

THE SEED CRUSHING TRADE

Note.—For information regarding the scope of the Census, instructions given to firms for making returns, and definitions of the terms used in this report, reference should be made to the Introductory Notes on pages v to xviii.

Introductory

This trade comprises firms that were engaged wholly or mainly in the extraction of oils from vegetable seeds, nuts or kernels. The following table shows the main results of the Censuses of 1930 and 1924 in respect of firms in Great Britain that employed an average of more than ten persons:—

Particulars	Unit	1930	1924
Value of goods made (Gross output)	£'000	21,824	36,422
Cost of materials used	"	19,407	32,512
Net output	"	2,417	3,910
Average number of persons employed	No.	10,992	14,027
Net output per person employed	£	220	279
Power available:—			
Prime movers	H.P.	34,744	50,529
Electric motors driven by purchased electricity	"	32,832	22,987
Number of returns	No.	32	49
Number of establishments	"	59	*

* Not available.

Deficiencies in 1930 aggregates.—One firm employing ten persons on the average was not required to furnish detailed particulars for 1930. No firms employing ten persons or less were recorded in 1924.

Size of firms.—In the following table the main particulars recorded at the Census of 1930 are grouped according to the average numbers of persons shown in the returns:—

Size of firm (average numbers employed)	Number of returns	Gross output	Net output	Average number of persons employed	Net output per person employed
	No.	£'000	£'000	No.	£
11-49	10	584	40	350	114
50-99	6	1,070	82	488	167
100-299	6	2,537	213	1,125	190
300-399	6	5,893	659	2,020	326
400 and over	4	11,740	1,423	7,009	203
TOTAL	32	21,824	2,417	10,992	220

Regional distribution.—In the following table the results recorded at the Censuses of 1930 and 1924 are grouped according to the principal areas* of Great Britain in which firms in this trade are situated:—

Area	Number of returns	Gross output	Net output	Average number of persons employed	Net output per person employed
	No.	£'000	£'000	No.	£
1	{ 1930 4 1924 8	{ 2,457 8,605	{ 289 888	{ 940 3,190	{ 308 278
2 and 3	{ 1930 6 1924 8	{ 8,012 13,682	{ 836 1,403	{ 4,888 5,957	{ 171 236
6	{ 1930 15 1924 23	{ 10,003 11,734	{ 1,181 1,359	{ 4,521 3,940	{ 261 345
9 and 10... ..	{ 1930 7 1924 10	{ 1,352 2,401	{ 111 260	{ 643 940	{ 173 277
TOTAL { 1930 32 1924 49		{ 21,824 36,422	{ 2,417 3,910	{ 10,992 14,027	{ 220 279

Northern Ireland.—No production was recorded in Northern Ireland either for 1930 or for 1924.

Production

Total make of unrefined oils.—The following table shows the total make of unrefined oils in 1930 and 1924 as returned by seed-crushers, including oils which they subsequently refined as well as oils which they sold (or added to stock) in the crude state. The retained imports of oil seeds, nuts and kernels in the two years are also shown for purposes of comparison.

Description	1930		1924	
	Retained imports of oil seeds, nuts and kernels	Total make of unrefined oil	Retained imports of oil seeds, nuts and kernels	Total make of unrefined oil
	Th. tons	Th. tons	Th. tons	Th. tons
Coconut	67.3	44.7	70.8	46.2
Cotton seed	516.7	91.7	558.3	87.4
Ground nut	113.9	49.7	88.3	30.3
Linseed	222.9	68.3	444.1	124.8
Palm kernel	125.7	54.6	287.6	127.7
Rape seed	9.8	4.2	66.3	25.6
Soya bean	91.3	18.5	111.5	16.5
Other sorts	68.3	19.7	99.2	25.4
TOTAL	1,215.9	351.4	1,726.1	483.9

* For particulars see page xviii.

Included in the above figures of "total make" for 1930 are the following amounts returned on schedules for other trades in respect of output sold (or added to stock). No output of unrefined oils was recorded on schedules for other trades at the 1924 Census.

	Th. tons.
Cotton seed	0.1
Ground nut	2.4
Soya bean	2.8
Other sorts	0.7
TOTAL	6.0

Firms that made returns on schedules for trades other than the Seed Crushing Trade were not required to state their "total make" of unrefined oils and the output shown above therefore falls short of the total by the amount of any unrefined oils that were made by those firms and refined, or otherwise used, in their works.

Output sold or added to stock.—The following table shows the quantity and value of unrefined and refined oils and of oil-seed cake and meal, etc. made in 1930 and 1924 for sale:—

Kind of goods	1930						1924	
	Returned on schedules for						Total	
	The Seed Crushing Trade			All trades				
	Quantity	Value	Ent-ries	Quantity	Value	Ent-ries	Quantity	Value
Th. tons	£'000	No.	Th. tons	£'000	No.	Th. tons	£'000	
Unrefined oils:—								
Coconut ...	28.6	906	5	28.6	906	5	17.8	788
Cotton seed ...	30.6	790	21	30.7	794	23	29.9	1,212
Ground nut ...	15.9	484	7	18.3	573	8	18.8	868
Linseed ...	60.5	2,125	27	60.5	2,125	27	118.7	4,797
Palm kernel ...	44.5	1,331	7	44.5	1,331	7	113.3	4,644
Rape seed ...	2.3	70	3	2.3	70	3	15.8	648
Soya bean ...	3.9	115	5	6.7	209	8	4.8	187
Other sorts ...	14.9	533	13	15.6	558	17	13.3	584
TOTAL—Unrefined oils	201.2	6,354	...	207.2	6,566	...	332.4	13,728

Kind of goods	1930						1924	
	Returned on schedules for						Total	
	The Seed Crushing Trade			All trades				
	Quantity	Value	Ent-ries	Quantity	Value	Ent-ries	Quantity	Value
Th. tons	£'000	No.	Th. tons	£'000	No.	Th. tons	£'000	
Refined oils:—								
Cotton seed ...	80.2	2,477	17	99.0	3,086	24	78.4	3,578
Ground nut ...	30.9	1,126	9	37.2	1,364	12	11.2	603
Palm kernel ...	9.6	341	4	13.6	488	6	13.5	656
Soya bean ...	21.0	687	7	25.2	824	10	17.7	791
Coconut ...				18.6	681	7	27.5	1,412
Linseed:—								
Boiled ...				18.6	652	19	8.1	357
Refined ...	16.3†	599†	9†	14.3	530	20	1.7	83
Not separately distinguished				8.9	384	45	37.3	1,596
Rape seed ...				9.9	345	14	15.7	731
Other and unclassified ...	22.8	934	7	35.5	1,295	23	59.8	3,277
TOTAL—Refined oils	180.8	6,164	...	280.8	9,649	...	270.9	13,084
Oil-seed cake and meal:—								
Coconut ...	24.2	157	4	24.2	157	4	29.1	254
Cotton seed ...	375.3	2,113	27	375.3	2,113	27	413.0	3,253
Ground nut ...	59.9	413	9	60.4	413	10	45.4	412
Linseed ...	147.7	1,541	27	147.7	1,541	27	271.6	3,163
Palm kernel ...	49.3	262	7	49.3	262	7	116.4	796
Soya bean ...	77.6	608	7	77.6	608	7	80.9	835
Compound ...	454.8	3,549	19	454.8	3,549	19	435.2	4,328
Other and unspecified (including rape seed) ...	34.2	133	...	41.7	175	...	97.6	632
TOTAL—Oil - seed cake and meal ...	1,223.0	8,776	...	1,231.0	8,818	...	1,489.2	13,673
Acid oils ...	6.4	137	10	23.0	615	24	...	427
Black greases ...	5.3	69	15	6.2	82	19	...	108
Other products of the Seed Crushing Trade ...	4.5	69	1	4.7	74	3	...	12
TOTAL—PRINCIPAL PRODUCTS	...	21,569	25,804	41,032

† Separate particulars not available for publication.

Prices.—The average selling values of unrefined and refined oils and of oil-seed cake and meal in 1930 and 1924, as calculated from the Census returns, are shown in the following table:—

Kind of goods	Average value		1930 as a percentage of 1924
	1930	1924	
	£ per ton	£ per ton	Per cent.
Unrefined oils:—			
Coconut	31.73	44.15	71.87
Cotton seed	25.81	40.56	63.63
Ground nut	31.38	46.11	68.05
Linseed	35.13	40.41	86.93
Palm kernel	29.90	41.00	72.93
Rape seed	30.84	41.00	75.22
Soya bean	31.00	38.83	79.84
Refined oils:—			
Coconut	36.55	51.32	71.22
Cotton seed	31.16	45.64	68.27
Ground nut	36.64	53.85	68.04
Linseed, boiled	35.03	44.27	79.13
„ refined	37.13	47.81	77.66
Palm kernel	35.78	48.46	73.83
Rape seed	34.65	46.51	74.50
Soya bean	32.73	44.63	73.34
Oil-seed cake and meal:—			
Coconut	6.46	8.70	74.25
Cotton seed	5.63	7.88	71.45
Ground nut	6.84	9.09	75.25
Linseed	10.43	11.64	89.60
Palm kernel	5.32	6.84	77.78
Rape seed	3.31	5.93	55.82
Soya bean	7.83	10.31	75.95
Compound	7.80	9.70	80.42

Volume of production in 1930 and 1924.—The following table compares the volume of production of unrefined and refined oils, oil-seed cake and meal, etc., in 1930 and 1924:—

Kind of goods	Total production			1930 as a percentage of 1924
	1930	1924		
	As returned	As returned	At 1930 average values	Per cent.
	£'000	£'000	£'000	
Unrefined oils:—				
Coconut	906	788	566	160
Cotton seed	794	1,212	771	103
Ground nut	573	868	591	97
Linseed	2,125	4,797	4,170	51
Palm kernel	1,331	4,644	3,387	39
Rape seed	70	648	487	14
Soya bean	209	187	149	140
Other sorts	558	584	476	117
Total—Unrefined oils...	6,566	13,728	10,597	62

Kind of goods	Total production			1930 as a percentage of 1924
	1930	1924		
	As returned	As returned	At 1930 average values	Per cent.
	£'000	£'000	£'000	
Refined oils:—				
Coconut	681	1,412	1,006	68
Cotton seed	3,086	3,578	2,443	126
Ground nut	1,364	603	410	333
Linseed, boiled or refined	1,566	2,036	1,944	81
Palm kernel	488	656	484	101
Rape seed	345	731	545	63
Soya bean	824	791	580	142
Other	1,295	3,277	2,180	59
Total—Refined oils	9,649	13,084	9,592	101
Oil-seed cake and meal:—				
Coconut	157	254	189	83
Cotton seed	2,113	3,253	2,324	91
Ground nut	413	412	310	133
Linseed	1,541	3,163	2,834	54
Palm kernel	262	796	619	42
Soya bean	608	835	634	96
Compound	3,549	4,328	3,481	102
Other and unspecified (including rape seed)	175	632	449	39
Total—Oil-seed cake and meal	8,818	13,673	10,840	81
Acid oils	615	427	419*	184
Black greases	82	108		
Other products of the Seed Crushing Trade	74	12		
TOTAL	25,804	41,032	31,448	82

* Based on average values of all preceding items.

Production, exports and imports.—The following table shows, in relation to production, the quantities of the principal classes of unrefined and refined oils and of oil-seed cake and meal exported from the United Kingdom in 1930 and 1924, together with the quantities imported and retained. For refined oils the 1924 figures of production include the output of the small firms in other trades. This amounted to 4,700 tons of refined oils, valued at £63,000.

Kind of goods	Production	Exports	Proportion of production exported	Retained imports	Available for use in the United Kingdom	
					Th. tons	Per cent.
Unrefined oils :—	Th. tons	Th. tons	Per cent.	Th. tons	Th. tons	Per cent.
Coconut ... { 1930	44.7	0.3	0.7	32.5	76.9	57.7
... { 1924	46.2	1.2	2.6	16.7	61.7	72.9
Cotton seed ... { 1930	91.7	4.7	5.1	11.2	98.2	88.6
... { 1924	87.4	3.4	3.9	1.9	85.9	97.8
Ground nut ... { 1930	49.7	1.4	2.8	15.7	64.0	75.5
... { 1924	30.3	8.2	27.1	2.1	24.2	91.3
Linseed ... { 1930	68.3	5.9	8.6	40.5	102.9	60.6
... { 1924	124.8	15.8	12.7	2.4	111.4	97.8
Palm kernel ... { 1930	54.6	6.7	12.3	7.3	55.2	86.8
... { 1924	127.7	28.3	22.2		99.4	100.0
Rape seed ... { 1930	4.2	3.4*	81.0	7.3*	86.1	9.9
... { 1924	25.6	12.1*	47.3	0.5*	14.0	96.4
Soya bean ... { 1930	18.5	15.7*	84.9	25.2*	28.0	10.0
... { 1924	16.5	14.1*	85.5	29.4*	31.8	7.5
Other and unclassified ... { 1930	19.7	12.3*†	62.4	13.7*†	21.1	35.1
... { 1924	25.4	12.5*†	49.2	7.7*†	20.6	62.6
Total—Unrefined Oils ... { 1930	351.4	50.4*†	14.3	153.4*†	454.4	66.2
... { 1924	483.9	95.6*†	19.7	60.7*†	449.0	86.5
Refined oils :—						
Coconut ... { 1930	18.6	2.2	11.8	9.8	26.2	62.6
... { 1924	27.5	2.0	7.3	6.9	32.4	78.7
Cotton seed ... { 1930	99.0	12.6	12.7	4.7	91.1	94.8
... { 1924	78.7	19.0	24.1	5.4	65.1	91.7
Ground nut ... { 1930	37.2	1.7	4.6	6.5	42.0	84.5
... { 1924	11.2	1.5	13.4	2.9	12.6	77.0
Linseed, boiled or refined ... { 1930	41.8	9.8	23.4	2.4	34.4	93.0
... { 1924	47.5	14.7	30.9	0.3	33.1	99.1
Palm kernel ... { 1930	13.6	1.7	12.5	0.6	12.5	95.2
... { 1924	13.5	3.0	22.2	0.3	10.8	97.2
Other and unclassified ... { 1930	70.6	2.6‡	3.7	7.4‡	75.4	90.2
... { 1924	97.2	4.8‡	4.9	1.5‡	93.9	98.4
Total—Refined oils ... { 1930	280.8	30.6‡	10.9	31.4‡	281.6	88.8
... { 1924	275.6	45.0‡	16.6	17.3‡	247.9	93.0

Kind of goods	Production	Exports	Proportion of production exported	Retained imports	Available for use in the United Kingdom	
					Th. tons	Per cent.
Oil-seed cake and meal :—	Th. tons	Th. tons	Per cent.	Th. tons	Th. tons	Per cent.
Cotton seed ... { 1930	375.3	4.3	1.1	223.3	594.3	62.4
... { 1924	413.0	9.5	2.3	163.3	566.8	71.2
Ground nut ... { 1930	60.4	1.1	1.8	97.8	157.1	37.7
... { 1924	45.4	4.7	10.4	74.8	115.5	35.2
Linseed ... { 1930	147.7	15.2	10.3	70.0	202.5	65.4
... { 1924	271.6	22.3	8.2	72.0	321.3	77.6
Soya bean ... { 1930	77.6	15.2	19.6	8.0	70.4	88.6
... { 1924	80.9	5.2	6.4	2.0	77.7	97.4
Compound, rape seed and other (including unclassified cake and meal) ... { 1930	570.0	39.3	6.9	44.2	574.9	92.3
... { 1924	678.3	53.5	7.9	48.1	672.9	92.9
Total—Oil-seed cake and meal { 1930	1,231.0	75.1	6.1	443.3	1,599.2	72.3
... { 1924	1,489.2	95.2	6.4	360.2	1,754.2	79.5

|| Re-exports 20 tons in excess of imports.

* Including some refined oils.

† Excluding unrefined olive oil and palm oil, of which the output in this country is negligible.

‡ Excluding refined olive oil, of which the output in this country is negligible.

§ See footnote (*) above.

Other products.—In addition to the output shown in the table of principal products on pages 350-1, the following goods were produced in 1930 and 1924 by firms that made their returns on schedules for the Seed Crushing Trade. These goods are dealt with in the reports on those trades in which the principal output was recorded.

Kind of goods	1930	1924
	£'000	£'000
Poultry foods and feeding stuffs for animals ...	85	—
Lard compound ...	95	105
Soap ...	—	318
Other goods ...	42	25
TOTAL ...	222	448

Waste products sold.—The value of waste products (residue oils, cotton linters, etc.) recorded by firms in the Seed Crushing Trade for 1930 was £33,000 and, for 1924, £27,000.

Employment and Wages

Employment.—The following table shows the average numbers of persons employed in 1930 and 1924 :—

Persons employed	Males		Females		Total	
	Under 18	All ages	Under 18	All ages	Under 18	All ages
1930						
Operatives (average for the year)	150	9,044	20	247	170	9,291
Administrative, technical and clerical staff (as at 18th October)	51	1,347	35	354	86	1,701
TOTAL	201	10,391	55	601	256	10,992
1924						
Operatives (average for the year)	225	11,726	71	335	296	12,061
Administrative, technical and clerical staff (as at 18th October)	92	1,506	26	460	118	1,966
TOTAL	317	13,232	97	795	414	14,027

Wages.—The available information as to the amount of wages paid in 1930 and 1924 is given on pages 252 and 253.

Power

The following table shows the capacity of prime movers, electric generators and electric motors ordinarily in use and in reserve or idle in 1930 and 1924 :—

Power equipment	1930			1924		
	Ordinarily in use	In reserve or idle	Total	Ordinarily in use	In reserve or idle	Total
PRIME MOVERS						
Reciprocating steam engines	18,421	5,625	24,046	30,825	6,873	37,698
Steam turbines	6,127	4,021	10,148	5,046	4,941	9,987
Internal combustion engines :—						
Gas	372	80	452	419	1,730	2,149
Petrol, kerosene, or other light oils ...	—	—	—	5	—	5
Heavy oils	8	—	8	—	590	590
Water engines	90	—	90	100	—	100
TOTAL	25,018	9,726	34,744	36,395	14,134	50,529

Power equipment	1930			1924		
	Ordinarily in use	In reserve or idle	Total	Ordinarily in use	In reserve or idle	Total
ELECTRIC GENERATORS						
Driven by	Kw.	Kw.	Kw.	Kw.	Kw.	Kw.
Reciprocating steam engines	2,821	917	3,738	2,480	3,617	6,097
Steam turbines	4,522	3,000	7,522	3,760	3,615	7,375
Internal combustion engines :—						
Gas	10	—	10	10	1,135	1,145
Heavy oils	—	—	—	—	400	400
Water engines	1	—	1	—	—	—
TOTAL	7,354	3,917	11,271	6,250	8,767	15,017
ELECTRIC MOTORS						
Driven by	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
Electricity generated in same works ...	14,420	792	15,212	16,698	1,288	17,986
Electricity generated in other works under same ownership	2,424	1,000	3,424	—	—	—
Purchased electricity	28,647	4,185	32,832	15,305	7,682	22,987
TOTAL	45,491	5,977	51,468	32,003	8,970	40,973

Consumption of fuel

The following table shows the quantities of coal, coke and electricity recorded as used in 1930 :—

Kind of fuel used	For power (driving engines)	For other purposes (so far as recorded)	For power and other purposes, not separately distinguished
	Tons	Tons	Tons
Coal	105,617	101,463*	3,720
Coke	553	11,705*	115
			B.T.U. (Kw.-hrs.) '000
Electricity used for all purposes :—			
Generated in same works			21,529
Generated in other works under same ownership			3,627
Purchased			30,480
TOTAL—Electricity			55,636

* These figures were recorded by firms representing 85.9 per cent. of the net output of the whole trade.

TABLES

I. Summary of results

Particulars	Unit	England and Wales	Scotland	Great Britain
Value of goods made (Gross output) ...	£'000	20,472	1,352	21,824
Cost of materials used ...	"	18,166	1,241	19,407
Net output ...	"	2,306	111	2,417
Average number of persons employed...	No.	10,349	643	10,992
Net output per person employed ...	£	223	173	220
Power available :—				
Prime movers ...	H.P.	32,250	2,494	34,744
Electric motors driven by purchased electricity ...	"	31,194	1,638	32,832

II. Production

A.—TOTAL MAKE OF UNREFINED OILS AS RETURNED ON SCHEDULES FOR THE SEED CRUSHING TRADE

Kind of goods	England and Wales	Scotland	Great Britain
	Th. tons	Th. tons	Th. tons
Coconut oil ...	44.7	—	44.7
Cotton seed oil ...	*	*	91.6
Ground nut oil ...	*	*	47.3
Linseed oil ...	58.5	9.8	68.3
Palm kernel oil ...	54.6	—	54.6
Rape seed oil ...	4.2	—	4.2
Soya bean oil ...	15.7	—	15.7
Other oils ...	19.0	—	19.0
TOTAL ...	314.4	19.0	345.4

* Owing to the possible disclosure of information relating to individual firms, separate particulars for England and Wales and for Scotland cannot be given.

B.—OUTPUT SOLD OR ADDED TO STOCK

Kind of goods made	Unit	England and Wales	Scotland	Great Britain
Unrefined oils :—				
Coconut ...	Th. tons	28.6	—	28.6
	£'000	906	—	906
Cotton seed ...	Th. tons	*	*	30.6
	£'000			790
Ground nut ...	Th. tons	*	*	15.9
	£'000			484
Linseed ...	Th. tons	52.5	8.0	60.5
	£'000	1,850	275	2,125
Palm kernel ...	Th. tons	44.5	—	44.5
	£'000	1,331	—	1,331
Rape seed ...	Th. tons	2.3	—	2.3
	£'000	70	—	70
Soya bean ...	Th. tons	3.9	—	3.9
	£'000	115	—	115
Other sorts ...	Th. tons	14.9	—	14.9
	£'000	533	—	533
Total—Unrefined oils ...	Th. tons	187.1	14.1	201.2
	£'000	5,921	433	6,354
Refined oils :—				
Cotton seed ...	Th. tons	73.5	6.7	80.2
	£'000	2,270	207	2,477
Ground nut ...	Th. tons	*	*	30.9
	£'000			1,126
Palm kernel ...	Th. tons	9.6	—	9.6
	£'000	341	—	341
Soya bean ...	Th. tons	21.0	—	21.0
	£'000	687	—	687
Other, including coconut, linseed (boiled and refined), rape seed and unclassified ...	Th. tons	*	*	39.1
	£,000			1,533
Total—Refined oils ...	Th. tons	172.2	8.6	180.8
	£'000	5,886	278	6,164
Oil-seed cake and meal :—				
Coconut ...	Th. tons	24.2	—	24.2
	£'000	157	—	157
Cotton seed ...	Th. tons	327.8	47.5	375.3
	£'000	1,850	263	2,113
Ground nut ...	Th. tons	*	*	59.9
	£'000			413
Linseed ...	Th. tons	125.9	21.8	147.7
	£'000	1,306	235	1,541
Palm kernel ...	Th. tons	49.3	—	49.3
	£'000	262	—	262
Soya bean ...	Th. tons	77.6	—	77.6
	£'000	608	—	608
Compound ...	Th. tons	439.6	15.2	454.8
	£'000	3,419	130	3,549
Other sorts, including rape seed and unclassified ...	Th. tons	*	*	34.2
	£'000			133
Total—Oil-seed cake and meal	Th. tons	1,137.5	85.5	1,223.0
	£'000	8,143	633	8,776

Kind of goods made	Unit	England and Wales	Scotland	Great Britain
Acid oils	<i>Th. tons</i>	6.4	—	6.4
	£'000	137	—	137
Black greases	<i>Th. tons</i>	4.7	0.6	5.3
	£'000	61	8	69
Other products of the Seed Crushing Trade	£'000	69	—	69
Other goods made, including waste products	£'000	255	—	255
TOTAL VALUE OF GOODS MADE (GROSS OUTPUT)	£'000	20,472	1,352	21,824

* Owing to the possible disclosure of information relating to individual firms, separate particulars for England and Wales and for Scotland cannot be given.

III. Employment

A.—NUMBERS EMPLOYED IN WEEK ENDED 18TH OCTOBER, 1930

Persons employed	Males		Females		Males and females	
	Under 18	All ages	Under 18	All ages	Under 18	All ages
<i>England and Wales :—</i>						
Operatives	142	8,318	20	218	162	8,536
Administrative, etc.* ...	47	1,278	34	335	81	1,613
TOTAL	189	9,596	54	553	243	10,149
<i>Scotland :—</i>						
Operatives	5	555	—	24	5	579
Administrative, etc.* ...	4	69	1	19	5	88
TOTAL	9	624	1	43	10	667
<i>Great Britain :—</i>						
Operatives	147	8,873	20	242	167	9,115
Administrative, etc.* ...	51	1,347	35	354	86	1,701
TOTAL	198	10,220	55	596	253	10,816

* Administrative, technical and clerical staff.

B.—OPERATIVES EMPLOYED IN ONE WEEK IN EACH MONTH OF 1930

Week ended	Males and females			Week ended	Males and females		
	England and Wales	Scotland	Great Britain		England and Wales	Scotland	Great Britain
Jan. 18 ...	9,240	528	9,768	July 19 ...	8,134	573	8,707
Feb. 15 ...	8,905	549	9,454	Aug. 16 ...	8,504	609	9,113
Mar. 15 ...	9,050	516	9,566	Sept. 13 ...	8,544	599	9,143
April 12 ...	8,993	519	9,512	Oct. 18 ...	8,536	579	9,115
May 17 ...	8,838	523	9,361	Nov. 15 ...	8,889	553	9,442
June 21 ...	8,096	518	8,614	Dec. 13 ...	9,104	594	9,698
AVERAGE FOR THE TWELVE MONTHS					8,736	555	9,291

IV. 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						
Reciprocating steam engines	H.P.	H.P.	H.P.	H.P.	H.P.	H.P.
Steam turbines	16,067	5,485	2,354	140	18,421	5,625
Internal combustion engines :—						
Gas	372	80	—	—	372	80
Heavy oils	8	—	—	—	8	—
Water engines	90	—	—	—	90	—
TOTAL	22,664	9,586	2,354	140	25,018	9,726
TOTAL OF PRIME MOVERS INSTALLED	32,250		2,494		34,744	
ELECTRIC GENERATORS						
Driven by	Kw.	Kw.	Kw.	Kw.	Kw.	Kw.
Reciprocating steam engines	2,635	904	186	13	2,821	917
Steam turbines	4,522	3,000	—	—	4,522	3,000
Internal combustion engines :—						
Gas engines	10	—	—	—	10	—
Water engines	1	—	—	—	1	—
TOTAL	7,168	3,904	186	13	7,354	3,917
TOTAL OF ELECTRIC GENERATORS INSTALLED	11,072		199		11,271	

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.
ELECTRIC MOTORS						
Driven by						
Electricity generated in same works ...	14,288	765	132	27	14,420	792
Electricity generated in other works under same ownership ...	2,424	1,000	—	—	2,424	1,000
Purchased electricity	27,359	3,835	1,288	350	28,647	4,185
TOTAL ...	44,071	5,600	1,420	377	45,491	5,977
TOTAL OF ELECTRIC MOTORS INSTALLED	49,671		1,797		51,468	

V. Consumption of fuel

Kind of fuel used	England and Wales	Scotland	Great Britain
	Tons	Tons	Tons
Coal used for power* ...	95,807	9,810	105,617
Coke used for power* ...	348	205	553
	B.T.U. (Kw.-hrs.) '000	B.T.U. (Kw.-hrs.) '000	B.T.U. (Kw.-hrs.) '000
Electricity used for all purposes:—			
Generated in same works ...	21,316	213	21,529
Generated in other works under same ownership ...	3,627	—	3,627
Purchased ...	29,609	871	30,480
TOTAL—Electricity ...	54,552	1,084	55,636

* In addition, 3,720 tons of coal and 115 tons of coke (all in England and Wales) were recorded as used for power and for other purposes, not separately distinguished.