

RAILWAY COMPANIES.

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Introductory.*

The tables on pages 373 to 378 are based on returns received from Railway Companies in Great Britain and Northern Ireland in respect of all work of construction, maintenance and repair carried out by their employees during the year 1924. Work carried out by private firms to the order of railway companies is included in the reports dealing with the various trades concerned and is not covered by these tables.

The number of such returns was 88, separate returns being furnished by all companies in respect of work carried out in each of the areas into which the United Kingdom was divided for the purposes of the Census.

Summary of results.—The following table shows the main results of the Censuses of 1924 and 1907, comparisons between the figures for the two years being subject to the qualifications mentioned in the next paragraph. In view of the exclusion of building and contracting work from the Census of 1912, the particulars obtained from railway companies in respect of that year are not comparable with those given below.

* See also the Notes on pages vii to xv.

Particulars.	Unit.	1924.	1907.
Value of goods made and work done (Gross output)	£'000	71,414	34,710
Cost of materials used	"	27,859	17,604
Net output	"	43,555	17,106
Average number of persons employed	No.	250,829	241,840
Net output per person employed	£	174	71
Mechanical power available :—			
Prime movers	H.P.	324,401	273,299
Electric motors driven by purchased electricity	"	52,639	(not recorded)

Qualifications affecting comparisons.—In considering the above table and 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 Census of 1907 covered Great Britain and the whole of Ireland, but that of 1924 applied only to Great Britain and Northern Ireland. According to the Census of Production taken by the Irish Free State in respect of the year 1926, the total value of the goods made and work done by employees of Railway and Tramway Companies in that year amounted to £2,008,000 and the number of persons employed was 9,723. Further, at the Census of 1907 the gross output of Railway Companies in the whole of Ireland was valued at £1,219,000, and the number of persons employed was 11,963.

(3) The figures for 1907 include particulars relating to all electricity generating stations maintained by railway companies, but in 1924 separate returns were made in respect of generating stations operated by certain railway companies (see page 339).

Valuation of output.—All figures in this report relating to output represent the cost of carrying out the work, or manufacturing the goods specified. The value shown consists of a sum calculated to cover the cost of the materials used and the wages and salaries of the persons employed in connexion with the various goods and services, together with the establishment charges properly attributable thereto.

Production.

Detailed information relating to work of construction, maintenance and repair carried out by Railway Companies in 1924 is given in Table II on pages 374 and 375.

Output.—The following statement shows the value of the principal classes of goods made and work done by employees of Railway Companies in the years 1924 and 1907.

Kind of goods made and work done.	1924.	1907.
	Value.	Value.
Rolling stock, made or repaired :—	£'000	£'000
Locomotives :—		
Main line (i.e. standard gauge) locomotives	1,291	7,918
Parts of locomotives (except axles, tyres and wheels)	(16,870 tons) 3,473	
Repairs to locomotives	11,553	
Railway wheels and axles, complete (not included under other headings)	132	
Tyres and axles (not included under other headings)	(4,510 tons) 77	
Carriages :—	(2,340 tons)	
Steel, or iron and steel, complete	506	4,466
Other, complete	(7,010 tons) 1,925	
Parts of carriages (except axles, tyres and wheels)	694	
Repair work to carriages	5,192	
Wagons and trucks :—		
Steel, or iron and steel, complete	671	3,702
Other, complete	(23,520 tons) 3,993	
Parts of wagons and trucks (except axles, tyres and wheels)	726	
Repairs to wagons and trucks	4,598	
TOTAL—Rolling stock	34,831	16,086
Road vehicles, made or repaired :—		
Carts and carriages for animal traction (including parts)	23	272
Parts of motor vehicles and tractors	12	
Repairs to road vehicles	583	
TOTAL—Road vehicles	618	272
Equipment manufactured for, and work carried out on, the permanent way :—		
Equipment manufactured :—		
Steel rails (including conductor rails for electric traction)	160	12,038
Iron and steel sleepers and fish plates	(17,170 tons) 18	
Other equipment (including chairs, points and crossings, signals, pipes, water troughs, etc.)	(1,240 tons) 1,424	
Repair work to equipment	403	
Work carried out on permanent way, roads, bridges, signals, tunnels, etc. (excluding value of equipment made and included above)	21,953	
TOTAL—Permanent way	23,958	12,038

Kind of goods made and work done.	1924.	1907.
	Value.	Value.
	£'000	£'000
Other work carried out (excluding value of equipment or parts made in own works) :—		
Construction, maintenance and repair of :—		
Stations and buildings	3,508	2,050
Electric power and lighting works	589	154
Docks, harbours and wharves	1,526	745
Canals and waterways	223	
Waterworks (reservoirs, aqueducts, wells, mains, hydraulic works, etc.)	144	155
Water pumping machinery and parts	117	*
Telegraphic and telephonic lines and works (including telegraph and telephone apparatus)	1,028	481
Hoists and cranes	408	303
Repairs to ships and boats	363	322
Other work carried out	137	282
Other products (including repairs) :—		
Lamps and fittings for lighting purposes	198	150
Saddlery and harness	48	32
Tarpaulins, wagon covers, etc.	708	345
Printing	165	70
Grease	161	116
Carpentry work (furniture, barrows, notice-boards, etc., mainly of wood)	333	170
Provender	373	308
Gas and electricity (not used for manufacturing purposes) :—		
Gas	400	286
By-products of gas works, sold	83	*
Electricity	1,049	128
Other manufactures	446	217
TOTAL VALUE, AT COST, OF GOODS MADE AND REPAIRED AND WORK DONE	71,414	34,710

* Not recorded separately.

Cost of materials.—The cost of materials used in the output of the manufacturing, construction and repair departments of Railway Companies was returned as £27,859,000 in 1924, and £17,604,000 in 1907.

Net output.—The net output in 1924 of the manufacturing, construction and repair departments of Railway Companies (whose gross output was valued at £71,414,000) was £43,555,000, that sum representing the total amount by which the value of the aggregate output exceeded the cost of the materials used.

The net output per head of persons employed in the censal year 1924 was £174 as compared with £71 in 1907.

Employment.

The detailed information relating to employment in 1924 is summarised in Table III on pages 376 and 377. 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.

Average number.	Males.		Females.		Males and females.	
	Under 18.	All ages.	Under 18.	All ages.	Under 18.	All ages.
1924.						
Operatives	8,643	236,272	348	2,033	8,991	238,305
Administrative, etc.	489	11,298	134	1,226	623	12,524
TOTAL	9,132	247,570	482	3,259	9,614	250,829
1907.						
Wage earners	12,520	231,250	258	1,790	12,778	233,040
Salaried	716	8,772	2	28	718	8,800
TOTAL	13,236	240,022	260	1,818	13,496	241,840

The salaried staff in 1907 was 3·6 per cent. of the total number employed, and 5 per cent. in 1924.

The numbers of operatives recorded month by month in 1924 ranged from 3,513 below the average in January, to 1,905 above the average in May (see Table IIIB, page 377). In the last quarter of the year the average number was 3,870 in excess of the average for the first quarter, the averages for the other two quarters being intermediate between those of the first and last quarters.

Mechanical Power.

The detailed information relating to mechanical power in 1924 is summarised in Table IV on page 378. 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 at railway companies' works for purposes of construction and repair.

Power equipment.	1924.			1907.
	Ordinarily in use.	In reserve or idle.	Total.	Total.
PRIME MOVERS :—	H.P.	H.P.	H.P.	H.P.
Reciprocating steam engines	126,840	19,466	146,306	221,610
Steam turbines	141,721	19,292	161,013	28,320
Gas engines	11,295	2,083	13,378	12,005
Petrol and light oil engines	752	93	845	
Heavy oil engines	2,821	38	2,859	10,807
Water power	—	—	—	
Other	—	—	—	557
TOTAL	283,429	40,972	324,401	273,299
ELECTRIC GENERATORS :—	Kw.	Kw.	Kw.	Kw.
Driven by—				
Reciprocating steam engines	27,710	12,713	40,423	58,626
Steam turbines	103,040	14,150	117,190	20,402
Gas engines	5,366	55	5,421	6,185
Petrol and light oil engines	50	3	53	
Heavy oil engines	1,757	15	1,772	—
Water power	—	—	—	
Other prime movers	—	—	—	—
TOTAL	137,923	26,936	164,859	85,213

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

Electric motors.	1924.		
	Ordinarily in use.	In reserve or idle.	Total.
	H.P.	H.P.	H.P.
Driven by :—			
Electricity generated in own works	79,450	5,623	85,073
Purchased electricity	50,384	2,255	52,639

Corresponding information was not required for 1907. The total number of Board of Trade units of electricity purchased in that year was returned as 110,943,000.

TABLES.

I.—Summary of results.

Particulars.	Unit.	England and Wales.	Scotland.	Great Britain.	Northern Ireland.
Value of goods made and work done (Gross output)	£'000	63,886	6,841	70,727	687
Cost of materials used	"	24,956	2,625	27,581	278
Net output	"	38,930	4,216	43,146	409
Average number of persons employed	No.	223,858	24,697	248,555	2,274
Net output per person employed ..	£	174	171	173	180
Mechanical power available :—					
Prime movers	H.P.	317,478	6,328	323,806	595
Electric motors driven by purchased electricity	"	44,558	7,651	52,209	430

II.—Production.

Kind of goods made and work done.	Unit.	England and Wales.	Scotland.	Great Britain.	Northern Ireland.
Quantity and value.					
Rolling stock made:—					
Locomotives—	Number	213	10	223	—
Main line (i.e. standard gauge) locomotives ..	Tons	16,180	690	16,870	—
Parts of locomotives, except axles, tyres and wheels ..	£'000	1,239	52	1,291	—
Carriages—					
Steel or iron and steel, complete	Number	227	—	227	—
	Tons	7,010	—	7,010	—
	£'000	506	—	506	—
Other, complete ..	Number	886	—	886	—
	£'000	1,925	—	1,925	—
Parts of carriages, except axles, tyres and wheels ..	£'000	674*	20	694*	*
Wagons and trucks—					
Steel or iron and steel, complete ..	Number	2,873	428	3,301	—
	Tons	20,130	3,390	23,520	—
	£'000	592	79	671	—
Other, complete ..	Number	23,187*	6	23,193*	*
	£'000	3,990*	3	3,993*	*
Parts of wagons and trucks, except axles, tyres and wheels	£'000	646*	80	726*	*
Railway wheels and axles, complete (not already included under other headings)	No. of sets	4,805	—	4,805	—
	Tons	4,510	—	4,510	—
	£'000	132	—	132	—
Tyres and axles (not already included under other headings)	Tons	2,070	270	2,340	—
	£'000	65	12	77	—
TOTAL VALUE—Rolling stock made	£'000	12,979*	509	13,488*	*
Repairs to rolling stock:—					
Locomotives	£'000	10,314	1,154	11,468	85
Carriages	£'000	4,588	558	5,146	46
Wagons and trucks	£'000	3,734	820	4,554	44
TOTAL VALUE—Repairs to rolling stock	£'000	18,636	2,532	21,168	175
Equipment manufactured for permanent way:—					
Steel rails, including conductor rails for electric traction	Tons	17,170	—	17,170	—
	£'000	160	—	160	—
Iron and steel sleepers and fish-plates	Tons	1,240	—	1,240	—
	£'000	18	—	18	—
Other equipment, including chairs, points and crossings, signals, pipes, water troughs, etc. ..	£'000	1,307*	117	1,424*	*
Repairs to equipment for permanent way	£'000	356*	47	403*	*
TOTAL VALUE—Equipment for permanent way (including repairs)	£'000	1,841*	164	2,005*	*
Road vehicles manufactured:—					
Carts and carriages for animal traction (including parts) ..	£'000	22	1	23	—
Parts of motor vehicles and tractors	£'000	12	—	12	—
Repairs to road vehicles	£'000	567*	16	583*	*
TOTAL VALUE—Road vehicles (including repairs)	£'000	601*	17	618*	*

* See Note on page 375.

II.—Production—continued.

Kind of goods made and work done.	Unit.	England and Wales.	Scotland.	Great Britain.	Northern Ireland.
Quantity and value.					
Work carried out (excluding value of equipment or parts made in railway companies' works and included above):—					
Construction, maintenance and repair of—					
Permanent way, roads, bridges, signals, tunnels, etc. ..	£'000	18,811	2,745	21,556	397
Stations and buildings ..	£'000	3,161	278	3,439	69
Electric power and lighting works	£'000	549	40	589	—
Docks, harbours and wharves	£'000	1,452	74	1,526	—
Canals and waterways ..	£'000	201	22	223	—
Waterworks (reservoirs, aqueducts, wells, mains, hydraulic works, etc.)	£'000	141*	3	144*	*
Water pumping machinery and parts	£'000	111	6	117	—
Telegraphic and telephonic lines and works (including telegraph and telephone apparatus)	£'000	897*	131	1,028*	*
Hoists and cranes	£'000	378*	30	408*	*
Repairs to ships and boats ..	£'000	357	6	363	—
Other work carried out ..	£'000	114	23	137	—
TOTAL VALUE—Work carried out	£'000	26,163	3,358	29,521	475
Other products (including repairs):—					
Lamps and fittings for lighting purposes	£'000	187*	11	198*	*
Saddlery and harness	£'000	44	4	48	—
Tarpaulins, wagon covers, etc.—	£'000	630	76	706	2
Printing	£'000	159	6	165	—
Grease	£'000	141	20	161	—
Carpentry work (furniture, barrows, notice-boards, etc., mainly of wood)	£'000	303	29	332	1
Provender	£'000	331*	42	373*	*
Gas and electricity (not used for manufacturing purposes):—					
Gas	£'000	370*	30	400*	*
By-products of gas works, sold	£'000	79	4	83	—
Electricity	£'000	1,027*	22	1,049*	*
Other manufactures	£'000	429	17	446	—
TOTAL VALUE—Other products ..	£'000	3,689	261	3,950	14
TOTAL VALUE, AT COST, OF GOODS MADE AND WORK DONE (GROSS OUTPUT)	£'000	63,886	6,841	70,727	687

* In order to avoid the possible disclosure of information relating to individual companies in Northern Ireland, the output for that division of the United Kingdom has been included with that for England and Wales and for Great Britain.

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	8,059	211,899	324	1,846	8,383	213,745
Administrative, etc.*..	425	10,316	123	1,049	548	11,365
TOTAL	8,484	222,215	447	2,895	8,931	225,110
<i>Scotland</i> :—						
Operatives	604	23,533	26	201	630	23,734
Administrative, etc.*..	63	904	11	172	74	1,076
TOTAL	667	24,437	37	373	704	24,810
<i>Great Britain</i> :—						
Operatives	8,663	235,432	350	2,047	9,013	237,479
Administrative, etc.*..	488	11,220	134	1,221	622	12,441
TOTAL	9,151	246,652	484	3,268	9,635	249,920
<i>Northern Ireland</i> :—						
Operatives	30	2,090	—	—	30	2,090
Administrative, etc.*..	1	78	—	5	1	83
TOTAL	31	2,168	—	5	31	2,173
<i>United Kingdom</i> :—						
TOTAL	9,182	248,820	484	3,273	9,666	252,093

* Administrative, technical and clerical staff.

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

England and Wales. (Annual average: Males, 210,660; Females, 1,833; Total, 212,493.)

Week ended	Males.	Females.	Total.	Week ended	Males.	Females.	Total.
Jan. 12th ..	207,112	1,757	208,869	July 19th ..	209,962	1,857	211,819
Feb. 16th ..	208,237	1,752	209,989	Aug. 16th ..	210,735	1,854	212,589
Mar. 15th ..	208,820	1,764	210,584	Sept. 13th ..	211,272	1,858	213,130
April 12th ..	210,983	1,846	212,829	Oct. 18th ..	211,899	1,846	213,745
May 17th ..	212,511	1,879	214,390	Nov. 15th ..	211,872	1,856	213,728
June 21st ..	212,315	1,868	214,183	Dec. 13th ..	212,207	1,857	214,064

Scotland. (Annual average: Males, 23,421; Females, 200; Total, 23,621.)

Jan. 12th ..	23,533	199	23,732	July 19th ..	23,202	208	23,410
Feb. 16th ..	23,608	194	23,802	Aug. 16th ..	23,218	207	23,425
Mar. 15th ..	23,449	193	23,642	Sept. 13th ..	23,467	205	23,672
April 12th ..	23,438	199	23,637	Oct. 18th ..	23,533	201	23,734
May 17th ..	23,446	202	23,648	Nov. 15th ..	23,450	199	23,649
June 21st ..	23,301	202	23,503	Dec. 13th ..	23,399	197	23,596

Great Britain. (Annual average: Males, 234,081; Females, 2,033; Total, 236,114.)

Jan. 12th ..	230,645	1,956	232,601	July 19th ..	233,164	2,065	235,229
Feb. 16th ..	231,845	1,946	233,791	Aug. 16th ..	233,953	2,061	236,014
Mar. 15th ..	232,269	1,957	234,226	Sept. 13th ..	234,739	2,063	236,802
April 12th ..	234,421	2,045	236,466	Oct. 18th ..	235,432	2,047	237,479
May 17th ..	235,957	2,081	238,038	Nov. 15th ..	235,322	2,055	237,377
June 21st ..	235,616	2,070	237,686	Dec. 13th ..	235,606	2,054	237,660

Northern Ireland. (Annual average: Males, 2,191; Females, —; Total, 2,191.)

Jan. 12th ..	2,191	—	2,191	July 19th ..	2,311	—	2,311
Feb. 16th ..	2,211	—	2,211	Aug. 16th ..	2,290	—	2,290
Mar. 15th ..	2,180	—	2,180	Sept. 13th ..	2,288	—	2,288
April 12th ..	2,132	—	2,132	Oct. 18th ..	2,090	—	2,090
May 17th ..	2,172	—	2,172	Nov. 15th ..	2,174	—	2,174
June 21st ..	2,229	—	2,229	Dec. 13th ..	2,029	—	2,029

IV.—Mechanical Power.

PARTICULARS OF PRIME MOVERS, ELECTRIC GENERATORS AND
ELECTRIC MOTORS.

(a) Ordinarily in use. (b) In reserve or idle.	England and Wales.	Scotland.	Great Britain.	Northern Ireland.
PRIME MOVERS :—				
Reciprocating steam engines	{ (a) 121,520 (b) 18,502	4,939 904	126,459 19,406	381 60
Steam turbines	{ (a) 141,721 (b) 19,292	—	141,721 19,292	—
Gas engines	{ (a) 10,857 (b) 2,083	310	11,167 2,083	128
Petrol and light oil engines	{ (a) 670 (b) 38	70 55	740 93	12
Heavy oil engines	{ (a) 2,782 (b) 13	25 25	2,807 38	14
TOTAL	{ (a) 277,550 (b) 39,928	5,344 934	282,894 40,912	535 60
TOTAL OF PRIME MOVERS INSTALLED				
	317,478	6,328	323,806	595
ELECTRIC GENERATORS :—				
Driven by—				
Reciprocating steam engines	{ (a) 24,960 (b) 11,333	2,662 1,342	27,622 12,675	88 38
Steam turbines	{ (a) 103,040 (b) 14,150	—	103,040 14,150	—
Gas engines	{ (a) 5,257 (b) 55	97	5,354 55	12
Petrol and light oil engines	{ (a) 31 (b) —	19 3	50 3	—
Heavy oil engines	{ (a) 1,733 (b) —	15 15	1,748 15	9
TOTAL	{ (a) 135,021 (b) 25,538	2,793 1,360	137,814 26,898	109 38
TOTAL OF ELECTRIC GENERATORS INSTALLED				
	160,559	4,153	164,712	147
ELECTRIC MOTORS :—				
Driven by—				
Electricity generated in own works	{ (a) 78,192 (b) 5,588	1,240 35	79,432 5,623	18
Purchased electricity	{ (a) 42,419 (b) 2,139	7,565 86	49,984 2,225	400 30