Boxes and Trunks* ... {	1930 4,981	2,865	2,116	12,188	174	32·6
	1924 5,899	3,374	2,525	13,510	187	37·4
5 Coopering* ... {	1930 1,830	1,139	691	3,340	207	5·1
	1924 2,418	1,522	896	3,663	245	4·3
TOTAL—UNITED KINGDOM ... {	1930 68,708	37,243	31,465	167,812	188	279·8
	1924 59,387	32,055	27,332	137,554	199	214·7
England and Wales§ ... {	1930 60,594	32,336	28,258	148,089	191	242·9
	1924 50,523	26,853	23,670	117,860	201	181·6
Scotland§ ... {	1930 7,384	4,449	2,935	17,764	165	33·4
	1924 8,115	4,790	3,325	17,516	190	28·6
Northern Ireland {	1930 730	458	272	1,959	139	3·5
	1924 749	412	337	2,178	155	4·5

|| Total capacity of prime movers and of electric motors driven by purchased electricity.

† Includes the Wooden Crates, Cases, etc., and Coopering Trades for Northern Ireland.

‡ Includes the Cane and Wicker Furniture and Basketware Trade for Northern Ireland.

\* Great Britain.

§ Owing to the possible disclosure of information relating to individual firms, particulars relating to the Cane and Wicker Furniture and Basketware Trade in Scotland have been included with those for England and Wales.

### Deficiencies due to the exclusion of small firms in Great Britain.

—The report on each trade contains a section setting out the numbers of persons reported to have been employed in 1930 and 1924 by firms employing not more than ten persons, and also the number of firms of a similar order of size that failed to give any information at the two Censuses. The following table shows the average numbers of persons reported as employed by the small firms in both years in each of the Timber Trades and the numbers of outstanding returns :—

Trade	Persons employed in Great Britain by				Firms furnishing no particulars	
	1930		1924		1930	1924
	Firms with more than ten employees	Firms with not more than ten employees	Firms with more than ten employees	Firms with not more than ten employees		
Timber (Sawmilling, etc.)	56,639	31,605	48,324	16,882	1,186	2,700
Furniture and Upholstery ... ..	90,886	29,064	67,555	15,483	755	1,850
Cane and Wicker Furniture and Basketware...	2,800	900	2,324	1,167*	13	180
Wooden Crates, Cases, Boxes and Trunks ...	12,188	1,388	13,510	984	11	80
Coopering ... ..	3,340	1,368	3,663	1,123*	55	85
<b>TOTAL ... ..</b>	<b>165,853</b>	<b>64,325</b>	<b>135,376</b>	<b>35,639</b>	<b>2,020</b>	<b>4,895</b>

\* Including firms in Northern Ireland for which separate information is not available for publication.

Including estimates for the firms that furnished no particulars and making allowance for the firms that made returns for the Timber (Sawmilling, etc.) Trade which were properly assignable to the Building and Contracting Trade, it appears that the total number of workpeople engaged in these five trades in 1930 was approximately 235,000, of which about 70,000 (30 per cent.) were employed in small businesses; the approximate aggregate for 1924 was 184,000 persons, of which 49,000 (nearly 27 per cent.) were employed by the small firms. The above table shows that the exclusion of these firms is likely to have caused important deficiencies in the results for each trade except the Wooden Crates, Cases, etc. Trade, in which the small firms contributed about 10 per cent. of the total number of employees recorded for 1930.

It should be borne in mind that, generally speaking, the productivity per employee in the small businesses is lower than in those of larger size and that the defects in the results of the 1930 Census are therefore probably not so serious in the production as in the employment aggregates; and since a large part of the output of these firms takes the form of repairs or the processing of goods supplied to them by other firms, the output of "new" goods that escaped record at the 1930 Census was probably substantially less than is indicated by the employment figures. It may be noted that, of the total value (£10,923,000) of the recorded output in 1924 of the small firms, £3,221,000, or 29 per cent., related to repairs and other work done for customers, the remainder representing manufactured articles, whereas for firms employing more than ten persons the corresponding proportion was between 5 and 6 per cent.

### Periods covered by firms' returns

As explained in Note 1 on page xi, firms were given the option of making returns for the calendar year 1930 or for their period of account most closely corresponding thereto, provided that the ending date of that period was not later than 31st March, 1931. The following table shows, for the timber group of trades as a whole, the total number of returns and the numbers of persons employed according to the periods covered by the returns received.

Returns in respect of 12 months ended	Number of returns		Persons employed	
	Number	Per cent. of total	Average number	Per cent. of total
April, 1930 ... ..	77	2.3	5,298	3.2
May, 1930 ... ..	44	1.3	3,278	2.0
June, 1930 ... ..	128	3.9	6,293	3.8
July, 1930 ... ..	50	1.5	4,251	2.6
August, 1930 ... ..	48	1.4	2,894	1.7
September, 1930 ... ..	120	3.6	5,584	3.4
October, 1930 ... ..	53	1.6	3,037	1.8
November, 1930 ... ..	24	0.7	1,612	1.0
December, 1930 ... ..	2,057	62.1	100,808	60.8
January, 1931 ... ..	175	5.3	9,569	5.8
February, 1931 ... ..	88	2.7	3,729	2.2
March, 1931 ... ..	449	13.6	19,500	11.7
<b>TOTAL ... ..</b>	<b>3,313</b>	<b>100.0</b>	<b>165,853</b>	<b>100.0</b>

The above particulars relate only to firms in Great Britain, a similar analysis of the returns furnished at the Census of Northern Ireland not being available.

The mean terminal date of all returns received at the Fourth Census was about the beginning of the third week in December, 1930. Corresponding particulars of the returns relating to the

calendar year, which formed over 60 per cent. of the total, are shown for each trade in the following table:—

*Returns covering the twelve months ended December 31st, 1930*

Trade	Number of returns		Persons employed	
	Number	Per cent. of total	Average number	Per cent. of total
Timber (Sawmilling, etc.) ...	830	62·3	34,056	60·1
Furniture and Upholstery ...	1,010	63·1	57,024	62·7
Cane and Wicker Furniture and Basketware ...	37	62·7	1,949	69·6
Wooden Crates, Cases, Boxes and Trunks ...	115	50·9	5,560	45·6
Coopering ...	65	68·4	2,219	66·4
<b>TOTAL ...</b>	<b>2,057</b>	<b>62·1</b>	<b>100,808</b>	<b>60·8</b>

### Production

**Gross output.**—As between one trade and another the money value of the gross output (column 2 of the table on page 1) is largely dependent on the cost of the materials used in production, while as between one year and another the figure for the same trade is influenced by changes in the prices of those materials and in manufacturing costs and profits. Further, in certain trades duplication in the gross output value leads to some over-statement of the value of the products as finally delivered. For these reasons the gross output figure does not provide a completely satisfactory representation of the position either of different trades in relation to each other in a given year or of the same trade in different years.

**Net output.**—The net output figure eliminates any over-statement due to the factor of duplication, but its utility as a basis of comparison between different trades in the same year is subject to the reservations mentioned in the Introductory Notes (pages x and xi); moreover, the relationship between the net output reported by a given trade for different years is affected by fluctuations in the various items which the figure comprises, viz., wages and salaries, rent, sales expenses, etc., as well as depreciation and profits. Measurement of production by net output is therefore only a rough guide and the important qualifications to which the results are subject should not be overlooked. In this connection attention is drawn to the estimate made of the relative volume of production in the two years for the group as a whole (see page 5). Net output per head eliminates the variable factor of the numbers of persons employed, but the use of figures of net output per head for purposes of comparison is also subject to the qualifications mentioned.

The table on page 1 shows that the total value of the net output of the timber group of trades in the United Kingdom was

greater than in 1924 by £4,133,000, or by 15 per cent. Net output increased in England and Wales by 19 per cent., but there was a decrease of about 12 per cent. in Scotland and the small total for Northern Ireland was also lower in 1930. The group is dominated by the large Timber (Sawmilling, etc.) and Furniture Trades, both of which recorded higher net output aggregates for 1930, the increase in the Timber Trade being about 12 per cent. and in the Furniture Trade, 25 per cent.

The average net output per person employed in the group in 1930 was £188, a fall of over 5 per cent. compared with the 1924 figure. The Coopering Trade showed the highest figure and the Cane and Wicker Furniture, etc., Trade the lowest in both years, these being the trades in which the proportions of male employees were the largest and the smallest respectively. It will be noted that net output per employee was substantially higher in England and Wales than in either of the other two divisions of the United Kingdom, the disparity increasing in 1930.

**Volume of production.**—The following table shows for each principal class of goods produced by this group of trades the total value recorded for the year 1930, and the result of a re-valuation of similar output in 1924 based, as far as possible, on the average values shown by the returns for 1930. Comparative values are, however, available for only a relatively small number of classes of goods and the calculations rest to a considerable extent on the movement of wages and of the cost of the principal materials used in production, so far as they are known. The figures for both years represent the total recorded output whether returned by firms in the trade chiefly concerned in the class of production specified, or by firms in other trades. These particulars relate only to production in Great Britain.

Kind of goods	Total production in Great Britain			1930 as a percentage of 1924
	1930	1924		
	As returned	As returned	At 1930 average values	
Timber sawn, planed, etc. ...	£'000 25,996	£'000 22,900	£'000 20,429	Per cent. 127
Furniture, bedding, upholstery, etc.	34,237	26,239	24,000	143
Cane and wicker furniture and basketware ...	794	652	580	137
Wooden crates, cases, boxes and trunks ...	5,087	6,471	5,800	88
Casks, barrels, tubs, etc. ...	2,647	3,356	2,600	102
<b>TOTAL ...</b>	<b>68,761</b>	<b>59,618</b>	<b>53,409</b>	<b>129</b>

It will be noted that the estimated increase in the volume of goods produced, viz., 29 per cent., is considerably in excess of the increase of 15.6 per cent. recorded in the total net output in Great Britain. If the total shown above for 1930 and the re-valued total for 1924 are divided by the number of persons employed in these trades in each year, the resulting figure is £415 per employee for 1930 and £395 for 1924, an increase of about 5 per cent. in the later year. This increase contrasts with the fall of over 5 per cent. recorded in the average net output per person employed.

### Number of establishments

The following table shows the number of separate establishments covered by the results for 1930, and the total number of returns received for 1930 and 1924. In the case of a firm owning more than one establishment situated in the same Census area and engaged in the same Census trade, a combined return covering all such establishments was usually accepted provided the number of operatives employed at each establishment was shown separately. The number of establishments reported was thus greater than the number of returns received.

Trade	1930		1924
	Number of establishments	Number of returns	Number of returns
1 Timber (Sawmilling, etc.) ... ..	1,590	1,332	1,315
2 Furniture and Upholstery ... ..	1,812	1,601	1,521
3 Cane and Wicker Furniture and Basketware ... ..	70	59	68
4 Wooden Crates, Cases, Boxes and Trunks ... ..	257	226	267
5 Coopering ... ..	108	95	118
TOTAL ... ..	3,837	3,313	3,289

These figures relate only to firms in Great Britain, the number of establishments not being recorded separately in the report on the Census of Production of Northern Ireland.

### Size of firms

In the following table the main particulars recorded at the Census of 1930 for the Timber Trades are grouped according to the average numbers of persons shown in the returns. The particulars given in this section relate to firms in Great Britain only.

Size of firm (average numbers employed)	Number of returns	Gross output	Cost of materials	Amount paid for work given out	Net output	Average number of persons employed (excluding out-workers)	Net output per person employed
	No.	£'000	£'000	£'000	£'000	No.	£
11-24 ...	1,387	9,477	5,140	55	4,282	23,676	181
25-49 ...	994	13,658	7,353	49	6,256	34,180	183
50-99 ...	603	17,081	9,443	43	7,595	41,315	184
100-199 ...	226	13,194	7,221	59	5,914	30,797	192
200-299 ...	55	5,031	2,435	38	2,558	12,878	199
300-399 ...	24	3,267	1,712	1	1,554	8,276	188
400-499 ...	7	1,352	744	4	604	3,087	196
500-749 ...	13	3,165	1,654	29	1,482	7,378	201
750 and over	4	1,753	805	—	948	4,266	222
TOTAL ...	3,313	67,978	36,507	278	31,193	165,853	188

The average number of employees recorded in each return was 50; the number of returns showing fewer employees than the average was 2,381, or 72 per cent. of all returns. Firms with fewer than 50 employees formed 35 per cent. of the group total in respect of employment and rather less than 34 per cent. in respect of net output. Net output per person employed was below the group average only in the three smallest ranges.

The following table gives separate details for each of the trades included in the group:—

### Net output per person employed

Size of firm (average numbers employed)	Timber (Sawmilling, etc.)	Furniture and Upholstery	Cane and Wicker Furniture and Basketware	Wooden Crates, Cases, Boxes and Trunks	Coopering
	£	£	£	£	£
11-24 ...	185	178	137	182	192
25-49 ...	194	176	122	178	217
50-99 ...	186	184	152	172	214
100-199 ...	198	190	205	183	199
200-299 ...	233	192		158	—
300-399 ...	164	188	—		—
400-499 ...	—	200		—	—
500 and over	219	216	—		—
TOTAL	193	187	163	174	207

## Regional distribution

In the following table the principal aggregates for the timber group as a whole, as recorded at the Censuses of 1930 and 1924, are grouped according to the areas into which the United Kingdom has been sub-divided:—

Area	Number of returns	Gross output	Net output	Average number of persons employed (excluding outworkers)	Net output per person employed	
				No.	£	
1. Greater London ...	1930	1,032	25,739	12,692	59,038	215
	1924	1,035	20,747	10,407	47,354	220
2. Lancashire with North Cheshire and the Glosop and New Mills district of Derbyshire	1930	408	8,053	3,265	19,044	171
	1924	418	7,073	3,000	15,589	192
3. The West Riding of Yorkshire with the City of York ...	1930	214	3,261	1,503	8,737	172
	1924	232	3,252	1,493	7,748	193
4. Northumberland, Durham and the Cleveland district of Yorkshire...	1930	106	2,610	971	5,228	186
	1924	106	2,053	756	3,860	196
5. Warwickshire, Worcestershire and Staffordshire ...	1930	249	4,427	2,059	11,680	176
	1924	246	3,937	1,833	9,600	191
6. The rest of England (except Monmouthshire) ...	1930*	863	15,281	7,342	41,865	175
	1924*	782	12,193	5,715	31,491	181
7. Glamorganshire, Monmouthshire, and Carmarthenshire...	1930	60	1,040	341	1,876	182
	1924	66	1,118	390	1,750	223
8. The rest of Wales ...	1930	16	183	85	621	137
	1924	15	150	76	468	162
TOTAL—England and Wales* ...	1930	2,948	60,594	28,258	148,089	191
	1924	2,900	50,523	23,670	117,860	201
9. Lanarkshire, Renfrewshire and Dumbartonshire ...	1930	165	3,667	1,479	8,671	171
	1924	166	3,814	1,632	7,868	207
10. The rest of Scotland...	1930	200	3,717	1,456	9,093	160
	1924	223	4,301	1,693	9,648	175
TOTAL—Scotland*	1930	365	7,384	2,935	17,764	165
	1924	389	8,115	3,325	17,516	190
TOTAL—Great Britain	1930	3,313	67,978	31,193	165,853	188
	1924	3,289	58,638	26,995	135,376	199
11. Northern Ireland ...	1930	71	730	272	1,959	139
	1924	166	749	337	2,178	155
TOTAL—UNITED KINGDOM	1930	3,384	68,708	31,465	167,812	188
	1924	3,455	59,387	27,332	137,554	199

\* Owing to the possible disclosure of information relating to individual firms, particulars of the Cane and Wicker Furniture and Basketware Trade for Scotland have been included with those for the "rest of England" (Area 6).

Increased employment was recorded for 1930 in each of the specified areas except "the rest of Scotland" and Northern Ireland. Firms situated in Greater London and "the rest of England" (which, together, cover approximately the southern counties) employed 60 per cent. of the group total in 1930 compared with 57 per cent. in 1924, and their share of the aggregate net output of the group advanced from 59 per cent. to 64 per cent. Net output per person employed in 1930 was highest in Greater London, exceeding the general average for the United Kingdom by 14 per cent. In each of the other areas net output per person employed was less than the general average.

## Employment

The following table shows the average numbers of male and female operatives and administrative, technical and clerical staff in each of the Timber Trades in the two censal years. The table does not include outworkers.

*Average numbers (excluding outworkers) employed in 1930 and 1924 in the several Timber Trades*

Trade	Operatives		Administrative, technical and clerical staff		Total	
	Males	Females	Males	Females		
Timber (Sawmilling, etc.)*	1930	47,739	2,405	5,984	1,408	57,536
	1924	41,400	2,392	4,787	1,036	49,615
Furniture and Upholstery*	1930	60,581	21,904	6,476	2,987	91,948
	1924	46,352	14,903	5,288	1,899	68,442
Cane and Wicker Furniture and Basketware*	1930	1,497	1,016	192	95	2,800
	1924	1,225	866	168	65	2,324
Wooden Crates, Cases, Boxes and Trunks*	1930	9,805	1,335	830	218	12,188
	1924	11,181	1,242	871	216	13,510
Coopering* ...	1930	3,019	25	235	61	3,340
	1924	3,292	39	268	64	3,663
TOTAL—UNITED KINGDOM	1930	122,641	26,685	13,717	4,769	167,812
	1924	103,450	19,442	11,382	3,280	137,554
England and Wales*	1930	107,505	24,293	12,157	4,134	148,089
	1924	88,361	16,920	9,847	2,732	117,860
Scotland* ...	1930	13,609	2,238	1,344	573	17,764
	1924	13,471	2,323	1,233	489	17,516
Northern Ireland	1930	1,527	154	216	62	1,959
	1924	1,618	199	302	59	2,178

\* See footnotes to table on page 1.

The numbers of workpeople recorded by firms employing not more than ten persons are excluded from the above table. With the addition of these persons (see page 2), and making an allowance for the outstanding returns in both years, the average numbers in

employment in the timber group may be stated as about 235,000 in 1930 and 184,000 in 1924, an increase of 28 per cent.

**Distribution by status.**—There was no material change between 1924 and 1930 in the proportion of operatives to administrative, technical and clerical staff, the latter forming roughly 11 per cent. of all employees in both years.

**Distribution by sex.**—Male employees in this group numbered 136,358 in 1930 and 114,832 in 1924, an increase of about 19 per cent., and female employees 31,454 in 1930 and 22,722 in 1924, an increase of 38 per cent. The majority of the female workers in the group were employed in the Furniture and Upholstery Trade and, owing principally to the larger numbers recorded for this trade, the proportion of females in the group total increased from 16.5 per cent. in 1924 to 18.7 per cent. in 1930.

**Distribution by age.**—The following table classifies by age the numbers of persons (excluding outworkers) of each class recorded as employed in the various Timber Trades in the weeks ended 18th October, 1930 and 1924:—

*Numbers of persons (excluding outworkers) employed in the weeks ended 18th October, 1930 and 1924*

Trade	Operatives				Administrative, technical and clerical staff				
	Males		Females		Males		Females		
	Under 18	Total	Under 18	Total	Under 18	Total	Under 18	Total	
Timber (Saw-milling, etc.)*	1930	7,178	47,869	688	2,411	506	5,984	195	1,408
	1924	6,444	42,619	761	2,442	395	4,787	136	1,036
Furniture and Upholstery*	1930	12,145	61,838	6,570	22,359	629	6,476	556	2,987
	1924	7,871	47,351	3,949	15,134	366	5,288	339	1,899
Cane and Wicker Furniture and Basket-ware*	1930	221	1,468	393	997	8	192	11	95
	1924	120	1,232	259	840	3	168	14	65
Wooden Crates, Cases, Boxes and Trunks*	1930	2,427	9,881	401	1,345	46	830	39	218
	1924	3,142	11,726	340	1,292	66	871	29	216
Coopering*	1930	521	2,921	3	24	13	235	8	61
	1924	482	3,347	15	37	13	268	11	64
TOTAL ...	1930	22,492	123,977	8,055	27,136	1,202	13,717	809	4,769
	1924	18,059	106,275	5,324	19,745	843	11,382	529	3,280

\* See footnotes to table on page 1.

The number of young persons employed in the timber group in 1930 showed the substantial increase of about 32 per cent. over the 1924 total, the aggregates being 32,558 for 1930 and 24,755 for 1924. The proportion of employees under 18 increased from 17.6 per cent. in 1924 to 19.2 per cent. in 1930; this increase was due mainly to the larger numbers of young persons employed by firms in the Furniture and Upholstery Trade, which recorded a total for 1930 greater by 59 per cent. than that for 1924 as compared with an increase of 29 per cent. in the adults employed in that trade.

**Monthly fluctuations in employment.**—In order to ascertain what fluctuations in employment there might be in the course of the censal year, firms were required to state the actual numbers of the operative staff employed in one week in each month. The figures for the various trades are shown in the respective reports, and the following table gives the monthly aggregates for the whole of the timber group:—

*Operative staff (excluding outworkers) in the Timber Trades in 1930 and 1924*

Middle week in	1930		1924
	Total number	Number employed by firms furnishing returns in respect of the twelve months ended December*	Total number
(1)	(2)	(3)	(4)
January ... ..	149,670	89,432	118,202
February ... ..	148,282	88,745	118,870
March ... ..	148,673	88,757	119,986
April ... ..	150,338	89,645	121,952
May ... ..	151,492	90,720	123,244
June ... ..	151,060	90,523	123,895
July ... ..	147,695	89,122	122,105
August ... ..	146,033	87,873	121,061
September ... ..	148,670	90,077	124,759
October ... ..	151,113	90,511	126,020
November ... ..	150,312	90,564	127,122
December ... ..	148,577	89,053	127,492
AVERAGE FOR THE TWELVE MONTHS ... ..	149,326	89,585	122,892

\* Great Britain only.

The figures in columns (2) and (4) represent the aggregates recorded in all returns irrespective of the periods to which they related: thus, for example, in the case of returns covering the twelve

\* See Introductory Notes, page xi.

months ended 31st March, 1931, the figures recorded in column (2) for the first three months were the numbers employed in that period of the year 1931, while the numbers at work in the last three months of the year 1929 were stated in returns covering the twelve months ended 30th September, 1930. A more accurate representation of the fluctuations in employment in the year 1930 is provided by the figures in column (3), which show the numbers recorded in returns that related to the calendar year. The figures recorded by these firms show that no significant change in employment took place in the course of the year 1930. The monthly variations in that year were comparatively small, the highest figure (for May) being only 3·2 per cent. greater than the lowest (for August). In 1924, employment improved from month to month except for decreases in July and August.

**Outworkers.**—The following table shows the numbers of outworkers employed in 1930 and 1924 in the timber group of trades.

*Average numbers of outworkers employed*

Trade	1930			1924		
	Males	Females	Total	Males	Females	Total
Furniture and Upholstery†	316	313	629	133	255	388
Cane and Wicker Furniture and Basketware*	18	23	41	8	—	8
TOTAL ... ..	334	336	670	141	255	396

† Includes the Cane and Wicker Furniture and Basketware Trade for Northern Ireland.

\* Great Britain.

### Wages

The table on pages 14 and 15 summarises the information available as to the amount of wages paid by firms in the Timber Trades in 1930 and 1924. The particulars of wages shown in column (8) are those ascertained by the Ministry of Labour as a result of the voluntary inquiries undertaken by that Ministry into wages and hours of labour in the United Kingdom. Owing, however, to various causes, including the fact that certain firms owning several establishments made combined returns to one Department and separate returns to the other, it was not found practicable to secure comparable particulars in respect of all firms that furnished particulars of wages to the Ministry of Labour.

The numbers of operatives shown in columns (1) and (3) are those returned to the Census of Production as employed by the firms concerned in the weeks ended 18th October, 1930 and 1924, and the

average during the year 1930 respectively. The amount of wages paid shown in column (8) was the aggregate returned to the Ministry of Labour in respect of the same firms. The proportion of each trade represented by the firms that furnished particulars of their wage bills is shown in columns (2) and (4) based on the numbers of operatives employed and, in column (7), on net output. The average numbers of operatives employed during the year 1924, corresponding to those given in column (3) in respect of 1930, are not available.

The particulars for both years relate to firms employing on an average more than ten persons during the respective years and cover firms in Great Britain only.

Trade	Firms furnishing				
	Operative staff employed				
	During week ended 18th October (1)	Proportion of trade (2)	Average during year (3)	Proportion of trade (4)	
	No.	Per cent.	No.	Per cent.	
Timber (Sawmilling, etc.)	1930	22,494	45.4	22,523	45.6
	1924	22,197	50.5	*	—
Furniture and Upholstery	1930	39,968	48.0	39,570	48.5
	1924	31,772	51.5	*	—
Cane and Wicker Furniture and Basketware	1930	1,499	60.8	1,527	60.8
	1924	1,070	51.6	*	—
Wooden Crates, Cases, Boxes and Trunks	1930	7,098	63.2	6,986	62.7
	1924	8,410	64.6	*	—
Coopering	1930	1,349	45.8	1,387	45.6
	1924	1,898	56.1	*	—
TOTAL	1930	72,408	48.5	71,993	48.8
	1924	65,347	52.6	*	—

\* Details not available.

Trade	returns of wages				
	Gross output (5)	Net output		Wages paid	
		Amount (6)	Proportion of trade (7)	Amount (8)	Proportion of net output (9)
	£'000	£'000	Per cent.	£'000	Per cent.
Timber (Sawmilling, etc.)	12,090	4,873	44.6	2,922	60.0
	*	5,022	52.0	2,767	55.1
Furniture and Upholstery	16,230	8,252	48.5	4,843	58.7
	*	6,756	49.8	3,962	58.6
Cane and Wicker Furniture and Basketware	534	300	65.5	147	49.1
	*	194	54.1	113	58.5
Wooden Crates, Cases, Boxes and Trunks	3,108	1,256	59.4	762	60.6
	*	1,615	64.0	944	58.4
Coopering	881	350	50.6	179	51.0
	*	565	63.0	328	58.1
TOTAL	32,843	15,031	48.2	8,853	58.9
	*	14,152	52.4	8,114	57.3



The average number of operatives employed in 1930 in the establishments covered by the wages sample was 71,993, or somewhat less than one-half of the total, and the average wages paid per operative amounted to £123. No record is available of the average number of operatives employed in 1924 by the firms whose returns are included in the table, but assuming that the variation between the number employed in the October week and the yearly average was the same for all firms in the group, the operatives employed by these firms numbered about 63,700 on the average, or rather more than one-half of the total number; the average wages per operative amounted to £127.

The table shows that, for the group as a whole, the importance of wages as a factor in net output was slightly greater in 1930 (58.9 per cent.) than in 1924 (57.3 per cent.). Of the three principal trades, the Timber (Sawmilling, etc.) Trade showed an increase from 55.1 to 60.0 per cent. in the proportion of net output formed by wages, and there was a small increase in the Wooden Crates, etc. Trade; the Furniture and Upholstery Trade showed practically no change in this respect.

### Power

The particulars recorded at the Censuses of 1930 and 1924 in respect of power installed and employed in the timber group of trades are shown in the following table:—

*Power ordinarily in use and not in use in the Timber Trades in 1930 and 1924*

Type	Capacity ordinarily in use		Capacity in reserve or idle		Proportion in reserve or idle	
	1930	1924	1930	1924	1930	1924
	Th.	Th.	Th.	Th.	Per cent.	Per cent.
	H.P.	H.P.	H.P.	H.P.		
<b>PRIME MOVERS</b>						
Reciprocating steam engines ...	57.9	66.7	5.3	4.5	8.5	6.3
Steam turbines ...	3.1	1.4	0.1	—	2.8	—
<b>Internal combustion engines:—</b>						
Gas ...	28.1	35.5	2.7	3.3	8.7	8.6
Petrol, kerosene, or other light oils ...	1.3	1.1	0.2	0.2	10.6	12.1
Heavy oils ...	8.7	1.8	1.0	*	10.2	0.9
Water engines ...	1.0	1.1	—	—	—	—
Other ...	0.3	—	—	—	—	—
<b>TOTAL—Prime movers ...</b>	<b>100.4</b>	<b>107.6</b>	<b>9.3</b>	<b>8.0</b>	<b>8.4</b>	<b>6.9</b>

Type	Capacity ordinarily in use		Capacity in reserve or idle		Proportion in reserve or idle	
	1930	1924	1930	1924	1930	1924
	Th. Kw.	Th. Kw.	Th. Kw.	Th. Kw.	Per cent.	Per cent.
<b>ELECTRIC GENERATORS</b>						
<b>Driven by</b>						
Reciprocating steam engines	12.8	7.2	1.9	1.0	13.3	13.1
Steam turbines ...	1.8	0.9	0.1	—	3.2	—
<b>Internal combustion engines:—</b>						
Gas ...	4.5	2.9	1.1	0.8	19.7	21.6
Petrol, kerosene, or other light oils ...	0.2	0.1	*	0.1	16.1	50.6
Heavy oils ...	2.7	0.3	0.5	—	14.9	—
Water engines ...	*	*	*	*	5.0	4.5
Other prime movers ...	—	—	*	—	100.0	—
<b>TOTAL—Electric generators</b>	<b>22.0</b>	<b>11.4</b>	<b>3.6</b>	<b>1.9</b>	<b>14.2</b>	<b>14.6</b>
	Th. H.P.	Th. H.P.	Th. H.P.	Th. H.P.		
<b>ELECTRIC MOTORS</b>						
<b>Driven by</b>						
Electricity generated in same works ...	34.0	14.9	2.5	0.9	6.8	6.1
Electricity generated in other works under same ownership ...	1.0	—	0.3	—	23.2	—
Purchased electricity ...	158.3	90.2	11.8	8.9	6.9	8.9
<b>TOTAL—Electric motors ...</b>	<b>193.3</b>	<b>105.1</b>	<b>14.6</b>	<b>9.8</b>	<b>7.0</b>	<b>8.6</b>

\* Less than 50 kw. or h.p.

The power generated by prime movers is required partly for direct application and partly for driving generators for the production of electrical energy. The electrical energy so produced may be used either for the purpose of driving electric motors or for heating, lighting and process purposes. Particulars of the power applied mechanically (i.e. directly) and electrically are given in the table on page 19.

A considerable increase took place between 1930 and 1924 in the electric motor equipment of the Timber Trades, the capacity increasing by 84 per cent. for motors in use. Plant for the generation of electricity at firms' own works nearly doubled, but there was a small decline in the capacity of prime movers, of which reciprocating steam engines and gas engines were the most important types in use. The increased use of heavy oil engines may be noted.

No marked change occurred in the proportion of total power capacity that was recorded as in reserve or idle in the two years. At the 1930 Census, firms were definitely informed that obsolete

engines should not be recorded in their returns, and as no similar instruction was given at the previous Census, the figures for reserve or idle plant in the two years may not be precisely comparable. In any case, however, the proportion of reserve or idle plant does not furnish a reliable measure of the activity of trade, since all engines that were in operation during the greater part of the period in which production was carried on were recorded as "ordinarily in use," irrespective of intermittent working.

The particulars furnished at the two Censuses by each of the trades included in the timber group, in respect of prime movers, electric generators and electric motors installed, are shown in the following table:—

*Power available in 1930 and 1924*

Trade	Prime movers	Electric generators	Electric motors			All electric motors
			Driven by electricity			
			Generated in same works	Generated in other works under same ownership	Purchased	
	✓	3	4	5	6	7
	Th. H.P.	Th. Kw.	Th. H.P.	Th. H.P.	Th. H.P.	Th. H.P.
Timber (Sawmilling, etc.)* ...	1930 74.6	16.5	23.0	†	88.1	111.1
...	1924 73.8	8.4	10.7	—	56.1	66.8
Furniture and Upholstery* ...	1930 19.4	6.4	11.0	0.1	58.4	69.5
...	1924 17.0	3.3	3.5	—	25.8	29.3
Cane and Wicker Furniture and Basketware*	1930 0.7	†	—	—	0.9	0.9
...	1924 0.2	†	†	—	0.1	0.1
Wooden Crates, Cases, Boxes and Trunks*	1930 13.2	2.6	2.5	0.9	19.4	22.8
...	1924 22.9	1.5	1.4	—	14.5	15.9
Coopering*	1930 1.8	0.1	†	0.3	3.3	3.6
...	1924 1.7	0.1	0.2	—	2.6	2.8
TOTAL—UNITED KINGDOM	1930 109.7	25.6	36.5	1.3	170.1	207.9
...	1924 115.6	13.3	15.8	—	99.1	114.9
England and Wales*	1930 88.4	20.4	29.7	1.3	154.5	185.5
...	1924 93.4	10.2	13.0	—	88.2	101.2
Scotland*	1930 18.7	4.4	5.9	†	14.7	20.6
...	1924 18.2	2.4	1.9	—	10.4	12.3
Northern Ireland	1930 2.6	0.8	0.9	—	0.9	1.8
...	1924 4.0	0.7	0.9	—	0.5	1.4

\* See footnotes to table on page 1.

† Less than 50 kw. or h.p.

**Total power in use.**—The figures in the following table represent the estimated amount of power actually employed by each of the Timber Trades in the two years. For the purpose of arriving at

the power applied mechanically, the capacity of the prime movers required to drive electric generators has been calculated and deducted from the total capacity of the prime movers; the power applied electrically represents the capacity of electric motors driven by generators at firms' works added to that of motors driven by purchased electricity. As the basis for calculating the amount of the primary power that is converted into electrical energy, 746 kilowatts of electrical energy have been taken as equivalent to 1,000 horse-power of primary power, and an average loss of 10 per cent. in transmission has been allowed, except for steam turbines in which the loss is negligible. The power capacity recorded as "ordinarily in use" has been taken as the basis of the calculation in all cases.

The horse-power of motors designed to be driven by electricity generated in the same works may be greater than that of the prime movers used (or calculated in this manner to have been necessary) to drive them, since machines required for special processes are frequently equipped with individual motors which will only be in use on those occasions when the need for those processes arises. Further, the capacity measurement which firms were instructed to state was the effective horse-power which their engines could develop and this measurement does not necessarily represent the capacity at which the engines were normally operated. For these reasons, the figures given below should not be taken as providing more than a rough indication of the actual amount of power employed by any trade or of the degree of its electrification.

*Power in use in 1930 and 1924*

Trade	Power applied mechanically	Power applied electrically	Total power	Per head of average number of operatives employed
	Th. H.P.	Th. H.P.	Th. H.P.	H.P.
Timber (Sawmilling, etc.)*	1930 47.6	102.9	150.5	3.00
...	1924 57.8	60.8	118.6	2.71
Furniture and Upholstery* ...	1930 9.5	65.9	75.4	0.91
...	1924 11.3	27.8	39.1	0.64
Cane and Wicker Furniture and Basketware*	1930 0.5	0.9	1.4	0.56
...	1924 0.1	0.1	0.2	0.08
Wooden Crates, Cases, Boxes and Trunks*	1930 8.8	20.4	29.2	2.63
...	1924 20.1	13.9	34.0	2.74
Coopering*	1930 1.6	3.2	4.8	1.59
...	1924 1.6	2.5	4.1	1.25
TOTAL	1930 68.0	193.3	261.3	1.75
...	1924 90.9	105.1	196.0	1.59

\* See footnotes to table on page 1.

Except for the Wooden Crates, Cases, Boxes and Trunks Trade, total power in use was considerably greater in each trade in the later year, and for the group as a whole the aggregate increased by about one-third. Power applied electrically increased in every trade, but a substantial decrease in power applied mechanically occurred in the Timber (Sawmilling, etc.), Furniture and Upholstery, and Wooden Crates, Cases, etc., Trades. The amount of power in use per head of the operatives employed increased by about 10 per cent.

### Consumption of fuel

**Coal and coke.**—At the 1930 Census, all firms were required to state the total quantity of coal and coke used for generating power (i.e., for driving engines), and were also requested to furnish particulars of the amounts used for other purposes on a voluntary basis, as the provisions of the Census of Production Act do not enable the latter to be obtained compulsorily. The following table shows the particulars returned. These particulars relate only to firms in Great Britain.

#### Coal and coke used

*Note.*—The figures in italics below the name of the trade represent respectively (1) the percentage of the total capacity of steam engines in use represented by the firms that furnished separate particulars of coal and coke used for power and (2) the percentage of the total net output represented by the firms that furnished separate particulars of coal and coke used for other purposes.

Trade	For power		For other purposes		Unclassified	
	Coal	Coke	Coal	Coke	Coal	Coke
	Th. tons	Th. tons	Th. tons	Th. tons	Th. tons	Th. tons
Timber (Sawmilling, etc.)— (1) <i>99.5</i> ; (2) <i>86.1</i> ...	56.0	1.4	12.2	2.1	0.5	*
Furniture and Upholstery— (1) <i>100.0</i> ; (2) <i>97.4</i> ...	15.3	0.1	20.6	6.7	—	—
Cane and Wicker Furniture and Basketware— (1) <i>100.0</i> ; (2) <i>94.4</i> ...	0.9	—	0.3	0.2	—	—
Wooden Crates, Cases, Boxes and Trunks— (1) <i>98.7</i> ; (2) <i>84.3</i> ...	9.9	*	3.4	0.9	0.2	—
Coopering— (1) <i>100.0</i> ; (2) <i>87.8</i> ...	3.3	0.1	1.5	0.3	—	—
<b>TOTAL—</b> (1) <i>99.5</i> ; (2) <i>92.3</i> ...	85.4	1.6	38.0	10.2	0.7	*

\* Less than 50 tons.

The above table shows that the total quantity of coal consumed for power purposes by this group of trades in 1930 was about 86,000 tons and of coke under 2,000 tons.

No particulars of oil, gas or other fuel used were ascertained for the year 1930. At the Census of 1924, a voluntary inquiry was made as to the amounts of coal, coke, heavy and light oils, and gas consumed and reference should be made to the Final Report on that Census for particulars of the partial information reported by each of the Timber Trades.

**Electricity.**—Particulars of the quantity of electricity used were required from all firms, electricity produced by their own generating plants being distinguished from that purchased from outside sources. No separate record of the purpose for which the current was used was obtained.

The following table shows for each of the Timber Trades the total quantities of electricity used in 1930:—

#### Electricity used

Trade	Electricity purchased	Electricity generated		Number of units generated per kilowatt of generators in use
		In same works	In other works owned by the firm	
	B.T.U. (Kw.-hrs.) '000	B.T.U. (Kw.-hrs.) '000	B.T.U. (Kw.-hrs.) '000	B.T.U. per Kw.
Timber (Sawmilling, etc.) ...	27,612	14,577	24	1,071
Furniture and Upholstery ...	27,524	7,263	37	1,300
Cane and Wicker Furniture and Basketware ...	405	10	—	500
Wooden Crates, Cases, Boxes and Trunks ...	7,089	1,707	367	780
Coopering ...	1,365	5	47	100
<b>TOTAL</b> ...	63,995	23,562	475	1,098

The figures shown for current generated represent only the amounts generated *and used*, and fall short of the total output of current in cases where electricity was sold to outside consumers.