

SECTION III.

IRON AND STEEL, ENGINEERING, AND SHIPBUILDING TRADES.

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SECTION III.—IRON AND STEEL, ENGINEERING, AND SHIPBUILDING TRADES.

GENERAL REPORT.

The following Section deals with the trades engaged in the smelting, rolling, and founding of iron and steel, and with those industries whose principal raw material is iron or steel in one form or another. In some branches of those industries other materials are used to a considerable degree, as, for example, wood and upholstery work in shipbuilding, wood work in motor cars, brass and copper work in engineering, brick and stone work in iron and steel construction. It is not possible, as a rule, to separate the value due to those other materials from that due to iron and steel, but as the latter are the most characteristic materials for this group of industries, and generally contribute the larger share to the value of the products, the trades in question have been brought together under one survey, and the subsidiary materials have been treated as enhancing the value of the principal materials. The construction, repair, and maintenance of permanent way, rolling stock, plant, &c., carried out by the employees of railway companies, and the work done in Government Dockyards, the Royal Ordnance Factories, and the Naval Ordnance Department are included, but in these cases the value of the output is taken at cost, *i.e.*, a sum covering wages, materials, and establishment charges.

The "output" shown in the Tables is the gross output of each trade, *i.e.*, where goods pass through the hands of several manufacturers at different stages, their quantity and value has been registered at each stage. The value of this gross output is, therefore, greater in the aggregate than the value of the goods, taken as a whole, when ready for export or consumption.

In the Tables the quantities and values of the principal products are generally shown in the classification adopted in the Export and Import Lists, but in the case of some trades a different classification was adopted in order to suit the convenience of manufacturers and, in accordance with the limitations imposed by the Census of Production Act, 1906, values only were then required to be stated.

The figures entered against each class of product show the output of that product in the year of return, whether sold or not, after deducting any amount worked up in the same factory into goods of a kind separately classified. Thus, for example, the entry against pig iron shows only that portion of the pig iron made in the year of return which was either sold as pig iron or remained in stock at the end of the year as pig iron, and does not include pig iron made into puddled iron, castings, or steel by the firms that smelted the pig iron. Some firms have, however, made two Returns for two separate establishments (such as engineering works and a ship-building yard) and have treated the goods transferred from one works to the other as sales and purchases. The consequent duplication, as well as that arising from goods being sold by one firm and worked up by another, is eliminated when the total cost of materials used is deducted from the value of the gross output in order to arrive at the net output (*see* below). In the case of certain important classes of semi-manufactured materials, manufacturers were asked to furnish voluntary statements as to their total make of such products (whether further worked up by them or not), and estimates of the total production of such materials, made on the basis of the information so furnished and of other information in the possession of the Census Office, are included in the reports on the individual trades.

Where a firm makes goods for sale, the value entered is the net selling value of the goods, including, of course, the value of any work done on the goods by other firms working on commission. Where a firm does work on commission or "for the trade," the value entered is the amount received for the work, exclusive of the value of the material worked upon, but inclusive of the value of any subsidiary materials or fuel purchased by the commission firm. In so far as such work is done for firms also making Returns, the figures for gross output necessarily include twice over the payments for such work, and in order, therefore, to enable the Census Office to eliminate such duplication, the Schedules required a statement to be made showing the amount paid to other firms for work given out.

The result of deducting the total cost of materials and the amount paid to other firms for work given out from the value of the gross output for any industry or group of factories is to give a figure which may, for convenience, be called the "net output" of the industry or of the group. This figure expresses completely and without duplication the total amount by which the value of the products of the industry or of the group, taken as a whole, exceeded the value of the materials purchased from outside, *i.e.*, it represents the value added to the materials in the course of manufacture, and when added to the cost of those materials it would give the selling value of the products of the industry

ready for export or for sale outside the industry. The net output constitutes for any industry the fund from which wages, salaries, rents, rates, taxes, depreciation, sales expenses, and other similar charges, as well as profits, have to be defrayed. In the case of establishments belonging to railway companies and Government Departments the "net output" differs from that for private factories and workshops in that it does not contain the element of profit.

The following statement shows, for the trades covered by the present Section of the Report, the gross output, the cost of materials used, the amount paid for work given out to other firms, the net output as defined above, the number of persons employed, the net output per person employed, and the horse-power of engines in factories. The figures relate to the United Kingdom as a whole. The horse-power shown does not include power rented from other establishments or the capacity of motors driven by purchased electricity:—

Trade.	Gross Output. Selling Value or Value of Work Done.	Materials Used. — Cost.	Work Given Out. — Amount Paid to Other Firms.	Net Output. — Excess of Column (1) over Columns (2) and (3).	Persons Employed (except Out- workers). Average.	Net Output per Person Em- ployed (exclud- ing Out- workers). (6)	Horse- Power of Engines at Factories. (7)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Iron and Steel Trades (Smelting, Rolling, and Founding).	£ 105,322,000	£ 74,815,000	£ 459,000	£ 30,048,000	261,666	115	1,383,586
Tinplate Trade	9,167,000	7,158,000	—	2,009,000	20,628	97	68,842
Wrought Iron and Steel Tube Trade.	6,548,000	4,359,000	—	2,189,000	20,223	108	23,015
Wire Trades	6,600,000	4,432,000	48,000	2,120,000	18,329	116	31,031
Anchor, Chain, Nail, Bolt, Screw, and Rivet Trades	5,641,000	3,276,000	51,000	2,314,000	28,024	83	22,998
Galvanised Sheet, Hard- ware, Hollow-ware, Tinned and Japanned Goods, and Bedstead Trades.	15,988,000	9,366,000	81,000	6,541,000	74,777	87	27,274
Engineering Trades (including Electrical Engineering).	102,952,000	48,535,000	3,922,000	50,495,000	461,703	109	331,251
Shipbuilding and Marine Engineering Trades— Private Firms.	42,556,000	19,221,000	4,801,000	18,534,000	188,312	98	114,546
Cycle and Motor Trades...	11,580,000	5,480,000	199,000	5,901,000	54,043	109	15,391
Cutlery Trades	1,955,000	735,000	139,000	1,081,000	14,831	73	5,248
Tool and Implement Trades.	3,703,000	1,539,000	74,000	2,090,000	23,711	88	19,206
Blacksmithing Trade ...	2,466,000	988,000	—	1,478,000	20,889	71	4,113
Needle, Pin, Fish-hook, and Button Trades.	1,599,000	728,000	25,000	846,000	13,252	64	3,255
Lock and Safe Trades ...	1,012,000	356,000	10,000	646,000	7,922	82	2,350
Small Arms Trades ...	738,000	176,000	24,000	538,000	4,855	111	2,619
Heating, Lighting, Ventila- ting, and Sanitary Engineering Trades.	2,916,000	1,306,000	43,000	1,567,000	14,322	109	3,497
Railway Carriage and Wagon Trades.	9,850,000	6,274,000	14,000	3,562,000	28,857	123	30,407
Total—Private Firms	330,593,000	188,744,000	9,890,000	131,959,000	1,256,344	—	2,088,629
Railways (Construction, Repair, and Mainte- nance of Permanent Way, Rolling Stock, Plant, &c.).	34,710,000	17,604,000	—	17,106,000	241,840	71	273,299
Royal Ordnance Factories	3,359,810	1,908,151	—	1,451,659	14,533	100	12,745
Naval Ordnance Depart- ment.	83,074	6,386	—	76,688	1,118	69	810
Shipbuilding—Govern- ment Yards and Light- house Authorities.	6,450,480	3,961,412	—	2,489,068	25,580	97	61,998
Total—Railways and Government De- partments.	44,603,364	23,479,949	—	21,123,415	283,071	—	348,852

The output for private factories and workshops is calculated on a profit basis, while that for railways, the Royal Ordnance Factories, the Naval Ordnance Department, Government Dockyards, and Lighthouse Authorities is calculated on the cost of production. The figures for private factories and workshops and for the establishments belonging to railway companies, Government Departments, and Lighthouse Authorities are, therefore, not strictly comparable as regards Gross Output and Net Output.

In the following table the number of persons employed in factories and workshops is distributed by sex and age and according as they are wage-earners or salaried persons; a column is also added showing the number of outworkers returned as borne on the books of the employing firms:—

Trade.	Average Number of Persons Employed in Factories and Workshops.								Average Number of Outworkers.	
	Wage-earners.				Salaried Persons.				Males.	Females.
	Males.		Females.		Males.		Females.			
	Under 18 years of age.	Over 18 years of age.	Under 18 years of age.	Over 18 years of age.	Under 18 years of age.	Over 18 years of age.	Under 18 years of age.	Over 18 years of age.		
Iron and Steel Trades (Smelting, Rolling, and Founding).	21,999	222,600	793	2,012	1,759	11,989	85	429	—	—
Tinplate Trade...	2,838	14,618	792	1,811	72	495	—	2	—	—
Wrought Iron and Steel Tube Trade.	2,743	16,018	34	112	389	857	10	60	—	—
Wire Trades ...	2,599	12,538	617	1,261	115	1,059	24	116	—	—
Anchor, Chain, Nail, Bolt, Rivet, and Screw Trades.	3,263	13,222	2,568	7,421	161	1,189	65	135	955	614
Galvanized Sheet, Hardware, Hollow-ware, Tinned and Japanned Goods, and Bedstead Trades.	8,863	42,263	5,216	11,872	544	5,213	153	653	—	—
Engineering Trades (including Electrical Engineering).	59,515	348,875	4,593	9,444	4,839	31,571	488	2,378	—	—
Shipbuilding and Marine Engineering Trades—Private Firms.	20,306	157,519	92	593	1,038	8,232	87	445	—	—
Cycle and Motor Trades ...	6,460	35,203	1,617	4,386	727	4,683	298	669	—	—
Cutlery Trades ...	1,403	8,321	884	1,877	85	1,965	83	213	—	—
Tool and Implement Trades ...	3,298	15,259	566	1,400	205	2,551	70	362	125	48
Blacksmithing Trade ...	2,953	14,055	18	165	72	3,560	6	60	—	—
Needle, Pin, Fish hooks, and Button Trades.	646	3,222	2,313	6,032	36	616	91	296	283	1,365
Lock and Safe Trades ...	859	5,172	405	854	49	493	14	76	287	2
Small Arms Trade ...	425	3,881	24	114	27	342	7	35	—	—
Heating, Lighting, Ventilating, and Sanitary Engineering Trades.	1,215	9,073	466	1,860	147	1,369	34	158	—	—
Railway Carriage and Wagon Trades.	3,163	23,776	62	104	275	1,392	14	71	—	—
Total—Private Firms ...	142,548	945,615	21,060	51,318	10,540	77,576	1,529	6,158	1,650	2,029
Railways (Construction, Repair, and Maintenance of Permanent Way, Rolling Stock, Plant, &c.).	12,520	218,730	258	1,532	716	8,056	2	26	—	—
Royal Ordnance Factories ...	849	12,011	—	181	62	1,414	—	16	—	—
Naval Ordnance Department ...	44	1,063	—	—	—	11	—	—	—	—
Shipbuilding—Government Yards and Lighthouse Authorities.	1,547	22,926	4	282	60	761	—	—	—	—
Total—Railways and Government Departments.	14,960	254,730	262	1,995	838	10,242	2	42	—	—

In the whole group 93·1 per cent. of the persons employed were wage-earners and 6·9 per cent. were salaried persons (including principals). Of the wage-earners 94·8 per cent. were males and 5·2 per cent. were females; 11·6 per cent. of the males and 28·6 per cent. of the females were under 18 years of age. Of the salaried persons 92·8 per cent. were males and 7·2 per cent. were females; 11·5 per cent. of the males and 19·8 per cent. of the females were under 18 years of age.

The total of 3,679 outworkers does not necessarily represent as many individual persons, many outworkers being on the books of more than one firm. On the other hand, it is probable that the persons actually working for a firm include, in certain cases, members of outworkers' families in addition to the outworkers actually on the firm's books. For these reasons, and as most outworkers are not in constant employment, outworkers have not been taken into account in calculating the net output per person employed, but in comparing the figures given above an allowance should be made for them.

The aggregate gross value of the products of this group of trades, as returned to the Census of Production Office on the Schedules for the group, is £375,196,000, to which should be added £2,240,000, the value of similar goods returned on Schedules for trades not included in this group. The resulting total of £377,436,000 contains a considerable amount of duplication, which is dealt with in detail in the separate Reports on the individual trades.

Taking the group as a whole, the products as returned may be divided into:—

- (a) Semi-manufactured iron and steel goods exported; the semi-manufactured goods not exported being, with certain exceptions, taken as represented in the finished products;
- (b) Finished iron and steel goods;
- (c) Work done on iron and steel goods for merchants;
- (d) By-products of the iron and steel trades;
- (e) Other metal goods and other products.

(a) Semi-manufactured iron and steel goods exported:—

In the case of pig iron, puddled bars, iron and steel castings and forgings, armour plates, tubes, steel ingots, billets, &c., steel bars, &c., and steel girders, &c., the values free on board are taken, as the values of the goods exported show that they were different in quality from those represented by the average values at works; in other cases the quantities exported are valued as at works. The details are:—

	Value.
	£
Pig Iron ...	7,196,000
Puddled Bars ...	10,000
Iron Castings ...	111,000
Iron Forgings ...	24,000
Wrought Iron Bars, &c. ...	1,182,000
Plates and Sheets ...	2,214,000
Black Plates ...	677,000
Armour Plates ...	70,000
Hoops and Strips ...	422,000
Wrought Iron and Steel Tubes ...	2,148,000
Railway Wheels and Axles ...	754,000
Steel Ingots, Billets, Sheet Bars, &c. ...	111,000
Steel Castings ...	35,000
Steel Forgings ...	91,000
Steel Bars, Sections, &c. ...	3,155,000
Steel Girders, Beams, &c. ...	1,004,000
Total—Semi-manufactured Goods Exported	19,204,000

(b) Finished iron and steel goods:—

In this class are also included puddled bars and black plates added to stock.

	Value.
	£
Puddled Bars, added to stock ...	345,000
Black Plates, added to stock ...	39,000
Railroad Iron and Steel ...	7,283,000
Pipes and Fittings, Cast ...	2,019,000
Cast Iron and Manufactures thereof ...	2,080,000
Wrought Iron and Manufactures thereof ...	574,000
Galvanized Sheets ...	7,157,000
Tires and Axles ...	1,910,000
Manufactures of Iron and Steel, not separately enumerated	3,068,000
Tinned Plates and Sheets ...	7,402,000
Wire and Manufactures thereof ...	4,845,000
Anchors and Chains ...	932,000
Bolts and Nuts ...	1,979,000
Nails (except Wire Nails) ...	640,000

(b) Finished iron and steel goods (continued) :—

	Value. £
Screws and Rivets	1,817,000
Shoe Rivets, &c.	409,000
Washers	94,000
Galvanized Tanks, Cisterns, &c.	1,162,000
Grates, Ranges, &c.	2,053,000
Hardware and Hollow-ware	2,602,000
Tinplate and Japanned Goods (less parts)	3,229,000
Metallic Bedsteads (less mattresses and parts)	1,384,000
Enamelled Signs and Tablets	232,000
Hardware, &c., Repairs	542,000
Spring Traps, Hinges, &c., returned separately	71,000
General Engineering (except Marine Engineering)	82,500,000 to 86,500,000
Shipbuilding and Marine Engineering (except Wooden Ships and Boats)	45,500,000 to 46,500,000
Cycles and Motor Vehicles	10,900,000 to 12,900,000
Cutlery (less parts)	1,527,000
Tools and Implements (less parts)	5,250,000
Blacksmithing Work	2,412,000 to 2,518,000
Needles, Pins, Fish-hooks, Metal Buttons, &c.	1,371,000
Locks and Safes	929,000
Small Arms	640,000 to 699,000
Heating and Ventilating Apparatus	925,000
Railway Wagons, wholly or partly of Iron and Steel, including estimate for repairs	4,000,000
Railway Wheels and Axles for railway carriages and wagons of wood made by private firms (estimate)	350,000
Railway Companies :—	
Iron and Steel Wagons, Construction and Repairs (estimate)	2,500,000
Royal Ordnance Factories: Shot and Small Arms	504,000
Total—Finished Iron and Steel	213,176,000 to 220,341,000

Under the heading "nails" is included an unknown quantity of copper and brass nails, but the value of these is probably only a small part of the total. Engineering work done by railway companies and Government Departments is included under the heading "general engineering," and shipbuilding work done by Government Departments is included under the heading "shipbuilding and marine engineering." Under metal buttons is included some amount for buttons of other metals than iron. The sum entered against heating and ventilating apparatus may possibly contain some duplication with other groups of iron and steel products (e.g., castings), but the amount involved is not great and is probably balanced by iron and steel used in other products of the trade (e.g., water appliances, &c.) which have not been taken into account. The value of railway wheels and axles for railway carriages and for wagons of timber has been estimated roughly. The value of iron and steel wagons made by railway companies has been calculated on the assumption that their output was of the same general character as that of private manufacturing companies. Other iron and steel used in the construction of railway carriages (e.g., for bogies) has not been taken into account.

(c) Work Done for Merchants :—

The amount received for work done for merchants is set out below ; the value of the goods made is not known.

	Amount Received. £
Anchor, Chain, Nail, &c., Trades	5,000
Hardware and Hollow-ware Trades	395,000
Cutlery Trades	32,000
Tool Trades	20,000
Needle, Pin, &c., Trades	13,000
Lock and Safe Trades	10,000
Total	475,000

	Value. £
(d) By-products of the iron and steel trades :—	
Coke-oven By-products	1,091,000
Other By-products not used again as raw materials	296,000
	<u>1,387,000</u>

In addition, scrap iron and steel valued at £2,231,000 and cinder valued at £452,000 were included in the Returns, but it is assumed that these amounts are duplicated in the Returns of output of the firms that bought the scrap and cinder for use in their furnaces. Probably, however, part represents accumulations of stock, and so is not duplicated.

(e) Other Metal Goods and Other Products :—

Included in the statement on page 93 are sections of trades manufacturing goods which in the main are made of other materials than iron and steel, and included in individual Returns are goods not of iron or steel. The details are summarised below :—

	Value. £
Electrical Engineering Trade	14,400,000
Railway Carriages and Wagons of Wood, made by private firms, Colliery Wagons, and Repairs (estimated)	4,250,000
Manufactures of Metals other than Iron and Steel	4,902,000
Other Products including Waste Products	3,976,000
Railway Companies (Construction Work and Goods Made and not elsewhere shown)	23,270,000
Royal Ordnance Factories	1,970,000
Naval Ordnance Department	62,000
Royal Dockyards	181,000
Lighthouse Authorities	17,000
	<u>53,028,000</u>

The total value of the products of the iron and steel trades, so far as included in the present group of trades, may thus be estimated at a sum lying between £234,242,000 and £241,407,000, made up as follows :—

	Value. £
Semi-manufactured Iron and Steel exported	19,204,000
Finished Iron and Steel Goods	213,176,000 to 220,341,000
Amount Received for Work Done for Merchants	475,000
By-products	1,387,000

To this sum should be added the value of any additions to stocks of semi-manufactured steel in the censal year. It is not known to what sum this may amount, but as trade was slacker at the end of 1907 than it was at the beginning there were undoubtedly some such additions, and allowance should be made for them. There does not appear to have been any addition to the stocks of pig iron, but, on the contrary, a decrease in the year.

There should also be added £1,200,000, the approximate works value of about 181,000 tons of girders and other iron and steel shapes used in the construction of buildings, bridges, &c., by firms of builders and contractors whose Returns were made on the Schedules for the building and contracting trades, and whose output was valued at £29,380,000. Firms with an output of building and contracting work valued at £24,905,000 stated that they used no iron or steel, while firms with an output valued at £33,682,000 did not furnish any particulars as to the quantity of iron and steel used by them. Local Authorities with building work valued at £330,000 out of a total of £543,000 returned by all local authorities for building work, stated that they used about 3,400 tons of iron and steel (the works value of which is estimated to be about £24,000) ; the remaining authorities either did not or could not furnish the information. Gas, water, and electricity supply authorities that expended on building work £650,000 out of a total of £2,283,000 expended on building and gas plant stated that they used about 2,400 tons of iron and steel in building work, the estimated value of which at works is about £17,000 ; the remaining authorities furnished no information on this point. Further, the value of construction and repair work to their own plant and machinery stated by firms in all trades to have been executed by their own workpeople (but not returned as output) was

£16,000,000. Out of this amount, work to the value of £7,250,000 was executed on their own plant and machinery by firms in the iron and steel group of trades, and its value may be taken to be covered by the selling value of the goods made by such firms and included in the foregoing statements. The remainder (£8,750,000), executed by firms in other groups, is an addition to the value of the structural iron and steel work and engineering repairs already shown. It is also probable that a further sum was expended on similar construction and repairs by firms that did not make Returns to the Census Office as their business was purely trading.

In the Returns for the saddlery trade (see pages 661 to 664) £430,000 is included as the value of saddlery hardware, bits, spurs, hames, &c. There ought also to be added the value of umbrella furniture which is included in the value of umbrellas (see pages 405 to 407), and the value of iron and steel parts of carriages and other horse-drawn vehicles.

The value of the products of these omitted branches of the industry may be taken as a partial set-off against the value of the wood, brass, &c. included with certain classes of iron and steel manufactures. The value at works of the products of the iron and steel trades taken as a whole and free from duplication may thus be estimated at a sum lying between 244½ and 251½ million pounds sterling, together with the value of iron and steel used in buildings but not returned, the value of work done by engineers, blacksmiths, and other ironworkers not covered by the Census, and of rails made by railway companies. The exports of iron and steel products in 1907 were valued at £96,668,000, free on board, while the net imports (*i.e.*, imports less re-exports) of similar goods were valued at £16,029,000 at port of landing. The exports of electrical goods, apparatus, and machinery, of railway carriages and wagons, and of wooden ships and boats (excluding machinery) amounted in 1907 to £7,892,000 and the net imports to £1,650,000.

It will be of interest to note the quantities of some of the leading classes of iron and steel products made in the censal year:—

	Tons.
Pig Iron	10,114,000
Steel (Bessemer and Open-hearth)	6,522,000
Puddled Bars	1,100,000
Rails (railroad and tram, other than those made by railway companies)	777,000
Galvanized Sheets	497,000
Tinplates and Tinned Sheets	529,000
Tubes and Fittings, Wrought	322,000
Wire	210,000 to 215,000
Ships: War Vessels Tons Displacement	100,000
Ships: Other than War Vessels { Board of Trade gross tons. }	1,615,000

The trades included in this group are mainly factory trades, but the following statement shows the values of the net output of factories and workshops separately:—

	Factories.		Workshops.	
	Net Output.	Net Output.	Net Output.	Net Output.
Iron and Steel Trades (Smelting, Rolling, and Founding)	£ 29,893,000	£ 155,000		
Tinplate Trade	2,009,000	—		
Wrought Iron and Steel Tube Trade	2,184,000	5,000		
Wire Trades	2,047,000	73,000		
Anchor, Chain, Nail, Bolt, Screw, and Rivet Trades	2,211,000	103,000		
Galvanized Sheet, Hardware, Hollow-ware, Tinned and Japanned Goods, and Bedstead Trades	5,774,000	767,000		
General Engineering Trades (including Electrical Engineering)	50,227,000	268,000		
Shipbuilding and Marine Engineering Trades—Private Firms	18,234,000	300,000		
Cycle and Motor Trades	5,489,000	412,000		
Cutlery Trade	888,000	193,000		
Tool and Implement Trades	1,905,000	185,000		
Blacksmithing Trade	540,000	938,000		
Needle, Pin, Fish-hook, and Button Trades	799,000	47,000		
Lock and Safe Trade	595,000	51,000		

	Factories.	Workshops.
	Net Output.	Net Output.
	£	£
Small Arms Trades	485,000	53,000
Heating, Lighting, Ventilating, and Sanitary Engineering Trades	1,464,000	103,000
Railway Carriage and Wagon Trades	3,556,000	6,000
Railway Companies (Construction, Repair, and Maintenance of Permanent Way, Rolling Stock, Plant, &c.)	17,058,000	48,000
Royal Ordnance Factories	1,451,659	—
Naval Ordnance Department	76,688	—
Shipbuilding—Government Yards and Lighthouse Authorities	2,470,008	19,060
Total	149,356,355	3,726,060

Fuel Consumed.—All firms owning factories were asked to make a voluntary statement respecting the quantity of fuel consumed by them. The replies received are summarised below, and shown in relation to the aggregate net output of the firms furnishing information; it should be remembered that information regarding fuel has not as a rule been furnished in respect of workshops, where the quantity used is naturally much less than in factories in proportion to net output. The figure of coal consumption shown against the iron and steel trades is exclusive of the quantity of coal used in blast-furnaces in 1907, which is estimated by the Home Office to have been about 21,120,000 tons, including coal used as coke.

Trade.	Net Output of Firms Furnishing Particulars.		Fuel consumed by Firms Furnishing Particulars.	
	Amount.	Percentage of Total Net Output of the Trade.	Coal.	Coke.
	£		Tons.	Tons.
Iron and Steel Trades (Smelting, Rolling and Founding)	12,539,000	41·7	3,728,524	162,006
Tinplate Trade	1,681,000	83·7	708,896	52
Wrought Iron and Steel Tube Trade	985,000	45·0	243,062	13,519
Wire Trades	1,637,000	77·2	187,956	15,223
Anchor, Chain, Nail, Bolt, Screw and Rivet Trades	1,258,000	54·4	110,147	28,655
Galvanized Sheet, Hardware, Hollow-ware, Tinned and Japanned Goods and Bedstead Trades	4,347,000	66·5	226,668	70,520
Engineering Trades (including Electrical Engineering)	32,632,000	64·6	1,400,171	468,503
Royal Ordnance Factories	1,452,000	100·0	95,991	10,156
Naval Ordnance Factories	77,000	100·0	1,874	200
Shipbuilding Yards and Marine Engineering Trades:—				
Private Firms	14,142,000	76·3	606,317	90,099
Government Yards and Lighthouse Authorities	2,470,000	99·2	113,075	10,741
Cycle and Motor Trades	3,904,000	66·2	36,982	8,967
Cutlery Trade	491,000	45·4	15,603	3,318
Tool and Implement Trades	1,278,000	61·1	109,815	35,259
Blacksmithing Trade	1,169,000	79·1	52,655	16,251
Needle, Pin, Fish-hook, and Button Trades	418,000	49·4	14,679	915
Lock and Safe Trades	467,000	72·3	8,328	2,457
Small Arms Trades	162,000	30·1	3,801	588
Heating, Lighting, Ventilating, and Sanitary Engineering Trades	903,000	57·6	8,801	11,335
Railway Carriage and Wagon Trades	3,189,000	89·5	300,144	80,888
Railways (Construction, Repair, and Maintenance of Permanent Way, Rolling Stock, Plant, &c.)	17,082,000	99·9	1,013,708	161,867
Total	102,283,000	66·8	8,987,197	1,191,519

Iron and Steel Trades (Smelting, Rolling, and Founding).

Output.—The Tables on pages 171 to 176 are based on Returns received from firms engaged in the smelting, rolling, and founding of iron and steel, *i.e.*, in the "heavy" branches of the industry. Owing, however, to the varied character of the production carried on at many large works, some particulars have had to be included with regard to most of the finished branches.

The aggregate gross output of the firms that made their Returns on the Schedules for the iron and steel trades is £105,322,000. In addition, firms that made their Returns on Schedules for other trades included in their statements of output heavy iron and steel goods to the value of £10,038,000. The resulting total of £115,360,000, as will be shown later, contains a considerable amount of duplication in respect of goods (*e.g.*, pig iron or steel billets) made by one firm and sold to another for further manufacture, such goods being included by both firms in their Returns to the Census Office. The various headings of output given in Table I on pages 171 to 174 may be classified as follows:—

(a) Semi-manufactured products which are to a large extent worked up into more finished forms by the firms who produce them.

	Returned on Schedules for the Iron and Steel Trades.		Returned on Schedules for other Trades.		Total Output.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Pig Iron:—	Tons.	£	Tons.	£	Tons.	£
Spiegeleisen and Ferro-manganese	338,000	2,608,000	—	—	338,000	2,608,000
Other Sorts...	6,650,000	20,874,000	—	—	6,650,000	20,874,000
Total—Pig Iron	6,988,000	23,482,000	—	—	6,988,000	23,482,000
Puddled Bars...	74,000	355,000	—	—	74,000	355,000
Steel:—						
Ingots (Open-hearth or Bessemer)	95,000	484,000	9,000	52,000	104,000	536,000
Blooms, Billets, and Slabs	525,000	3,021,000	—	—	525,000	3,021,000
Crucible Steel (Ingots, Bars, Castings, etc.)	16,000	549,000	4,000	157,000	20,000	706,000
Total—Steel	636,000	4,054,000	13,000	209,000	649,000	4,263,000
Total—Class (a)	—	27,891,000	—	209,000	—	28,100,000

The quantities of pig iron, puddled bars, and crude steel included in the foregoing statement are exclusive of the quantities used in the same works in which they were made. They include additions to stocks of makers, iron and steel exported as pig, puddled bars, ingots, billets, &c., and pig iron, puddled bars, ingots, billets, &c., sold to other firms to be worked up. There were practically no additions to makers' stocks of pig iron and steel ingots in 1907, but the 74,000 tons of puddled bars included in the foregoing statement appear, with the exception of 2,000 tons exported, to be mainly bars made in the year and retained in stock at the end. The exports of pig iron and steel in 1907, valued free on board, were as follows:—

	Quantity.	Value.
	Tons.	£
Pig Iron:—		
Spiegeleisen and Ferro-manganese	148,000	1,566,000
Other Sorts	1,794,000	5,630,000
Total—Pig Iron	1,942,000	7,196,000
Steel Ingots, Blooms, Billets, and Bars	13,400	111,000

The exports of steel ingots were not separated from those of blooms, billets, and bars in 1907, but the much reduced exports recorded in subsequent years consisted almost entirely of blooms and billets and the exports of sheet bars and tinplate bars were certainly very small.

Adding together, therefore, the value of the exports of pig iron, puddled bars, and steel ingots, &c., of puddled bars added to stock, and of crucible steel (which may be

assumed to have been sold to firms furnishing Returns on other Schedules), a total of about £8,368,000 is obtained, which is not duplicated under any other heading in Table I on pages 171 to 174. Allowing for charges for transport, &c., of the exports after leaving the works, the value at works of the goods in this aggregate may be put at about £8,000,000. The remainder of the pig iron, puddled bars, and steel ingots returned on the Schedule for the iron and steel trades, and valued at about £20,000,000, was sold to other firms for the manufacture of goods whose value was returned to the Census Office under other headings. Part of this duplication falls under the other entries on the output Table for the iron and steel trades, while part is included under the output of other trades. Semi-manufactured products and cast pipes to the value of £5,709,000 were returned to the Census Office on Schedules for other trades, and (after allowing for imported pig iron and steel valued at £397,000) the cost of the materials obtained from the iron and steel firms whose Returns were made on the Schedules for the iron and steel trades may be estimated at about £2,800,000. There is, consequently, no duplication in Table I on pages 171 to 174 for the output of the iron and steel trades in respect of this sum. The total of £28,100,000 shown on the opposite page is thus divided into about £10,800,000 (*i.e.*, £8,000,000 plus £2,800,000) involving no duplication with other items in Table I on pages 171 to 174, and about £17,300,000 which is duplicated under other headings representing the value of more finished goods. The sum of £2,800,000 is, however, duplicated in the totals of classes (b) and (c).

All firms in the iron and steel industry, irrespective of the Schedules they received, were asked to make a voluntary statement as to the quantity, value, and kinds of pig iron and steel ingots and the quantity and value of puddled bars and crucible steel made by them, including that which they themselves subsequently worked up into more finished goods. Unfortunately, the answers received covered only about one-half of the total make of pig iron and about 40 per cent. of the total make of steel ingots, but the information furnished may be summarised as follows:—

	Quantity.	Value.
	Tons.	£
Pig Iron:—		
Forge and Foundry	3,082,000	8,582,000
Hæmatite	1,762,000	6,396,000
Basic	495,000	1,304,000
Spiegeleisen, &c.	197,000	1,649,000
Total—Pig Iron	5,536,000	17,931,000
Steel Ingots:—		
Bessemer (Acid)	598,000	2,777,000
„ (Basic)	201,000	791,000
Total—Bessemer	799,000	3,568,000
Open-hearth (Acid)	1,063,000	5,163,000
„ (Basic)	714,000	2,836,000
Total—Open-hearth	1,777,000	7,999,000
Total—Steel Ingots	2,576,000	11,567,000

Information, however, respecting the total make of pig-iron in 1907 is published by the Home Office in the General Report on Mines and Quarries for 1907 (Cd. 4343), and the British Iron Trade Association published in the "Iron and Coal Trades Review" for 17th April, 1908, and 8th May, 1908, statistics respecting the output of steel ingots. These particulars are summarised in the following statement, values based on those returned to the Census Office being added:—

	Quantity.	Value.
	Tons.	£
Pig Iron:—		
Forge, Foundry, and Basic	5,758,000	15,914,000
Hæmatite	4,023,000	14,603,000
Spiegeleisen, &c.	333,000	2,787,000
Total—Pig Iron	10,114,000	33,304,000

Steel Ingots :—			Quantity.	Value.
			Tons.	£
Bessemer (Acid) ... ..	...	...	1,280,000	5,944,000
„ (Basic) ... ..	...	...	579,000	2,279,000
Total—Bessemer			1,859,000	8,223,000
Open-hearth (Acid) ... ..	...	...	3,385,000	16,441,000
„ (Basic) ... ..	...	...	1,278,000	5,076,000
Total—Open-hearth			4,663,000	21,517,000
Total—Steel Ingots			6,522,000	29,740,000

With regard to the output of puddled and scrap bars, firms with 1,182 puddling furnaces, of which 1,057 were in operation, stated to the Census Office that their output was 975,000 tons, the value of which is, on the basis of replies covering 620,000 tons, estimated to have been about £4,500,000. Firms with 96 furnaces, of which about 88 were working, did not state their output, and there were also about 57 reported by the British Iron Trade Association to be working in 1907, but respecting which no voluntary information was furnished to the Census Office. If it may be assumed that the output of these 145 furnaces was on the same scale as that of those for which complete Returns were furnished, it would follow that the total make of puddled and scrap iron bars in the United Kingdom in the census year was about 1,100,000 tons, valued at about £5,100,000. After allowing for exports and additions to stocks, 1,026,000 tons were used in further manufacture, and, as the loss in the conversion of puddled bars into wrought iron bars, rods, angles, and shapes or sections is estimated as lying between 10 and 15 per cent., the estimate of the total make of puddled bars does not conflict with the estimate (made on the next page) of a total output of 850,000 tons of wrought iron bars, &c.

The ordinary trade estimate of the annual output of crucible steel in the United Kingdom is about 50,000 tons. The Returns furnished to the Census Office do not enable any opinion to be formed as to the correctness of this calculation. The replies to the request for a voluntary statement covered only about 24,000 tons.

(b) Semi-manufactured products which are mainly worked up into more finished forms either in other industries or by other firms than those producing them :—

	Returned on Schedules for the Iron and Steel Trades.		Returned on Schedules for other Trades.		Total Output.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Tons.	£	Tons.	£	Tons.	£
Wrought Iron in Bars, Rods, Angles and Shapes or Sections.	827,000	6,148,000	4,000	28,000	831,000	6,176,000
Iron Forgings	21,000	329,000	16,000	301,000	37,000	630,000
Iron Castings	929,000	7,418,000	320,000	2,898,000	1,249,000	10,316,000
Steel Forgings	63,000	1,275,000	23,000	1,357,000	86,000	2,632,000
Steel Castings	98,000	2,256,000	15,000	294,000	113,000	2,550,000
Plates and Sheets :—						
Not under 1/4th-inch thick ...	1,215,000	8,402,000	12,000	103,000	1,227,000	8,505,000
Under 1/4th-inch thick	332,000	2,969,000	5,000	34,000	337,000	3,003,000
Not separately distinguished ...	14,000	149,000	35,000	320,000	49,000	469,000
Armour Plates	18,000	1,771,000	—	—	18,000	1,771,000
Wire Rods	109,000	821,000	8,500	61,000	117,500	882,000
Hoops and Strips	389,000	3,034,000	1,000	11,000	390,000	3,045,000
Steel Sheet Bars and Tinplate Bars	991,000	5,308,000	—	—	991,000	5,308,000
Steel Bars, Angles, Rods, and Shapes or Sections.	974,000	7,271,000	14,000	145,000	988,000	7,416,000
Girders, Beams, Joists, and Pillars...	239,000	1,510,000	6,000	58,000	245,000	1,568,000
Scrap Iron and Steel	493,000	1,628,000	206,000	603,000	699,000	2,231,000
Total—Class (b)	—	50,289,000	—	6,213,000	—	56,502,000

The only headings in the above statement which are likely to involve duplication with other headings in Table I. are wrought iron bars, plates and sheets, wire rods, steel bars, angles, &c., and girders, beams, &c., but scrutiny of the individual Returns shows that substantially the whole of the output shown above is sold out of the iron trade,

either for export or to machinery manufacturers, shipbuilders, tinplaters, tube makers, &c. As far as can be identified, manufacturers of wrought iron goods, wire, anchors, chains, nails, and galvanized sheets, and constructors of bridges, workshops, &c., whose output is included in classes (c) and (d), below, used wrought iron bars, sheets, wire rods, and steel bars, angles, girders, &c., to the estimated value of £2,800,000, most of which would be purchased from firms whose output is included in the foregoing statement, though part may have been imported. Accordingly the duplication between Classes (b) and Classes (c) and (d) did not exceed £2,800,000 and may have been less.

It should also be observed that the quantities shown in the foregoing statement do not represent the total make of each product, but only the part not further worked up by the makers. Thus sheets rolled and galvanized by the same firm are entered not under "plates and sheets" but under "galvanized sheets," and girders, beams, &c., used in structural work by the firms that rolled them are entered under "construction of bridges, workshops, &c.," and not under "girders, beams, &c."

Taking into consideration manufactures of wrought iron made by firms that made their own bar iron and making proper allowance for loss in manufacture, the total make of wrought iron in bars, rods, angles, and shapes or sections in the year of return is estimated to have been about 850,000 tons. Further, so far as can be identified, the total make of wire rods by all firms (whether they made their Returns on the Schedules for the iron and steel trades or on other Schedules) was 148,000 tons, but an additional quantity lying between 28,000 and 33,000 tons seems to have been entered under more general headings (see page 113).

(c) Finished iron and steel products chiefly returned on Schedules for the iron and steel trades :—

	Returned on Schedules for the Iron and Steel Trades.		Returned on Schedules for other Trades.		Total.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Tons.	£	Tons.	£	Tons.	£
Railroad and Tramway Iron and Steel :—						
Railroad Rails (including Rails for mining uses).	733,000	4,372,000	—	—	733,000	4,372,000
Tram Rails	44,000	283,000	—	—	44,000	283,000
Chairs and Sleepers	174,000	957,000	4,000	26,000	178,000	983,000
Other Railroad Iron and Steel ...	134,000	1,645,000	—	—	134,000	1,645,000
Total—Railroad and Tramway Iron and Steel.	1,085,000	7,257,000	4,000	26,000	1,089,000	7,283,000
Pipes and Fittings, Cast	331,000	1,920,000	11,000	99,000	342,000	2,019,000
Galvanized Sheets	297,000	3,991,000	200,000	3,166,000	497,000	7,157,000
Cast Iron and Manufactures thereof	188,000	2,073,000	1,000	7,000	189,000	2,080,000
Tires and Axles	136,000	1,898,000	1,000	12,000	137,000	1,910,000
Wrought Iron and Manufactures thereof.	55,000	531,000	4,000	43,000	59,000	574,000
Manufactures of Iron and Steel, not elsewhere enumerated.	—	2,805,000	—	263,000	—	3,068,000
Total—Class (c)	—	20,475,000	—	3,616,000	—	24,091,000

The quantities and values set against the various classes of railroad iron and steel do not include rails, &c. made by railway companies at their own works. Railway plant and equipment, such as signals and engineering work, are also excluded. The output of galvanized sheets shown above does not include any sheets given out by merchants to be galvanized, but the quantity, if any, so given out is small.

The exports of cast iron pipes and fittings amounted to 227,000 tons in 1907, or about two-thirds of the quantity shown in the foregoing statement, and it is possible that some manufacturers have entered their output of cast pipes under the headings "iron castings" and "cast iron and manufactures thereof."

(d) Finished iron and steel products, of which a greater output is returned on Schedules for other trades :—

	Quantity.	Value.
	Tons.	£
Tubes and Pipes and Fittings, Wrought ...	4,000	50,000
Railway Wheels and Axles (complete) ...	44,000	721,000
Wire (including Telegraph and Telephone Wire)	15,000	228,000
Wire Nails and other Wire Manufactures ...	4,000	120,000

	Quantity. Tons.	Value. £
Anchors, Grapnels, Chains, and Cables (not of wire)	14,000	227,000
Nails (not of wire), Screws, and Rivets	26,000	250,000
Engineering and Machinery	—	143,000
Tools and Implements	—	194,000
Construction of Bridges, Workshops, &c.	—	2,269,000
Total—Class (d)		4,202,000

These classes of goods are dealt with in detail in subsequent parts of this Section of the Report. No duplication is involved between them and goods entered under other headings beyond the amount already deducted in respect of the estimated value of the semi-manufactured iron and steel from which they were made.

(e) Waste Products, By-products, and Goods other than Iron and Steel:—

	Quantity. Tons.	Value. £
Cinder, Slag, &c.	—	660,000
Coke	584,000	497,000
Sulphate of Ammonia	35,000	398,000
Pitch	85,000	57,000
Tar (Crude)	49,000	39,000
Tar (Refined) and Varnishes	783,000	4,000
Tar Oil, Creosote, &c.	8,647,000	62,000
Benzol and Toluol	653,000	17,000
Other Coal Tar Products	—	17,000
Other By-products	—	88,000
Manufactures of Other Metals	—	253,000
Other Products	—	9,000
Total—Class (e)		2,101,000

The quantity of coke entered above does not represent the whole of the coke made at ovens connected with ironworks, but only such portions of the total output as were either sold or added to stock. All ironmasters were asked to make a voluntary statement respecting the total quantity of coke made by them, whether used in their own works or not, from which it appears that their total make of coke was 851,000 tons. Practically the whole of the 584,000 tons of coke shown in the above statement was made by firms that furnished separate Returns for their coke-works, their output of coke thus appearing as if sold to their iron-works for which separate Returns were also made. The total output of foundry coke at all coke ovens, including those at collieries and other works as well as those at ironworks, is dealt with on pages 45 to 47.

(f) Work Done for the Trade or "on Hire."—Certain firms also included in their statements of output amounts received for work done on materials supplied by other manufacturing firms, as under:—

	Amount Received. £
Rolling, Tilting, Forging, &c.	262,000
Scrap-breaking, Galvanizing, &c.	102,000
Total—Class (f)	364,000

This amount is mainly duplicated in the value of the goods returned as their output by the firms that gave out the work to be done.

Summarising the results of this analysis, the aggregate value of the output, taken as a whole, of heavy iron and steel goods (including finished iron products and structural work valued at £4,202,000, but omitting scrap iron and steel valued at £2,231,000), whether reported on the Schedules for the iron and steel trades or on those for other trades, was £87,764,000, made up as follows:—

	£
Class (a)	8,000,000
Class (b)	51,471,000
Class (c)	24,091,000
Class (d)	4,202,000

In addition, there were produced at ironworks whose output was returned on the Schedules for the iron and steel trades, iron and steel waste products and by-products valued at £748,000; coke and coal-tar by-products, valued at £1,091,000; and other metal manufactures and non-metallic goods valued at £262,000.

In order to obtain a comparison with the trade of the previous year, firms in the iron and steel industry were asked to state voluntarily the total value of their output in the twelve months preceding the period for which they had furnished detailed and compulsory Returns. Firms whose output was valued at £48,898,000, or over 46.4 per cent. of the value of the gross output of all firms making Returns on the Schedules for the iron steel trades, stated that the value of their output in the previous year (generally 1906) amounted to £46,041,000. The increase of value in 1907, compared with 1906, was thus a little over 6.2 per cent. in the case of those firms reporting for both years. It should be remembered, however, that this increase is calculated on the gross value of the output, which, as already explained, differs from the value of the goods ready for consumption which are produced by the trade as a whole. It should also be noted that the average realized price of No. 3 Cleveland pig iron was 51s. 3d. in 1906 and 55s. 10d. in 1907, and that the total make of pig iron in 1906 was 10,184,000 tons and in 1907 10,114,000 tons.

The following statement shows the production of the various classes of heavy iron and steel products (as returned to the Census Office on all Schedules) in comparison with the exports and imports in 1907. It should be observed that the production figures for each class are exclusive of any quantities made and worked up into more finished goods by the firms that made them, except in the case of pig iron, puddled bars, wire rods, and steel ingots.

	Estimated Total Make.	Exports.	Net Imports.*
Pig Iron:—	Tons.	Tons.	Tons.
Spiegeleisen and Ferro-manganese	333,000	148,000	12,000
Other Sorts	9,781,000	1,794,000	89,000
Total—Pig Iron	10,114,000	1,942,000	101,000
Puddled Bars	1,100,000	2,000	1,000
Wire Rods	176,000 to 181,000	†	34,000
Steel Ingots (open hearth or Bessemer)	6,522,000	‡	‡
	Production for Sale or for Stock.	Exports.	Net Imports.*
Iron Castings	1,249,000	6,000	4,000
Iron Forgings	37,000	1,000	1,000
Wrought Iron in Bars, Rods, Angles, and Shapes or Sections.	831,000	159,000	74,000
Cast Iron and Manufactures thereof	189,000	43,000	†
Wrought Iron and Manufactures thereof	59,000	52,000	†
Railroad Rails, including Rails for Mining uses§	733,000	410,000	7,000
Tram Rails	44,000	4,000	3,000
Chairs and Sleepers	178,000	92,000	†
Other Railroad Iron and Steel	134,000	65,000	†
Ship, &c., Plates and Sheets:—			
Not under ½-inch thick	1,227,000	233,000	39,000
Under ½-inch thick	337,000	68,000	17,000
Not separately distinguished	49,000	—	—
Galvanized Sheets	497,000	468,000	†
Armour Plates	18,000	1,000	†
Hoops and Strips	390,000	54,000	17,000
Pipes and Fittings, Cast	342,000	227,000	4,000
Tires and Axles	137,000	23,000	4,000
Steel Blooms, Billets, Slabs, Sheet Bars, and Tinplate Bars.	1,516,000	13,000	326,000
Crucible Steel (Ingots, Bars, Castings, &c.)	20,000	†	†
Steel Castings	113,000	1,000	3,000
Steel Forgings	86,000	2,000	6,000
Steel Bars, Angles, Rods, and Shapes or Sections	988,000	232,000	25,000
Steel Girders, Beams, Joints and Billets	245,000	106,000	87,000

* *i.e.*, Imports less re-exports.

† Not separately specified.

‡ Not separately distinguished from Steel Blooms, Billets, and Bars (see below). In the year 1908, when separate particulars for Steel Ingots were shown, the quantity exported was 400 tons and the net imports amounted to 21,100 tons.

§ Excluding rails made by railway companies.

Net Output.—The net output of the factories and workshops covered by the Tables on pages 171 to 176 (the value of whose gross output amounted to £105,322,000) was £30,048,000, that sum representing the net amount by which the value of the output of such factories and workshops exceeded the cost of the materials used and the amount paid to other firms for work done by them on those materials for the principal firms. The exact cost of the materials used by those factories and workshops, taken as a whole, cannot be stated precisely, but it may be estimated at a sum not exceeding 54 million pounds sterling. The amount paid to other firms for work given out was £459,000.

The net output per head of persons employed in the censal year was nearly £115.

Persons Employed.—The average number of persons employed on the last Wednesdays in January, April, July, and October in the factories, and the number of persons ordinarily employed in the workshops, covered by the Tables on pages 171 to 176, is returned as 261,666, viz., 247,404 wage-earners and 14,262 salaried persons, the total number being distributed by age and sex as follows:—

Males:—			Females:—		
Under 18	...	23,758	Under 18	...	878
Over 18	...	234,589	Over 18	...	2,441

The variation in employment in iron and steel works during the censal year is shown by the following statement:—

	Persons Employed on the last Wednesday in			
	January.	April.	July.	October.
Wage-earners	245,727	248,356	247,999	247,532
Salaried Persons	14,162	14,257	14,289	14,340
Total	259,889	262,613	262,288	261,872

Power.—The particulars furnished with regard to power are summarised below, electricity purchased not being included:—

	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.
	£		Horse-Power.
Factories with their own Engines	104,768,000	260,306	1,383,586
Factories renting their Power	8,000	60	—
Workshops (not using Power)	546,000	1,300	—
Total	105,322,000	261,666	1,383,586

Classed according to kinds of power, the particulars are:—

	Horse-Power.
Steam Engines:—	
Reciprocating	1,281,384
Steam Turbines	33,212
Total—Steam Engines	1,314,596
Internal Combustion Engines (gas, oil, &c.)	53,689
Water Power	2,280
Other Power	13,021
Total	1,383,586

There is no information as to the amount and kind of power rented by firms employing 60 persons.

Firms using dynamos driven by their own engines were required to state their capacity, and the information furnished may be summarised as follows:—

	Kilowatts.
Capacity of Dynamos driven by:—	
Steam Engines: Reciprocating	68,061
Steam Turbines	10,481
Other Power	15,511
Total	94,053

The capacity of these dynamos should not, of course, be added to that of the engines owned. What the information shows is that (taking 746 kilowatts as equivalent to 1,000 horse-power and allowing about 10 per cent. for loss of energy in conversion) a little over one-tenth of the engine-power belonging to heavy iron and steel works was required for driving dynamos for the production of electric power and light.

Manufacturers were also required to state the quantity of electricity generated by their own dynamos, but owing to the insufficiency of their records a number of them were unable to do so. The following statement summarises the information furnished:—

Dynamoes driven by	Total Capacity of Dynamos.	Electricity Generated, so far as particulars were returned.	
		Capacity of Dynamos.	Electricity Generated.
	Kilowatts.	Kilowatts.	Board of Trade Units.
Steam Engines: Reciprocating	68,061	51,213	112,092,000
Steam Turbines	10,481	9,031	14,174,000
Other Power	15,511	14,145	33,800,000
Total	94,053	74,389	160,066,000

About 18,018,000 Board of Trade units of electricity were purchased by manufacturers for power and lighting purposes. This figure includes estimates made in the Census Office in respect of the quantities of electricity purchased by a number of small firms who were only able to state the amounts paid by them, but the total quantity so estimated forms only a very small proportion of the whole.

Plant.—In order to obtain a measure of the equipment of the heavy iron and steel trades, all manufacturers were asked to state voluntarily the number and capacity of their blast furnaces, Bessemer converters, open-hearth furnaces, puddling and scrap furnaces, cupolas and air furnaces at foundries, sheet mills, and coke ovens. The coke ovens have already been dealt with on page 47. The General Report on Mines and Quarries for 1907, Part III. (Cd. 4343), states that in 1907 there were 514 blast furnaces in the United Kingdom, the average number in blast being 369. The voluntary information furnished to the Census Office related only to 238 furnaces, of which 187 were, on the average, in blast, the corresponding output being 5,518,000 tons or a little more than 54½ per cent. of the total output of pig iron. With regard to 181 blast furnaces (of which 139 were, on the average, in blast) it was stated that their aggregate weekly capacity was 103,600 tons or 572 tons per furnace per week; the actual aggregate output of those 181 furnaces was 3,972,000 tons per annum, or 422 tons per furnace per week. The difference is due to furnaces out of blast—some for repairs, some on account of declining trade in the latter part of 1907, while some probably had not been operated for many years and had only a statistical existence. Dividing the output of 3,972,000 tons among the 139 furnaces which were, on the average, in blast in the twelve months, the output per furnace per week works out at 550 tons or 96 per cent. of the average maximum capacity of each of the 181 furnaces.

The information furnished respecting steelmaking plant covered too small a proportion of the total to serve as a basis for general estimates, but it is summarised below:—

	Total Number.	Average Number Working.	Aggregate Weekly Capacity of Total Number.	Aggregate Annual Output.
Acid Bessemer Converters	17	15	Tons. 13,300	Tons. 511,900
Basic Bessemer Converters	8	8	1,900	Not stated
Acid Bessemer Converters	9	6	Not stated	125,200
Acid Open-Hearth Furnaces	41	35	9,300	355,800
Acid Open-Hearth Furnaces	83	63	Not stated	707,400
Basic Open-Hearth Furnaces	13	Not stated	500	Not stated
Basic Open-Hearth Furnaces	47	41	14,300	598,400
Basic Open-Hearth Furnaces	14	10	Not stated	115,200

With regard to puddling furnaces, as already stated, firms with 1,182 effective furnaces, of which 1,057 were on the average in operation, stated that their output

amounted to 975,000 tons in the censal year. The aggregate weekly capacity of 730 of these furnaces, whose total output in the year of return was 562,000 tons, was stated to be 13,900 tons. The average maximum weekly capacity of those puddling furnaces was thus 19 tons and the average weekly output 15 tons, but allowance should, of course, be made for time lost while furnaces were being re-lined or otherwise repaired. Firms with 96 furnaces stated that on the average 88 were working, but did not give their capacity or output, and in addition it appears from the Reports of the British Iron Trade Association that there were 57 furnaces working in respect of which no voluntary information was furnished.

With regard to iron and steel cupolas and air furnaces, firms with an output of 361,000 tons of iron castings and 172,000 tons of cast iron and manufactures thereof stated that they owned 636 cupolas and 109 air furnaces. The average weekly capacity of 157 cupolas was reported as averaging 34 tons each, and of 14 air furnaces as averaging five tons each.

Ore and Coal used in Blast Furnaces.—Ironmasters were also requested to state voluntarily the quantity and value of the iron ore (including cinder) and of the coal (including coal converted into coke) used by them in blast furnaces. From the replies it appears that 13,715,000 tons of iron ore and cinder were used in the production of 5,328,000 tons of pig iron, and that out of this quantity of pig iron 4,868,000 tons required 12,233,000 tons of ore and cinder and 9,803,000 tons of coal; the coal used in making the remaining 460,000 tons of pig iron was not stated. There were thus used, on the average, 2.51 tons of ore and cinder and 2.01 tons of coal per ton of pig iron. These figures cover only about one-half the output of pig iron, but in Part III of the General Report on Mines and Quarries for 1907 it is stated that 25,124,000 tons of ore and cinder and 21,120,000 tons of coal were used in the calendar year 1907 in the production of 10,114,000 tons of pig iron, or 2.48 tons of ore and cinder and 2.09 tons of coal per ton of pig iron.

The cost of 11,593,000 tons of the iron ore and cinder used was stated to be £6,638,000, or 11.45s. per ton, and the cost of 9,072,000 tons of the coal used was stated to be £4,984,000, or 10.99s. per ton. The average price of ironstone raised from mines under the Coal Mines Regulation Act, as returned to the Home Office, was 5s. 6d. per ton at mine in 1907, while that of hæmatite was 17s. 11d., and that of ore raised from quarries 2.14s., the general average price being 5.64s. calculated at mine or quarry. The average price of imported ore at port of landing was 19.04s. per ton in 1907.

Tinplate Trade.

Output.—The Tables on pages 177 and 178 are based on Returns received from firms engaged in the manufacture of tinned plates and sheets. The aggregate gross value of the output as stated to the Census Office was £9,167,000, but this amount includes some duplication.

The following statement shows the particulars furnished regarding the output of finished goods and waste products, and is free from duplication :—

	Quantity.	Value.
Tinned Plates and Tinned Sheets (including Terne Plates and Terne Sheets)	Tons. 529,000	£ 7,402,000
Other Iron and Steel Manufactures ...	Recorded by value only. {	55,000 329,000 38,000
Scrap Iron and Steel ...		
Other Waste and By-Products ...		

The total value of the above-mentioned products is £7,824,000.

For the purpose of separating tinned plates from tinned sheets, manufacturers were asked to classify voluntarily their output in terms of standard boxes. Firms whose output of tin and terne plates and sheets amounted to 424,000 tons (or 80 per cent. of the total) furnished the desired information and their replies are summarised below :—

	Standard Boxes.
Tin and Terne Plates up to 54 inches by 28 inches ...	8,737,923
Tin and Terne Sheets over 54 inches by 28 inches ...	35,607
Total ...	8,773,530

No information was given as to the classification of the remaining 105,000 tons of tin and terne sheets and plates.

In addition, there were included in the statements of output black plates and sheets, as follows, their aggregate value being £1,343,000 :—

	Quantity.	Value.
	Tons.	£
Black Sheets over 54 inches by 28 inches	35,000	320,000
Black Plates, for tinning and enamelling (including Canada Plates) up to 54 inches by 28 inches ...	108,000	1,023,000

Firms whose output amounted to 62,000 tons of black plates and 4,800 tons of black sheets stated voluntarily that it was equivalent to 1,574,339 standard boxes of black plates and 87,202 standard boxes of black sheets.

Black plates and sheets are semi-manufactured material for the production of tinned and enamelled plates and sheets, and, except in so far as they were added to stock, were exported, or were sold to firms outside the tinplate trade, their value is duplicated in that of the tinned plates and sheets included in the first statement on page 108. In 1907, 71,500 tons of black plates were exported, and their value at works, on the basis of the Returns made to the Census Office may be estimated at about £677,000. Examination of the individual Returns shows that not less than 4,500 tons of black plates, valued at £39,000, were added to stock. Consequently, the balance of 32,000 tons, valued at £307,000, may be taken to represent the maximum amount sold to tinplate manufacturers, who included it in their Returns as tinned plates, thus producing a possible duplication to that extent. A similar scrutiny of the Returns shows that about 7,000 tons of black sheets, valued at about £64,000, appear to have been sold to other firms to be coated and were, therefore, duplicated in the Returns, while the remainder of the black sheets included in the Returns appear to have been sold outside the tinplate trade or to have been added to stock. Consequently, taking the trade as a whole and eliminating all duplication, the output was approximately as follows :—

	Quantity.	Value.
	Tons.	£
Tinned Plates and Tinned Sheets ...	529,000	7,402,000
Black Plates, exported or added to stock	76,000	716,000
Black Sheets, sold outside the trade or added to stock ...	28,000	256,000
Other Iron and Steel Manufactures ...	Recorded by value only. {	55,000 329,000 38,000
Scrap Iron and Steel ...		
Other Waste and By-Products ...		

The value of the above-mentioned products amounts to £8,796,000.

The quantity of tinned plates and sheets exported in 1907 was 405,000 tons, or 76.6 per cent. of the total production, while the quantity of black plates exported was 71,500 tons, or 66.2 per cent. of the quantity made and not coated by the makers.

In order to obtain a comparison with the trade of the previous year, the firms in the tinplate trade were asked to state voluntarily the total value of their output in the twelve months preceding the period for which they had furnished detailed and compulsory Returns. Firms whose output in the censal year was valued at £5,685,000, or 62 per cent. of the gross value of the output of all firms making Returns on the Schedules for the tinplate trade, reported that the value of their output in the previous year (generally 1906) amounted to £4,734,000. The increase in value in 1907 compared with 1906 was thus 20 per cent. in the case of those firms reporting for both years. This increase, however, is calculated on the gross value of output, a figure which differs from the value of the actual goods ready for export or consumption which are produced by the trade as a whole. It should also be noted that the average price of tinplate exported was £13.17 per ton in 1906 and £14.60 per ton in 1907.

Net Output.—The net output of the factories covered by the Tables on pages 177 and 178 (whose gross output was valued at £9,167,000) was £2,009,000, that sum representing the total amount by which the value of the products of such factories exceeded the cost of the materials used. The actual cost of the materials used in those factories, taken as a whole, cannot be stated precisely, but it may be estimated at approximately £6,787,000.

The net output per head of persons employed in the censal year was over £97.

Persons Employed.—The average number of persons employed on the last Wednesdays in January, April, July, and October in the factories covered by the Tables on pages 177

and 178 is returned as 20,628, viz., 20,059 wage earners and 569 salaried persons, the total number being distributed by age and sex as follows:—

Males:—		Females:—	
Under 18	2,910	Under 18	792
Over 18	15,113	Over 18	1,813

The variation in employment during the censal year is shown in the following statement:—

	Persons Employed on the last Wednesday in			
	January.	April.	July.	October.
Wage-earners	19,812	20,144	20,182	20,100
Salaried Persons	569	569	567	571
Total	20,381	20,713	20,749	20,671

Power.—The factories covered by the Tables on pages 177 and 178, which produced a gross output valued at £9,167,000 and employed on the average 20,628 persons, owned engines of 68,842 horse-power in the aggregate and purchased about 330,000 Board of Trade units of electricity. In the case of electricity purchased the quantity has been estimated in one case where only information as to the amount paid was furnished.

Classed according to kinds of power, the particulars are:—

	Horse-Power.
Steam Engines, Reciprocating	66,869
Internal Combustion Engines (gas, oil, &c.)	113
Water Power	1,560
Other Power	300
Total	68,842

Firms using dynamos driven by their own engines were required to state their capacity, and the information furnished may be summarised as follows:—

Capacity of dynamos driven by:—		Kilowatts.
Steam Engines, Reciprocating	...	1,144
Other Power	...	9
Total	...	1,153

The capacity of those dynamos should not, of course, be added to that of the engines owned. What the information shows is that (taking 746 kilowatts as equivalent to 1,000 horse-power, and allowing about 10 per cent. for loss of energy in conversion) about one-fortieth of the engine-power belonging to tinplate and blackplate works was required for driving dynamos for the production of electric power and light.

Manufacturers were also required to state the quantity of electricity generated by their own dynamos, but owing to the insufficiency of their records a complete statement of the quantity generated cannot be made. Firms, however, with dynamos of 210 kilowatts capacity, driven by reciprocating steam engines, returned the quantity of electricity generated as 360,000 Board of Trade units.

Plant.—In order to obtain a further measure of the tinplate and black plate trades, a question was addressed to all firms in the industry, asking them to furnish a voluntary statement of the number and capacity of their plate mills and sheet mills. Firms whose aggregate gross output of tinplates, black plates, and black sheets amounted to 573,000 tons, or a little over 85 per cent. of the aggregate gross output of all the firms making Returns to the Census Office, reported that they had 355 tinplate mills and 15 sheet mills, of which 350 plate mills and 14 sheet mills were, on the average, in operation throughout the censal year. The total weekly capacity of those plate mills was 12,257 tons and that of the sheet mills 578 tons, or 34½ tons and 38½ tons per mill respectively.

According to the Board of Trade "Labour Gazette" there were, in 1907, 75 tinplate works and nine sheet works with 390 plate mills and 54 sheet mills in operation in the year.

Wrought Iron and Steel Tube Trade.

Output.—The Tables on pages 179 and 180 are based on Returns received from factories and workshops engaged in the manufacture of wrought iron and steel tubes. The aggregate gross value of the output of those factories and workshops in the year of return was stated as £6,548,000, which, however, includes a small amount of duplication.

The particulars furnished respecting the details of the output are shown in the following statement:—

	Quantity. Tons.	Value. £	
Iron and Steel Tubes and Pipes and Fittings, Wrought (including Gun Barrels and Tubes)	300,000	6,040,000	
Iron and Steel Tubes and Pipes and Fittings, Cast	7,000	42,000	
Scrap Iron and Steel	53,000	128,000	
Iron and Steel Castings, Forgings, &c.	...	24,000	
Cycles and Cycle Parts	...	32,000	
Engineering Work, Tools, and Other	Recorded	by value only. {	
Iron and Steel Manufactures	...		16,000
Other Metal Goods (Brass, Zinc, &c.)	...		262,000
Scrap and Waste	...		3,000
Work done for the Trade...	...	1,000	

The cycles and cycle parts were made from tubes already returned as such by the makers thereof, and a consequent duplication amounting to £17,000 is involved. The work done for the trade is also duplicated in the Returns of the firms for whom it was done.

Deducting these two amounts, the value, taken as a whole, of the output of the factories and workshops covered by the Tables on pages 179 and 180 is £6,530,000.

In addition, firms that made their Returns on Schedules for other trades included in their statements of output about 20,000 tons of wrought iron and steel tubes and fittings valued at about £290,000, and about 2,500 tons of tubes (valued at about £30,000) were returned as used by the makers, raising the total make of iron and steel tubes and fittings (including a small quantity returned by tube-makers as gun barrels and gun-tubes) to 322,000 tons valued at about £6,360,000. This is exclusive of any tubes which may have been made by engineering firms and included in the value of the machinery, &c., made by them.

In 1907 the exports of wrought iron and steel tubes and pipes and fittings amounted to 121,000 tons, or 38 per cent. of the quantity manufactured in the United Kingdom, and the net imports (*i.e.*, imports less re-exports) were 19,000 tons, or one-seventeenth of the quantity made in the United Kingdom. The average value of the exports, free on board, was £17·7 per ton and the average value of the imports at port of landing was £13 per ton, while the average value at works of the wrought iron and steel tubes and pipes and fittings made in the United Kingdom was £19·7 per ton.

In order to obtain a comparison with the trade of the previous year, the firms in the wrought iron and steel tube trade were asked to furnish a voluntary statement of the value of their output in the twelve months preceding the period for which they furnished detailed and compulsory Returns. Firms producing goods to the value of £1,796,000, or a little over 27·4 per cent. of the value of the gross output of all firms making Returns on the Schedules for the wrought iron and steel tube trade, reported that the value of their output in the previous year (generally 1906) amounted to £1,652,000. The increase of value in 1907 compared with 1906 was thus a little over 8·7 per cent. in the case of those firms reporting for both years. It would not be safe, however, to conclude on the basis of these figures that this increase represented a general movement throughout the whole trade. The changes in individual firms ranged from a decrease of 48 per cent. to an increase of 139 per cent. on the value of the output in 1906, and no distinctly dominant rate of change was disclosed. The figures also show that firms whose business year coincided with the calendar year 1907 showed an average increase of 18 per cent. over 1906, while those who made Returns for their business year ended on the 30th June, 1908, showed an average decrease of 9 per cent., this, of course, being due to the stagnation of trade which set in towards the end of 1907.

Net Output.—The net output of the factories and workshops covered by the Tables on pages 179 and 180 (whose gross output was valued at £6,548,000) was £2,189,000, that sum representing the total amount by which the value of the output of those factories and workshops exceeded the cost of the materials used. After making allowance for duplication arising from the inclusion of a certain quantity of tubes as output by certain firms and as materials by other firms, to whom they were sold to make cycle parts, the cost of materials used by those factories and workshops, taken as a whole, may be estimated at about £4,342,000.

The net output per head of persons employed in the censal year was a little over £108.

Persons Employed.—The average number of persons employed on the last Wednesdays in January, April, July, and October in the factories and workshops covered by the Tables on pages 179 and 180 is returned as 20,223, viz. :—18,907 wage earners and 1,316 salaried persons, the total number being distributed by age and sex as follows :—

Males :—		Females :—	
Under 18	3,132	Under 18	44
Over 18	16,875	Over 18	172

The variation in employment during the censal year is shown in the following statement :—

	Persons Employed on the last Wednesday in			
	January.	April.	July.	October.
Wage-earners	18,926	18,743	18,683	19,275
Salaried Persons	1,320	1,312	1,308	1,324
Total	20,246	20,055	19,991	20,599

Power.—The particulars furnished with regard to power are summarised below, electricity purchased not being included :—

	Gross Value of Output.	Average Number of Persons Employed.	Total Capacity of Engines.
	£		Horse-Power.
Factories with their own Engines	6,537,000	20,104	23,015
Factories renting their Power	2,000	14	—
Workshops (not using Power)	9,000	105	—
Total	6,548,000	20,223	23,015

Classed according to kinds of power, the particulars are :—

	Horse-Power.
Steam Engines, Reciprocating	22,207
Internal Combustion Engines (gas, oil, &c.)	793
Water Power	10
Other Power	5
Total	23,015

There is no information as to the amount and kind of the power rented by the firms employing 14 persons.

Firms using dynamos driven by their own steam engines also stated that the capacity of such dynamos was 2,087 kilowatts, and that the amount of electricity generated was 7,040,000 Board of Trade units. The capacity of those dynamos should not, of course, be added to that of the engines owned. What the information shows is that (taking 746 kilowatts as equivalent to 1,000 horse-power, and allowing about 10 per cent. for loss of energy in conversion) about two-fifteenths of the engine-power belonging to wrought iron and steel tube works was required for driving dynamos for the production of electric light and power.

The quantity of electricity purchased for power and lighting purposes was returned as 1,507,000 Board of Trade units.

Wire Trades.

Output.—The Tables on pages 181 to 183 are based on Returns received from factories and workshops engaged in the drawing of wire and the manufacture of wire ropes, netting, mattresses, and smallwares. The aggregate value of the gross output of the firms that made their Returns on the Schedules for the wire trades is returned as £6,600,000, and, in addition, firms that made their Returns on Schedules for other trades included in their statements of output wire rods, wire, and wire manufactures to the value of £2,262,000, thus raising the aggregate value of the gross output of firms engaged in the wire trade to £8,862,000. This sum, however, involves a considerable amount of duplication.

Iron and Steel Wire and Manufactures thereof.—The following statement sets forth the particulars furnished respecting the output of the iron and steel wire trade, whether given on Schedules for the wire trades or on Schedules for other trades :—

	Returned on Schedules for the Wire Trades.		Returned on Schedules for other Trades.		Total.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Iron and Steel Wire Rods	Tons. 8,500	£ 61,000	Tons. 109,000	£ 821,000	Tons. 117,500	£ 882,000
Iron and Steel Wire (including Telegraph, Telephone, and Barbed Wire).	168,600	2,520,000	17,000	281,000	185,600	2,801,000
Iron and Steel Wire Manufactures :—						
Ropes and Cables	—	1,442,000	—	136,000	—	1,578,000
Netting	—	482,000	—	89,000	—	571,000
Mattresses	—	43,000	—	304,000	—	347,000
Nails and Staples	2,200	27,000	2,300	28,000	4,500	55,000
Smallwares and Other Manufactures.	—	507,000	—	156,000	—	663,000
Total—Iron and Steel Wire Manufactures.	—	2,501,000	—	713,000	—	3,214,000
Amount received for Work Done for the Trade.	—	12,000	—	6,000	—	18,000
Total	—	5,094,000	—	1,821,000	—	6,915,000

The output of wire rods and wire shown above does not represent the total quantities made, but only those quantities which the firms making them did not use in their own works in the manufacture of other goods. As shown below, about 210,000 or 215,000 tons of wire rods were required for wire-drawing in the United Kingdom, and, as the net imports of rods amounted to about 34,000 tons, it would appear that the quantity of rods rolled in the United Kingdom was between 176,000 and 181,000 tons. Only the production of 148,000 tons of wire rods (including rods drawn into wire by the rolling firms) can be traced in the Returns, and the balance is probably included in the Returns on Schedules for the iron and steel trades under more general headings. The output of wire rods was all either made into wire by the firms rolling the rods or was sold to wire-drawers. Consequently, its value is duplicated in the value of the wire and other goods made.

With regard to iron and steel wire, all firms in the trade were asked to make a voluntary statement respecting the quantity of wire drawn by them, whether subsequently used by them in the manufacture of wire goods or not. This request was very generally responded to, firms with an output of 184,000 tons of wire and wire goods furnishing the desired information. On the basis of this information and of other information contained in the Schedules, it is estimated that the total make of iron and steel wire in the United Kingdom in the censal year (whether made by manufacturers making their Returns on Schedules for the wire trades or by firms making their Returns on Schedules for other trades) was between 210,000 and 215,000 tons, and that its value lay between £3,150,000 and £3,225,000 (on the basis of the figures returned to the Census Office). Out of this quantity, 55,000 tons (valued at works at £830,000) was exported, and the balance of 155,000 tons (valued at £2,320,000 to £2,395,000) was either sold direct to consumers, or was used by wire-drawers who also made finished goods, or was sold to manufacturers of ropes, netting, and smallwares. The last class of

purchasers included the value of the wire purchased in the value of their finished goods, as returned to the Census Office, thus causing duplication. The precise quantity of wire used for further manufacture cannot be determined precisely, but wire-drawers who made Returns on the Schedules for the wire trades included in their statements of output wire manufactures to the value of £805,000 (the weight of which may, on the basis of the information contained in the Schedules, be estimated at about 30,000 tons), and wire-drawers who made their Returns on Schedules for other trades included in their statements of output 4,000 tons of wire manufactures valued at £120,000. There is no duplication in respect of those amounts, except in so far as some wire-drawing firms may have bought certain kinds of wire, but transactions of this character do not appear to have been frequent. Manufacturers of wire goods who were not drawers of wire included in their statements of output, as made on Schedules for the wire and other trades, wire manufactures to the value of £2,284,000 (the weight of which is estimated to be about 78,000 tons). There is thus a possible duplication of 78,000 tons of wire valued at about £1,170,000. The net imports (*i.e.*, imports less re-exports) of wire in 1907 amounted to about 53,000 tons, valued at £566,000, or £10·7 per ton at port of landing. Over nine-tenths of this wire came from Germany, Belgium, and the United States, and its low value shows that in the main it was fencing wire and not wire for use in further manufactures. It would, therefore, appear that most of the 78,000 tons of wire referred to above was purchased from British wire manufacturers, and that in the total of £6,915,000 returned to the Census Office as the value of the gross output of the iron and steel wire trades there is duplication to the extent of (a) 117,500 tons of wire rods, valued at £882,000, (b) 78,000 tons of wire, valued at £1,170,000, and (c) £18,000 received for work done for other manufacturers, who included it in the value of their finished goods, making altogether £2,070,000. The value of the output of the industry, taken as a whole, (covering wire rods, wire, ropes, netting, mattresses, nails, smallwares, and other manufactures of iron and steel wire), may thus be estimated at about £4,845,000. Out of the estimated total make of 210,000 to 215,000 tons of wire, 55,000 tons were exported, and it is calculated that 110,000 to 115,000 tons were used in the production of ropes, netting, &c., leaving about 45,000 tons for sale directly to consumers as telegraph, telephone, fencing, and other wire.

In 1907 the net imports of wire rods were about one-fifth of the total quantity made in the United Kingdom, while the net imports of wire were about one-fourth of the total quantity made in the United Kingdom. The exports of wire rods were negligible, and the exports of wire formed a little over 25 per cent. of the total quantity made in the United Kingdom. The net imports of wire nails in 1907 amounted to 38,000 tons, while the imports of other wire manufactures were not separately recorded. The exports of wire manufactures (including ropes, netting, &c.) in 1907 amounted to 46,000 tons, valued at £1,196,000 at port of landing.

Brass and Copper Wire.—The following statement shows the particulars furnished respecting the output of brass and copper wire and manufactures thereof :—

	Returned on Schedules for the Wire Trades.	Returned on Schedules for other Trades.	Total.
	Value.	Value.	Value.
	£	£	£
Brass Wire	218,000	—	218,000
Copper Wire	909,000	441,000	1,350,000
Manufactures of Brass and Copper Wire	160,000	—	160,000
Total	1,287,000	441,000	1,728,000

Firms with an output of brass wire valued at £119,000, or nearly 55 per cent. of the total value of the output of brass wire returned as such, stated that the quantity made was 27,600 cwts; and firms with an output of copper wire valued at £885,000, or nearly 66 per cent. of the total value of the output of copper wire returned as such, stated that the quantity made was 166,000 cwts. These quantities are exclusive of (a) wire used by wire-drawers in further manufacture, and (b) wire included in the Returns of brass and copper manufacturers, (*see* pages 243 and 244). On the basis of the information voluntarily supplied by wire-drawing firms as to the weight of their wire and wire goods it is estimated that the total make of brass wire was about 55,000 cwts.

and that the total make of copper wire was about 255,000 cwts., exclusive, in both cases, of any wire made by brass and copper smelting and rolling firms. Wire-drawing firms that made their Returns on the Schedules for the wire trades produced, from their own wire, manufactured goods to the value of £107,000, so that the value of the manufactured wire goods made by the firms that purchased their wire was about £53,000; the cost of the wire purchased by them to be worked up is estimated to be about £35,000. It is not known whether this wire was purchased from firms that made their Returns on the Schedules summarised in the above statement or from firms engaged in copper and brass manufacture, or whether it was imported, and, therefore, it can only be stated that the value of the output of the firms included in the foregoing statement, taken as a whole, lay between £1,693,000 and £1,728,000. The total quantity of brass and copper wire made by firms engaged in the manufacture of brass and copper is not known (*see* pages 243 and 244).

The exports and imports of brass and copper wire are not stated separately in the Annual Statement of Trade.

Other Products.—In addition to wire and wire manufactures the following goods were included in their statements of output by firms that made their Returns on the Schedules for the wire trades :—

	Value.
	£
Iron and Steel Bars, Angles, Castings, Forgings, &c. ...	23,000
Other Manufactures of Iron and Steel	58,000
Copper and Brass Manufactures	49,000
Other Metal Goods	40,000
Waste Products	44,000
Other Products	5,000
Total	219,000

The complete output of these products is shown in the Reports which deal with the trades in which those goods are chiefly manufactured.

Net Output.—The net output of the factories and workshops covered by the Tables on pages 181 to 183 (whose gross output is valued at £6,600,000), was £2,120,000, that sum representing the total amount by which the value of the output of such factories and workshops exceeded the cost of the materials used and the amount paid to other firms for work done by them on those materials for the principal firms. The actual cost of materials used by those factories and workshops, taken as a whole, cannot be stated precisely, but it may be estimated at a sum lying between £3,166,000 and £3,482,000. The amount paid to other firms for work given out to them was £48,000.

The net output per head of persons employed in the censal year was nearly £116.

Persons Employed.—The average number of persons employed on the last Wednesdays in January, April, July, and October in the factories, together with the number ordinarily employed in the workshops, covered by the Tables on pages 181 to 183 is returned as 18,329, *viz.*, 17,016 wage-earners and 1,313 salaried persons, the total number being distributed by age and sex as follows :—

Males :—		Females :—	
Under 18	2,714	Under 18	641
Over 18	13,597	Over 18	1,377

The variation in employment in factories during the censal year is shown in the following statement :—

	Persons employed on the last Wednesday in			
	January.	April.	July.	October.
Wage-earners	16,147	16,157	15,967	15,991
Salaried Persons	1,169	1,175	1,179	1,177
Total	17,316	17,332	17,146	17,168

There were also 951 wage-earners and 138 salaried persons ordinarily employed in workshops.

Power.—The particulars furnished with regard to power are as follows, electricity purchased not being included :—

	Gross Value of Output.	Average Number of Persons Employed.	Total Capacity of Engines.
	£		Horse-Power.
Factories with their own Engines	6,457,000	17,199	31,031
Factories renting their Power	10,000	41	—
Workshops (not using Power)	133,000	1,089	—
Total	6,600,000	18,329	31,031

Classed according to kinds of power, the particulars are :— Horse-Power.

Steam Engines, Reciprocating	26,083
Internal Combustion Engines (gas, oil, &c.)	4,380
Water Power	553
Other Power	15

Total 31,031

There is no information as to the amount and kind of the power rented by the firms employing 41 persons.

Firms using dynamos driven by their own engines were required to state their capacity, and the information furnished is summarised below :—

Capacity of Dynamos driven by :—	Kilowatts.
Steam Engines, Reciprocating	1,824
Other Power	512
Total	2,336

The capacity of those dynamos should not, of course, be added to that of the engines owned. What the information shows is that (taking 746 kilowatts as equivalent to 1,000 horse-power, and allowing about 10 per cent. for loss of energy in conversion) nearly one-ninth of the engine-power belonging to wire factories was required for driving dynamos for the production of electric power and light.

Manufacturers were also required to state the quantity of electricity generated by their own dynamos, but owing to the insufficiency of their records a number of them were unable to do so. The following statement summarises the information furnished :—

Dynamos driven by	Total Capacity of Dynamos.	Electricity Generated, so far as particulars were returned.	
		Capacity of Dynamos.	Electricity Generated
Steam Engines, Reciprocating	Kilowatts. 1,824	Kilowatts. 843	Board of Trade Units. 1,093,000
Other Power	512	463	163,000
Total	2,336	1,306	1,256,000

About 6,863,000 Board of Trade units of electricity were purchased by manufacturers for power and lighting purposes. This figure includes estimates made in the Census Office in respect of the quantities of electricity purchased by a number of small firms who were only able to state the amounts paid by them, but the total quantity so estimated forms only a very small proportion of the whole.

Machinery.—In order to obtain another measure of the development of wire trades, manufacturers who made their Returns on Schedules for the wire trades were asked to

furnish a voluntary statement of particulars respecting certain kinds of machinery and their replies are summarised below :—

	All firms making Returns on Schedules for the Wire Trades.	Firms furnishing particulars.	Particulars of Machines owned.
Iron and Steel Wire (estimated total make)	Tons. 193,000	Tons. 135,000	7,077 Wire Drawing Blocks.
Brass Wire (estimated total make)	Cwts. 55,000	Cwts. 39,000	
Copper Wire (estimated total make)	173,000	165,000	
Wire Ropes and Cables (output for sale) ...	£ 1,442,000	£ 941,000	773 Rope-making Machines.
Wire Netting (output for sale)	482,000	252,000	117 Netting Looms.
Wire Nails (output of sale)	27,000	14,000	140 Nail-making Machines.

Anchor, Chain, Nail, Screw, and Rivet Trades.

Output.—The Tables on pages 184 to 186 are based on Returns received from factories and workshops engaged in the manufacture of anchors, grappels, bolts and nuts, nails, screws, rivets, and cognate products. The aggregate gross value of the output of the firms that made their Returns on the Schedules for the anchor, chain, nail, screw, and rivet trades is returned as £5,641,000, and, in addition, firms that made their Returns on Schedules for other trades included in their statements of output anchors, chains, nails, &c., to the value of £659,000, raising the total value to £6,300,000. Duplication to an aggregate amount of £51,000 is included in this total.

Many of the Returns sent in by occupiers of small factories and workshops in the chain and nail trades were very imperfect, as the persons concerned obviously had no records, or only very inadequate records, of their business. In a fairly large number of cases no Returns at all were received, but in most of those instances the persons to whom the Schedules were issued described themselves as working alone as out-workers for nail or chain-making firms or merchants who supplied them with their materials. So far as that work was done for nail or chain-making firms who furnished Returns of their output to the Census Office the amount received for the work would be included in the value of the finished goods shown in Table I. on page 184. Merchants who had anchors, grappels, chains, and cables made for them off their own premises were required by the Home Work Order of 23rd May, 1907, to furnish lists of their outworkers to the Local Authorities, and it has been found possible to require merchants who were known to employ outworkers in those trades to make Returns of the value of the goods made for them. Nail-making, however, was not included in that Order, and, therefore, no lists of givers-out of work being available, merchants who employed outworkers in nail-making were not asked to make Returns. The value of the nails made in the United Kingdom as shown in Table I, accordingly, does not include the value of all the nails made for merchants and the amount entered as received for work done for the trade in nail-making does not include the total amount received by outworkers who worked alone.

In view of the difficulties experienced by many manufacturers in this trade in distinguishing in detail the sales of their own manufactures from the sale of "factored" goods, *i.e.*, goods purchased from other firms and resold in the same condition, such firms were permitted to include in their statements of output the value of the factored goods along with that of the goods made by them, but were asked to state separately the total approximate cost of all the factored goods so included, and also to include it in the cost of their "materials." The cost of the factored goods as returned to the Census Office by 83 firms amounted to £174,000, or a little over three per cent. of the total value of the finished goods included in the Returns made on Schedules for the anchor, chain, nail, &c., trades. The particulars given in this Report and in the Tables have been adjusted by the omission of the cost of the factored goods both from the selling value of the goods returned under "output" and from the "cost of materials used," the adjustments being made on the basis of the information furnished in the individual Returns. The recorded value of the goods manufactured is, accordingly, swollen by the inclusion of the profit made on the factored goods, but the profit in question is small

in proportion to the total value of the manufactured goods included in the Returns, and the figures given in the Tables are not seriously affected by this consideration.

The following statement shows the particulars relating to the various classes of products manufactured in the factories and workshops covered by the Tables on pages 184 to 186, together with the output of similar products returned on Schedules for other trades, and is free from duplication:—

	Returned on Schedules for the Anchor, Chain, Nail, Screw, and Rivet Trades.	Returned on Schedules for other Trades.	Total.
—	£	£	£
Anchors and Grapnels:—			
Wrought	53,000	14,000	67,000
Cast Steel	12,000	—	12,000
Total—Anchors and Grapnels ...	65,000	14,000	79,000
Chains and Chain-Cables:—			
Hand-welded	588,000	6,000	594,000
Machine-made	43,000	—	43,000
Not separately distinguished	—	188,000	188,000
Total—Chains and Chain-Cables ...	631,000	194,000	825,000
Anchors and Chains, not separately distinguished ...	—	28,000	28,000
Bolts and Nuts	1,937,000	42,000	1,979,000
Nails:—			
Cut Nails (including Tin Tacks)	292,000	112,000	404,000
Hand-made Wrought Nails	51,000	10,000	61,000
Wire Nails (including Staples)	27,000	28,000	55,000
Other Nails	141,000	34,000	175,000
Total—Nails	511,000	184,000	695,000
Screws	835,000	2,000	837,000
Rivets	784,000	149,000	933,000
Screws and Rivets, not separately distinguished ...	47,000	—	47,000
Shoe Rivets, Shoe Tips, and Hob-nails ...	385,000	24,000	409,000
Washers	88,000	6,000	94,000
Hooks, Hinges, and Tackle	33,000	16,000	49,000
Hardware	35,000	—	35,000
Tools	20,000	—	20,000
Other Iron, Steel, and Copper Manufactures ...	182,000	—	182,000
Scrap Iron and Steel	32,000	—	32,000
Total	5,585,000	659,000	6,244,000

The last four items are dealt with in the Reports on the trades by which they are chiefly manufactured.

Chains for cart-gear made by saddlery and harness manufacturers are not included in the above statement.

In addition to the value of goods made the sum of £56,000 is included in the Returns as the amount received for work done for the trade. Firms that made Returns of the value of their finished goods made for sale stated that they paid to other firms and persons (not outworkers) for work given out to them £51,000. The difference—£5,000—between this sum and the amount received for work done for the trade represents the amount received for work done for merchants who were not required to make Returns, and is an addition to the value of the output of the trade as shown in the foregoing statement. The selling value of the goods so made for merchants is not known. The value of the output of the factories and workshops covered by the Tables on pages 184 to 186 was, therefore, taken as a whole, about £5,590,000, and the value of the output of the whole trade, so far as returned to the Census Office, was £5,980,000. In addition, hardware, tools, other metal manufactures, and scrap, to the value of £269,000 are dealt with in the Reports on the trades in which these goods are principally produced.

The firms which made their Returns on Schedules for other trades were not asked to distinguish between hand-welded and machine-made chains or between chains and anchors,

but it is probable that the greater part of the chains so returned (valued at £188,000) were hand-welded chains, and that the bulk of the £28,000 given above as the value of anchors and chains which were not distinguished in the Returns is attributable to chains. It is also probable that some part of the production of railway bolts and nuts is included under the heading of "other railroad iron and steel," of which an output valued at £1,645,000 is recorded in Table I. on page 173.

Under the limitations imposed by the Census of Production Act it was not possible to require manufacturers to state the quantities of their output in the same detail in which they were asked to state the values of their output in the compulsory part of the Schedule. All manufacturers making their Returns on the Schedules for the anchor, chain, nail, bolt, screw, and rivet trades were, therefore, asked to give voluntarily further information respecting the quantity of the goods produced by them.

Firms whose output of anchors, chains, bolts and nuts, nails, rivets, and screws was valued at £2,316,000 or 49 per cent. of the total value of such goods as returned on the Schedules for the anchor, chain, nail, &c., trades, furnished the required information, and their replies are summarised in the following statement:—

	Total Value of Output on Schedules for Anchor, Chain, &c., Trades.	Output of firms furnishing particulars.	
		Value.	Quantity.
—	£	£	Tons.
Anchors and Grapnels:—			
Wrought	53,000	29,000	2,100
Cast Steel	12,000	1,000	60
Chains and Chain Cables:—			
Hand-welded	588,000	308,000	17,400
Machine-made	43,000	10,000	300
Bolts and Nuts	1,937,000	993,000	61,400
Nails:—			
Cut Nails (including Tin Tacks)	292,000	176,000	15,400
Hand-made Wrought Nails	51,000	20,000	1,500
Wire Nails	27,000	—	—
Other Nails	141,000	67,000	3,100
Rivets (separately returned)	784,000	597,000	63,600
			Gross.
Screws (separately returned)	835,000	115,000	1,916,000

In addition, firms that worked only for the trade reported that they made 3,300 tons of hand-welded chains, 200 tons of bolts and nuts, 1,100 tons of cut nails, 140 tons of wire nails, and 200 tons of rivets; for this work they received £28,000.

It should be noted that under the headings "other nails," "bolts and nuts," "rivets," "screws," and "shoe rivets" are included goods of copper and brass as well as goods of iron and steel. The information in the possession of the Census Office does not enable the goods of different metals to be separated from one another, but there is no doubt that, both in quantity and value, the greater part of the output consisted of iron and steel goods.

The following statement shows the production of chains, nails, &c., in the United Kingdom in relation to the exports and imports, so far as the classification adopted in the Export and Import Lists permits such a comparison to be made:—

	Production.	Exports, 1907.	Net Imports, 1907.*
—	£	£	£
Anchors, Grapnels, Chains, and Cables	932,000	599,000	†
Nails (other than Wire Nails), Screws, and Rivets	2,457,000	556,000†	118,000
Bolts and Nuts	1,979,000	508,000	77,000

* *I.e.*, Imports less re-exports.

† Not separately distinguished.

‡ Nails, screws, and rivets of all kinds.

The exports of bolts and nuts are exclusive of railway bolts and nuts which are included in the Export List under the heading "iron and steel, railroad, unenumerated," and, as already stated, it is probable that part of the production of railroad bolts and nuts is excluded from the sum of £1,979,000 recorded above. It must also be borne in mind that the value of goods exported is calculated as free on board, and that of imported

goods as at the port of landing, while the values as returned to the Census Office were calculated as at works.

Net Output.—The net output of the factories and workshops covered by the Tables on pages 184 to 186 (whose gross output was valued at £5,641,000) was £2,314,000, that sum representing the total amount by which the value of the output of those factories and workshops exceeded the cost of the materials used and the amount paid to other firms for work done by them on those materials for the principal firms. The actual cost of materials used by those factories and workshops, taken as a whole, was £3,276,000, and the amount paid for work given out was £51,000.

The net output per head of persons employed (exclusive of outworkers) in the censal year was nearly £83.

Persons Employed.—The average number of persons employed on the last Wednesdays in January, April, July, and October in the factories, together with the number ordinarily employed in the workshops, covered by the Tables on pages 184 to 186 is returned as 28,024, viz.:—26,474 wage-earners and 1,550 salaried persons, the total number being distributed by age and sex as follows:—

Males:—		Females:—	
Under 18	3,424	Under 18	2,633
Over 18	14,411	Over 18	7,556

In addition, the average number of outworkers on the books of the employing firms on 1st February and 1st August, 1907, was 1,569, viz., 955 males and 614 females.

The variation in employment in factories during the censal year is shown in the following statement:—

	Persons employed on the last Wednesday in			
	January.	April.	July.	October.
Wage-earners	24,400	24,477	24,411	24,436
Salaried Persons	1,400	1,396	1,402	1,410
Total	25,800	25,873	25,813	25,846

There were also 2,043 wage-earners (not outworkers) and 148 salaried persons ordinarily employed in workshops.

Power.—The particulars furnished with regard to power are summarised below, electricity purchased not being included:—

	Gross Value of Output.	Average Number of Persons Employed.	Total Capacity of Engines.
	£		Horse-Power.
Factories with their own Engines	5,421,000	25,631	22,998
Factories renting their Power	31,000	202	—
Workshops (not using Power)	189,000	2,191	—
Total	5,641,000	28,024	22,998

Classed according to kinds of power, the particulars are:—

	Horse-Power.
Steam Engines, Reciprocating	15,682
Internal Combustion Engines (gas, oil, &c.)	7,048
Water Power	268
Total	22,998

As shown above, whereas the total number of persons employed in factories in the anchor, chain, nail, &c., trades was 25,833, firms employing 202 persons rented their power. Precise details as to the amount and kind of such power are not available, since landlords frequently included in their special Returns power supplied to several firms engaged in different industries (see pages 15 to 18).

Firms using dynamos driven by their own engines were required to state their capacity, and the information furnished is summarised below:—

Capacity of Dynamos driven by:—		Kilowatts.
Steam Engines, Reciprocating ... ..	...	1,118
Other Power ... ..	...	340
Total ... ..	...	1,458

The capacity of those dynamos should not, of course, be added to that of the engines owned. What the information shows is that (taking 746 kilowatts as equivalent to 1,000 horse-power, and allowing about 10 per cent. for loss of energy in conversion) a little over one-eleventh of the engine-power belonging to anchor, chain, nail, &c., factories was required for driving dynamos for the production of electric power and light.

Manufacturers were also required to state the quantity of electricity generated by their own dynamos, but owing to the insufficiency of their records a number of them were unable to do so. The following statement summarises the information furnished:—

Dynamos driven by	Total Capacity of Dynamos.	Electricity Generated, so far as particulars were returned.	
		Capacity of Dynamos.	Electricity Generated.
	Kilowatts.	Kilowatts.	Board of Trade Units.
Steam Engines, Reciprocating	1,118	928	855,000
Other Power	340	340	534,000
Total	1,458	1,268	1,389,000

About 2,152,000 Board of Trade units of electricity were purchased by manufacturers for power and lighting purposes. This figure includes estimates made in the Census Office in respect of the quantities of electricity purchased by a number of small firms who were only able to state the amounts paid by them, but the total quantity so estimated forms only a very small proportion of the whole.

Galvanized Sheet, Hardware, Hollow-ware, Tinned and Japanned Goods, and Bedstead Trades.

Output.—The Tables on pages 187 to 189 are based on Returns received from factories and workshops engaged in the manufacture of galvanized sheets, hardware, hollow-ware, and bedsteads, and in general repair and jobbing work connected with hardware and ironmongery. The aggregate gross value of the output of the firms that made their Returns on the Schedules for the galvanized sheet, hardware, hollow-ware, tinned and japanned goods, and bedstead trades is returned as £15,988,000, to which should be added £5,442,000, the value of similar goods made by firms that made their Returns on Schedules for other trades. The resulting total of £21,430,000, however, includes a certain amount of duplication.

In view of the difficulties experienced by many manufacturers in this trade in distinguishing in detail the sales of their own manufactures from the sale of "factored" goods, *i.e.*, goods purchased from other firms and resold in the same condition, such firms were permitted to include in their statements of output the selling value of the factored goods along with that of the goods made by them, but were asked to state separately the total approximate cost of all the factored goods so included, and also to include it in the cost of their materials. The cost of factored goods as returned to the Census Office by 171 firms amounted to £201,000, or less than 1½ per cent. of the total value of the finished goods included in the Returns. The particulars given in this Report and in the Tables have been adjusted by the omission of the cost of the factored goods both from the selling value of the goods returned under "output" and from the "cost of materials used," the adjustments being made on the basis of the information furnished in the individual Returns. The recorded value of the goods manufactured is, accordingly, swollen by the inclusion of the profit made on the factored goods, but the profit in question is small in proportion to the total value of the manufactured goods included in the Returns, and the figures given in the Tables are not seriously affected by this consideration.

The following statement gives the particulars regarding the value of the chief classes of production carried on in the factories and workshops covered by the Tables on pages

187 to 189, together with the values of similar classes of goods manufactured by firms that made their Returns on Schedules for other trades :—

	Returned on Schedules for the Galvanized Sheet, Hardware, &c., Trades.	Returned on Schedules for other Trades.	Total.
	£	£	£
Galvanized Sheets, Plain and Corrugated	3,152,000	4,005,000	7,157,000
Galvanized Tanks, Cisterns, and Hollow-ware ...	1,161,000	1,000	1,162,000
Grates, Ranges, Stoves, and Hearth Furniture ...	1,705,000	348,000	2,053,000
Hardware and Hollow-ware :—			
Hardware and Cast Hollow-ware (including Hollow-ware, black, enamelled, and tinned, and Builders', Cabinet, Household, and Sundry Ironmongery).	1,054,000	344,000	1,398,000
Tanks, Cisterns, Sheet Metal Work, and Wrought Hollow-ware (not Galvanized).	459,000	281,000	740,000
Enamelled Wrought Hollow-ware... ..	193,000	—	193,000
Hardware and Hollow-ware (cast or wrought, not separately distinguished).	271,000	—	271,000
Total—Hardware and Hollow-ware	1,977,000	625,000	2,602,000
Tinplate and Japanned Goods (including Hollow-ware Boxes, Trays, and other Stamped Goods).	3,226,000	103,000	3,329,000
Metallic Bedsteads and Mattresses :—			
Metallic Bedsteads (including Ships' Berths with spring or lath bottoms).	1,269,000	61,000	1,330,000
Wire Mattresses	138,000	209,000	347,000
Bedsteads and Wire Mattresses, complete ...	54,000	—	54,000
Parts of Bedsteads	90,000	4,000	94,000
Total—Metallic Bedsteads and Mattresses ...	1,551,000	274,000	1,825,000
Black Stampings for the Trade	331,000	39,000	370,000
Enamelled Signs and Tablets	226,000	6,000	232,000
Pewter Ware	102,000	1,000	103,000
Ornamental Metal Work, not separately distinguished (chiefly brass, bronze, copper, &c.).	23,000	12,000	35,000
Waste Products	162,000	—	162,000
Spring Traps	22,000	—	22,000
Repairs and Jobbing Work	529,000	13,000	542,000
Total	14,167,000	5,427,000	19,594,000

The total quantity of galvanized sheets made was returned as 497,000 tons, of which 199,000 tons were returned on the Schedules for the galvanized sheet, hardware, &c., trades.

In addition, the firms that made their Returns on the Schedules for the galvanized sheet, hardware, hollow-ware, tinned and japanned goods, and bedstead trades included in their statements of output the following classes of goods which are principally manufactured by firms in other trades :—

	Value.
Iron and Steel Manufactures, not elsewhere specified ...	362,000
Lamps and Other Fittings for Lighting Purposes (mainly of brass and copper)	276,000
Finished Brass Goods, for Builders and Engineers ...	168,000
Coppersmiths' and Braziers' Work	102,000
Wire Goods	99,000
Perforated Metals	58,000
Machinery and Accessories	46,000
Electroplated Goods	26,000
Cycle and Motor Parts and Accessories	25,000
Ornamental Iron Work	18,000
Other Metal Manufactures	46,000
Furniture and Bedding	56,000
Other Products	78,000
Total	1,360,000

The aggregate gross value of the goods made by firms whose output is covered by Table I. on page 187 was thus £15,527,000. In addition, those firms included in their Returns the sum of £461,000 as received for work done for the trade, made up as follows :—

	Amount Received.
	£
Galvanizing	356,000
Enamelling and Lacquering	29,000
Plating and Polishing	18,000
Tinplate Printing	16,000
Tinning	11,000
Other Work	31,000

Firms making Returns of the value of their finished goods on the Schedule for the galvanized sheet, hardware, hollow-ware, tinned and japanned goods, and bedstead trades reported that they had paid to other firms for work given out £81,000. The difference—£380,000—between this sum and the amount received for work done for the trade represents the amount received for work done for merchants who were not asked to make Returns and for manufacturers who made their Returns on other Schedules, and is, consequently, an addition to the output of the trade as a whole. Galvanizing work to the value of £15,000 was also done by firms that made their Returns on Schedules for other trades, and may be taken as representing work done for merchants.

The gross value of goods made, as returned on Schedules for the trades now being dealt with, was £15,527,000, but the amount of duplication involved therein cannot be determined with precision. Tanks, cisterns, and hollow-ware are usually galvanized after construction, so that there is no substantial duplication between their value and that of the output of galvanized sheets. On the other hand, the value of tin-plate and japanned goods and of certain other classes of goods includes, in addition to the value of finished goods, the value of "mounts" and other parts of domestic utensils made by certain makers and sold to the manufacturers of the finished goods; so far as can be ascertained the value of these parts was about £100,000. "Parts of bedsteads" (the value of which is given as £90,000) consisted mainly of brass mounts, and probably the bulk of them were sold to bedstead manufacturers, who included their cost in the value of the finished bedsteads returned by them as their output. Black stampings for the trade (valued at £331,000) were probably all sold to other makers, who included their value in the value of their own output of finished goods. The amount of duplication involved in the gross total of £15,527,000 was, consequently, about £521,000.

Deducting this amount from the gross total and adding in the sum (£380,000) received for work done for merchants, it appears that the value, taken as a whole, of the output of the factories and workshops covered by the Tables on pages 187 to 189 may be calculated approximately at £15,386,000.

The production and exports of galvanized sheets are dealt with on pages 103 and 105.

The exports of bedsteads and parts in 1907 were valued at £549,000, free on board, or about 41 per cent. of the value at works (£1,330,000) of the bedsteads made in the United Kingdom; the imports are not separately recorded. The detailed classification of hardware and hollow-ware in the import and export statistics does not agree with that adopted for the purposes of the First Census of Production, and it is not, therefore, possible to compare the production in the United Kingdom with the exports and imports of similar goods. Other goods separately enumerated in Table I. on page 187 and in the statement on page 122 are only included in the export and import statistics as portions of larger miscellaneous groups.

Net Output.—The net output of the factories and workshops covered by the Tables on pages 187 to 189 (whose gross output was valued at £15,988,000) was £6,541,000, that sum representing the total amount by which the value of the output of those factories and workshops exceeded the cost of the materials used and the amount paid to other firms for work done by them on those materials for the principal firms. The actual cost of materials used by those factories and workshops, taken as a whole, cannot be precisely stated but it may be estimated approximately at £8,845,000. The amount paid to other firms for work given out to them was £81,000.

The net output per head of persons employed in the censal year was a little over £87.

Persons Employed.—The average number of persons employed on the last Wednesdays in January, April, July, and October in the factories, together with the number ordinarily employed in the workshops, covered by the Tables on pages 187 to

189 is returned as 74,777, viz., 68,214 wage-earners and 6,563 salaried persons, the total number being distributed by age and sex as follows :—

Males :—		Females :—	
Under 18	9,407	Under 18	5,369
Over 18	47,476	Over 18	12,525

The variation in employment in factories during the censal year is shown in the following statement :—

	Persons Employed on the last Wednesday in			
	January.	April.	July.	October.
Wage-earners	58,411	58,800	59,076	59,428
Salaried Persons	4,888	4,899	4,885	4,903
Total	63,299	63,699	63,961	64,331

There were also 9,285 wage-earners and 1,670 salaried persons ordinarily employed in workshops.

Power.—The particulars furnished with regard to power are summarised below, electricity purchased not being included :—

	Gross Value of Output.	Average Number of Persons Employed.	Total Capacity of Engines.
	£		Horse-Power.
Factories with their own Engines	14,430,000	63,564	27,274
Factories renting their Power	61,000	258	—
Workshops (not using Power)	1,497,000	10,955	—
Total	15,988,000	74,777	27,274

Classed according to kinds of power, the particulars are :—

	Horse-Power.
Steam Engines, Reciprocating	15,492
Internal Combustion Engines (gas, oil, &c.)	11,611
Water Power	171
Total	27,274

As shown above, whereas the total number of persons employed in factories in the galvanised sheet, hardware, &c., trades was 63,822, firms employing 258 persons rented their power. Precise details as to the amount and kind of such power are not available, since landlords frequently included in their special Returns power supplied to several firms engaged in different industries (*see* pages 15 to 18).

Firms using dynamos driven by their own engines were required to state their capacity, and the information furnished is summarised below :—

	Kilowatts.
Capacity of Dynamos driven by :—	
Steam Engines, Reciprocating	1,921
Other Power	1,435
Total	3,356

The capacity of those dynamos should not, of course, be added to that of the engines owned. What the information shows is that (taking 746 kilowatts as equivalent to 1,000 horse-power, and allowing about 10 per cent. for loss of energy in conversion), about two-elevenths of the engine-power belonging to galvanised sheet, hardware, &c., factories was required for driving dynamos for the production of electric power and light.

Manufacturers were also required to state the quantity of electricity generated by their own dynamos, but owing to the insufficiency of their records a number of

them were unable to do so. The following statement summarises the information furnished :—

Dynamos driven by	Total Capacity of Dynamos.	Electricity Generated, so far as particulars were returned.	
		Capacity of Dynamos.	Electricity Generated.
Steam Engines, Reciprocating	Kilowatts. 1,921	Kilowatts. 1,313	Board of Trade Units. 1,373,000
Other Power	1,435	817	1,255,000
Total	3,356	2,130	2,628,000

About 2,970,000 Board of Trade units of electricity were purchased by manufacturers for power and lighting purposes. This figure includes estimates made in the Census Office in respect of the quantities of electricity purchased by a number of small firms who were only able to state the amounts paid by them, but the total quantity so estimated forms only a very small proportion of the whole.

Engineering (including Electrical Engineering).

Output.—The Tables on pages 190 to 193 are based on Returns received from firms engaged in general and electrical engineering. The products of those two branches of the industry are classified separately, but since many works turn out machinery of both kinds the two branches have been dealt with together in one group of Tables. Returns from firms engaged in heating, ventilating, and sanitary engineering are not dealt with in this part of the Report but on pages 159 to 162, and the greater part of the output of marine engineering works is included in the Tables on pages 194 to 196 relating to the shipbuilding and marine engineering industry. Engineering work (such as the building of railway locomotives) carried on by railway companies is also excluded, and forms the subject of a separate section of this Report covering the production of these companies.

The aggregate value of the output of the firms that made their Returns on the Schedules for the engineering trades is returned as £102,952,000, and firms that made their Returns on Schedules for other trades (excluding marine engineering and heating, ventilating, and sanitary engineering) included in their statements of output sums in respect of general and electrical engineering amounting in all to £4,050,000. The aggregate value of general and electrical engineering executed by firms and companies on a profit basis in the censal year was thus £107,002,000, and to this should be added about £9,619,000 returned as the cost of their engineering work by railway, tramway, and other companies and public authorities not working on a profit basis, making a grand aggregate of £116,621,000, which, however, includes a considerable amount of duplication.

The following Table shows the value of machinery and other products made in the year of return, including both the output returned on Schedules for the engineering industries and that (with the exception of marine engineering, heating, ventilating, and sanitary engineering, and engineering not done on a profit basis) returned on Schedules for other trades :—

	Returned on Schedules for the Engineering Trades.	Returned on Schedules for other Trades.	Total Output.
A.—General Engineering.			
Steam Engines and Parts :—	£	£	£
→ Agricultural	1,283,000	—	1,283,000
Locomotives, Rail*	4,406,000	123,000*	4,529,000
Locomotives, Road	436,000	17,000	453,000
Pumping	1,469,000	4,000	1,473,000
Winding	746,000	—	746,000
Other Descriptions	4,114,000	110,000†	4,224,000
Total of Steam Engines	12,454,000	254,000	12,708,000
Internal Combustion Engines (except Motor Vehicles)	2,118,000	12,000	2,130,000
Hydraulic Prime Movers	110,000	—	110,000
Other Prime Movers (including Steam, Electric, Hydraulic, and Hand Cranes, not separately distinguished).	553,000	—	553,000

* Excluding locomotives made by railway and tramway companies (*see* pages 166 and 866).

† Excluding marine engines (*see* page 134).

	Returned on Schedules for the Engineering Trades.	Returned on Schedules for other Trades.	Total Output.
	£	£	£
<i>A.—General Engineering—continued.</i>			
Electric Cranes and Lifts	259,000	—	259,000
Machinery (other than Electrical) and Parts :—			
Agricultural Machinery	1,144,000	7,000	1,151,000
Boilers	4,007,000	78,000	4,085,000
Hydraulic Machinery	1,243,000	20,000	1,263,000
Machine Tools	2,763,000	173,000	2,936,000
Mining Machinery	1,202,000	73,000	1,275,000
Textile Machinery	13,028,000	71,000	13,099,000
Other Descriptions	11,466,000	256,000	11,722,000
Total of Machinery	34,853,000	678,000	35,531,000
Machinery Accessories and Parts	3,650,000	89,000	3,739,000
Ordnance	2,763,000	8,000	2,771,000
Railway and Tramway Equipment and Plant (Signals, Points, &c.)	1,380,000	7,000	1,387,000
Iron and Steel Structural Work	5,501,000	2,612,000	8,113,000
Work in Progress	6,353,000	—	6,353,000
Repair and Jobbing Work	6,503,000	189,000	6,692,000
Waste Products	103,000	—	103,000
Total—General Engineering	76,600,000	3,849,000	80,449,000
<i>B.—Electrical Engineering.</i>			
Electrical Machinery and Parts :—			
Direct and Alternating Current Generators	815,000	—	815,000
Direct and Alternating Current Motors	1,729,000	—	1,729,000
Motor Generators, Converters, and Transformers	421,000	—	421,000
Switches, Rheostats	502,000	35,000	537,000
Switchboards	697,000	—	697,000
Other Descriptions	50,000	63,000	113,000
Total—Electrical Machinery	4,214,000	98,000	4,312,000
Electrical Instruments of all kinds (Meters, Measuring Instruments, &c.)	520,000	23,000	543,000
Primary Batteries	103,000	—	109,000
Secondary Batteries	440,000	—	440,000
Lamps and Parts (except Carbons) :—			
Glow Lamps	236,000	—	236,000
Arc Lamps and Search Lights	229,000	—	229,000
Total—Lamps	465,000	—	465,000
Telegraph and Telephone Cables :—			
Submarine	1,102,000	—	1,102,000
Land	809,000	—	809,000
Total—Telegraph, &c. Cables	1,911,000	—	1,911,000
Electrical Power and Lighting Cables :—			
Paper and Bitumen Insulation	1,322,000	—	1,322,000
Rubber Insulation	1,300,000	—	1,300,000
Other and Unclassified Insulation	729,000	—	729,000
Total—Electrical Power and Lighting Cables	3,351,000	—	3,351,000
Transmission Apparatus and Plant (including Insulators, Conduits, Poles, &c.)	539,000	4,000	543,000
Electrical Accessories	374,000	11,000	385,000
Telegraph and Telephone Accessories	315,000	65,000	380,000
Contract Work in the United Kingdom, generally exclusive of Materials made by the firm :—			
Telegraphic or Telephonic Lines or Works	45,000	—	45,000
Electric Power or Lighting Works	1,277,000	—	1,277,000
Total of Contract Work	1,322,000	—	1,322,000
Repair and Maintenance Work for Customers	337,000	—	337,000
Total—Electrical Engineering	13,897,000	201,000	14,098,000

C.—Goods of Classes chiefly Made by Other Trades but returned on Schedules for the Engineering Trades :—

	Returned on Schedules for the Engineering Trades.
	£
Iron Castings	2,594,000
Steel Forgings	1,289,000
Other Semi-manufactured Iron and Steel Goods	845,000
Tanks, Cisterns, &c.	268,000
Other Finished Iron and Steel Goods	334,000
Brass and Copper Alloys and Manufactures	1,132,000
Implements and Tools, and Parts thereof :—	
Agricultural	1,277,000
Other Sorts	659,000
Total—Implements and Tools	1,936,000
Motor Vehicles, Motor Cycles, Cycles, and Parts	1,032,000
Ammunition and Components	753,000
Ships and Boats	397,000
Heating, Lighting, and Ventilating Engineering	629,000
Railway Carriages and Wagons, Trams, and Parts thereof	421,000
Carriages and other Vehicles	86,000
Engine Packings	166,000
Metal Manufactures (other than iron, steel, brass, and copper)	73,000
Rubber Manufactures	101,000
Wood Manufactures	96,000
Other Products	303,000
Total—Goods, chiefly made by other trades	12,455,000

Total—General and Electrical Engineering and Other Goods, so far as returned on Schedules for the Engineering and Electrical Engineering Trades 102,952,000

The engineering work done by railway and other companies and by public authorities, and returned to the Census Office as part of their output, not on a profit basis but at cost, is summarised below :—

	Amount.
	£
<i>Railway Companies :—</i>	
Engines, Tools, &c. : Construction and Repairs	7,918,000
Hoists and Cranes : Construction and Repairs	303,000
Engineering Repairs, &c.	113,000
Machinery	3,000
Total—Railway Companies	8,337,000
<i>Tramway Companies :—</i>	
Locomotives : Construction and Repairs	14,000
Machinery : Construction and Repairs	6,000
Electrical Machinery and Equipment : Construction and Repairs	75,000
Total—Tramway Companies	95,000
<i>Canal, Dock, and Harbour Companies :—</i>	
Engineering Work	23,000
Repairs to Rolling Stock	9,000
Total—Canal, Dock, and Harbour Companies	32,000

	Amount.
Government Departments :—	£
Royal Ordnance Factories : Ordnance	885,816
Naval Ordnance Department : Repairs to Ordnance ...	20,914
General Post Office : Manufacture and Repair of Tele- graphic and Telephonic Instruments... ..	248,172
Total—Government Departments	1,154,902
Total—Railway and other Companies and Public Authorities	9,618,902

The grand total of work done on a profit basis and returned to the Census Office on the Schedules for the engineering trades was £102,952,000, and, including the value of the work returned on other Schedules (£4,050,000) and the value of the work returned at cost of production (£9,618,902) a grand aggregate of £116,621,000 is arrived at. In addition, firms that employed their own workpeople in executing construction and repair work to their own machinery and plant stated that the value of the work so performed was about £16,000,000. This amount is covered by the selling value of the goods made by those firms, and, consequently, it is not an addition to the output of the country as a whole. It does constitute, however, an addition to the output of engineering products and work, except as regards £2,100,000, the value of repairs to engineering firms' plant, already covered by the selling value of their output.

In comparing the various classes of goods made and work done as shown in the Tables and in the statement on pages 125 and 126 it should be borne in mind that the sum of £6,353,000 representing "work in progress" should be distributed in some unknown proportion among the different headings. Manufacturers were instructed to make the best estimates they could in respect of the value of work not entirely performed within the year of return, and only to enter under the heading "work in progress" unfinished work which they could not conveniently allocate to its proper heading.

The Returns received with regard to the weight of engines and machinery of various kinds were incomplete owing to obvious difficulties, but as far as information was furnished respecting both quantity and value it may be summarised as follows, the total value of the production of each class of machinery, &c. (except locomotives made by railway and tramway companies and marine engines returned on the Schedule for the shipbuilding and marine engineering trades) being repeated for convenience of reference :—

	All Returns.		Returns showing Quantities.	
	Output.		Output.	
	Value.	Value.	Quantity.	
Steam Engines :—	£	£	Tons.	
→ Agricultural	1,283,000	907,000	27,000	
Locomotive, Rail	4,529,000	4,063,000	77,000	
Locomotive, Road	453,000	293,000	7,000	
Pumping	1,473,000	1,149,000	20,000	
Winding	746,000	654,000	26,000	
Other Descriptions	4,224,000	2,926,000	71,000	
Machinery (not Electrical) :—				
→ Agricultural Machinery	1,151,000	861,000	32,000	
Boilers	4,085,000	3,091,000	122,000	
Machine Tools	2,936,000	1,949,000	52,000	
Mining Machinery	1,275,000	899,000	34,000	
Textile Machinery	13,099,000	10,386,000	313,000	
Other Descriptions	11,722,000	5,207,000	153,000	

In addition to the value of the electrical machinery (£4,312,000), transmission apparatus (£543,000), and electrical accessories (£385,000), shown in the statement on page 126, the sum of £1,277,000 for contract work on electric power or lighting works contains a small amount, probably not exceeding £250,000, on account of goods made by contracting firms who were not able to separate their value from that of the contract work on which they were used.

In order to obtain a measure of the cable industry manufacturers were requested to state voluntarily the quantity of copper used by them. Firms whose output of cables was valued at £3,794,000, or 72.1 per cent. of the value of the total output of cables of all kinds, stated that they used about 14,900 tons of copper in making cables; the remaining firms did not supply the desired information. Particulars as to the output

of the firms that supplied this information voluntarily in the various branches of the cable industry are shown in the following statement :—

	Value of the Output of all Firms.	Value of the Output of Firms that stated the quantity of copper used.
Telegraph and Telephone Cables :—	£	£
Submarine	1,102,000	231,000
Land	809,000	806,000
Electric Power and Lighting Cables :—		
Paper and Bitumen Insulation	1,322,000	1,067,000
Rubber Insulation	1,300,000	1,061,000
Other Insulations	729,000	629,000
Total—Cables of all kinds	5,262,000	3,794,000

As already stated, there is a certain amount of duplication involved in the gross total of £116,621,000 returned in respect of engineering work on the Schedules for the engineering and other trades. The following groups of products, however, were made partly for stock, partly for sale to the general public (including manufacturers in other trades who executed their own engineering repairs and replacements), partly for export, and partly for sale to other firms of machinery manufacturers or repairers :—

	Quantity.	Value.
	Tons.	£
Iron Castings	289,000	2,594,000
Steel Forgings	21,000	1,289,000
Other Semi-manufactured Iron and Steel Goods	—	845,000
Brass and Copper Alloys and Manufactures	—	1,132,000
Machinery Accessories and Parts	—	3,739,000

The total value of these groups of products is £9,599,000, and in so far as they were sold to other engineering firms their value is duplicated with that of groups of finished products and repair work. The amount so duplicated is not known.

The value of the iron castings shown above is nearly £9 per ton and that of steel forgings £61.4 per ton, as compared with £8 and £20.2 for the iron castings and steel forgings, respectively, shown in the Returns made on Schedules for the iron and steel trade (see page 102). Probably, therefore, they consisted mainly of unfinished machinery parts made for stock, or for export, or for sale to other engineering firms.

Another source of duplication is contained in the payments made by engineering firms to other firms for work done. These amounted to £3,558,000 for general engineering firms and £364,000 for electrical engineers, and probably consisted in the main in work done in the installation of engines and machinery and in brick, stone, and carpentry work in connexion with iron and steel structural work, where the manufacturing firm included the whole amount received for the contract in the value of its output, but gave out to local building firms the work of installation, brick construction, &c. Such local firms would not make their Returns on the Schedules for the engineering trade, and, consequently, so far as this part of the Report is concerned, no duplication is involved, but there is an unknown amount of duplication in respect of contracts sub-divided with, or work given out to, other engineering firms.

Taking into account only the main products of the general engineering trades returned on all Schedules on a profit basis at a gross value of £80,449,000 and on a non-profit basis at £9,296,000, the aggregate of £89,745,000 includes duplication in respect of (a) machinery accessories and parts, not exceeding £3,739,000; (b) work given out, not exceeding £3,558,000; (c) parts returned with machinery and sold to repairers, not exceeding £3,000,000, the estimated total value of materials used by repairers (including part of the accessories valued at 3,739,000 above, as well as castings, forgings, &c.); and (d) parts returned with machinery and sold to other machinery makers, the value of such parts being unknown.

On the other hand, the construction and repair work executed by firms' own (other than engineering firms) workpeople to their own machinery and plant (valued at £13,900,000 and not shown as output) probably included about £4,300,000 for materials, chiefly replacement parts, castings, forgings, and accessories, the value of which is included in the sums returned as the values of machinery and parts, accessories and parts, iron castings, steel forgings, &c. This sum should, consequently, be taken into account in considering the amount of duplication involved in the total output of

the engineering trades. Making all reasonable allowances for these items the value of general engineering products and work, taken as a whole, may be estimated at a sum lying between 84 and 88 millions sterling, or, excluding marine engineering (*see* page 134), between 82½ and 86½ millions sterling.

The gross value of the products of the electrical engineering trades returned on all Schedules is £14,098,000 for those returned on a profit basis, and £323,000 for those returned on a non-profit basis, or altogether £14,421,000. The amount paid for work given out (£364,000) appears to have been mainly in respect of work sub-contracted to non-electrical firms and does not entail any substantial amount of duplication. Any duplication under the head of contract work in respect of goods purchased by contracting firms who returned the value of such goods as part of their output on Schedules for the engineering trade appears to be negligible, and the value of the output of the electrical engineering trade, taken as a whole, may be taken at about £14,400,000.

The output of other goods (*see* page 127) from engineering works is returned as valued at £12,455,000, and, as already stated, it is probable that semi-manufactured iron, steel and copper goods to the value of £5,860,000 are duplicated in the value of the machinery and repairs returned by other firms, and that the remaining goods (valued at £6,595,000) are free from duplication.

The total amount of duplication involved in the aggregate of £116,621,000 is thus estimated to lie between £7,600,000 and £11,690,000.

In order to obtain a comparison with the trade of the previous year the firms that made their Returns on the Schedules for the general and electrical engineering trades were asked to state voluntarily the total value of their output in the twelve months preceding the period for which they had furnished detailed and compulsory Returns. Firms, the gross value of whose output in the censal year was £45,225,000, or nearly 44 per cent. of the total output of engineering firms in that year, reported that the value of their output in the previous year (generally 1906) amounted to £42,123,000. The increase in value in 1907, compared with 1906, was thus nearly 7·4 per cent., but it must be remembered that this increase is calculated on the gross value of output, a figure which, as already explained, differs from the value of the goods made and work done by the trade as a whole.

Detailed comparison of the total production of the United Kingdom with the export and import trade is hampered by the consideration that the classification of engineering products in the Annual Statement of Trade for 1907 is not identical with the more detailed classification, based upon the Export and Import lists for 1908, which was adopted for the purposes of the Census. The following Table gives those figures which are capable of comparison, but it should be remembered that the values given to the "production" of engines and machinery do not include "work in progress" which for the whole industry was valued at £6,353,000 :—

	Production.	Exports, 1907.	Net Imports, 1907.*
	£	£	£
Steam Engines :—			
Agricultural	1,283,000	1,022,000	1,000
Locomotives (Rail or Road)	4,982,000†	3,433,000	4,000
Other Descriptions	6,443,000	3,445,000	69,000
Total of Steam Engines	12,708,000	7,900,000	74,000
Machinery :—			
Agricultural	1,151,000	1,133,000	268,000
Mining	1,275,000	875,000	54,000
Textile... ..	13,099,000	8,039,000	193,000
Other Descriptions (including Internal Combustion Engines, Hydraulic and other Prime Movers, and Electric Cranes and Lifts).	23,058,000	12,801,000	2,720,000
Total of Machinery (other than Electrical).	38,583,000	22,848,000	3,235,000
Electrical Machinery	4,312,000	996,000	570,000
Electrical Goods and Apparatus, including Telegraph and Telephone Apparatus.	2,865,000	668,000	716,000
Telegraph and Telephone Cables	1,911,000	1,301,000	207,000
Electrical Wires and Cables, Insulated	3,351,000	501,000	158,000
Ordnance made by Private Firms	2,771,000	273,000	6,000

* *I.e.*, imports less re-exports. † Excluding locomotives made by railway and tramway companies (*see* pages 166 and 866).

‡ Exclusive of most of the output of marine engines (*see* page 134).

In comparing these figures it should be borne in mind, as has already been pointed out, that the values returned to the Census of Production Office are values at works, while those declared by exporters are the values of goods free on board at port of shipment, and those declared by importers are the values of goods at port of landing.

This difference as regards valuation no doubt partly accounts for the fact that the average value per ton of the machinery exported is considerably higher than the average value per ton of the machinery returned by weight deduced, from the figures which have been given above, but it would seem, even after making allowance for the cost of putting the goods on board ship, that the engines and machinery exported must have been on an average of higher value than those retained in the country. Taking, for instance, one of the largest groups, that of textile machinery, it appears that the average value of the machinery of this class manufactured in the United Kingdom, so far as shown in the Returns, was about £33 per ton at the works, whilst the average value of all textile machinery exported was £44 per ton, free on board.

If it be assumed that the average value per ton of the machinery not returned to the Census Office by weight was not widely different from that so returned in each class, it would follow that the exports of agricultural steam engines and of locomotives represent about two-thirds of the weight of such engines and locomotives manufactured in the United Kingdom (exclusive of locomotives made by railway companies), whilst the exports of agricultural machinery represent rather less than three-fourths, the exports of mining machinery a little over one-half, and the exports of textile machinery a little over nine-twentieths of the weight of such machinery manufactured in the United Kingdom.

The imports of steam engines and other prime movers are insignificant. The value of the net imports of machinery other than electrical is under one-eleventh of the value of the total quantity of machinery produced in the United Kingdom, while that of electrical machinery is between one-seventh and one-eighth, that of electrical goods and apparatus about one-fourth, that of telegraph and telephone cables under one-ninth and that of electric wires and cables under one-twenty-fifth of the values of similar classes of goods made in the United Kingdom.

Net Output.—The net output of the factories and workshops covered by the Tables on pages 190 to 193 (whose gross output was valued at £102,952,000) was £50,495,000, that sum representing the total amount by which the value of the output of those factories and workshops exceeded the cost of the materials used and the amount paid to other firms for work done by them on those materials for the principal firms. The actual cost of materials used by those factories and workshops, taken as a whole, cannot be stated. The amount paid to other firms for work given out or sub-contracted to them was £3,922,000.

The net output per head of persons employed in the censal year was over £109.

Persons Employed.—The average number of persons employed on the last Wednesdays in January, April, July, and October in the factories, together with the number ordinarily employed in the workshops, covered by the Tables on pages 190 to 193 is returned as 461,703, viz., 422,427 wage-earners and 39,276 salaried persons, the total number being distributed by age and sex as follows :—

Males :—		Females :—	
Under 18	64,354	Under 18	5,081
Over 18... ..	380,446	Over 18... ..	11,822

The variation in employment in factories during the censal year is shown in the following statement :—

	Persons Employed on the last Wednesday in			
	January.	April.	July.	October.
Wage-earners	419,215	420,355	419,522	420,200
Salaried Persons	38,551	38,616	38,788	39,027
Total	457,766	458,971	458,310	459,227

There were also 2,604 wage-earners and 531 salaried persons returned as ordinarily employed in workshops. It is probable, however, that a considerable number of workshops where men only were employed was not included in the official list and thus was excluded from the Census.

Power.—The particulars furnished with regard to power are summarised below, electricity purchased not being included :—

	Gross Value of Output.	Average Number of Persons Employed.	Total Capacity of Engines.
	£		Horse-Power.
Factories with their own Engines	101,740,000	455,818	331,251
Factories renting their Power	715,000	2,750	—
Workshops (not using Power)	497,000	3,135	—
Total	102,952,000	461,703	331,251

Classed according to kinds of power, the particulars are :—

	Horse-Power.
Steam Engines :—	
Reciprocating	251,703
Steam Turbines	5,946
Total—Steam Engines	257,649
Internal Combustion Engines (gas, oil, &c.)	64,625
Water Power	2,936
Other Power	6,041
Total	331,251

As shown above, whereas the total number of persons employed in factories in the engineering trades was 458,568, firms employing 2,750 persons rented their power. Precise details as to the amount and kind of such power are not available, since landlords frequently included in their special Returns power supplied to several firms engaged in different industries (see pages 15 to 18).

Firms using dynamos driven by their own engines were required to state their capacity, and the information furnished is summarised below :—

Capacity of Dynamos driven by :—	Kilowatts.
Steam Engines : Reciprocating	74,076
Steam Turbines	5,456
Other Power	13,653
Total	93,185

The capacity of those dynamos should not, of course, be added to that of the engines owned. What the information shows is that (taking 746 kilowatts as equivalent to 1,000 horse-power, and allowing about 10 per cent. for loss of energy in conversion) about 42 per cent. of the engine-power belonging to engineering factories was required for driving dynamos for the production of electric power and light.

Manufacturers were also required to state the quantity of electricity generated by their own dynamos, but owing to the insufficiency of their records a number of them were unable to do so. The following statement summarises the information furnished :—

Dynamos driven by	Total Capacity of Dynamos.	Electricity Generated, so far as particulars were returned.	
		Capacity of Dynamos.	Electricity Generated.
	Kilowatts.	Kilowatts.	Board of Trade Units.
Steam Engines : Reciprocating	74,076	65,285	103,148,000
Steam Turbines	5,456	5,456	5,965,000
Other Power	13,653	10,548	14,436,000
Total	93,185	81,289	123,549,000

About 62,710,000 Board of Trade units of electricity were purchased by manufacturers for power and lighting purposes. This figure includes estimates made in the Census Office in respect of the quantities of electricity purchased by a number of small firms who were only able to state the amounts paid by them, but the total quantity so estimated forms only a very small proportion of the whole.

Shipbuilding and Marine Engineering Trades.

Output.—The Tables on pages 194 to 202 are divided into two sections. Those on pages 194 to 196 are based on Returns received from firms and companies engaged in ship and boat building and in marine engineering, while those on pages 197 to 202 are based on Returns received from His Majesty's Dockyards at home, dockyard workshops, and lighthouse authorities. The aggregate value of the gross output of private firms and companies, as returned on the Schedules for the shipbuilding and marine engineering trades, is stated to be £42,556,000, and, in addition, firms that made their Returns on Schedules for other trades included in their statements of output shipbuilding and marine engineering work to the value of £1,995,000, making altogether £44,551,000. The value of the production carried on in Government Yards amounts to £6,450,480, and represents the cost of construction, *i.e.*, wages, materials, and a proportion of the establishment charges. It differs, therefore, from the value of the output as returned by private shipbuilders, which is naturally on a profit basis. Railway companies, canal and harbour companies, local authorities, and the Royal Naval Ordnance Department also included in their Returns shipbuilding work to the value of £396,000 (at cost of construction), thus raising the value of work not returned on a profit basis to about £6,846,000. Both in the case of work done by private firms and in the case of work done in Government Yards the gross totals include a considerable amount of duplication.

The tonnage stated as having been constructed is not the tonnage of vessels launched during the year, but a figure calculated to represent the actual amount of shipbuilding work done in the year of return, whether the vessels were completely or only partly built within that year.

Adding together the production in private and in Government yards, the tonnage of war vessels, steam ships, and sailing ships, constructed wholly or partly in the year, is as follows :—

	Tons (Displacement).
War Vessels	100,000
Steam Ships, other than War Vessels :—	Board of Trade Tons (gross)
Iron or Steel	1,586,000
Wood	13,000
Sailing Ships, other than War Vessels :—	
Iron or Steel	10,000
Wood	6,000

Under wooden ships, both steam and sailing, is included a small tonnage of composite ships.

It should be noted that barges are not classed with "ships" but with "boats" in the Census of Production Returns, whereas in the Annual Statement of Navigation and Shipping certain classes of barges are included with steam-ships or sailing ships, as the case may be, thus producing some discrepancies between the two sets of figures.

(a) SHIPBUILDING AT PRIVATE YARDS.

Output.—The following statements summarise the particulars furnished respecting the output of shipbuilding and marine engineering firms, and are free from duplication. The values given under the heading "machinery" represent the machinery actually fitted into the vessels, whether manufactured by the shipbuilders themselves or by marine engineers for the shipbuilders :—

	Returned by Private Firms on Schedules for the Shipbuilding and Marine Engineering Trades.	Returned by Private Firms on Schedules for other Trades.	Total.
	£	£	£
War Vessels	3,512,000	—	3,512,000
Steam Ships, other than War Vessels :—			
Iron or Steel :—			
Hull and Fittings	19,157,000	5,000	19,162,000
Machinery	4,437,000	—	4,437,000
Wood :—			
Hull and Fittings	226,000	—	226,000
Machinery	103,000	—	103,000
Total—Steam Ships... ..	23,923,000	5,000	23,928,000

	Returned by Private Firms on Schedules for the Shipbuilding and Marine Engineering Trades.	Returned by Private Firms on Schedules for other Trades.	Total.
Sailing Ships, other than War Vessels :—	£	£	£
Iron or Steel	121,000	—	121,000
Wood	134,000	—	134,000
Total—Sailing Ships	255,000	—	255,000
Boats (including Barges) :—			
Iron or Steel	270,000	23,000	293,000
Wood	209,000	10,000	219,000
Total—Boats	479,000	33,000	512,000
Repair Work	8,371,000	102,000	8,473,000
Engineering, other than Marine Engineering	157,000	—	157,000
Floating Docks, Stages, and other Structural Work.	153,000	6,000	159,000
Iron and Steel Manufactures	71,000	—	71,000
Brass and Copper Manufactures	48,000	—	48,000
Other Products	122,000	—	122,000
Total Value of Goods Made and Work Done	37,091,000	146,000	37,237,000

In addition, the following classes of goods are also included in the Returns :—

	Returned by Private Firms on Schedules for the Shipbuilding and Marine Engineering Trades.	Returned by Private Firms on Schedules for other Trades.	Total.
Machinery (and parts thereof) made for other Shipbuilders :—	£	£	£
Steam Engines :—			
Marine Engines and Boilers	4,754,000	1,377,000	6,131,000
Auxiliary Engines	138,000	—	138,000
Auxiliary Machinery	90,000	—	90,000
Other Engines and Machinery	43,000	11,000	54,000
Parts of Machinery	48,000	83,000	131,000
Total—Machinery	5,073,000	1,471,000	6,544,000
Ships' Fittings returned as such	392,000	378,000	770,000
Total—Machinery and Fittings	5,465,000	1,849,000	7,314,000

The machinery and fittings included in the foregoing statement were either (a) sold to shipbuilders, and their values are included in the value of ships or of repair work shown in the first statement (and to that extent duplicated), or (b) they were made for but not fitted into ships, the value of whose hulls only is shown in the Tables.

Examination of the individual Returns shows that, out of machinery fitted into ships by shipbuilders and valued at £4,540,000, machinery to the value of £3,296,000 was made in engineering shops belonging to shipbuilding firms, and machinery to the value of £1,244,000 was obtained from other engineering firms, its value being duplicated in their Returns. Further, a number of firms returned only the tonnage (684,000 tons) and value (£8,717,000) of the hulls and fittings of steamships constructed by them, the value of the machinery being returned separately by the engineers that constructed it. The value of such machinery, together with the value of the machinery for certain war vessels the value of whose hulls only was returned by the firms that built them, may be estimated at a sum lying between £3,500,000 and £4,000,000. The total value of the machinery made for sale to shipbuilders and repairing firms is returned as £6,544,000

(£5,073,000 on Schedules for the shipbuilding trade and £1,471,000 on Schedules for other trades); of this, the sum lying between £3,500,000 and £4,000,000 is not elsewhere duplicated, the sum of £1,244,000 is duplicated in the value (£4,540,000) of machinery fitted into ships by shipbuilders, and the balance, a sum lying between £1,300,000 and £1,800,000, represents machinery and parts made for repairs and replacements and is included in the value of repair work done (£8,473,000). There is thus duplication to the extent of £2,500,000 or £3,000,000 in respect of machinery, and the amount (£770,000) returned as the value of ships' fittings made may also be taken as duplicated in the amount returned as the value of hulls and fittings.

The amount (£4,801,000) returned as paid to other firms for work given out to them has also to be taken into consideration, but part (£919,000) of this amount, in respect of sub-contracted machinery, has already been deducted in the sum of £1,244,000 referred to above, and a further large amount in respect of sub-contract work has been deducted in the sum of £1,300,000 to £1,800,000 for machinery for repairs and replacements. The bulk of the remainder appears, from the nature of the Returns, to refer to sub-contracts for boilers, wood-work, upholstery, painting, &c., the value of which has been included by the sub-contracting firms in their Returns on Schedules for other trades. Thus no substantial duplication beyond that already allowed for appears to be involved in the amount paid for work given out. Some part of the value of the boats built may have been in respect of boats sold to shipbuilders and in that case may be included in the value of the complete ships constructed; the amount of duplication involved is not known.

Eliminating all duplication, the total value of ships and engines constructed in the year of return (including war vessels, steamships, sailing vessels, boats, floating docks and stages, and repair work) may be estimated at an amount lying between £40,000,000 and £41,000,000, and, in addition, general engineering work and other goods valued at £398,000 were turned out at the works of firms making their Returns on Schedules for the shipbuilding trade. There should also be added £5,736,000 for shipbuilding work done at the Royal Dockyards and by lighthouse authorities and £396,000 for repairs, &c., to ships executed by employees of railway, canal, and harbour companies.

All engineering firms were asked to make a voluntary statement respecting the number of sets of marine engines built by them, the kinds of engines, and their horse-power. Firms, the value of whose output of marine engines and other machinery was approximately £2,179,000, did not answer the question, but the following statement summarises the information furnished respecting marine engines made by firms whose output of marine engines and other machinery may be valued approximately at £7,670,000.

Kind of Engines.	Number of Sets.	Total Horse-Power.
Compound	477	84,441
Triple	584	847,335
Quadruple	29	87,567
Turbine	18	168,300
Other Sorts	173	12,150
Total	1,281	1,199,793

In order to obtain a comparison with the trade of the previous year, the firms in the shipbuilding and marine engineering trades were asked to state voluntarily the total value of their output in the twelve months preceding the period for which they had furnished detailed and compulsory Returns. Firms building ships, engines, &c., to the value of £24,020,000, or about 56·4 per cent. of the total value of ships, engines, &c., produced in the year of return, reported that the value of their output in the previous year (generally 1906) amounted to £24,115,000. The decrease in 1907, compared with 1906, was thus about 0·4 per cent. in the case of those firms reporting for both periods. It must be remembered, however, that this decrease is calculated on the gross value of output, a figure which, as already explained, differs from the actual value of the ships, engines, &c., made in the censal year by the trade taken as a whole.

The imports of new ships and boats in 1907 were trifling, being only 695 tons (gross) valued at £27,000. The following statement shows the exports in comparison to the production, the production of Government Yards being excluded :—

	Production.		Exports, 1907.	
	Tonnage.	Value.	Tonnage.	Value.
	Tons Dis- placement.	£	Tons Dis- placement.	£
War Vessels	63,000	3,512,000	6,600	555,000
Steam Ships :—	Tons Gross.		Tons Gross.	
Hull and Fittings	1,598,000	19,388,000	540,000	6,586,000
Machinery... ..	—	{ 8,040,000 to 8,540,000* }	—	2,551,000
Sailing Vessels... ..	16,000	255,000	3,300	45,000
Boats	—	512,000	—	281,000
Total	—	{ 31,707,000 to 32,207,000 }	—	10,018,000

* *I.e.*, £4,540,000 fitted by shipbuilders and £3,500,000 to £4,000,000 fitted by engineers.

The steam ships exported in 1907 thus represented a little more than one-third of the tonnage constructed in the year of return, while the total value of the exports amounted to a little more than 31 per cent. of the value of similar vessels, &c., made in the United Kingdom in the year of return. It should be remembered, however, that in an industry like shipbuilding, where the values of the output and the exports vary widely from year to year, the exports, to a considerable extent, represent construction of the previous year.

Net Output.—The net output of the factories and workshops covered by the Tables on pages 194 to 196 (whose gross output was valued at £42,556,000) was £18,534,000, that sum representing the total amount by which the value of the output of those factories and workshops exceeded the cost of materials used and the amount paid to other firms for work done by them on those materials for the principal firms. The actual cost of materials used by those factories and workshops, taken as a whole, cannot be precisely stated but it may be estimated at a sum lying between £16,085,000 and £17,556,000. The amount paid to other firms for work given out to them was £4,801,000.

The net output per head of persons employed in the censal year was over £98.

Persons Employed.—The average number of persons employed on the last Wednesdays in January, April, July, and October in the factories, together with the number ordinarily employed in the workshops, covered by the Tables on pages 194 to 196 is returned as 188,312, viz., 178,510 wage-earners and 9,802 salaried persons, the total number being distributed by age and sex as follows :—

Males :—		Females :—	
Under 18	21,344	Under 18	179
Over 18	165,751	Over 18	1,038

The variation in employment in factories during the censal year is shown in the following statement :—

	Persons Employed on the last Wednesday in			
	January.	April.	July.	October.
Wage-earners	176,443	175,343	179,930	169,813
Salaried Persons	9,426	9,415	9,462	9,438
Total	185,869	184,758	189,392	179,251

There were also 3,128 wage-earners and 367 salaried persons ordinarily employed in workshops.

Power.—The particulars furnished with regard to power are summarised below, electricity purchased not being included :—

	Gross Value of Output.	Average Number of Persons Employed.	Total Capacity of Engines.
	£		Horse-Power.
Factories with their own Engines	42,007,000	184,817	114,546
Workshops (not using Power)	549,000	3,495	—
Total	42,556,000	188,312	114,546

Classed according to kinds of power, the particulars are :—

Steam Engines :—	Horse-Power.
Reciprocating	82,814
Steam Turbines	680
Total—Steam Engines	83,494
Internal Combustion Engines (gas, oil, &c.)	28,969
Water Power	1,290
Other Power	793
Total	114,546

Firms using dynamos driven by their own engines were required to state their capacity, and the information furnished is summarised below :—

Capacity of Dynamos driven by :—	Kilowatts.
Steam Engines : Reciprocating	25,270
Steam Turbines	300
Other Power	9,621
Total	35,191

The capacity of those dynamos should not, of course, be added to that of the engines owned. What the information shows is that (taking 746 kilowatts as equivalent to 1,000 horse-power, and allowing about 10 per cent. for loss of energy in conversion) about 46 per cent. of the engine-power belonging to shipbuilding and marine engineering factories was required for driving dynamos for the production of electric power and light.

Manufacturers were also required to state the quantity of electricity generated by their own dynamos, but owing to the insufficiency of their records a number of them were unable to do so. The following statement summarises the information furnished :—

Dynamos driven by	Total Capacity of Dynamos.	Electricity Generated, so far as particulars were returned.	
		Capacity of Dynamos.	Electricity Generated.
Steam Engines : Reciprocating	Kilowatts. 25,270	Kilowatts. 24,690	Board of Trade Units. 27,919,000
Steam Turbines	300	300	423,000
Other Power	9,621	8,979	11,069,000
Total	35,191	33,969	39,411,000

About 16,315,000 Board of Trade units of electricity were purchased by manufacturers for power and lighting purposes. This figure includes estimates made in the Census Office in respect of the quantities of electricity purchased by a number of small firms who were only able to state the amounts paid by them, but the total quantity so estimated forms only a very small proportion of the whole.

Plant.—In order to obtain a measure of the capacity of shipbuilding yards all firms making their Returns on Schedules for the shipbuilding and marine engineering trades were asked to make a voluntary statement as to the number and

length of their building berths or slips. The information furnished is summarised in the following statement:—

Building Berths or Slips:—		Number.
Up to 100 feet long	...	155
Over 100 feet and up to 200 feet long	...	203
" 200 " " 300 " " "	...	103
" 300 " " 400 " " "	...	124
" 400 " " 500 " " "	...	98
" 500 " " 600 " " "	...	37
" 600 " " 700 " " "	...	30
" 700 " " 800 " " "	...	19
" 800 " " " " " "	...	8
Total	...	777

What proportion of the total building capacity of United Kingdom yards is represented by those 777 berths cannot be stated precisely, but the following statement shows the output of the firms furnishing particulars, compared with the output of all firms:—

	Output of all Firms making their Returns on the Schedules for the Shipbuilding and Marine Engineering Trades.	Output of Firms furnishing particulars of Berths.
War Vessels ... Displacement Tonnage	63,000	48,000
Steam Ships ... Gross Tonnage	1,598,000	1,276,000
Sailing Ships ... Gross Tonnage	16,000	10,000
Boats ... Value	£512,000	£236,000
Repair Work ... Value	£8,473,000	£2,165,000

(b) GOVERNMENT YARDS AND LIGHTHOUSE AUTHORITIES.

Output.—The Tables on pages 197 to 202 give particulars separately as regards (1) Dockyard Shipbuilding, (2) Dockyard Workshops, and (3) Repairing Shops belonging to Lighthouse Authorities. The work done in the twelve months ended 31st March, 1908, may be summarised as follows:—

	Quantity.	Value.
	Displacement	£
1. Dockyard Shipbuilding:—	Tonnage.	
War Vessels ...	37,300	3,355,481
Steam Ships, Iron or Steel:—		
Hull and Fittings ...	600	35,722
Boats (including Barges and Lighters):—		
Iron or Steel ...	1,913	19,401
Repairs and Other Work Done ...	...	2,496,798
Total ...	...	5,907,402
2. Dockyard Workshops:—		
Goods Made and Work Done...	...	516,249
3. Lighthouse Authorities—Repairs ...	...	26,829

The goods made in dockyard workshops are used in the shipbuilding yards and their value is included in the cost of materials used in those yards. The total value of goods made and work done in this group of Government yards and workshops is, therefore, £5,934,231. As already stated this "value" is the cost of production, which includes a proportion of establishment charges but does not include any element of profit. It cannot, therefore, be properly compared with the value of work done in private yards, without allowance being made for the different bases on which the two amounts are calculated.

Net Output.—The total cost of the materials used in shipbuilding yards, dockyard workshops and repairing shops belonging to Lighthouse Authorities, in connexion with the work returned as output, was £3,961,412, and the difference—£2,489,068—between that sum and the value of the output represents the total of wages and indirect charges. It is, therefore, not strictly comparable with the net output of private firms, which contains the element of profit. The actual cost of materials used by these establishments was £3,445,163.

Interpreting net output subject to the restriction made above, the net output per person employed in the censal year was £97.

Persons Employed.—The average number of persons employed on the last Wednesdays in April, July, and October, 1907, and January, 1908, in the yards and workshops belonging to Government Departments and Lighthouse Authorities is returned as 25,580, viz., 24,759 wage-earners and 821 salaried persons, the total number being distributed by age and sex as follows:—

Males:—		Females:—	
Under 18 ...	1,607	Under 18 ...	4
Over 18 ...	23,687	Over 18 ...	282

The variation in employment during the censal year is shown in the following statement:—

	Persons Employed on the last Wednesday in			
	April, 1907.	July, 1907.	October, 1907.	January, 1908.
Wage-earners ...	23,931	24,064	25,123	25,918
Salaried Persons ...	824	819	818	825
Total ...	24,755	24,883	25,941	26,743

Power.—In connexion with Government shipbuilding yards and workshops, engines of 61,998 horse-power were in use, and in addition 30,643 Board of Trade units of electricity were purchased and used for lighting and power.

Classed according to kinds of power, the particulars are:—

Steam Engines:—	Horse-Power.
Reciprocating ...	60,569
Steam Turbines ...	25
Total—Steam Engines ...	60,594
Internal Combustion Engines (gas, oil, &c.) ...	516
Other Power ...	888
Total ...	61,998

There were also in use dynamos whose capacity was as follows:—

Capacity of Dynamos driven by:—	Kilowatts.
Steam Engines, Reciprocating ...	13,122
Other Power ...	123
Total ...	13,245

The capacity of those dynamos should not, of course, be added to that of the engines owned. What the information shows is that (taking 746 kilowatts as equivalent to 1,000 horse-power, and allowing about 10 per cent. for loss of energy in conversion) about 32 per cent. of the engine-power was required for driving dynamos for the production of electric power and light. The amount of energy generated by those dynamos was 12,181,761 Board of Trade units.

No mechanical power was employed in the repairing shops belonging to Lighthouse Authorities.

Cycle and Motor Trades.

Output.—The Tables on pages 203 to 205 are based on Returns received from factories and workshops engaged in the manufacture of cycles, motor vehicles, and parts and accessories. The aggregate gross value of the output of the firms that made their Returns on Schedules for the cycle and motor trades is returned as £11,580,000, and, in addition, firms that made their Returns on Schedules for other trades included in their statements of output cycles, motor vehicles, and accessories to the value of £1,464,000, making a gross total of £13,044,000. This sum, however, contains a considerable amount of duplication.

The following statement shows the particulars furnished respecting the output of the cycle and motor trades whether returned on Schedules for the cycle and motor trades or on Schedules for other trades :—

	Returned on Schedules for the Cycle and Motor Trades.		Returned on Schedules for other Trades.		Total.	
	No.	£	No.	£	No.	£
Motor Vehicles (other than Motor Cycles).	8,800	2,948,000	1,000	375,000	9,800	3,323,000
Motor Chassis	1,500	637,000	500	222,000	2,000	859,000
Total—Motor Vehicles and Chassis.	10,300	3,585,000	1,500	597,000	11,800	4,182,000
Cycles (with or without tyres) ...	615,300	3,396,000	8,500	45,000	623,800	3,441,000
Motor Cycles	3,700	137,000	100	2,000	3,800	139,000
Motor Parts and Accessories (including Lamps).	—	552,000	—	453,000	—	1,005,000
Cycle and Motor Cycle Parts and Accessories :—						
Lamps	—	72,000	—	—	—	72,000
Saddles	—	97,000	—	93,000	—	190,000
Other Parts and Accessories ...	—	1,676,000	—	201,000	—	1,877,000
Total—Cycle and Motor Cycle Parts and Accessories.		1,845,000		294,000		2,139,000
Repairs		1,634,000		73,000		1,707,000
Work in Progress		292,000		—		292,000
Iron and Steel Manufactures of all kinds		58,000		—		58,000
Engineering Work of all kinds ...		47,000		—		47,000
Rubber Manufactures		19,000		—		19,000
Other Products		15,000		—		15,000
Total—Value of Goods Made and Work Done.		11,580,000		1,464,000		13,044,000

The output of iron and steel manufactures, engineering work, rubber manufactures, and other products, represents only a small part of the total output of those goods, which is dealt with in the Reports for the trades concerned.

The chassis shown in the foregoing statement were, it is understood, not sold to makers of complete vehicles but were fitted with bodies by carriage manufacturers. The value of complete motor vehicles, motor chassis, cycles, and motor cycles, of work in progress (which cannot be divided between motor vehicles and cycles), and of repair work amounts, therefore, to £9,761,000, free from duplication. There is also no duplication in the subsidiary manufactures valued at £139,000, but there is duplication between the value of motor and cycle parts and accessories (£3,144,000) and the value of complete vehicles and cycles and repair work. The exports of parts of cycles and motor cycles in 1907 amounted to £804,000, free on board, and the exports of parts of motor cars in the same year were probably about £390,000 (if the same proportion held good then as in 1908, when chassis were first shown separately from other parts of motor vehicles in the Annual Statement of Trade). Subtracting these sums from the total of £3,144,000, there is left £1,950,000, the value of motor and cycle parts and accessories, which were either sold for replacements to private persons, or to excluded workshops (*see below*), or to cycle and motor manufacturers or repairers by whom they were included in the value of their output as shown in the Tables and the foregoing statement. As the respective proportions of those two sections of the trade are not known, it can only be said that the value of the output of the cycle and motor trades, taken as a whole, may be estimated at a sum lying between £10,900,000 and £12,900,000, to which should be added £139,000, the value of goods of classes chiefly made in other trades.

It is probable that the sum of £1,707,000 received for repairs does not include the full amount paid for repairs to cycles and motors in the year of return, for a number of "men's workshops," where only men were employed, were not on the official list of workshops, and casual repair work carried out by firms that were mainly agents was not covered by the Census. The total is also mainly exclusive of a sum of £729,000 returned on the Schedules for the carriage-building trade as the value of motor car bodies, for motor vehicles of all kinds, made by carriage-builders. Those bodies were (a) fixed to imported chassis, (b) fixed to British-made chassis, whose value was returned to the Census Office

as for chassis only, and included as such in Table I. on page 203 and in the statement above, and (c) sold to motor car builders who included their value in the value (£3,323,000) of complete motor cars made by them. The number of motor bodies covered by the first two classes may, after allowing for re-exports, be estimated at about 4,700 or 4,800 (*see below*), but there is no information as to either the number or the value of the bodies duplicated in the third class.

In the Annual Statement of Trade for 1907 motor chassis were not separately distinguished from motor parts and accessories, but in 1908, when the total net imports of chassis and parts amounted to £2,525,000 or £189,000 more than in 1907, the value being taken at the port of landing, and the total exports of chassis and parts of United Kingdom manufacture were valued at £458,000, free on board, or £9,000 less than in 1907, 3,134 chassis valued at £975,000 were imported (deducting re-exports) and 225 chassis valued at £76,000 were exported. It is understood that the chassis imported into this country do not form part of the complete cars included in the Returns to the Census Office from motor manufacturers, but are imported by agents of foreign firms and others who have not made Returns, and are fitted with bodies by carriage-building firms to their order. The following statement gives approximate particulars regarding exports and imports in 1907 as compared with the production in the year of return :—

	Production.		Exports, 1907.		Net Imports, 1907.*	
	No.	£	No.	£	No.	£
Motor Cars, complete	9,800	3,323,000	2,300	858,000	4,300	1,834,000
Cycles, except Motor Cycles ...	623,800	3,441,000	102,400	509,000	600	5,000
Motor Cycles... ..	3,800	139,000	800	28,000	1,700	48,000
Motor Chassis	2,000	859,000	—	—	—	—
Cycle and Motor Parts	—	3,144,000	—	1,272,000	—	2,516,000

* *i.e.*, imports less re-exports.

Including foreign chassis imported (which on the basis of the figures for 1908 may be assumed not to have exceeded 3,000 in 1907) with foreign vehicles, it will be seen that the number of foreign vehicles and chassis imported for use in the United Kingdom is not likely to have exceeded some seven or eight thousand, whilst the number of vehicles and chassis built in the United Kingdom during the year of return was 11,800. Thus, after deducting the British-built vehicles and chassis exported (the number of the latter probably not having exceeded two or three hundred) it would appear that of the total number of motor vehicles and chassis retained for use in the United Kingdom a substantial majority was British built.

The imported cars, retained in the United Kingdom in 1907, represented a little over five-twelfths of the number of the British-made cars and about eleven-twentieths of their value, while the exports of British-made cars were about 23 per cent. of the number and their value (free on board) was about 26 per cent. of the value at works of the cars made in the United Kingdom. Similarly, the value of the exports of motor and cycle parts and accessories in 1907 was about 38 per cent. of the value at works of the motor and cycle parts and accessories made in the United Kingdom, while the net imports (*i.e.*, imports less re-exports) were a little over one-half of the value at works of the motor and cycle parts and accessories made in the United Kingdom. Motor cycles exported in 1907 were a little over 21 per cent. of the number, and a little over 20 per cent. of the value at works, of the motor cycles made in the United Kingdom, while the imports (less re-exports) were nearly 45 per cent. of the number made in the United Kingdom and about 35 per cent. of their value at works. Of the cycles made in the United Kingdom 16 per cent. were exported in 1907 and their value, £509,000, was 15 per cent. of the value of cycles at works. The net importation of cycles was very small.

Net Output.—The net output of the factories and workshops covered by the Tables on pages 203 to 205 (whose gross output was valued at £11,580,000) was £5,901,000, that sum representing the total amount by which the value of the output of those factories and workshops exceeded the cost of the materials used and the amount paid to other firms for work done by them on those materials for the principal firms. The actual cost of materials used by those factories and workshops, taken as a whole, cannot be precisely stated, but it may be estimated at a sum lying between 3½ and 5 million pounds sterling. The amount paid to other firms for work given out to them was £199,000.

The net output per head of persons employed in the censal year was a little over £109.

Persons Employed.—The average number of persons employed on the last Wednesdays in January, April, July, and October in the factories, together with the number ordinarily employed in the workshops, covered by the Tables on pages 203 to 205, is returned as 54,043, viz., 47,666 wage-earners and 6,377 salaried persons, the total number being distributed by age and sex as follows :—

Males :—		Females :—	
Under 18	7,187	Under 18	1,915
Over 18	39,886	Over 18	5,055

The variation in employment in factories during the censal year is shown in the following statement :—

	Persons Employed on the last Wednesday in			
	January.	April.	July.	October.
Wage-earners	43,473	46,875	40,940	39,650
Salaried Persons	4,934	5,123	5,198	5,104
Total	48,407	51,998	46,138	44,754

There were also 4,931 wage-earners and 1,288 salaried persons ordinarily employed in workshops.

Power.—The particulars furnished with regard to power are summarised below, electricity purchased not being included :—

	Gross Value of Output.	Average Number of Persons Employed.	Total Capacity of Engines.
	£		Horse-Power.
Factories with their own Engines	10,640,000	47,169	15,391
Factories renting their Power	147,000	655	—
Workshops (not using Power)	793,000	6,219	—
Total	11,580,000	54,043	15,391

Classed according to kinds of power, the particulars are :— Horse-Power.

Steam Engines, Reciprocating	3,400
Internal Combustion Engines (gas, oil, &c.)	11,957
Water Power	34
Total	15,391

As shown above, whereas the total number of persons employed in factories in the cycle and motor trades was 47,824, firms employing 655 persons rented their power. Precise details as to the amount and kind of such power are not available, since landlords frequently included in their special Returns power supplied to several firms engaged in different industries (*see* pages 15 to 18).

Firms using dynamos driven by their own engines were required to state their capacity, and the information furnished is summarised below :—

Capacity of Dynamos driven by :—	Kilowatts.
Steam Engines, Reciprocating	677
Other Power	1,559
Total	2,236

The capacity of those dynamos should not, of course, be added to that of the engines owned. What the information shows is that (taking 746 kilowatts as equivalent to 1,000 horse-power, and allowing about 10 per cent. for loss of energy in conversion) about 22 per cent. of the engine-power belonging to cycle and motor factories was required for driving dynamos for the production of electric power and light.

Manufacturers were also required to state the quantity of electricity generated by their own dynamos, but owing to the insufficiency of their records a number of them were unable to do so. The following statement summarises the information furnished :—

Dynamos driven by	Total Capacity of Dynamos.	Electricity Generated, so far as particulars were returned.	
		Capacity of Dynamos.	Electricity Generated.
Steam Engines, Reciprocating	Kilowatts. 677	Kilowatts. 378	Board of Trade Units. 546,000
Other Power	1,559	1,184	762,000
Total	2,236	1,562	1,308,000

About 6,770,000 Board of Trade units of electricity were purchased by manufacturers for power and lighting purposes. This figure includes estimates made in the Census Office in respect of the quantities of electricity purchased by a number of small firms who were only able to state the amounts paid by them, but the total quantity so estimated forms only a very small proportion of the whole.

Cutlery Trade.

Output.—The Tables on pages 206 to 208 are based on Returns from factories and workshops engaged in the manufacture of cutlery. The aggregate gross value of the output of the firms that made their Returns on the Schedules for the cutlery trades is returned as £1,955,000, to which should be added £92,000, the value of cutlery included in their statements of output by firms that made their Returns on Schedules for other trades. In the resulting total of £2,047,000 there is, however, some duplication.

The cutlery trade in the Sheffield district is carried on partly by factory owners with their own staff and partly by "tenement occupiers" who rent room and power from the principal occupiers of private factories or from the landlords of public "wheels" or factories. Tenement occupiers sometimes work up materials which they themselves purchase, and sometimes work on materials given out to them by the principal occupiers of the factories in which they have rooms, or by other factory occupiers, or by merchants. Occasionally the same tenement occupier will work in all of these ways. In view of the complicated character of this section of the trade a special officer was appointed to assist the tenement occupiers, who are mostly in a small way of business, in the preparation of their Returns.

The following statement shows the values of the chief products of cutlery factories and workshops, including £92,000, the value of cutlery returned on Schedules for other trades :—

	Value.
Steel Cutlery (including Table Cutlery, Pocket Cutlery, Scissors, Razors, &c.) and Repairs	£ 1,527,000
Parts of Cutlery (handles, &c.)	77,000
Electro-plated Goods and Unplated Goods of Britannia Metal, Pewter, German Silver, and similar Metals, and parts thereof	177,000
Parts of Electro-plated Goods	3,000
Tools and Implements :—	
Files and Rasps	21,000
Edge Tools (including Joiners' Tools)	9,000
Other Sorts	38,000
Total—Tools and Implements	68,000
Other Iron and Steel Manufactures	24,000

The output of electro-plated goods, tools, and other iron and steel manufactures represents only a small part of the total output of those goods, which is dealt with in the Reports for the trades concerned.

The total value of the items in the above statement amounts to £1,876,000. The sum of £77,000 returned as the value of their output by firms describing themselves as makers of parts of steel cutlery, and the sum of £3,000 returned by makers of parts of electro-plated goods, are both probably included in the value of the finished goods shown above. It is believed that there is no further serious duplication arising from parts being returned as such by the makers and also as included in the value of the finished goods by other firms to whom the parts were sold.

In addition, the amount received for work done on materials given out was £171,000, made up as follows:—

Work Done on:—	Value. £
Cutlery	150,000
Electro-plated Goods... ..	12,000
Tools	1,000
Other Work	8,000

Firms that gave out materials to be worked up and included the value of the finished goods in their Returns to the Census Office reported that they paid to the persons and firms doing such work £139,000. The difference—£32,000—between the total of the sums received for work done by firms and persons making Returns and the total of the sums paid by firms making Returns represents the total amount received for work done for merchants not making Returns to the Census Office and for firms not making Returns on the Schedule for the cutlery trade. It is, therefore, an addition to the value of the goods shown in the first statement. The goods so made consisted mainly of cutlery, but their selling value is not known.

Adding together the value of finished goods (£1,796,000) and the £32,000 received for work done for merchants, &c., it appears that the value of the output of the cutlery factories and workshops covered by the Tables on pages 206 to 208 and of cutlery made by firms that made their Returns on Schedules for other trades, is, taken as a whole, about £1,828,000, of which £1,559,000 represents the value of cutlery manufactured, of repairs to cutlery, and of the amount received for work done on merchants' materials.

The value of the net imports (*i.e.*, imports less re-exports) of cutlery in 1907 was £117,000, valued at port of landing, or about one-thirteenth of the factory value of the cutlery manufactured in the United Kingdom (exclusive of that made for merchants). The value of the exports of cutlery of United Kingdom manufacture, calculated as free on board, was £770,000 in 1907, or about one-half of the factory value of the cutlery manufactured in the United Kingdom (exclusive of that made for merchants).

As far as can be ascertained the total value of the output of the sub-occupiers of tenement factories in the Sheffield district who made their Returns on the Schedules for the cutlery trades is £266,000, the details of which are shown in the following statement:—

	Value. £
Steel Cutlery	107,000
Electro-plated goods	22,000
Total—Goods made for Sale	129,000
Work done on Materials given out:—	
On Cutlery	126,000
On Electro-plated goods	11,000
Total—Work Done for the Trade	137,000

Goods made or work done by the principal occupiers of factories are not included in the foregoing statement.

Net Output.—The net output of the factories and workshops covered by the Tables on pages 206 to 208 (whose gross output was valued at £1,955,000) was £1,081,000, that sum representing the total amount by which the value of the output of those factories and workshops exceeded the cost of the materials used and the amount paid to other firms for work done by them on those materials for the principal firms. The

actual cost of materials used by those factories and workshops, taken as a whole, may be estimated at about £655,000. The amount paid to other firms for work given out to them was at £139,000.

The net output per head of persons employed in the censal year was nearly £73.

Persons Employed.—The average number of persons employed on the last Wednesdays in January, April, July, and October in the factories, together with the number ordinarily employed in the workshops, covered by the Tables on pages 206 to 208, is returned as 14,831, viz.:—12,485 wage-earners and 2,346 salaried persons, the total number being distributed by age and sex as follows:—

Males:—		Females:—	
Under 18	1,488	Under 18	967
Over 18	10,286	Over 18	2,090

The variation in employment in factories during the censal year is shown in the following statement:—

	Persons Employed on the last Wednesday in			
	January.	April.	July.	October.
Wage-earners	9,672	9,721	9,745	9,793
Salaried Persons	1,060	1,060	1,044	1,050
Total	10,732	10,781	10,789	10,843

There were also 2,752 wage-earners and 1,293 salaried persons ordinarily employed in workshops.

Power.—The particulars furnished with regard to power are summarised below, electricity purchased not being included:—

	Gross Value of Output.	Average Number of Persons Employed.	Total Capacity of Engines.
	£		Horse-Power.
Factories with their own Engines	1,472,000	9,553	5,208
Factories renting part of their Power	28,000	144	40
Factories renting all their Power	161,000	1,089	—
Workshops (not using Power)	294,000	4,045	—
Total	1,955,000	14,831	5,248

Classed according to kinds of power, the particulars are:—			Horse-Power.
Steam Engines, Reciprocating ... ..	...	...	3,315
Internal Combustion Engines (gas, oil, &c.) ... ..	...	...	1,818
Water Power ... ..	...	...	115
Total ... ..	...	...	5,248

As shown above, whereas the total number of persons employed in factories in the cutlery trade was 10,786, firms employing 1,233 persons rented all or part of their power. Precise details as to the amount and kind of such power are not available, since landlords frequently included in their special Returns power supplied to several firms engaged in different industries (see pages 15 to 18).

Firms using dynamos driven by their own engines were required to state their capacity, and the information furnished is summarised below:—

Capacity of Dynamos driven by:—		Kilowatts.
Steam Engines, Reciprocating ... ..	...	534
Other Power ... ..	...	44
Total ... ..	...	578

The capacity of those dynamos should not, of course, be added to that of the engines owned. What the information shows is that (taking 746 kilowatts as equivalent to 1,000 horse-power, and allowing about 10 per cent. for loss of energy in conversion) about 16 per cent. of the engine-power belonging to cutlery factories was required for driving dynamos for the production of electric power and light.

Manufacturers were also required to state the quantity of electricity generated by their own dynamos, but owing to the insufficiency of their records a number of them were unable to do so. The following statement summarises the information furnished :—

Dynamoes driven by	Total Capacity of Dynamoes.	Electricity Generated, so far as particulars were returned.	
		Capacity of Dynamoes.	Electricity Generated.
Steam Engines, Reciprocating	Kilowatts. 534	Kilowatts. 220	Board of Trade Units. 182,000
Other Power	44	44	65,000
Total	578	264	247,000

About 283,000 Board of Trade units of electricity were purchased by manufacturers for power and lighting purposes. This figure includes estimates made in the Census Office in respect of the quantities of electricity purchased by a number of small firms who were only able to state the amounts paid by them.

Tool and Implement Trades.

Output.—The Tables on pages 209 to 211 are based on Returns received from factories and workshops engaged in the manufacture and repair of tools and implements. The aggregate gross value of the output of the firms that made their Returns on the Schedules for the tool and implement trades is returned as £3,703,000, to which should be added £2,297,000, the value of tools and implements included in their statements of output by firms that made their Returns on Schedules for other trades. The resulting total of £6,000,000, however, contains some duplication.

In the Sheffield district the trade is partly carried on in tenement factories (see page 143), and the Returns were collected by an officer appointed for the purpose of assisting tenement occupiers to fill up the Schedules issued to them.

The following statement shows the values of the chief products of the tool and implement trades :—

	Returns made on Schedules for the Tool and Implement Trades.	Returns made on Schedules for other Trades.	Total.
	£	£	£
Implements and Tools and Parts thereof (including Repairs) :—			
Agricultural (including spades, shovels, hoes, hayforks, ploughs, harrows, pickaxes &c.).	908,000	1,359,000	2,267,000
Files and Rasps	509,000	131,000	640,000
Saws and Machine Knives... ..	356,000	16,000	372,000
Edge Tools (including joiners' tools)	539,000	46,000	585,000
Engineers' Tools (including milling cutters, stocks and dies, drills, wrenches, spanners, &c.).	402,000	188,000	590,000
Other Sorts	258,000	82,000	340,000
Tools, not separately distinguished	—	470,000	470,000
Total—Implements and Tools	2,972,000	2,292,000	5,264,000

In addition, the following groups of products were included in the Returns made on the Schedules for the Tool and Implement Trades, but the main part of the output of such goods was returned on Schedules for other trades, and the total output is dealt with in the Reports on the trades concerned :—

	Value.
	£
Machinery :—	
Machine Tools... ..	141,000
Other Machinery and Accessories	77,000
Total—Machinery	218,000

	Value.
	£
Crucible Steel	155,000
Steel Bars, Castings, Forgings, &c.	154,000
Other Iron and Steel Manufactures	85,000
Other Products	30,000
Total—Machinery and Other Goods	642,000

The sum of £2,972,000, representing the value of tools and implements manufactured by firms making their Returns on Schedules for the tool and implement trades, includes £14,000 returned as the value of their output by firms describing themselves as makers of handles and other parts of tools. Such parts were held in stock, or were sold to merchants, or to tool firms making their Returns on Schedules for other trades, or to other tool firms making their Returns on Schedules for the tool and implement trades. In the last case duplication is involved, but its extent cannot be precisely determined. The total value of the tools and implements made in the United Kingdom by manufacturers for sale may, including repairs, be estimated at a sum approximating to £5,250,000.

Firms and persons who worked for the trade on materials given out to them by other firms or persons returned to the Census Office the value of the work done by them as £89,000, distributed as follows among the various classes of tools and implements :—

Work Done on :—	Value.
	£
Agricultural Tools and Implements	2,000
Files and Rasps	70,000
Saw and Machine Knives	1,000
Edge Tools	10,000
Engineers' Tools	2,000
Other Sorts of Tools	4,000

Firms that gave out materials to be worked up and included the value of the finished goods in their Returns to the Census Office reported that they paid to the persons and firms doing such work £74,000. The difference, £15,000, between the total of the sums received for work done by firms and persons making Returns and the total of the sums paid by firms making Returns represents the total amount received for work done for merchants and other persons not making Returns to the Census Office, and to a small extent for firms making their Returns on Schedules other than those for the tool and implement trade. It is, therefore, almost entirely an addition to the value of the goods included in the first statement. The actual selling value of the tools, &c., so made is not known. In addition, £5,000 for re-grinding and similar work done on tools was included in their statements of output by firms that made their Returns on Schedules for other trades.

Further, some duplication is probably involved under the headings of "crucible steel," valued at £155,000, and "steel bars, castings, forgings, &c.," valued at £154,000, made by firms engaged in the manufacture of tools and implements and included by them in their Returns as made but not used by them in the manufacture of tools and other goods also included in their Returns. Some part of that steel may have been sold to firms that made their Returns on Schedules other than those for the tool and implement trades, and part may represent steel put into stock at the end of the year, and to that extent the steel made represents an addition to the output of the firms that made their Returns on the Schedules for the tool and implement trades. It is also probable, however, that part of that steel was sold to firms who used it in the production of goods the value of which is included in the Returns made on Schedules for the tool and implement trades, thus causing duplication with the value of the finished tools as shown in the first column of the statement on the preceding page.

The gross value of the output of the firms that made their Returns on Schedules for the tool and implement trades was returned as £3,703,000. Deducting from this amount the sum (£74,000) paid for work given out to other firms, and making allowance for the duplication involved under the heads of parts of tools (£14,000), crucible steel (£155,000), and steel bars, castings, forgings, &c., (£154,000), it may be estimated that

the value, taken as a whole, of the output of the firms that made their Returns on the Schedules for the tool and implement trades lies between £3,306,000 and £3,629,000 (or say, between $3\frac{1}{2}$ and $3\frac{3}{4}$ million pounds sterling). The total value of the tools made and of the work done for merchants, as returned on all Schedules, was, taken as a whole, about £5,270,000, of which £5,250,000 represents the value of tools and implements.

As far as can be ascertained the total value of the output of sub-occupiers of tenement factories and of workshop occupiers in the Sheffield district who made their Returns on Schedules for the tool and implement trades is £170,000, the details of which are shown in the following statement:—

Implements and Tools and Parts thereof (including repairs):—	Value. £
Agricultural	2,000
Files and Rasps	32,000
Saws and Machine Knives	9,000
Edge Tools	42,000
Engineers' Tools	2,000
Other Sorts	14,000
Other Products	2,000
Total of Goods Made for Sale (including repairs)	103,000
Work done for the Trade on materials supplied	67,000
Total	170,000

Goods made or work done by the principal occupiers of factories is not included in the foregoing statement.

The net imports (*i.e.*, imports less re-exports) of tools and implements and parts thereof were included in one total in 1907, their value being returned at £319,000 at the port of landing, while the value of the exports, free on board at port of shipment, was:—

	Value. £
Agricultural Implements and Tools	487,000
Other Sorts	1,756,000

The value of the goods returned to the Census Office is their value at works, and, therefore, no strict comparison can be made between the value of goods produced in the United Kingdom and the values of the same kinds of goods as imported or exported. Taking the values as given, however, it would appear that the tools and implements of all kinds imported represent in value a little more than 6 per cent. of the value of the tools and implements made in the United Kingdom (exclusive of those made for merchants), while the export value of the tools, &c., of United Kingdom manufacture is about 42.6 per cent. of the total value at works of the tools and implements made in the United Kingdom (exclusive of those made for merchants).

Net Output.—The net output of the factories and workshops covered by the Tables on pages 209 to 211 (whose gross output was valued at £3,703,000) was £2,090,000, that sum representing the total amount by which the value of the output of those factories and workshops exceeded the cost of the materials used and the amount paid to other firms for work done by them on those materials for the principal firms. The actual cost of materials used by those factories and workshops, taken as a whole, cannot be precisely stated, but it may be estimated at a sum lying between £1,216,000 and £1,539,000. The amount paid to other firms for work given out to them was £74,000.

The net output per head of persons employed in the censal year was a little over £88.

Persons Employed.—The average number of persons employed on the last Wednesdays in January, April, July, and October in the factories, together with the number ordinarily employed in the workshops, covered by the Tables on pages 209 to 211, is returned as 23,711, viz., 20,523 wage-earners and 3,188 salaried persons, the total number being distributed by age and sex as follows:—

Males:—	Females:—
Under 18 3,503	Under 18 636
Over 18 17,810	Over 18 1,762

In addition, the average number of outworkers on the books of the employing firms on 1st February and 1st August, 1907, was 173, viz., 125 males and 48 females.

The variation in employment in factories during the censal year is shown in the following statement:—

	Persons Employed on the last Wednesday in			
	January.	April.	July.	October.
Wage-earners	18,540	18,488	18,336	18,447
Salaried Persons	1,745	1,740	1,730	1,740
Total	20,285	20,228	20,066	20,187

There were also 2,070 wage-earners and 1,450 salaried persons ordinarily employed in workshops.

Power.—The particulars furnished with regard to power are summarised below, electricity purchased not being included:—

	Gross Value of Output.	Average Number of Persons Employed.	Total Capacity of Engines.
	£		Horse-Power.
Factories with their own Engines	3,405,000	19,771	19,206
Factories renting their Power	51,000	420	—
Workshops (not using Power)	247,000	3,520	—
Total	3,703,000	23,711	19,206

Classed according to kinds of power, the particulars are:—

Steam Engines:—	Horse-Power.
Reciprocating	11,082
Steam Turbines	6
Total—Steam Engines	11,088
Internal Combustion Engines (gas, oil, &c.)	7,336
Water Power	782
Total	19,206

As shown above, whereas the total number of persons employed in factories in the tool and implement trades was 20,191, firms employing 420 persons rented their power. Precise details as to the amount and kind of such power are not available, since landlords frequently included in their special Returns power supplied to several firms engaged in different industries (see pages 15 to 18).

Firms using dynamos driven by their own engines were required to state their capacity, and the information furnished is summarised below:—

Capacity of Dynamos driven by:—	Kilowatts.
Steam Engines, Reciprocating	378
Other Power	156
Total	534

The capacity of those dynamos, should not, of course, be added to that of the engines owned. What the information shows is that (taking 746 kilowatts as equivalent to 1,000 horse-power, and allowing about 10 per cent. for loss of energy in conversion) about 4 per cent. of the engine-power belonging to tool and implement factories was required for driving dynamos for the production of electric power and light.

Manufacturers were also required to state the quantity of electricity generated by their own dynamos, but owing to the insufficiency of their records a number

of them were unable to do so. The following statement summarises the information furnished:—

Dynamoes driven by	Total Capacity of Dynamoes.	Electricity Generated, so far as particulars were returned.	
		Capacity of Dynamoes.	Electricity Generated.
Steam Engines, Reciprocating	Kilowatts. 378	Kilowatts. 339	Board of Trade Units. 479,000
Other Power	156	54	50,000
Total	534	393	529,000

About 2,205,000 Board of Trade units of electricity were purchased by manufacturers for power and lighting purposes. This figure includes estimates made in the Census Office in respect of the quantities of electricity purchased by a number of small firms who were only able to state the amounts paid by them, but the total quantity so estimated forms only a very small proportion of the whole.

Blacksmithing Trade.

Output.—The Tables on pages 212 and 213 are based on Returns received from factories and workshops engaged in the manufacture of horse-shoes, fences and gates, and builders' ironmongery, and in general blacksmithing work. The aggregate gross value of the output of the firms that made their Returns on the Schedules for the blacksmithing trade is returned as £2,466,000, and, in addition, firms that made their Returns on Schedules for other trades included in their statements of output wrought iron and blacksmithing work to the value of £227,000, raising the total value to £2,693,000, in which, however, there is a certain amount of duplication. Further, railway companies and local authorities that did not make their Returns on a profit basis stated that they executed blacksmithing work costing £28,000, making altogether £2,721,000.

Returns have not been received from all country blacksmiths, many smithies where the smith worked alone or where only adult male labour was employed not being recorded on the official lists of workshops. Such establishments would, however, as a rule, be small, and at many of them work is not continuous.

The following statement shows the value of the output of the factories and workshops from which Returns have been received:—

	Returns made on Schedules for the Blacksmithing Trade.	Returns made on Schedules for other Trades.	Total.
	£	£	£
Horse-shoes	92,000	14,000	106,000
Fences and Gates	381,000	109,000	490,000
Builders' Ironmongery	106,000	—	106,000
Ornamental Ironwork	72,000	20,000	92,000
Structural Ironwork	85,000	—	85,000
Other Ironwork	93,000	4,000	97,000
Agricultural Implements and Tools	5,000	—	5,000
Other Products	7,000	—	7,000
General and Jobbing Work	1,625,000	108,000	1,733,000
Total	2,466,000	255,000	2,721,000

The amounts included in the above statement in respect of builders' ironmongery, structural ironwork, tools, and other products only represent the quantities made by blacksmiths. The entries in the above statement are free from duplication, except in so far as part of the output of horse-shoes consists of shoes and blanks sold by the manufacturers to blacksmiths and included by the latter in their Returns of their jobbing work. The extent of this duplication is not precisely known, but the great bulk of the horse-shoes made in the United Kingdom are made by jobbing blacksmiths, and their value is included in the amount received for jobbing work. The value, taken as a whole, of the output of

the factories and workshops for which Returns were made on Schedules for the blacksmithing trade may be estimated at a sum lying between £2,374,000 and £2,466,000, and the value of the output of smithy products, not dealt with under other trades, at a sum lying between £2,412,000 and £2,518,000.

It is not possible to make any comparison between the exports and imports of smithy products and the production in the United Kingdom as the several classes of goods recorded in the foregoing statement are not separately distinguished in the Export and Import Lists.

Net Output.—The net output of the factories and workshops covered by the Tables on pages 212 and 213 (whose gross output was valued at £2,466,000) was £1,478,000, this sum representing the total amount by which the value of the goods made and work done in such factories and workshops exceeded the cost of the materials used in connexion therewith. The actual cost of the materials used by those factories and workshops, taken as a whole, cannot be stated precisely, but it lies between £896,000 and £988,000.

Taken in relation to the average number of persons employed, the net output per head is nearly £71. The comparative lowness of this amount is due to the large number of workshops included where work is often not continuous and the employer receives little more than the wages of an adult smith.

Persons Employed.—The average number of persons employed on the last Wednesdays in January, April, July, and October in the factories, together with the number ordinarily employed in the workshops, covered by the Tables on pages 212 and 213 is returned as 20,889, viz., 17,191 wage-earners and 3,698 salaried persons, the total number being distributed by age and sex as follows:—

Males:—		Females:—	
Under 18	3,025	Under 18	24
Over 18	17,615	Over 18	225

The variation in employment in factories during the censal year is shown in the following statement:—

	Persons Employed on the last Wednesday in			
	January	April.	July.	October.
Wage-earners	5,705	5,703	5,631	5,676
Salaried Persons	627	629	630	627
Total	6,332	6,332	6,261	6,303

There were also 11,512 wage-earners and 3,070 salaried persons ordinarily employed in workshops.

Power.—The particulars furnished with regard to power are summarised below, electricity purchased not being included:—

	Gross Value of Output.	Average Number of Persons Employed.	Total Capacity of Engines.
	£		Horse-Power.
Factories with their own Engines	1,090,000	6,280	4,113
Factories renting their Power	3,000	27	—
Workshops (not using Power)	1,373,000	14,582	—
Total	2,466,000	20,889	4,113

Classed according to kinds of power, the particulars are:—

	Horse-Power.
Steam Engines, Reciprocating	1,626
Internal Combustion Engines (gas, oil, &c.)	2,399
Water Power	88
Total	4,113

As shown above, whereas the total number of persons employed in factories in the blacksmithing trade was 6,307, firms employing 27 persons rented their power. Precise details as to the amount and kind of such power are not available.

Firms using dynamos driven by their own engines were required to state their capacity, and the information furnished is summarised below :—

Capacity of Dynamos driven by :—		Kilowatts.
Steam Engines, Reciprocating	...	57
Other Power	...	3
Total	...	60

The capacity of those dynamos should not, of course, be added to that of the engines owned. What the information shows is that (taking 746 kilowatts as equivalent to 1,000 horse-power, and allowing about 10 per cent. for loss of energy in conversion) somewhat over 2 per cent. of the engine-power belonging to blacksmithing factories was required for driving dynamos for the production of electric power and light.

Manufacturers were also required to state the quantity of electricity generated by their own dynamos, but owing to the insufficiency of their records a complete statement of the quantity generated cannot be made. Firms with dynamos of 4 kilowatts capacity, however, returned the quantity of electricity generated as 5,000 Board of Trade units.

About 186,000 Board of Trade units of electricity were purchased by manufacturers for power and lighting purposes. This figure includes estimates made in the Census Office in respect of the quantities of electricity purchased by a number of small firms who were only able to state the amounts paid by them.

Needle, Pin, Fish-hook, and Button Trades.

Output.—The Tables on pages 214 to 216 are based on Returns received from factories and workshops engaged in the manufacture of needles, pins, fish-hooks, hooks and eyes, buttons, &c. The aggregate gross value of the output of the firms that made their Returns on the Schedules for the needle, pin, fish-hook, and button trades is returned as £1,599,000, to which should be added £72,000 the value of similar goods manufactured by firms that made their Returns on Schedules for other trades. The resulting total of £1,671,000 includes a small amount of duplication.

In view of the difficulties experienced by many manufacturers in this trade in distinguishing in detail the sales of goods of their own manufacture from the sales of "factored" goods, *i.e.*, goods purchased from other firms and resold in the same condition, such firms were permitted to include in their statement of output the value of the factored goods along with that of the goods made by them, but were asked to state separately the total approximate cost of all the factored goods so included, and also to include it in the cost of their materials. The cost of the factored goods as returned to the Census Office by 21 firms amounted to £11,000, or about seven-tenths of one per cent. of the total value of the finished goods included in the Returns. The particulars given in this Report and in the Tables have been adjusted by the omission of the cost of the factored goods both from the selling value of the goods returned under "output" and from the "cost of materials used," the adjustments being made on the basis of the information furnished in the individual Returns. The recorded value of the goods manufactured is, accordingly, swollen by the inclusion of the profit made on the factored goods, but the profit in question is small in proportion to the total value of the manufactured goods included in the Returns, and the figures given in the Tables are not seriously affected by this consideration.

The following statement shows the particulars relating to the various classes of products manufactured in the factories and workshops covered by the Table I on page 214, and is free from duplication :—

	Value.
Finished Needles and Steel Pins (including crochet hooks, knitting pins, &c., of steel)	335,000
Hair Pins (including hair curlers and wavers)	90,000
Pins, Other Sorts	227,000
Fish Hooks and Fishing Tackle	131,000
Hooks and Eyes and Buckles	136,000
Buttons and Studs :—	
Wholly or partly of Metal (including buttons covered with linen, cloth, &c.)	296,000
Not of Metal	191,000
Total—Buttons and Studs	487,000

	Value.
Eyelets and Fasteners	55,000
Metal Smallwares	29,000
Military Accoutrements and Ornaments	27,000
Fancy Articles	27,000
Other Products	17,000

The total value of the above products amounts to £1,561,000.

In addition £38,000 was received for work done for the trade. Firms making Returns of the value of their finished goods on the Schedule for the needle, pin, fish-hook, and button trades reported that they had paid to other firms for work given out £25,000. The difference—£13,000—between this sum and the amount received for work done for the trade represents the amount received for work done on materials given out by merchants who were not asked to make Returns, and is, consequently, an addition to the value of the output of finished goods shown in the foregoing statement. The value of the goods made for merchants is not known.

Adding this £13,000 to the value of the finished goods included in the statement (£1,561,000), there results the sum of £1,574,000, representing the value of the products of the factories and workshops, taken as a whole, covered by the Tables on pages 214 to 216 plus the amount paid to the makers of goods from materials given out by merchants but exclusive of the value of those materials and of the merchants' profits.

In addition to the amounts shown in the foregoing statement, needles valued at £15,000, and buckles valued at £57,000 were included in their statements of output by firms that made their Returns on Schedules for other trades, thus raising the value of needles and steel pins made in the United Kingdom to £350,000, and the value of hooks and eyes and buckles to £193,000.

In order to obtain more detailed particulars regarding the output of needles and buttons than could be asked for in the compulsory part of the Schedule, all manufacturers of needles and buttons were asked to state voluntarily the kind and quantity of needles and buttons made by them. Replies were received from firms whose output of needles was valued at £168,000, or just under one-half of the total output of needles and steel pins manufactured in the United Kingdom, and from firms whose output of buttons was valued at £99,000, or just over one-fifth of the total value of the buttons and studs made in the United Kingdom. The following statement summarises the particulars furnished :—

Needles :—	Thousands.
Sewing Needles	948,661
Machine Needles	21,829
Other Sorts	9,543
Total—Needles	980,033
Buttons :—	Great Gross.
Iron and Metal Buttons	12,227
Cloth Buttons...	7,000
Horn Buttons...	9,593
Pearl Buttons...	17,344
Other Sorts	116,208
Total—Buttons	162,372

The net imports (*i.e.*, imports less re-exports) of buttons and studs (not of metal) were valued in 1907 at £330,000 at the port of landing, or nearly one and three-quarter times the total value at works of the quantity manufactured in the United Kingdom; the exports of buttons and studs are not separately specified in the Trade Returns. The other goods covered by this part of the Report are not separately specified among either exports or imports. The exports of "fishing tackle" (which amounted in 1907 to £359,000, free on board) include not only fish-hooks, but also nets, lines, twines, &c.

Net Output.—The net output of the factories and workshops covered by the Tables on pages 214 to 216 (whose gross output was valued at £1,599,000) was £846,000, that sum representing the total amount by which the value of the output of those factories and workshops, exceeded the cost of the materials used and the amount paid to other

firms for work done by them on those materials for the principal firms. The actual cost of materials used by those factories and workshops, taken as a whole, was £728,000, and the amount paid to other firms for work given out to them £25,000.

The net output per head of persons employed (excluding outworkers) in the censal year was nearly £64.

Persons Employed.—The average number of persons employed on the last Wednesdays in January, April, July, and October in the factories, together with the number ordinarily employed in the workshops, covered by the Tables on pages 214 to 216, is returned as 13,252, viz., 12,213 wage earners and 1,039 salaried persons, the total number being distributed by age and sex as follows:—

Males:—		Females:—	
Under 18	682	Under 18	2,404
Over 18	3,838	Over 18	6,328

In addition, the average number of outworkers on the books of the employing firms on 1st February and 1st August, 1907, was 1,648, viz., 283 males and 1,365 females.

The variation in employment in factories during the censal year is shown in the following statement:—

	Persons Employed on the last Wednesday in			
	January.	April.	July.	October.
Wage-earners	11,238	11,379	11,417	11,484
Salaried Persons	935	945	941	956
Total	12,173	12,324	12,358	12,440

There were also 833 wage-earners and 95 salaried persons ordinarily employed in workshops; outworkers are not included.

Power.—The particulars furnished with regard to power are summarised below, electricity purchased not being included:—

	Gross Value of Output.	Average Number of Persons Employed.	Total Capacity of Engines.
	£		Horse-Power
Factories with their own Engines	1,499,000	12,134	3,255
Factories renting their Power	24,000	190	—
Workshops (not using Power)	76,000	928	—
Total	1,599,000	13,252	3,255

Classed according to kinds of power, the particulars are:—

	Horse-Power.
Steam Engines, Reciprocating	1,812
Internal Combustion Engines (gas, oil, &c.)	1,268
Water Power	175
Total	3,255

As shown above, whereas the total number of persons employed in factories in the needle, pin, fish-hook, and button trades was 12,324, firms employing 190 persons rented their power. Precise details as to the amount and kind of such power are not available.

Firms using dynamos driven by their own engines were required to state their capacity, and the information furnished is summarised below:—

Capacity of Dynamos driven by:—	Kilowatts.
Steam Engines, Reciprocating	167
Other Power	33
Total	200

The capacity of those dynamos should not, of course, be added to that of the engines owned. What the information shows is that (taking 746 kilowatts as equivalent to

1,000 horse-power, and allowing about 10 per cent. for loss of energy in conversion) about one-eleventh of the engine-power belonging to the needle, pin, fish-hook, and button factories was required for driving dynamos for the production of electric power and light.

Manufacturers were also required to state the quantity of electricity generated by their own dynamos, but owing to the insufficiency of their records a number of them were unable to do so. The following statement summarises the information furnished:—

Dynamos driven by	Total Capacity of Dynamos.	Electricity Generated, so far as particulars were returned.	
		Capacity of Dynamos.	Electricity Generated.
Steam Engines, Reciprocating	Kilowatts. 167	Kilowatts. 125	Board of Trade Units. 234,000
Other Power	33	33	32,000
Total	200	158	266,000

About 221,000 Board of Trade units of electricity were purchased by manufacturers for power and lighting purposes. This figure includes estimates made in the Census Office in respect of the quantities of electricity purchased by a number of small firms who were only able to state the amounts paid by them.

Lock and Safe Trades.

Output.—The Tables on pages 217 to 219 are based on Returns received from factories and workshops engaged in the manufacture of locks, latches, keys, and safes. The aggregate gross value of the output of the firms that made their Returns on the Schedules for the lock and safe trades is returned as £1,012,000, to which should be added £24,000, the value of safes and locks manufactured by firms that made their Returns on Schedules for other trades, raising the total to £1,036,000, which, however, includes a small amount of duplication.

Representations were received to the effect that a number of firms sold not only goods of their own manufacture, but also "factored" goods, *i.e.*, goods purchased from other firms and re-sold in the same condition, and that it would not be possible for them to separate the two classes of goods in their Returns. Such firms were, therefore, permitted to include in their statement of output the value of the factored goods along with that of the goods made by them, but were asked to state separately the approximate cost of the factored goods so included, and also to include it in the cost of their materials. The cost of the factored goods as returned to the Census Office by forty firms amounted to £34,000, or about one-thirtieth of the total value of the finished goods included in the Returns. The particulars given in this report and in the Tables have been adjusted by the omission of the cost of factored goods both from the selling value of the goods returned under "output" and from the "cost of materials used" on the basis of the information furnished in the individual Returns. The value of the goods manufactured, as given below and in the Tables, is, accordingly, too high by the amount of the profit on the factored goods, but that sum is small in proportion to the total value.

The following statement shows the particulars relating to the various classes of products manufactured by firms that made their Returns on Schedules for the lock and safe trades, and is free from duplication:—

	Value.
	£
Locks, Latches, and Keys	586,000
Safes	319,000
Hinges, Hooks, and Brackets	16,000
Other Iron and Steel Manufactures	52,000
Brass Manufactures	16,000
Other Products	3,000

The total value of these products amounts to £992,000.

In addition £20,000 was received for key-filing and other work done for the trade. The total amount paid by the firms making Returns for work given out by them was £10,000 and the balance—£10,000—between this sum and the amount received for work done represents the amount received for work done for merchants who were not required to make Returns to the Census Office.

Taking together the value of goods made and the amount received for work done for merchants, the value of the output of lock and safe factories and workshops as a whole is about £1,002,000. This sum does not include the value of the materials given out by merchants (the work on which cost £10,000) or the profits of the merchants on such work.

In addition to the amounts shown in the foregoing statement, firms that made their Returns on Schedules for other trades included in their statements of output locks, latches, and keys to the value of £11,000 and safes to the value of £13,000, thus raising the value of the total output of locks, latches, and keys to £597,000, and the value of the total output of safes to £332,000.

Locks and safes are not separately distinguished in the Import and Export Lists, the former being included with "hardware other than hollow-ware" and the latter with "manufactures of steel or of steel and iron unenumerated." No comparison can therefore be made between exports and imports and production.

Net Output.—The net output of the factories and workshops covered by the Tables on pages 217 to 219 (whose gross output was valued at £1,012,000) was £646,000, that sum representing the total amount by which the value of the output of those factories and workshops exceeded the cost of the materials used and the amount paid to other firms for work done by them on those materials for the principal firms. The actual cost of materials used by those factories and workshops, taken as a whole, was £356,000, and the amount paid to other firms for work given out to them was £10,000.

The net output per head of persons employed (not including outworkers) in the censal year was nearly £82.

Persons Employed.—The average number of persons employed on the last Wednesdays in January, April, July, and October in the factories, together with the number ordinarily employed in the workshops, covered by the Tables on pages 217 to 219 is returned as 7,922, viz., 7,290 wage-earners and 632 salaried persons, the total number being distributed by age and sex as follows:—

Males:—		Females:—	
Under 18	908	Under 18	419
Over 18	5,665	Over 18	930

In addition, the average number of outworkers on the books of the employing firms on 1st February and 1st August, 1907, was 289, viz., 287 males and 2 females.

The variation in employment in factories during the censal year is shown in the following statement:—

	Persons Employed on the last Wednesday in			
	January.	April.	July.	October.
Wage-earners	6,478	6,460	6,473	6,533
Salaried Persons	492	493	492	502
Total	6,970	6,953	6,965	7,035

There were also 804 wage-earners and 137 salaried persons ordinarily employed in workshops.

Power.—The particulars furnished with regard to power are summarised below, electricity purchased not being included:—

	Gross Value of Output.	Average Number of Persons Employed.	Total Capacity of Engines.
	£		Horse-Power.
Factories with their own Engines	925,000	6,921	2,350
Factories renting their Power	9,000	60	—
Workshops (not using Power)	78,000	941	—
Total	1,012,000	7,922	2,350

Classed according to kinds of power, the particulars are:—			Horse-Power.
Steam Engines, Reciprocating ... ..	...	...	907
Internal Combustion Engines (gas, oil, &c.) ... ..	...	...	1,374
Water Power ... ..	...	...	69
Total ... ..	...	...	2,350

As shown above, whereas the total number of persons employed in factories in the lock and safe trades was 6,981, firms employing 60 persons rented their power. Precise details as to the amount and kind of such power are not available.

Firms using dynamos driven by their own engines were required to state their capacity, and the information furnished is summarised below:—

Capacity of Dynamos driven by:—		Kilowatts.
Steam Engines, Reciprocating ... ..	...	379
Other Power ... ..	...	21
Total ... ..	...	400

The capacity of those dynamos should not, of course, be added to that of the engines owned. What the information shows is that (taking 746 kilowatts as equivalent to 1,000 horse-power and allowing about 10 per cent. for loss of energy in conversion) about one quarter of the engine-power belonging to the lock and safe factories was required for driving dynamos for the production of electric power and light.

Manufacturers were also required to state the quantity of electricity generated by their own dynamos, but owing to the insufficiency of their records a number of them were unable to do so. The following statement summarises the information furnished:—

Dynamos driven by	Total Capacity of Dynamos.	Electricity Generated, so far as particulars were returned.	
		Capacity of Dynamos.	Electricity Generated.
Steam Engines, Reciprocating	Kilowatts. 379	Kilowatts. 379	Board of Trade Units. 401,160
Other Power	21	6	1,584
Total	400	385	402,744

About 320,000 Board of Trade units of electricity were purchased by manufacturers for power and lighting purposes. This figure includes estimates made in the Census Office in respect of the quantities of electricity purchased by a number of small firms who were only able to state the amounts paid by them.

Small Arms Trades.

Output.—The Tables on pages 220 to 222 are based on Returns received from private factories and workshops engaged in the manufacture of small arms. The production carried on in Government factories is not included in these Tables, but is dealt with separately under the heading of Royal Ordnance Factories (*see* pages 168 and 169). The aggregate gross value of the output of the firms that made their Returns on the Schedules for the small arms trades is returned as £738,000, to which should be added £14,000, the value of similar goods included in their statements of output by firms that made their Returns on Schedules for other trades. The resulting total of £752,000 includes, however, some duplication.

The following statement gives the details of the principal classes of output and is free from duplication:—

	Number.	Value.
		£
Sporting Guns, Carbines, and Rifles	54,200	285,000
Military Rifles and Carbines	65,500	239,000
Miniature and Cadet Rifles and Carbines; Air-guns and Rifles of all sorts; Revolvers and Pistols; Swords, Cutlasses, Bayonets, and Arms of other sorts, not Firearms	—	75,000
Gun Implements	—	12,000
Ammunition, including Cartridge filling	—	24,000
Cycle and Motor Parts and Accessories	—	9,000
Other Iron and Steel Manufactures	—	5,000
Other Products	—	1,000
Repairs	—	27,000

The total value of the above-mentioned goods and repairs amounts to £677,000.

In addition, parts of firearms to the value of £47,000 were also included in the Returns as follows :—

	Number.	Value. £
Tubes to be made into barrels of Firearms ...	16,200	9,000
Locks, Actions, and other parts of Firearms ...	—	38,000

To some extent these parts are sold to other makers of firearms, and their value is included in the value of the complete guns, rifles, &c., shown in the first statement, but to some extent they are exported. Separate particulars of the exports of tubes and other parts were not shown in the Annual Statement of Trade of the United Kingdom for 1907, but in 1908 23,485 tubes, valued at £2,587, and other parts valued at £22,548, were exported.

The sum of £14,000 was also received for filing, engraving, finishing and other work done for the trade, and is included in the value of the finished guns as shown in the first statement.

Taking as a whole, therefore, the factories and workshops covered by the Tables on pages 220 to 222, the value of their output may be estimated at a sum lying between £677,000 and £724,000.

In addition, tubes to be made into barrels of firearms valued at £2,000, parts of firearms valued at £10,000, and swords, &c., valued at £2,000 were manufactured by firms that made their Returns on Schedules for other trades. At the Royal Ordnance Factories there were manufactured in the twelve months ended 31st March, 1908, 36,539 new military rifles and carbines valued at £115,918, besides parts valued at £108,569, and the sum of £79,968 was spent on repairs and conversions, these values representing cost of production (see page 168).

“Sporting guns, carbines, and rifles,” “military rifles and carbines,” “miniature rifles and carbines,” and “tubes to be made into barrels of firearms,” were included in the single group of “rifles, carbines, muskets, and fowling pieces” in the Import and Export Lists for 1907, while “air guns and rifles of all sorts” were included with “swords, cutlasses, bayonets, and arms of other sorts, not firearms.” It is not possible, therefore, to make a close comparison between the exports and imports and the firearms and other small arms produced in the United Kingdom. The total value of the exports of firearms and small arms and parts in 1907 was £320,000, free on board, or rather more than one-half of the value (at works) of the finished arms produced in the United Kingdom for sale. The exports in 1907 were, however, exceptionally high, and probably to a considerable extent consisted of arms manufactured in previous years. The value at port of landing of arms imported in 1907 (less re-exports) was £45,500, or rather less than one-thirteenth of the value (at works) of the finished arms of United Kingdom manufacture.

Net Output.—The net output of the factories and workshops covered by the Tables on pages 220 to 222 (whose gross output was valued at £738,000) was £538,000, that sum representing the total amount by which the value of the output of those factories and workshops exceeded the cost of the materials used and the amount paid to other firms for work done by them on those materials for the principal firms. The actual cost of materials used by those factories and workshops, taken as a whole, cannot be precisely stated, but it may be estimated at a sum lying between £129,000 and £176,000. The amount paid to other firms for work given out to them was £24,000.

The net output per head of persons employed on the censal year was nearly £111.

Persons Employed.—The average number of persons employed on the last Wednesdays in January, April, July, and October in the factories, together with the number ordinarily employed in the workshops, covered by the Tables on pages 220 to 222, is returned as 4,855, viz., 4,444 wage-earners and 411 salaried persons, the total number being distributed by age and sex as follows :—

Males :—				Females :—			
Under 18	452	Under 18	31
Over 18	4,223	Over 18	149

The variation in employment in factories during the censal year is shown in the following statement :—

	Persons Employed on the last Wednesday in			
	January.	April.	July.	October.
Wage-earners	3,950	3,796	3,887	3,944
Salaried Persons	283	284	283	283
Total	4,233	4,080	4,170	4,227

There were also 550 wage-earners and 128 salaried persons ordinarily employed in workshops.

Power.—The particulars furnished with regard to power are summarised below, electricity purchased not being included :—

	Gross Value of Output.	Average Number of Persons Employed.	Total Capacity of Engines.
	£		Horse-Power.
Factories with their own Engines	628,000	4,040	2,619
Factories renting their Power	19,000	137	—
Workshops (not using Power)	91,000	678	—
Total	738,000	4,855	2,619

Classed according to kinds of power, the particulars are :—			Horse-Power.
Steam Engines, Reciprocating ... ..	...	...	745
Internal Combustion Engines (gas, oil, &c.) ... ..	...	...	1,874
Total ... ..	...	...	2,619

As shown above, whereas the total number of persons employed in factories in the small arms trades was 4,177, firms employing 137 persons rented their power. Precise details as to the amount and kind of such power are not available, since landlords frequently included in their special Returns power supplied to several firms engaged in different industries (see pages 15 to 18).

Firms using dynamos driven by their own engines were required to state their capacity, and the information furnished is summarised below :—

Capacity of Dynamos driven by :—			Kilowatts.
Steam Engines, Reciprocating ... ..	...	...	100
Other Power ... ..	...	...	881
Total ... ..	...	...	981

The capacity of those dynamos should not, of course, be added to that of the engines owned. What the information shows is that (taking 746 kilowatts as equivalent to 1,000 horse-power, and allowing about 10 per cent. for loss of energy in conversion) about 56 per cent. of the engine-power belonging to small arms factories was required for driving dynamos for the production of electric power and light.

Manufacturers were also required to state the quantity of electricity generated by their own dynamos, and practically all of them did so. The following statement summarises the information furnished :—

Dynamos driven by	Total Capacity of Dynamos.	Electricity Generated, so far as particulars were returned.	
		Capacity of Dynamos.	Electricity Generated.
	Kilowatts.	Kilowatts.	Board of Trade Units.
Steam Engines, Reciprocating	100	100	300,000
Other Power	881	871	741,000
Total	981	971	1,041,000

About 36,000 Board of Trade units of electricity were purchased by manufacturers for power and lighting purposes. This figure includes estimates made in the Census Office in respect of the quantities of electricity purchased by a number of small firms who were only able to state the amounts paid by them.

Heating, Lighting, Ventilating, and Sanitary Engineering Trades.

Output.—The Tables on pages 223 to 225 are based on Returns received from factories and workshops engaged in the manufacture and installation of heating, lighting, ventilating, sanitary, and similar apparatus. The aggregate gross value of the output of the firms that made their Returns on Schedules for the heating, lighting, ventilating, and

sanitary engineering trades is returned as £2,916,000, to which should be added £335,000 the value of similar goods manufactured by firms that made their Returns on Schedules for other trades. The resulting total of £3,251,000 is free from duplication.

The following statement shows the particulars furnished relating to the output and installation of finished appliances and apparatus, and is free from duplication :—

	Returned on Schedules for the Heating, Lighting, Ventilating, and Sanitary Engineering Trades.	Returned on Schedules for other Trades.	Total.
Manufacture and Installation of :—	£	£	£
Heating Apparatus	558,000	92,000	650,000
Gas and Electric Light Appliances	692,000	26,000	718,000
Ventilating Appliances and Apparatus	199,000	76,000	275,000
Sanitary Appliances	388,000	9,000	397,000
Water Appliances	174,000	104,000	278,000
Heating, Ventilating, and other Apparatus and Appliances, not separately distinguished.	125,000	23,000	148,000
Total—Apparatus and Appliances	2,136,000	330,000	2,466,000

In addition, the following classes of goods which are chiefly made in other trades are included in their statements of output by firms that made their Returns on Schedules for the heating, lighting, ventilating, and sanitary engineering trades :—

	Value.
	£
Grates, Ranges, Stoves, and Hearth Furniture	298,000
Machinery and Engineering	109,000
Gas Meters	77,000
Hardware, Hollow-ware, &c.	49,000
Other Iron and Steel Manufactures	29,000
Manufactures of Other Metals	19,000
Other Products	74,000
Total	655,000

Further, £125,000 was returned as received for repairs and jobbing work executed by firms that made their Returns on Schedules for the heating, lighting, ventilating, and sanitary engineering trades, and £5,000 as received for repairs and jobbing work of a similar character executed by firms that made their Returns on Schedules for other trades. It should be noted, however, that the amounts received for installation and repair work included in the foregoing statement form only a part of the total amount received for such work; further amounts are included in the parts of the Report dealing with gas, water, and electricity undertakings (see pages 834 to 850), but the main part consists of work done in connexion with buildings and returned on the Schedule for the Building Trades (see page 761).

The goods covered by the above statement are not separately specified in the Export and Import Lists.

Net Output.—The net output of the factories and workshops covered by the Tables on pages 223 to 225 (whose gross output was valued at £2,916,000) was £1,567,000, that sum representing the total amount by which the value of the output of those factories and workshops exceeded the cost of the materials used and the amount paid to other firms for work done by them on those materials for the principal firms. The actual cost of materials used by those factories and workshops, taken as a whole, was £1,306,000, and the amount paid to other firms for work given out to them £43,000.

The net output per head of persons employed in the censal year was about £109.

Persons Employed.—The average number of persons employed on the last Wednesdays in January, April, July, and October in the factories, together with the number ordinarily employed in the workshops, covered by the Tables on pages 223 to 225, is returned as 14,322, viz., 12,614 wage-earners and 1,708 salaried persons, the total number being distributed by age and sex as follows :—

Males :—		Females :—	
Under 18	1,362	Under 18	500
Over 18	10,442	Over 18	2,018

The variation in employment in factories during the censal year is shown in the following statement :—

	Persons Employed on the last Wednesday in			
	January.	April.	July.	October.
Wage-earners	11,736	11,622	12,043	12,557
Salaried Persons	1,556	1,563	1,572	1,586
Total	13,292	13,185	13,615	14,143

There were also 624 wage-earners and 139 salaried persons ordinarily employed in workshops.

Power.—The particulars furnished with regard to power are summarised below, electricity purchased not being included :—

	Gross Value of Output.	Average Number of Persons Employed.	Total Capacity of Engines.
	£		Horse-Power.
Factories with their own Engines	2,652,000	13,180	3,497
Factories renting their Power	76,000	379	—
Workshops (not using Power)	188,000	763	—
Total	2,916,000	14,322	3,497

Classed according to kinds of power, the particulars are :—			Horse-Power.
Steam Engines, Reciprocating ... ..	...	...	1,452
Internal Combustion Engines (gas, oil, &c.) ... ..	...	...	2,045
Total ... ..	...	...	3,497

As shown above, whereas the total number of persons employed in factories in the heating, lighting, ventilating, and sanitary engineering trades was 13,559, firms employing 379 persons rented their power. Precise details as to the amount and kind of such power are not available, since landlords frequently included in their special Returns power supplied to several firms engaged in different industries (see pages 15 to 18).

Firms using dynamos driven by their own engines were required to state their capacity, and the information furnished is summarised below :—

Capacity of Dynamos driven by :—			Kilowatts.
Steam Engines, Reciprocating ... ..	...	...	375
Other Power ... ..	...	...	174
Total ... ..	...	...	549

The capacity of those dynamos should not, of course, be added to that of the engines owned. What the information shows is that (taking 746 kilowatts as equivalent to 1,000 horse-power, and allowing about 10 per cent. for loss of energy in conversion), about 23 per cent. of the engine-power belonging to heating, lighting, ventilating, and sanitary engineering factories was required for driving dynamos for the production of electric power and light.

Manufacturers were also required to state the quantity of electricity generated by their own dynamos, but owing to the insufficiency of their records a number of them were unable to do so. The following statement summarises the information furnished :—

Dynamos driven by	Total Capacity of Dynamos.	Electricity Generated, so far as particulars were returned.	
		Capacity of Dynamos.	Electricity Generated.
	Kilowatts.	Kilowatts.	Board of Trade Units.
Steam Engines, Reciprocating	375	215	442,000
Other Power	174	130	256,000
Total	549	345	698,000

About 851,000 Board of Trade Units of electricity were purchased by manufacturers for power and lighting purposes. This figure includes estimates made in the Census Office in respect of the quantities of electricity purchased by a number of small firms who were only able to state the amounts paid by them.

Railway Carriage and Wagon Trades.

Output.—The Tables on pages 226 to 228 are based on Returns received from factories and workshops belonging to firms and companies (other than railway companies and tramway companies or authorities) engaged in the construction and repair of railway carriages and wagons, railway wheels and axles, and tramcars. The aggregate gross value of the output of the firms that made their Returns on the Schedules for the railway carriage and wagon trades is returned as £9,850,000, to which should be added £1,220,000, the value of similar goods manufactured by firms that made their Returns on Schedules for other trades. The resulting total, £11,070,000, contains, however, a certain amount of duplication. The value of the railway carriages and wagons made by railway companies (see page 165) was £8,168,000 and the value of the construction and repairs of tramcars executed by employees of tramway and light railway companies (see page 866) and local authorities (see pages 850 to 863) was £942,000; both these amounts represent the cost of the work and are not included in the total of £11,070,000.

The following statement shows the particulars concerning the value of the chief classes of products manufactured and work done in works belonging to firms and companies other than railway and tramway companies :—

	Returned on Schedules for the Railway Carriage and Wagon Building Trades.	Returned on Schedules for other Trades.	Total.
	£	£	£
Railway Carriages for Passengers, and parts thereof...	1,541,000	7,000	1,548,000
Railway Wagons, Trucks, &c., and parts thereof, for Ballast, Minerals, or Merchandise :—			
With Timber Framing	1,542,000	39,000	1,581,000
With Steel Under-frames and Timber Bodies ...	1,200,000	13,000	1,213,000
Entirely of Steel and Iron	2,392,000	37,000	2,429,000
Not separately distinguished	6,000	83,000	89,000
Total—Railway Wagons, Trucks, &c. ...	5,140,000	172,000	5,312,000
Parts and Accessories of Railway Carriages and Wagons, returned as such	642,000	212,000	854,000
Railway Wheels and Axles complete (other than those included with Carriages, Wagons, &c.)	745,000	721,000	1,466,000
Tramcars, and parts thereof	459,000	—	459,000
Parts of Tramcars, returned as such	113,000	52,000	165,000
Colliery Wagons, Tubs, &c., of Steel or Timber ...	123,000	56,000	179,000
Vehicles for Goods, horse-drawn	28,000	—	28,000
Machinery and Accessories	135,000	—	135,000
Iron and Steel Manufactures and Structural Work ...	208,000	—	208,000
Other Products	12,000	—	12,000
Repair Work (including Repairing Contracts) ...	704,000	—	704,000
Total	9,850,000	1,220,000	11,070,000

The output of horse-drawn vehicles for goods, machinery, iron and steel manufactures, and other products, represents only a small part of the total output of those goods, which is dealt with in the Reports for the trades concerned.

It is not possible to state precisely the value of the products of the trade, taken as a whole, since the values of parts of carriages and wagons (except in so far as they have been returned separately as such) are included in the same totals with the values of the complete carriages and wagons, and, while such parts were to some extent made for stock or sold outside the carriage and wagon trade to firms doing their own repair work, they were also to some extent sold to other firms building or repairing carriages or wagons whose Returns of output are included in the statement.

The extent of the duplication involved can, however, only have been small, as is shown by the following comparison of exports in 1907 with production in the year of return :—

	Production.	Exports 1907.
Railway Carriages for Passengers and parts thereof	£ 1,548,000*	£ 1,184,000
Railway Wagons, Trucks, &c., (not of iron or steel) and parts thereof ...	2,883,000†	} 3,166,000
Parts and Accessories of Railway Carriages and Wagons returned as such	854,000	
Railway Wagons, Trucks &c., entirely of Iron and Steel... ..	2,429,000	

It should be noted, also, that 46,000 tons of railway wheels and axles, valued free on board at £848,000 (whose value at works would be about £754,000, on the basis of the average of the values returned to the Census Office) were exported in 1907, and that the great bulk of the remainder of railway wheels and axles (valued at about £712,000) included in the foregoing statement of production were in part sold to railway carriage and wagon builders and that their value is, to that extent, included in the value of the complete carriages, wagons, &c. Some part, however, was probably sold to railway companies for use in the building of carriages and wagons at their works. The parts and accessories of railway carriages and wagons valued at £854,000, returned as such, are, so far as they were not exported or added to stock, probably duplicated in the value of finished carriages and wagons and repair work. The value (£165,000) of parts of tramcars, returned as such, is also probably duplicated in the value of complete tramcars and repair work to the extent of about £25,000 or £50,000.

Taking all those considerations into account, it may be estimated that the value of railway carriages and wagons made for sale in the United Kingdom in the censal year was about £6,800,000, that the value of tramcars made for sale (including parts not duplicated) approximates to £550,000. Adding in £179,000 the value of colliery wagons, £704,000 received for repairs, and £754,000 for exported wheels and axles, the value of the main output of the railway carriage and wagon trades may be estimated at about £9,000,000.

In order to obtain a measure of the railway carriage and wagon building trades, makers were asked to furnish a voluntary statement respecting the number of new railway carriages and wagons completed in the year of return. Replies were received from firms the value of whose output represented the following percentages of the value of the total output of railway carriages and wagons, viz. :—95 per cent. of railway carriages and parts, 84 per cent. of railway wagons with timber frames, 89 per cent. of wagons of steel and wood, and 71 per cent. of wagons entirely of iron and steel. The information furnished was as follows :—

	Number Completed.
Railway Carriages for Passengers	661
Railway Wagons, Trucks, &c. :—	
With Timber Framing	19,351
With Steel Under-frames and Timber Bodies ...	5,431
Entirely of Iron or Steel	8,079
Total—Railway Wagons, Trucks, &c. ...	32,861

These figures do not include 1,796 carriages and 20,565 wagons completed by railway companies in their own works in the censal year; no particulars are available as to the different classes to which these latter wagons belong.

Net Output.—The net output of the factories and workshops covered by the Tables on pages 226 to 228 (whose gross output was valued at £9,850,000) was £3,562,000, that sum representing the total amount by which the value of the output of those factories and workshops exceeded the cost of the materials used and the amount paid to

* Including railway carriages of iron and steel which are not included in the exports.

† Including wagons with timber framing, wagons with steel under-frames and timber bodies, and wagons, not separately distinguished.

‡ Included (with railway carriages of iron and steel) in exports of iron, wrought, or steel manufactures, unenumerated.

other firms for work done by them on those materials for the principal firms. The actual cost of materials used by those factories and workshops, taken as a whole, cannot be precisely stated, but it may be estimated at a sum lying between 5 and 5½ million pounds sterling. The amount paid to other firms for work given out to them was £14,000.

The net output per head of persons employed in the censal year was a little over £123.

Persons Employed.—The average number of persons employed on the last Wednesdays in January, April, July, and October in the factories and workshops covered by the Tables on pages 226 to 228 is returned as 28,857, viz., 27,105 wage earners and 1,752 salaried persons, the total number being distributed by age and sex as follows:—

Males:—		Females:—	
Under 18	3,438	Under 18	76
Over 18	25,168	Over 18	175

The variation in employment during the censal year is shown in the following statement:—

	Persons Employed on the last Wednesday in			
	January.	April.	July.	October.
Wage-earners	27,058	26,996	27,210	27,157
Salaried Persons	1,734	1,763	1,756	1,757
Total	28,792	28,759	28,966	28,914

Power.—The particulars furnished with regard to power are summarised below, electricity purchased not being included:—

	Gross Value of Output.	Average Number of Persons Employed.	Total Capacity of Engines.
	£		Horse-Power.
Factories with their own Engines	9,836,000	28,773	30,407
Workshops (not using Power)	14,000	84	—
Total	9,850,000	28,857	30,407

Classed according to kinds of power, the particulars are:—

	Horse-Power.
Steam Engines:—	
Reciprocating	28,156
Steam Turbines	718
Total—Steam Engines	28,874
Internal Combustion Engines (gas, oil, &c.)	1,353
Other Power	180
Total	30,407

Firms using dynamos driven by their own engines were required to state their capacity, and the information furnished is summarised below:—

Capacity of Dynamos driven by:—	Kilowatts.
Steam Engines: Reciprocating... ..	7,502
Steam Turbines	368
Other Power	298
Total	8,168

The capacity of those dynamos should not, of course, be added to that of the engines owned. What the information shows is that (taking 746 kilowatts as equivalent to 1,000 horse-power, and allowing about 10 per cent. for loss of energy in conversion) about 40 per cent. of the engine-power belonging to railway carriage and wagon building factories was required for driving dynamos for the production of electric power and light.

Manufacturers were also required to state the quantity of electricity generated by their own dynamos, but owing to the insufficiency of their records a number of them were unable to do so. The following statement summarises the information furnished:—

Dynamos driven by	Total Capacity of Dynamos.	Electricity Generated, so far as particulars were returned.	
		Capacity of Dynamos.	Electricity Generated.
	Kilowatts.	Kilowatts.	Board of Trade Units.
Steam Engines: Reciprocating	7,212	6,678	11,338,000
Steam Turbines	368	368	15,000
Other Power	298	208	132,000
Total	7,878	7,254	11,485,000

About 1,133,000 Board of Trade units of electricity were purchased by manufacturers for power and lighting purposes. This figure includes estimates made in the Census Office in respect of the quantities of electricity purchased by a number of small firms who were only able to state the amounts paid by them, but the total quantity so estimated forms only a very small proportion of the whole.

Railways (Construction, Repair, and Maintenance of Permanent Way, Rolling Stock, Plant, &c.).

Output.—The Tables on pages 229 to 231 are based on Returns received from railway companies, and relate solely to the goods manufactured and work done by the employees of those companies. The value of the goods made and work done represents the actual cost of manufacturing the goods or executing the repairs or other work done. It is made up of wages, materials, and a proportion of the establishment charges, and differs, therefore, from the value of the output of manufacturers, builders, &c., which is naturally on a profit basis. The work done in the year of return may be summarised as follows:—

I. Engineering Department (New Works and Maintenance and Repairs):—	Value.
Permanent Way	9,352,000
Roads, Bridges, Signals, and other Works	2,686,000
Stations and Buildings	1,749,000
Docks, Harbours, Wharves, and Canals	745,000
Total—Engineering Department	14,532,000
II. Locomotive Department:—	
Engines, Tools, &c.: Construction and Repair	7,918,000
Buildings: New Works, Repairs, and Maintenance (not included under Head I.)	176,000
Total—Locomotive Department	8,094,000
III. Carriages, Wagons, &c.:—	
Carriages: Construction and Repairs	4,466,000
Wagons: Construction and Repairs	3,702,000
Road Vehicles for Passengers and Goods: Construction and Repairs	272,000
Buildings: New Works, Repairs, and Maintenance (not included under Head I.)	33,000
Total—Carriages, Wagons, &c.	8,473,000

	Value £
IV. <i>Waterworks</i> : Repairs and Maintenance	155,000
V. <i>Electric Works</i> :—	
Buildings and Lines: New Works, Repairs, and Maintenance	154,000
VI. <i>Steamboats</i> : Repairs	322,000
VII. <i>Other Productive Departments</i> :—	
Lamps and Fittings for Lighting Purposes	150,000
Saddlery and Harness	32,000
Tarpaulins, Wagon Covers, &c.	345,000
Clothing	19,000
Printing	70,000
Hoists and Cranes (not previously returned under Head I.): Construction and Repairs	303,000
Gas Manufactured for Companies' use (not included under other Heads)	286,000
Electricity for Stations, &c.	128,000
Telegraphs and Telephones	481,000
Buildings (not returned under other Heads): New Works, Repairs, and Maintenance	92,000
Provender	308,000
Iron and Steel Manufactures	198,000
Grease	116,000
Trucks, Barrows, &c.	39,000
Wood Manufactures	131,000
Other Manufactures and Work Done	282,000
 Total—Other Productive Departments	 2,980,000
 Grand Total—Goods Made and Work Done	 34,710,000

Railway companies were asked to make a voluntary statement respecting the quantities of their output of certain manufactures, and the following information (which is understood to be complete) was furnished respecting the output of engines, carriages, and wagons made by railway companies:—

	Tons.
Locomotive Engines, Steam (wholly new), completed in year of return; empty tonnage	32,254
Locomotive Engines, Electric (wholly new), completed in year of return; empty tonnage	161
	Number.
Carriages (wholly new) completed in year of return	1,796
Wagons (wholly new) completed in year of return	20,565

For comparison with these figures it may be noted that the total tonnage of steam rail locomotives built in the censal year by private firms may be estimated at about 86,000 tons (see page 128), while firms that produced 95 per cent. of the total value of the output of railway carriages made by private firms and 78 per cent. of the total value of the output of railway wagons made by private firms stated that the number of railway carriages (wholly new) completed by them in the censal year was 661 and that the number of railway wagons (wholly new) similarly completed was 32,861.

Net Output.—The cost of the materials used in the production of the output of the productive departments of railway companies was £17,604,000, and the difference—£17,106,000—between this sum and the value of the output represents wages and establishment charges. It is, therefore, not strictly comparable with the "net output" of manufacturing firms, which includes the element of profit. With this restriction it may be stated that the net output per head of persons employed in the censal year was nearly £71.

Persons Employed.—The average number of persons employed on the last Wednesdays in January, April, July, and October in railway factories and workshops, covered by the Tables on pages 229 to 231 is returned as 241,840, viz., 233,040 wage-

earners and 8,800 salaried persons, the total number being distributed by age and sex as follows:—

Males:—		Females:—	
Under 18	13,236	Under 18	260
Over 18	226,786	Over 18	1,558

Separate particulars were also asked for respecting the persons employed on the Sunday preceding the last Wednesday in the months aforesaid, and the average number so employed is returned as 37,127, viz., 36,985 wage-earners and 142 salaried persons, the total number being distributed according to age and sex as follows:—

Males:—		Females:—	
Under 18	260	Under 18	1
Over 18	36,807	Over 18	59

It thus appears that on the average 16 per cent. of the wage-earners and between one and two per cent. of the salaried persons were employed on Sundays.

The variation in employment during the censal year is shown in the following statement:—

	Persons employed on the last Wednesday in			
	January.	April.	July.	October.
Wage-earners	228,800	234,343	235,382	233,635
Salaried Persons	8,704	8,769	8,818	8,907
Total	237,504	243,112	244,200	242,542

Power.—Companies with an output of construction and repair work valued at £34,619,000 and employing 240,716 persons thereon stated that the capacity of the engines used by them in connexion with such work amounted to 273,299 horse-power. Companies with an output valued at £91,000 employed 1,124 persons thereon and used no engines in connexion with the work.

Classed according to kinds of power, the particulars are:—

	Horse-Power.
Steam Engines:—	
Reciprocating	221,610
Steam Turbines	28,320
Total—Steam Engines	249,930
Internal Combustion Engines (gas, oil, &c.)	12,005
Water Power	10,807
Other Power	557
Total	273,299

The capacity of dynamos driven by factory engines is summarised below:—

	Kilowatts.
Capacity of Dynamos driven by:—	
Steam Engines: Reciprocating	58,626
Steam Turbines	20,402
Other Power	6,185
Total	85,213

The capacity of those dynamos should not, of course, be added to that of the engines owned. What the information shows is that (taking 746 kilowatts as equivalent to 1,000 horse-power, and allowing about 10 per cent. for loss of energy in conversion) about 46 per cent. of the engine-power belonging to railway factories was required for driving dynamos for the production of electric power and light.

Railway companies were also required to state the quantity of electricity generated by their own dynamos, and the following statement summarises the information so far as particulars were furnished:—

Dynamoes driven by	Total Capacity of Dynamoes.	Electricity Generated, so far as particulars were returned.	
		Capacity of Dynamoes.	Electricity Generated.
	Kilowatts.	Kilowatts.	Board of Trade Units.
Steam Engines: Reciprocating	58,626	58,623	109,865,000
Steam Turbines	20,402	20,402	54,973,000
Other Power	6,185	5,278	9,572,000
Total	85,213	84,303	174,410,000

In addition about 110,943,000 Board of Trade units of electricity were purchased and used for lighting and power.

The purposes for which the electricity generated or purchased was used are shown in the following statement:—

Electricity Used:—	Board of Trade Units.
For Traction (including carriage lighting)	194,718,000
For Other Lighting	49,596,000
For Power	26,514,000
In Electric Works (including losses)	8,229,000
Not separately distinguished	6,027,000
Supplied to private firms and authorised distributors	269,000
Total	285,353,000

Royal Ordnance Factories.

Output.—The Tables on pages 232 and 233 give particulars regarding the output of the Royal Ordnance Factories. In this case, as in that of other classes of Government output, the value stated for the production is a sum representing the actual cost of construction, *i.e.*, it is made up of wages, materials used (including components supplied by contractors), and a proportion of the establishment charges. It differs, therefore, from the value of the output returned by private manufacturers, which is naturally on a profit basis. The work done in the Ordnance Factories in the twelve months ended 31st March, 1908, may be summarised as follows:—

	Value.
	£
Guns, Howitzers, and parts thereof	423,896
Automatic, Machine, and Quick-firing Guns, and parts thereof	9,217
Gun-mountings or Carriages, and parts thereof	452,703
Torpedoes and Submarine Mine Appliances	265,943
Shot and Shell	191,788
Explosives and Propellants	256,434
Ammunition and Components	1,021,667
Military Rifles and Carbines:—	
New Rifles and Carbines	115,918
Parts of Rifles, &c.	108,569
Repairs and Conversions	79,968
Swords, Cutlasses, and Bayonets	7,926
Transport Vehicles	63,160
Saddlery and Harness	393
Electric Light and Engineer Stores	6,461
Camp Equipage	9,299
Ammunition Packages	164,341
Miscellaneous	182,127

The total value of these products amounts to £3,359,810.

On account of the different bases on which the Returns from Government factories and private factories have been calculated, the value of the production in the United

Kingdom cannot be arrived at by simply adding the values of the products made in Government factories to the values of the similar products made in private factories. There were, however, 36,539 new military rifles and carbines made in Government factories in the twelve months ended 31st March, 1908, and 65,500 were included in their Returns of output in the year of return by private manufacturers. The total production of military rifles and carbines in the United Kingdom was, thus, approximately 102,000.

Net Output.—The total cost of the materials used in the Royal Ordnance Factories was £1,908,151, and the difference—£1,451,659—between this sum and the value of the output represents the total of wages and indirect charges. It is, therefore, not strictly comparable with the net output of private factories, which contains the element of profit. With this restriction it may be noted that the net output per head of persons employed in the censal year was nearly £100.

Persons Employed.—The average number of persons employed on the last Wednesdays in April, July, October, 1907, and January, 1908, in the Royal Ordnance Factories is returned as 14,533, *viz.*, 13,041 wage-earners and 1,492 salaried persons, the total number being distributed by age and sex as follows:—

Males:—	Females:—
Under 18 911	Under 18 None.
Over 18 13,425	Over 18 197

The variation in employment in the Royal Ordnance Factories during the censal year is shown in the following statement:—

	Persons Employed on the last Wednesday in			
	April, 1907.	July, 1907.	October, 1907.	January, 1908.
Wage-earners	13,827	13,087	12,637	12,611
Salaried Persons	1,516	1,495	1,485	1,471
Total	15,343	14,582	14,122	14,082

Power.—Engines of 12,745 horse-power were used at the Royal Ordnance Factories, the various kinds being shown in the following statement:—

Steam Engines:—	Horse-Power.
Reciprocating	11,997
Steam Turbines	670
Total—Steam Engines	12,667
Internal Combustion Engines (gas, oil, &c.)	35
Water Power	43
Total	12,745

The capacity of the dynamos driven by the factory engines is summarised below:—

Capacity of Dynamos driven by:—	Kilowatts.
Steam Engines, Reciprocating	1,165
Steam Turbines	500
Total	1,665

The capacity of those dynamos should not, of course, be added to that of the engines shown in the first statement. What the information shows is that (taking 746 kilowatts as equivalent to 1,000 horse-power, and allowing about 10 per cent. for loss of energy in conversion) about 19 per cent. of the engine-power belonging to the Royal Ordnance Factories was required for driving dynamos for the production of electric power and light.

Particulars as to the generation of electricity and as to the use of water for hydraulic power are included in the parts of the Report dealing with the supply of electricity and water (*see* pages 841 to 850).

His Majesty's Naval Establishments at Home.

Naval Ordnance Department.

Output.—The Tables on pages 234 and 235 give particulars respecting the work done in the Naval Ordnance Department in repairing torpedoes, ordnance, &c., in filling and repairing shells and cartridges, and in other work. In this case, as in that of other classes of Government output, the value stated for the work done is a sum representing cost *i.e.* it is made up of wages, materials, and a proportion of establishment charges. The work done in the Naval Ordnance Department in the twelve months ended 31st March, 1908, may be summarised as follows :—

	Value. £
Work carried out by Employees of Admiralty on :—	
Repairs to Torpedoes	25,556
Filling and Repair of Shells and Cartridges	24,582
Repairs to Ordnance, &c.	20,914
Repairs to Ammunition Packages	11,026
Work on Naval Ordnance Vessels	896
Generation of Electricity	100

The total value of the work done amounts to £83,074.

Net Output.—The total cost of the materials used in the Naval Ordnance Department, in connexion with the work returned as output, was £6,386, and the difference—£76,688—between that sum and the value of the output represents the total of wages and indirect charges. It is, therefore, not strictly comparable with the net output of private firms which contains the element of profit.

With this restriction, the net output per head of persons employed in the censal year was nearly £69.

Persons Employed.—The average number of persons employed on the last Wednesdays in April, July, and October, 1907, and January, 1908, in the Naval Ordnance Department on the repair work, &c. shown as output is returned as 1,118, viz., 1,107 wage-earners and 11 salaried persons, the total number being distributed by age and sex as follows :—

Males :—		Females :—		None.
Under 18	44	Under 18 ... ..	...
Over 18	1,074	Over 18 ... ..	...

The variation in employment during the censal year is shown in the following statement :—

	Persons Employed on the last Wednesday in			
	April, 1907.	July, 1907.	October, 1907.	January, 1908.
Wage-earners	1,076	1,090	1,112	1,149
Salaried Persons	10	11	12	10
Total	1,086	1,101	1,124	1,159

Power.—Engines of 810 horse-power were used in the Naval Ordnance Department in connexion with the work shown as output, viz. :—

	Horse-Power.
Steam Engines, Reciprocating	766
Internal Combustion Engines (gas, oil, &c.)	44
Total	810

Dynamos of 25 kilowatts capacity were driven by reciprocating steam engines and produced 5,496 Board of Trade units of electricity.

The capacity of those dynamos should not, of course, be added to that of the engines owned. What the information shows is that (taking 746 kilowatts as equivalent to 1,000 horse-power, and allowing about 10 per cent. for loss of energy in conversion) about 5 per cent. of the engine-power belonging to the Naval Ordnance Department was required for driving dynamos for the production of electric power and light.

In addition, 35,036 Board of Trade units of electricity were purchased and used for lighting and power.

TABLES.

IRON AND STEEL TRADES (SMELTING, ROLLING, AND FOUNDING).

TABLE I.—OUTPUT.

NOTE.—The figures in this Table are given to the nearest thousand in each case. Amounts lower than five hundred are not shown.

	England and Wales.	Scotland.	Ireland.	United Kingdom.
	Quantity.			
	Tons.	Tons.	Tons.	Tons.
Iron :—				
Pig Iron :—				
Spiegeleisen and Ferro-manganese ...	338,000	—	—	338,000
Other Sorts	5,376,000	1,274,000	—	6,650,000
TOTAL—Pig Iron	5,714,000	1,274,000	—	6,988,000
Puddled Bars	68,000	6,000	—	74,000
Forgings	18,000	3,000	—	21,000
Wrought Iron in Bars, Rods, Angles, Shapes, or Sections.	666,000	161,000	—	827,000
Wrought Iron and Manufactures thereof	*	*	*	55,000
Castings	709,000	215,000	5,000	929,000
Cast Iron and Manufactures thereof ...	108,000	79,000	1,000	188,000
Iron or Steel :—				
Railroad, &c., Iron and Steel :—				
Railroad Rails (including Rails for mining uses).	710,000	23,000	—	733,000
Tram Rails	44,000	—	—	44,000
Chairs and Sleepers	161,000	13,000	—	174,000
Other Railroad Iron and Steel ...	*	*	—	134,000
TOTAL—Railroad, &c., Iron and Steel.	*	*	—	1,085,000
Plates and Sheets :—				
Not under $\frac{1}{8}$ -inch thick	756,000	459,000	—	1,215,000
Under $\frac{1}{8}$ -inch thick	281,000	51,000	—	332,000
Not separately distinguished	14,000	—	—	14,000
Armour Plates	*	*	—	18,000
Galvanized Sheets	297,000	—	—	297,000
Wire :—				
Wire Rods	109,000	—	—	109,000
Wire (including Telegraph and Telephone wire).	*	*	—	15,000
Wire Nails and other Wire Manufactures.	*	*	—	4,000
Hoops and Strips	258,000	131,000	—	389,000
Tubes and Pipes and Fittings, Wrought	4,000	—	—	4,000
Pipes and Fittings, Cast	175,000	156,000	—	331,000

* In order to avoid the possible disclosure of particulars relating to certain firms, figures can only be shown for the United Kingdom as a whole.

Iron and Steel Trades (Smelting, Rolling, and Founding)—*continued.*TABLE I.—OUTPUT—*continued.*

NOTE.—The figures in this Table are given to the nearest thousand in each case. Amounts lower than five hundred are not shown.

	England and Wales.	Scotland.	Ireland.	United Kingdom.
	Quantity.			
	Tons.	Tons.	Tons.	Tons.
Iron or Steel— <i>continued.</i>				
Anchors, Grapnels, Chains, and Cables (not of Wire)	14,000	—	—	14,000
Nails (not of Wire), Screws, and Rivets	21,000	5,000	—	26,000
Railway Wheels and Axles (complete)	*	*	—	44,000
Tires and Axles	*	*	*	136,000
Scrap Iron or Steel and old Rails ...	432,000	61,000	—	493,000
Steel :—				
Ingots (Open Hearth or Bessemer) ...	91,000	4,000	—	95,000
Blooms, Billets, and Slabs	456,000	69,000	—	525,000
Crucible Steel (Ingots, Bars, Castings, &c.)	*	*	—	16,000
TOTAL—Steel Ingots, &c. ...	*	*	—	636,000
Sheet Bars and Tinplate Bars	*	*	—	991,000
Castings	78,000	20,000	—	98,000
Forgings	53,000	10,000	—	63,000
Bars, Angles, Rods, and Shapes or Sections	706,000	268,000	—	974,000
Girders, Beams, Joists, and Pillars ...	184,000	55,000	—	239,000
Manufactures of Iron and Steel (not elsewhere enumerated).				
Construction of Bridges, Workshops, &c. ...	<i>(Recorded by Value only.)</i>			
Engineering and Machinery				
Tools and Implements				
Coke	584,000	—	—	584,000
By-Products :—				
Cinder, Slag, &c.	<i>(Recorded by Value only.)</i>			
Sulphate of Ammonia	14,000	21,000	—	35,000
Pitch	8,000	77,000	—	85,000
Tar (Crude)	44,000	5,000	—	49,000
Tar (Refined) and Varnishes	Gallons.	Gallons.	Gallons.	Gallons.
—	—	783,000	—	783,000
Tar Oil, Creosote, &c.	566,000	8,081,000	—	8,647,000
Benzol and Toluol	653,000	—	—	653,000
Other Coal Tar Products				
Other By-Products... ..				
Manufactures of Other Metals				
Other Products	<i>(Recorded by Value only.)</i>			
Work Done for the Trade :—				
Rolling, Tilting, Forging, &c.				
Scrap Breaking, Galvanizing, &c. ...				

* In order to avoid the possible disclosure of particulars relating to certain firms, figures can only be shown for the United Kingdom as a whole.

Iron and Steel Trades (Smelting, Rolling, and Founding)—*continued.*TABLE I.—OUTPUT—*continued.*

NOTE.—The figures in this Table are given to the nearest thousand in each case. Amounts lower than five hundred are not shown.

	England and Wales.	Scotland.	Ireland.	United Kingdom.
	Value.			
	£	£	£	£
Iron :—				
Pig Iron :—				
Spiegeleisen and Ferro-manganese...	2,608,000	—	—	2,608,000
Other Sorts	16,648,000	4,226,000	—	20,874,000
TOTAL—Pig Iron	19,256,000	4,226,000	—	23,482,000
Puddled Bars	325,000	30,000	—	355,000
Forgings	268,000	61,000	—	329,000
Wrought Iron in Bars, Rods, Angles, Shapes, or Sections	5,014,000	1,134,000	—	6,148,000
Wrought Iron and Manufactures thereof	*	*	*	531,000
Castings	5,494,000	1,885,000	39,000	7,418,000
Cast Iron and Manufactures thereof ...	1,031,000	1,028,000	14,000	2,073,000
Iron or Steel :—				
Railroad, &c., Iron and Steel :—				
Railroad Rails (including Rails for mining uses).	4,221,000	151,000	—	4,372,000
Tram Rails	283,000	—	—	283,000
Chairs and Sleepers	897,000	60,000	—	957,000
Other Railroad Iron and Steel ...	*	*	—	1,645,000
TOTAL—Railroad, &c., Iron and Steel.	*	*	—	7,257,000
Plates and Sheets :—				
Not under $\frac{1}{8}$ inch thick	5,162,000	3,240,000	—	8,402,000
Under $\frac{1}{8}$ inch thick	2,538,000	431,000	—	2,969,000
Not separately distinguished ...	149,000	—	—	149,000
Armour Plates... ..	*	*	—	1,771,000
Galvanized Sheets	3,991,000	—	—	3,991,000
Wire :—				
Wire Rods	821,000	—	—	821,000
Wire (including Telegraph and Telephone Wire).	*	*	—	228,000
Wire Nails and other Wire Manufactures.	*	*	—	120,000
Hoops and Strips	2,038,000	996,000	—	3,034,000
Tubes and Pipes and Fittings, Wrought	50,000	—	—	50,000
Pipes and Fittings, Cast	956,000	964,000	—	1,920,000

* In order to avoid the possible disclosure of particulars relating to certain firms, figures can only be shown for the United Kingdom as a whole.

Iron and Steel Trades (Smelting, Rolling, and Founding)—*continued.*TABLE I.—OUTPUT—*continued.*

NOTE.—The figures in this Table are given to the nearest thousand in each case. Amounts lower than five hundred are not shown.

	England and Wales.	Scotland.	Ireland.	United Kingdom.
	Value.			
	£	£	£	£
Iron or Steel—<i>continued.</i>				
Anchors, Grapnels, Chains, and Cables (not of Wire) ...	227,000	—	—	227,000
Nails (not of Wire), Screws, and Rivets ...	206,000	44,000	—	250,000
Railway Wheels and Axles (complete) ...	*	*	—	721,000
Tires and Axles ...	*	*	*	1,898,000
Scrap Iron or Steel and Old Rails ...	1,400,000	228,000	—	1,628,000
Steel:—				
Ingots (Open Hearth or Bessemer) ...	461,000	23,000	—	484,000
Blooms, Billets, and Slabs ...	2,583,000	438,000	—	3,021,000
Crucible Steel (Ingots, Bars, Castings, &c.) ...	*	*	—	549,000
TOTAL—Steel Ingots, &c. ...	*	*	—	4,054,000
Sheet Bars, and Tinplate Bars ...	*	*	—	5,308,000
Castings ...	1,827,000	429,000	—	2,256,000
Forgings ...	1,082,000	193,000	—	1,275,000
Bars, Angles, Rods, and Shapes or Sections ...	5,461,000	1,810,000	—	7,271,000
Girders, Beams, Joists, and Pillars ...	1,152,000	358,000	—	1,510,000
Manufactures of Iron and Steel (not elsewhere enumerated) ...	*	*	*	2,805,000
Construction of Bridges, Workshops, &c. ...	1,879,000	389,000	1,000	2,269,000
Engineering and Machinery ...	137,000	5,000	1,000	143,000
Tools and Implements ...	193,000	1,000	—	194,000
Coke ...	497,000	—	—	497,000
By-Products:—				
Cinder, Slag, &c. ...	550,000	110,000	—	660,000
Sulphate of Ammonia ...	157,000	241,000	—	398,000
Pitch ...	5,000	52,000	—	57,000
Tar (Crude) ...	35,000	4,000	—	39,000
Tar (Refined) and Varnishes ...	—	4,000	—	4,000
Tar Oil, Creosote, &c. ...	5,000	57,000	—	62,000
Benzol and Toluol ...	17,000	—	—	17,000
Other Coal Tar Products ...	17,000	—	—	17,000
Other By-Products ...	88,000	—	—	88,000
Manufactures of Other Metals ...	245,000	—	8,000	253,000
Other Products ...	8,000	1,000	—	9,000
TOTAL VALUE OF GOODS MADE FOR SALE. }	85,263,000	19,626,000	69,000	104,958,000
Work Done for the Trade:—				
Rolling, Tilting, Forging, &c. ...	254,000	8,000	—	262,000
Scrap Breaking, Galvanizing, &c. ...	102,000	—	—	102,000
TOTAL VALUE OF WORK DONE FOR THE TRADE. }	356,000	8,000	—	364,000
TOTAL VALUE OF GOODS MADE AND WORK DONE. }	85,619,000	19,634,000	69,000	105,322,000

* In order to avoid the possible disclosure of particulars relating to certain firms, figures can only be shown for the United Kingdom as a whole.

Iron and Steel Trades (Smelting, Rolling, and Founding)—*continued.*

TABLE II.—COST OF MATERIALS USED AND AMOUNT PAID TO OTHER FIRMS FOR WORK GIVEN OUT TO THEM, SHOWN IN RELATION TO VALUE OF OUTPUT.

NOTE.—The figures in this Table are given to the nearest thousand in each case.

	England and Wales.	Scotland.	Ireland.	United Kingdom.
I.				
Cost of Materials Used ...	£ 60,667,000	£ 14,119,000	£ 29,000	£ 74,815,000
Amount Paid to Other Firms for Work Given Out to them.	397,000	62,000	—	459,000
TOTAL ...	61,064,000	14,181,000	29,000	75,274,000
II.				
Value of Output:—				
Goods made for Sale ...	85,263,000	19,626,000	69,000	104,958,000
Work done for the Trade ...	356,000	8,000	—	364,000
TOTAL ...	85,619,000	19,634,000	69,000	105,322,000
III.				
Value of Output less Cost of Materials Used and Amount Paid to Other Firms for Work Given Out to them.	24,555,000	5,453,000	40,000	30,048,000

TABLE III.—PERSONS EMPLOYED.

AVERAGE NUMBERS AT WORK ON THE LAST WEDNESDAYS IN JANUARY, APRIL, JULY, AND OCTOBER.

	Males.			Females.			Males and Females.		
	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.
ENGLAND AND WALES—									
Wage-earners ...	17,969	178,288	196,257	695	1,758	2,453	18,664	180,046	198,710
Salaried Persons ...	1,412	9,456	10,868	37	268	305	1,449	9,724	11,173
TOTAL ...	19,381	187,744	207,125	732	2,026	2,758	20,113	189,770	209,883
SCOTLAND—									
Wage-earners ...	3,958	43,841	47,799	98	253	351	4,056	44,094	48,150
Salaried Persons ...	342	2,505	2,847	48	160	208	390	2,665	3,055
TOTAL ...	4,300	46,346	50,646	146	413	559	4,446	46,759	51,205
IRELAND—									
Wage-earners ...	72	471	543	—	1	1	72	472	544
Salaried Persons ...	5	28	33	—	1	1	5	29	34
TOTAL ...	77	499	576	—	2	2	77	501	578
UNITED KINGDOM—									
Wage-earners ...	21,999	222,600	244,599	793	2,012	2,805	22,792	224,612	247,404
Salaried Persons ...	1,759	11,989	13,748	85	429	514	1,844	12,418	14,262
TOTAL ...	23,758	234,589	258,347	878	2,441	3,319	24,636	237,030	261,666

Iron and Steel Trades (Smelting, Rolling, and Founding)—*continued.*

TABLE IV.—CAPACITY OF ENGINES OWNED AND AMOUNT OF ELECTRICITY PURCHASED.

A.—CAPACITY OF ENGINES OWNED, COMPARED WITH GROSS VALUE OF OUTPUT AND NUMBER OF PERSONS EMPLOYED.

NOTE.—The Gross Value of Output in this Table is given to the nearest thousand pounds.

	ENGLAND AND WALES.			SCOTLAND.		
	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.
	£		Horse-Power.	£		Horse-Power.
Factories with their own Engines	85,073,000	208,570	1,133,646	19,626,000	51,158	249,674
Factories renting their Power ...	7,000	46	—	1,000	14	—
Workshops (not using Power) ...	539,000	1,267	—	7,000	33	—
TOTAL ...	85,619,000	209,883	1,133,646	19,634,000	51,205	249,674
	IRELAND.			UNITED KINGDOM.		
	£		Horse-Power.	£		Horse-Power.
Factories with their own Engines	69,000	578	266	104,768,000	260,306	1,383,586
Factories renting their Power ...	—	—	—	8,000	60	—
Workshops (not using Power) ...	—	—	—	546,000	1,300	—
TOTAL ...	69,000	578	266	105,322,000	261,666	1,383,586

B.—TYPE AND CAPACITY OF ENGINES AND CAPACITY OF DYNAMOS.

	England and Wales.	Scotland.	Ireland.	United Kingdom.
	Horse-Power.	Horse-Power.	Horse-Power.	Horse-Power.
Steam Engines, Reciprocating ...	1,047,860	233,479	45	1,281,384
Steam Turbines ...	27,323	5,889	—	33,212
Internal Combustion Engines (gas, oil, &c.)	43,464	10,004	221	53,689
Water Power ...	1,988	292	—	2,280
Other Power ...	13,011	10	—	13,021
TOTAL ...	1,133,646	249,674	266	1,383,586
	Kilowatts.	Kilowatts.	Kilowatts.	Kilowatts.
Capacity of Dynamoes driven by:—				
Steam Engines, Reciprocating ...	59,379	8,682	—	68,061
Steam Turbines ...	8,631	1,850	—	10,481
Other Power ...	11,833	3,659	19	15,511
TOTAL ...	79,843	14,191	19	94,053

C.—AMOUNT OF ELECTRICITY PURCHASED.

NOTE.—The figures in this Table are given to the nearest thousand in each case.

	England and Wales.	Scotland.	Ireland.	United Kingdom.
	Board of Trade Units.	Board of Trade Units.	Board of Trade Units.	Board of Trade Units.
Amount of Electricity Purchased ...	13,633,000	4,385,000	—	18,018,000

TINPLATE TRADE.

TABLE I.—OUTPUT.

The Tinplate Trade of the United Kingdom is confined to England and Wales.

NOTE.—The figures in this Table are given to the nearest thousand in each case.

	Quantity.	Value.
	Tons.	£
Tinned Plates and Tinned Sheets (including Terne Plates and Terne Sheets).	529,000	7,402,000
Black Sheets over 54 inches by 28 inches ...	35,000	320,000
Black Plates for tinning and enamelling (including Canada Plates) up to 54 inches by 28 inches.	108,000	1,023,000
Other Iron and Steel Manufactures ...	(Recorded by Value only.)	55,000
Scrap Iron and Steel ...		329,000
Other Waste and By-Products ...		38,000
TOTAL VALUE ...	—	9,167,000

TABLE II.—COST OF MATERIALS USED, SHOWN IN RELATION TO VALUE OF OUTPUT.

NOTE.—The figures in this Table are given to the nearest thousand in each case.

	England and Wales.
	£
Cost of Materials Used ...	7,158,000
Value of Output ...	9,167,000
Value of Output less Cost of Materials Used	2,009,000

TABLE III.—PERSONS EMPLOYED.

AVERAGE NUMBERS AT WORK ON THE LAST WEDNESDAYS IN JANUARY, APRIL, JULY, AND OCTOBER.

	Males.			Females.			Males and Females.		
	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.
ENGLAND AND WALES:									
Wage-earners ...	2,838	14,618	17,456	792	1,811	2,603	3,630	16,429	20,059
Salaried Persons ...	72	495	567	—	2	2	72	497	569
Total ...	2,910	15,113	18,023	792	1,813	2,605	3,702	16,926	20,628

TABLE IV.—CAPACITY OF ENGINES OWNED AND AMOUNT OF ELECTRICITY PURCHASED.

A.—CAPACITY OF ENGINES OWNED, COMPARED WITH GROSS VALUE OF OUTPUT AND NUMBER OF PERSONS EMPLOYED.

NOTE.—The Gross Value of Output in this Table is given to the nearest thousand pounds.

	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.
	ENGLAND AND WALES.		
	£		Horse-Power.
Factories with their own Engines ...	9,167,000	20,628	68,842

Tinplate Trade—continued.

TABLE IV.—CAPACITY OF ENGINES OWNED AND AMOUNT OF ELECTRICITY PURCHASED—continued.

B.—TYPE AND CAPACITY OF ENGINES AND CAPACITY OF DYNAMOS.

	England and Wales.
	Horse-Power.
Steam Engines, Reciprocating	66,869
Internal Combustion Engines (gas, oil, &c.)	113
Water Power	1,560
Other Power	300
TOTAL	68,842
	Kilowatts.
Capacity of Dynamos driven by :—	
Steam Engines, Reciprocating	1,144
Other Power	9
TOTAL	1,153

C.—AMOUNT OF ELECTRICITY PURCHASED.

NOTE.—The figure in this Table is given to the nearest thousand.

	England and Wales.
	Board of Trade Units.
Amount of Electricity Purchased	330,000

WROUGHT IRON AND STEEL TUBE TRADE.

TABLE I.—OUTPUT.

NOTE.—The figures in this Table are given to the nearest thousand in each case.

	England and Wales.	Scotland.	Great Britain.
	Quantity.		
	Tons.	Tons.	Tons.
Iron and Steel Tubes and Pipes and Fittings, Wrought (including Gun Barrels and Tubes)	186,000	114,000	300,000
Iron and Steel Tubes and Pipes and Fittings, Cast	*	*	7,000
Scrap Iron and Steel	32,000	21,000	53,000
	Value.		
	£	£	£
Iron and Steel Tubes and Pipes and Fittings, Wrought (including Gun Barrels and Tubes)	3,889,000	2,151,000	6,040,000
Iron and Steel Tubes and Pipes and Fittings, Cast	*	*	42,000
Scrap Iron and Steel	80,000	48,000	128,000
Iron and Steel Castings, Forgings, &c.	*	*	24,000
Cycles and Cycle Parts	32,000	—	32,000
Engineering Work, Tools, and Other Iron and Steel Manufactures	14,000	2,000	16,000
Other Metal Goods (Brass, Zinc, &c.)	254,000	8,000	262,000
Scrap and Waste	3,000	—	3,000
TOTAL VALUE OF GOODS MADE	4,334,000	2,213,000	6,547,000
Work Done for the Trade	1,000	—	1,000
TOTAL VALUE OF GOODS MADE AND WORK DONE	4,335,000	2,213,000	6,548,000

TABLE II.—COST OF MATERIALS USED, SHOWN IN RELATION TO VALUE OF OUTPUT.

NOTE.—The figures in this Table are given to the nearest thousand in each case.

	England and Wales.	Scotland.	Great Britain.
	£	£	£
Cost of Materials Used	2,820,000	1,539,000	4,359,000
Value of Output :—			
Goods Made for Sale	4,334,000	2,213,000	6,547,000
Work Done for the Trade	1,000	—	1,000
TOTAL	4,335,000	2,213,000	6,548,000
Value of Output less Cost of Materials Used	1,515,000	674,000	2,189,000

TABLE III.—PERSONS EMPLOYED.

AVERAGE NUMBERS AT WORK ON THE LAST WEDNESDAYS IN JANUARY, APRIL, JULY, AND OCTOBER.

	Males.			Females.			Males and Females.		
	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.
ENGLAND AND WALES :—									
Wage-earners	2,113	10,874	12,987	34	112	146	2,147	10,986	13,133
Salaried Persons	134	705	839	9	50	59	143	755	898
TOTAL	2,247	11,579	13,826	43	162	205	2,290	11,741	14,031
SCOTLAND :—									
Wage-earners	630	5,144	5,774	—	—	—	630	5,144	5,774
Salaried Persons	255	152	407	1	10	11	256	162	418
TOTAL	885	5,296	6,181	1	10	11	886	5,306	6,192
GREAT BRITAIN :—									
Wage-earners	2,743	16,018	18,761	34	112	146	2,777	16,130	18,907
Salaried Persons	389	857	1,246	10	60	70	399	917	1,316
TOTAL	3,132	16,875	20,007	44	172	216	3,176	17,047	20,223

* In order to avoid the possible disclosure of particulars relating to certain firms, figures can only be shown for Great Britain as a whole.

Wrought Iron and Steel Tube Trade—continued.

TABLE IV.—CAPACITY OF ENGINES OWNED AND AMOUNT OF ELECTRICITY PURCHASED.

A.—CAPACITY OF ENGINES OWNED, COMPARED WITH GROSS VALUE OF OUTPUT AND NUMBER OF PERSONS EMPLOYED.

NOTE.—The Gross Value of Output in this Table is given to the nearest thousand pounds.

	ENGLAND.			SCOTLAND.			GREAT BRITAIN.		
	£	Number of Persons Employed.	Horse-Power.	£	Number of Persons Employed.	Horse-Power.	£	Number of Persons Employed.	Horse-Power.
Factories with their own Engines.	4,324,000	13,912	17,859	2,213,000	6,192	5,156	6,537,000	20,104	23,015
Factories renting their Power.	2,000	14	—	—	—	—	2,000	14	—
Workshops (not using Power).	9,000	105	—	—	—	—	9,000	105	—
TOTAL ...	4,335,000	14,031	17,859	2,213,000	6,192	5,156	6,548,000	20,223	23,015

B.—TYPE AND CAPACITY OF ENGINES AND CAPACITY OF DYNAMOS.

	England.	Scotland.	Great Britain.
	Horse-Power.	Horse-Power.	Horse-Power.
Steam Engines, Reciprocating ...	17,070	5,137	22,207
Internal Combustion Engines (gas, oil, &c.) ...	779	14	793
Water Power ...	10	—	10
Other Power ...	—	5	5
TOTAL ...	17,859	5,156	23,015
Capacity of Dynamoes driven by:—	Kilowatts.	Kilowatts.	Kilowatts.
Steam Engines, Reciprocating ...	1,440	647	2,087

C.—AMOUNT OF ELECTRICITY PURCHASED.

NOTE.—The figures in this Table are given to the nearest thousand in each case.

	England and Wales	Scotland.	Great Britain.
	Board of Trade Units.	Board of Trade Units.	Board of Trade Units.
Amount of Electricity Purchased ...	679,000	828,000	1,507,000

WIRE TRADES.

TABLE I.—OUTPUT.

NOTE.—The figures of quantity in this Table are given to the nearest hundred in each case, and those of value to the nearest thousand. Amounts lower than fifty in the case of quantity and five hundred in the case of value are not shown.

	Quantity.		
	Tons.	Tons.	Tons.
Iron and Steel Wire Rods ...	8,500	—	8,500
Iron and Steel Wire (including Telegraph, Telephone, and Barbed Wire).	†	†	168,600
Iron and Steel Wire Nails and Staples ...	2,200	—	2,200
	Value.		
	£	£	£
Iron and Steel Wire Rods ...	61,000	—	61,000
Iron and Steel Wire (including Telegraph, Telephone, and Barbed Wire).	†	†	2,520,000
Brass Wire ...	†	†	218,000
Copper Wire ...	†	†	909,000
Iron and Steel Wire Manufactures:—			
Ropes and Cables ...	1,299,000	143,000	1,442,000
Netting ...	†	†	482,000
Mattresses ...	43,000	—	43,000
Nails and Staples ...	27,000	—	27,000
Smallwares and Other Manufactures ...	460,000	47,000	507,000
TOTAL—IRON AND STEEL WIRE MANUFACTURES	†	†	2,501,000
Iron and Steel Bars, Angles, Castings, Forgings, &c. ...	23,000	—	23,000
Manufactures of Brass and Copper Wire ...	65,000	95,000	160,000
Other Manufactures of Iron and Steel ...	57,000	1,000	58,000
Copper and Brass Manufactures ...	49,000	—	49,000
Other Metal Goods ...	40,000	—	40,000
Waste Products ...	42,000	2,000	44,000
Other Products ...	5,000	—	5,000
TOTAL VALUE OF GOODS MADE FOR SALE ...	6,228,000	360,000	6,588,000
Amount Received for Work Done for the Trade ...	12,000	—	12,000
TOTAL VALUE OF GOODS MADE AND WORK DONE	6,240,000	360,000	6,600,000

* The figures for England and Wales and for Ireland have been combined in order to avoid the possible disclosure of particulars relating to the few firms in Ireland.

† In order to avoid the possible disclosure of particulars relating to certain firms, figures can only be shown for the United Kingdom as a whole.

Wire Trades—continued.

TABLE II.—COST OF MATERIALS USED AND AMOUNT PAID TO OTHER FIRMS FOR WORK GIVEN OUT TO THEM, SHOWN IN RELATION TO VALUE OF OUTPUT.

NOTE.—The figures in this Table are given to the nearest thousand in each case.

	England and Wales and Ireland.*	Scotland.	United Kingdom.
I.	£	£	£
Cost of Materials Used	4,222,000	210,000	4,432,000
Amount Paid to Other Firms for Work Given Out to them	45,000	3,000	48,000
TOTAL	4,267,000	213,000	4,480,000
II.			
Value of Output :—			
Goods Made for Sale	6,228,000	360,000	6,588,000
Work Done for the Trade	12,000	—	12,000
TOTAL	6,240,000	360,000	6,600,000
III.			
Value of Output less Cost of Materials Used and Amount Paid to Other Firms for Work Given Out to them.	1,973,000	147,000	2,120,000

TABLE III.—PERSONS EMPLOYED.

AVERAGE NUMBERS AT WORK ON THE LAST WEDNESDAYS IN JANUARY, APRIL, JULY, AND OCTOBER.

NOTE.—These figures include (a) the average number of persons at work on the last Wednesdays in January, April, July, and October in establishments where power is used; and (b) the numbers "ordinarily" employed in establishments where no power is used.

	Males.			Females.			Males and Females.		
	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.
ENGLAND AND WALES AND IRELAND* :—									
Wage-earners... ..	2,376	11,853	14,229	506	1,046	1,552	2,882	12,899	15,781
Salaried Persons	103	984	1,087	17	97	114	120	1,081	1,201
TOTAL	2,479	12,837	15,316	523	1,143	1,666	3,002	13,980	16,982
SCOTLAND :—									
Wage-earners... ..	223	686	909	111	215	326	334	901	1,235
Salaried Persons	12	74	86	7	19	26	19	93	112
TOTAL	235	760	995	118	234	352	353	994	1,347
UNITED KINGDOM :—									
Wage-earners... ..	2,599	12,539	15,138	617	1,261	1,878	3,216	13,800	17,016
Salaried Persons	115	1,058	1,173	24	116	140	139	1,174	1,313
TOTAL	2,714	13,597	16,311	641	1,377	2,018	3,355	14,974	18,329

* The figures for England and Wales and for Ireland have been combined in order to avoid the possible disclosure of particulars relating to the few firms in Ireland.

Wire Trades—continued.

TABLE IV.—CAPACITY OF ENGINES OWNED AND AMOUNT OF ELECTRICITY PURCHASED.

A.—CAPACITY OF ENGINES OWNED, COMPARED WITH GROSS VALUE OF OUTPUT AND NUMBER OF PERSONS EMPLOYED.

NOTE.—The Gross Value of Output in this Table is given to the nearest thousand pounds.

	ENGLAND AND WALES AND IRELAND.*			SCOTLAND.			UNITED KINGDOM.		
	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.
Factories with their own Engines.	6,114,000	15,978	29,689	343,000	1,221	1,342	6,457,000	17,199	31,031
Factories renting their Power.	10,000	41	—	—	—	—	10,000	41	—
Workshops (not using Power).	116,000	963	—	17,000	126	—	133,000	1,089	—
TOTAL	6,240,000	16,982	29,689	360,000	1,347	1,342	6,600,000	18,329	31,031

B.—TYPE AND CAPACITY OF ENGINES AND CAPACITY OF DYNAMOS.

	England and Wales and Ireland.*	Scotland.	United Kingdom.
Steam Engines, Reciprocating	Horse-Power. 25,040	Horse-Power. 1,043	Horse-Power. 26,083
Internal Combustion Engines (gas, oil, &c.)	4,081	299	4,380
Water Power	553	—	553
Other Power	15	—	15
TOTAL... ..	29,689	1,342	31,031
Capacity of Dynamos driven by :—	Kilowatts.	Kilowatts.	Kilowatts.
Steam Engines, Reciprocating	1,674	150	1,824
Other Power	497	15	512
TOTAL... ..	2,171	165	2,336

C.—AMOUNT OF ELECTRICITY PURCHASED.

NOTE.—The figures in this Table are given to the nearest thousand in each case.

	England and Wales and Ireland.*	Scotland.	United Kingdom.
Amount of Electricity Purchased	Board of Trade Units. 6,727,000	Board of Trade Units. 136,000	Board of Trade Units. 6,863,000

* The figures for England and Wales and Ireland have been combined in order to avoid the possible disclosure of particulars relating to the few firms in Ireland.

ANCHOR, CHAIN, NAIL, SCREW, AND RIVET TRADES.

TABLE I.—OUTPUT.

NOTE.—The figures in this Table are given to the nearest thousand in each case. Amounts lower than five hundred are not shown.

	England and Wales.	Scotland.	Great Britain.
Anchor and Grapnels :—	£	£	£
Wrought	53,000	—	53,000
Cast Steel	12,000	—	12,000
TOTAL—Anchor and Grapnels	65,000	—	65,000
Chains and Chain Cables :—	*	*	
Hand-welded	*	*	588,000
Machine-made	*	*	43,000
TOTAL—Chains and Chain Cables	626,000	5,000	631,000
Bolts and Nuts	*	*	1,937,000
Nails :—	*	*	
Cut Nails (including Tin Tacks)	*	*	292,000
Hand-made Wrought Nails	51,000	—	51,000
Wire Nails	27,000	—	27,000
Other Nails	*	*	141,000
TOTAL—Nails	413,000	98,000	511,000
Screws	*	*	835,000
Rivets	*	*	784,000
Screws and Rivets, not separately distinguished	47,000	—	47,000
Shoe Rivets, Shoe Tips, and Hob-Nails	*	*	385,000
Washers	88,000	—	88,000
Hooks, Hinges, and Tackle	33,000	—	33,000
Hardware	*	*	35,000
Tools	*	*	20,000
Other Iron, Steel, and Copper Manufactures	182,000	—	182,000
Scrap Iron and Steel	*	*	32,000
TOTAL VALUE OF GOODS MADE	4,893,000	692,000	5,585,000
Amount Received for Work Done for the Trade	55,000	1,000	56,000
TOTAL VALUE OF GOODS MADE AND WORK DONE	4,948,000	693,000	5,641,000

TABLE II.—COST OF MATERIALS USED AND AMOUNT PAID TO OTHER FIRMS FOR WORK GIVEN OUT TO THEM, SHOWN IN RELATION TO VALUE OF OUTPUT.

NOTE.—The figures in this Table are given to the nearest thousand in each case.

	England and Wales.	Scotland.	Great Britain.
I.	£	£	£
Cost of Materials Used	2,793,000	483,000	3,276,000
Amount Paid to Other Firms for Work Given Out to them	45,000	6,000	51,000
TOTAL	2,838,000	489,000	3,327,000
Value of Output :—	II.		
Goods Made for Sale	4,893,000	692,000	5,585,000
Work Done for the Trade	55,000	1,000	56,000
TOTAL	4,948,000	693,000	5,641,000
Value of Output less Cost of Materials Used and Amount Paid to Other Firms for Work Given Out to them.	III.		
	2,110,000	204,000	2,314,000

* In order to avoid the possible disclosure of particulars relating to certain firms, figures can only be shown for Great Britain as a whole.

Anchor, Chain, Nail, Screw, and Rivet Trades—continued.

TABLE III.—PERSONS EMPLOYED.

A.—AVERAGE NUMBER OF PERSONS (EXCEPT OUTWORKERS) AT WORK ON THE LAST WEDNESDAYS IN JANUARY, APRIL, JULY, AND OCTOBER.

NOTE.—These figures include (a) the average number of persons at work on the last Wednesdays in January, April, July, and October in establishments where power is used; and (b) the numbers "ordinarily" employed in establishments where no power is used.

	Males.			Females.			Males and Females.		
	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.
ENGLAND AND WALES :—									
Wage-earners	3,000	12,209	15,209	2,327	7,002	9,329	5,327	19,211	24,538
Salaried Persons	147	1,097	1,244	63	125	188	210	1,222	1,432
TOTAL	3,147	13,306	16,453	2,390	7,127	9,517	5,537	20,433	25,970
SCOTLAND :—									
Wage-earners	263	1,013	1,276	241	419	660	504	1,432	1,936
Salaried Persons	14	92	106	2	10	12	16	102	118
TOTAL	277	1,105	1,382	243	429	672	520	1,534	2,054
GREAT BRITAIN :—									
Wage-earners	3,263	13,222	16,485	2,568	7,421	9,989	5,831	20,643	26,474
Salaried Persons	161	1,189	1,350	65	135	200	226	1,324	1,550
TOTAL	3,424	14,411	17,835	2,633	7,556	10,189	6,057	21,967	28,024

B.—AVERAGE NUMBER OF OUTWORKERS ON 1ST FEBRUARY AND 1ST AUGUST, 1907.

	Males.	Females.	Males and Females.
ENGLAND AND WALES	955	614	1,569
SCOTLAND	—	—	—
GREAT BRITAIN	955	614	1,569

TABLE IV.—CAPACITY OF ENGINES OWNED AND AMOUNT OF ELECTRICITY PURCHASED.

A.—CAPACITY OF ENGINES OWNED, COMPARED WITH GROSS VALUE OF OUTPUT AND NUMBER OF PERSONS EMPLOYED.

NOTE.—The Gross Value of Output in this Table is given to the nearest thousand pounds.

	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.
	ENGLAND AND WALES.			SCOTLAND.			GREAT BRITAIN.		
Factories with their own Engines.	£		Horse-Power.	£		Horse-Power.	£		Horse-Power.
Factories with their own Engines.	4,729,000	23,580	20,698	692,000	2,051	2,300	5,421,000	25,631	22,998
Factories renting their Power.	31,000	202	—	—	—	—	31,000	202	—
Workshops (not using Power).	188,000	2,188	—	1,000	3	—	189,000	2,191	—
TOTAL	4,948,000	25,970	20,698	693,000	2,054	2,300	5,641,000	28,024	22,998

Anchor, Chain, Nail, Screw, and Rivet Trades—continued.

TABLE IV.—CAPACITY OF ENGINES OWNED AND AMOUNT OF ELECTRICITY PURCHASED—continued.

B.—TYPE AND CAPACITY OF ENGINES USED AND CAPACITY OF DYNAMOS.

	England and Wales.	Scotland.	Great Britain.
	Horse-Power.	Horse-Power.	Horse-Power.
Steam Engines, Reciprocating	13,574	2,108	15,682
Internal Combustion Engines (gas, oil, &c.)	6,856	192	7,048
Water Power	268	—	268
TOTAL	20,698	2,300	22,998
	Kilowatts.	Kilowatts.	Kilowatts.
Capacity of Dynamoes driven by :—			
Steam Engines, Reciprocating	747	371	1,118
Other Power	340	—	340
TOTAL	1,087	371	1,458

C.—AMOUNT OF ELECTRICITY PURCHASED.

NOTE.—The figures in this Table are given to the nearest thousand in each case.

	England and Wales.	Scotland.	Great Britain.
	Board of Trade Units.	Board of Trade Units.	Board of Trade Units.
Amount of Electricity Purchased	2,019,000	133,000	2,152,000

GALVANIZED SHEET, HARDWARE, HOLLOW-WARE, TINNED AND JAPANNED GOODS, AND BEDSTEAD TRADES.

TABLE I.—OUTPUT.

NOTE.—The figures in this Table are given to the nearest thousand in each case. Amounts lower than five hundred are not shown.

	England and Wales and Ireland.*	Scotland.	United Kingdom.
	Quantity.		
	Tons. †	Tons. †	Tons. 199,000
	Value.		
	£ †	£ †	£
Galvanized Sheets, Plain and Corrugated	†	†	3,152,000
Galvanized Tanks, Cisterns, and Hollow-ware	1,104,000	57,000	1,161,000
Grates, Ranges, Stoves, and Hearth Furniture	1,559,000	146,000	1,705,000
Hardware and Hollow-ware :—			
Hardware and Cast Hollow-ware (including Hollow-ware, black enamelled, and tinned; and Builders', Cabinet, Household, and Sundry Ironmongery).	974,000	80,000	1,054,000
Tanks, Cisterns, Sheet Metal Work, and Wrought Hollow-ware.	†	†	459,000
Enamelled Wrought Hollow-ware	†	†	193,000
Hardware and Hollow-ware (cast or wrought, not separately distinguished).	263,000	8,000	271,000
TOTAL—Hardware and Hollow-ware	1,825,000	152,000	1,977,000
Tinplate and Japanned Goods (including Hollow-ware, Boxes, Trays, and other Stamped Goods).	3,035,000	191,000	3,226,000
Metallic Bedsteads and Mattresses :—			
Metallic Bedsteads (including Ships' Berths with spring or lath bottoms).	†	†	1,269,000
Wire Mattresses	†	†	138,000
Bedsteads and Wire Mattresses, complete	54,000	—	54,000
Parts of Bedsteads	90,000	—	90,000
TOTAL—Metallic Bedsteads and Mattresses	1,532,000	19,000	1,551,000
Black Stampings for the Trade	331,000	—	331,000
Enamelled Signs and Tablets	†	†	226,000
Pewter Ware	102,000	—	102,000
Ornamental Metal Work, not separately distinguished (chiefly brass, bronze, copper, &c.).	23,000	—	23,000
Iron and Steel Manufactures, not elsewhere specified	255,000	107,000	362,000
Lamps and Other Fittings for Lighting Purposes (mainly of brass and copper).	274,000	2,000	276,000
Finished Brass Goods, for Builders and Engineers	†	†	168,000
Coppersmiths' and Braziers' Work	98,000	4,000	102,000
Wire Goods	99,000	—	99,000
Perforated Metals	58,000	—	58,000
Machinery and Accessories	†	†	46,000
Electro-plated Goods	26,000	—	26,000
Cycle and Motor Parts and Accessories	24,000	1,000	25,000
Spring Traps	†	†	22,000
Ornamental Iron Work	18,000	—	18,000
Other Metal Manufactures	41,000	5,000	46,000
Furniture and Bedding	56,000	—	56,000
Waste Products	137,000	25,000	162,000
Other Products	77,000	1,000	78,000
Repairs and Jobbing Work	491,000	38,000	529,000
TOTAL VALUE OF GOODS MADE AND REPAIRS	14,588,000	939,000	15,527,000
Work Done for the Trade :—			
Galvanizing	†	†	356,000
Enamelling and Lacquering	19,000	10,000	29,000
Plating and Polishing	†	†	18,000
Tinplate Printing	16,000	—	16,000
Tinning	11,000	—	11,000
Other Work	31,000	—	31,000
TOTAL VALUE OF WORK DONE FOR THE TRADE	358,000	103,000	461,000
TOTAL VALUE OF GOODS MADE AND WORK DONE	14,946,000	1,042,000	15,988,000

* The figures for England and Wales and for Ireland have been combined in order to avoid the possible disclosure of particulars relating to the few firms in Ireland.

† In order to avoid the possible disclosure of particulars relating to certain firms, figures can only be shown for the United Kingdom as a whole.

Galvanized Sheet, Hardware, Hollow-ware, Tinned and Japanned Goods, and Bedstead Trades—*continued.*

TABLE II.—COST OF MATERIALS USED AND AMOUNT PAID TO OTHER FIRMS FOR WORK GIVEN OUT TO THEM, SHOWN IN RELATION TO VALUE OF OUTPUT.

NOTE.—The figures in this Table are given to the nearest thousand in each case.

	England and Wales and Ireland.*	Scotland.	United Kingdom.
I.			
Cost of Materials Used	£ 8,743,000	£ 623,000	£ 9,366,000
Amount Paid to Other Firms for Work Given Out to them...	76,000	5,000	81,000
TOTAL	8,819,000	628,000	9,447,000
II.			
Value of Output :—			
Goods Made for Sale (including Repairs)	14,588,000	939,000	15,527,000
Work Done for the Trade	358,000	103,000	461,000
TOTAL	14,946,000	1,042,000	15,988,000
III.			
Value of Output less Cost of Materials Used and Amount Paid to Other Firms for Work Given Out to them.	6,127,000	414,000	6,541,000

TABLE III.—PERSONS EMPLOYED.

AVERAGE NUMBERS AT WORK ON THE LAST WEDNESDAYS IN JANUARY, APRIL, JULY, AND OCTOBER.

NOTE.—These figures include (a) the average number of persons at work on the last Wednesdays in January, April, July, and October in establishments where power is used; and (b) the numbers "ordinarily" employed in establishments where no power is used.

	Males.			Females.			Males and Females.		
	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.
ENGLAND AND WALES AND IRELAND* :—									
Wage-earners... ..	8,053	38,873	46,926	5,133	11,678	16,811	13,186	50,551	63,737
Salaried Persons	497	4,850	5,347	144	602	746	641	5,452	6,093
TOTAL	8,550	43,723	52,273	5,277	12,280	17,557	13,827	56,003	69,830
SCOTLAND :—									
Wage-earners... ..	810	3,390	4,200	83	194	277	893	3,584	4,477
Salaried Persons	47	363	410	9	51	60	56	414	470
TOTAL	857	3,753	4,610	92	245	337	949	3,998	4,947
UNITED KINGDOM :—									
Wage-earners... ..	8,863	42,263	51,126	5,216	11,872	17,088	14,079	54,135	68,214
Salaried Persons	544	5,213	5,757	153	653	806	697	5,866	6,563
TOTAL	9,407	47,476	56,883	5,369	12,525	17,894	14,776	60,001	74,777

* The figures for England and Wales and for Ireland have been combined in order to avoid the possible disclosure of particulars relating to the few firms in Ireland.

Galvanized Sheet, Hardware, Hollow-ware, Tinned and Japanned Goods, and Bedstead Trades—*continued.*

TABLE IV.—CAPACITY OF ENGINES OWNED AND AMOUNT OF ELECTRICITY PURCHASED.

A.—CAPACITY OF ENGINES OWNED, COMPARED WITH GROSS VALUE OF OUTPUT AND NUMBER OF PERSONS EMPLOYED.

NOTE.—The Gross Value of Output in this Table is given to the nearest thousand pounds.

	ENGLAND AND WALES AND IRELAND.*			SCOTLAND.			UNITED KINGDOM.		
	£	Number of Persons Employed.	Total Capacity of Engines.	£	Number of Persons Employed.	Total Capacity of Engines.	£	Number of Persons Employed.	Total Capacity of Engines.
Factories with their own Engines.	13,525,000	59,448	25,751	905,000	4,116	1,523	14,430,000	63,564	27,274
Factories renting their Power.	61,000	258	—	—	—	—	61,000	258	—
Workshops (not using Power).	1,360,000	10,124	—	137,000	831	—	1,497,000	10,955	—
TOTAL	14,946,000	69,830	25,751	1,042,000	4,947	1,523	15,988,000	74,777	27,274

B.—TYPE AND CAPACITY OF ENGINES AND CAPACITY OF DYNAMOS.

	England and Wales and Ireland.*	Scotland.	United Kingdom.
Steam Engines, Reciprocating	Horse-Power. 14,714	Horse-Power. 778	Horse-Power. 15,492
Internal Combustion Engines (gas, oil, &c.)	10,866	745	11,611
Water Power	171	—	171
TOTAL... ..	25,751	1,523	27,274
Capacity of Dynamos driven by :—			
Steam Engines, Reciprocating	1,921	—	1,921
Other Power	1,269	166	1,435
TOTAL... ..	3,190	166	3,356

C.—AMOUNT OF ELECTRICITY PURCHASED.

NOTE.—The Figures in this Table are given to the nearest thousand in each case.

	England and Wales and Ireland.*	Scotland.	United Kingdom.
Amounts of Electricity Purchased	Board of Trade Units. 2,861,000	Board of Trade Units. 109,000	Board of Trade Units. 2,970,000

* The figures for England and Wales and for Ireland have been combined in order to avoid the possible disclosure of particulars relating to the few firms in Ireland.

ENGINEERING (INCLUDING ELECTRICAL ENGINEERING).

TABLE I.—OUTPUT.

NOTE.—The figures in this Table are given to the nearest thousand in each case. Amounts lower than five hundred are not shown.

	England and Wales.	Scotland.	Ireland.	United Kingdom.
A.—GENERAL ENGINEERING.				
	£	£	£	£
Steam Engines and Parts :—				
Agricultural				1,283,000
Locomotive, Rail†				4,406,000
Locomotive, Road	*	*	*	436,000
Pumping				1,469,000
Winding				746,000
Other Descriptions				4,114,000
TOTAL—Steam Engines	9,347,000	3,092,000	15,000	12,454,000
Internal Combustion Engines (except Motor Vehicles)	2,009,000	109,000	—	2,118,000
Hydraulic Prime Movers	96,000	14,000	—	110,000
Other Prime Movers (including Steam, Electric, Hydraulic, and Hand Cranes, not separately distinguished)	400,000	153,000	—	553,000
Electric Cranes and Lifts	191,000	68,000	—	259,000
Machinery (other than Electrical) :—				
Agricultural Machinery	1,009,000	75,000	60,000	1,144,000
Boilers	1,899,000	2,102,000	6,000	4,007,000
Hydraulic Machinery	1,056,000	187,000	—	1,243,000
Machine Tools	2,342,000	421,000	—	2,763,000
Mining Machinery	951,000	251,000	—	1,202,000
Textile Machinery	12,127,000	603,000	298,000	13,028,000
Other Descriptions	7,396,000	4,001,000	69,000	11,466,000
TOTAL—Machinery	26,780,000	7,640,000	433,000	34,853,000
Machinery Accessories and Parts	3,210,000	402,000	38,000	3,650,000
Ordnance	2,763,000	—	—	2,763,000
Railway and Tramway Equipment (Signals, Points, &c.)	1,322,000	58,000	—	1,380,000
Iron Castings	2,231,000	312,000	51,000	2,594,000
Steel Forgings	1,220,000	68,000	1,000	1,289,000
Other Semi-manufactured Iron and Steel Goods	686,000	152,000	7,000	845,000
Tanks, Cisterns, &c.	214,000	54,000	—	268,000
Other Finished Iron and Steel Goods	311,000	21,000	2,000	334,000
Brass and Copper Alloys and Manufactures	1,030,000	93,000	9,000	1,132,000
Implements and Tools and Parts thereof :—				
Agricultural	1,138,000	112,000	27,000	1,277,000
Other Sorts	547,000	110,000	2,000	659,000
TOTAL—Implements and Tools	1,685,000	222,000	29,000	1,936,000
Motor Vehicles, Motor Cycles, Cycles, and Parts Ammunition and Components	964,000	60,000	8,000	1,032,000
Ships and Boats	753,000	—	—	753,000
Heating, Lighting, and Ventilating Engineering	302,000	95,000	—	397,000
Railway Carriages and Wagons, Tramcars, and Parts thereof	342,000	221,000	66,000	629,000
Engine Packings	283,000	138,000	—	421,000
Carriages and other Vehicles	159,000	7,000	—	166,000
Metal Manufactures (other than Iron, Steel, Brass, or Copper)	83,000	3,000	—	86,000
Rubber Manufactures	71,000	2,000	—	73,000
Wood Manufactures	71,000	30,000	—	101,000
Waste Products	86,000	10,000	—	96,000
Other Products	90,000	13,000	—	103,000
Iron and Steel Structural Work	296,000	1,000	6,000	303,000
Work in Progress	4,434,000	1,046,000	21,000	5,501,000
Repair and Jobbing Work	5,133,000	1,168,000	52,000	6,353,000
TOTAL—General Engineering	72,314,000	15,877,000	864,000	89,055,000

* In order to avoid the possible disclosure of particulars relating to certain firms, figures can only be shown for the United Kingdom as a whole. The totals for the three Divisions of the United Kingdom are, however, shown separately.
† Exclusive of locomotives made by Railway Companies.

Engineering (including Electrical Engineering)—continued.

TABLE I.—OUTPUT—continued.

NOTE.—The figures in this Table are given to the nearest thousand in each case. Amounts lower than five hundred are not shown.

	United Kingdom.*
B.—ELECTRICAL ENGINEERING.	
	£
Electrical Machinery and Parts :—	
Direct and Alternating Current Generators	815,000
Direct and Alternating Current Motors	1,729,000
Motor-Generators, Converters, and Transformers	421,000
Switches, Rheostats	502,000
Switchboards	697,000
Other Descriptions	50,000
TOTAL—Electrical Machinery	4,214,000
Electrical Instruments of all kinds (Meters, Measuring Instruments, &c.)	520,000
Primary Batteries	109,000
Secondary Batteries	440,000
Lamps and Parts (except Carbons) :—	
Glow Lamps	236,000
Arc Lamps and Searchlights	229,000
TOTAL—Lamps	465,000
Telegraph and Telephone Cables :—	
Submarine	1,102,000
Land	809,000
TOTAL—Telegraph and Telephone Cables	1,911,000
Electrical Power and Lighting Cables :—	
Paper and Bitumen Insulation	1,322,000
Rubber Insulation	1,300,000
Other and Unclassified Insulation	729,000
TOTAL—Electrical Power and Lighting Cables	3,351,000
Transmission Apparatus and Plant (including Insulators, Conduits, Poles, &c.)	539,000
Electrical Accessories	374,000
Telegraph and Telephone Accessories	315,000
Contract Work in United Kingdom (generally exclusive of Materials made by the firm) :—	
Telegraphic or Telephonic Lines or Works	45,000
Electric Power or Lighting Works	1,277,000
Repairs and Maintenance Work for Customers	337,000
TOTAL—Electrical Engineering	13,897,000
England and Wales	13,467,000
Scotland	422,000
Ireland	8,000
TOTAL—General and Electrical Engineering :—	
England and Wales	85,781,000
Scotland	16,299,000
Ireland	872,000
United Kingdom	102,952,000

* In order to avoid the possible disclosure of particulars relating to certain firms, figures can only be shown for the United Kingdom as a whole. The totals for the three Divisions of the United Kingdom are, however, shown separately.

Engineering (including Electrical Engineering)—*continued.*

TABLE II.—COST OF MATERIALS USED AND AMOUNT PAID TO OTHER FIRMS FOR WORK GIVEN OUT TO THEM, SHOWN IN RELATION TO VALUE OF OUTPUT.

Note—The figures in this Table are given to the nearest thousand in each case.

	England and Wales.	Scotland.	Ireland.	United Kingdom.
I.	£	£	£	£
Cost of Materials Used	39,885,000	8,307,000	343,000	48,535,000
Amount Paid to other Firms for Work Given Out to them.	3,086,000	807,000	29,000	3,922,000
TOTAL	42,971,000	9,114,000	372,000	52,457,000
II.				
Value of Output... ..	85,781,000	16,299,000	872,000	102,952,000
III.				
Value of Output less Cost of Materials Used and Amount Paid to other Firms for Work Given Out to them.	42,810,000	7,185,000	500,000	50,495,000

TABLE III.—PERSONS EMPLOYED.

AVERAGE NUMBERS AT WORK ON THE LAST WEDNESDAYS IN JANUARY, APRIL, JULY, AND OCTOBER.

NOTE.—These figures include (a) the average numbers of persons at work on the last Wednesdays in January, April, July, and October in establishments where power is used; and (b) the numbers "ordinarily" employed in establishments where no power is used.

	Males.			Females.			Males and Females.		
	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.
ENGLAND & WALES:—									
Wage-earners	50,430	293,937	344,367	4,054	7,590	11,644	54,484	301,527	356,011
Salaried Persons	4,256	27,392	31,648	381	1,841	2,222	4,637	29,233	33,870
TOTAL	54,686	321,329	376,015	4,435	9,431	13,866	59,121	330,760	389,881
SCOTLAND:—									
Wage-earners	7,856	49,840	57,696	535	1,850	2,385	8,391	51,690	60,081
Salaried Persons	559	3,853	4,412	104	495	599	663	4,348	5,011
TOTAL	8,415	53,693	62,108	639	2,345	2,984	9,054	56,038	65,092
IRELAND:—									
Wage-earners	1,229	5,098	6,327	4	4	8	1,233	5,102	6,335
Salaried Persons	24	326	350	3	42	45	27	368	395
TOTAL	1,253	5,424	6,677	7	46	53	1,260	5,470	6,730
UNITED KINGDOM:—									
Wage-earners	59,515	348,875	408,390	4,593	9,444	14,037	64,108	358,319	422,427
Salaried Persons	4,839	31,571	36,410	488	2,378	2,866	5,327	33,949	39,276
TOTAL	64,354	380,446	444,800	5,081	11,822	16,903	69,435	392,268	461,703

Engineering (including Electrical Engineering)—*continued.*

TABLE IV.—CAPACITY OF ENGINES OWNED AND AMOUNT OF ELECTRICITY PURCHASED.

A.—CAPACITY OF ENGINES OWNED, COMPARED WITH GROSS VALUE OF OUTPUT AND NUMBER OF PERSONS EMPLOYED.

NOTE.—The Gross Value of Output in this Table is given to the nearest thousand pounds.

	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.
	ENGLAND AND WALES.			SCOTLAND.		
	£		Horse-Power.	£		Horse-Power.
Factories with their own Engines	84,638,000	384,456	281,977	16,238,000	64,724	45,949
Factories renting their Power ...	696,000	2,635	—	18,000	104	—
Workshops (not using Power) ...	447,000	2,790	—	43,000	264	—
TOTAL	85,781,000	389,881	281,977	16,299,000	65,092	45,949
	IRELAND.			UNITED KINGDOM.		
	£		Horse-Power.	£		Horse-Power.
Factories with their own Engines	864,000	6,638	3,325	101,740,000	455,818	331,251
Factories renting their Power ...	1,000	11	—	715,000	2,750	—
Workshops (not using Power) ...	7,000	81	—	497,000	3,135	—
TOTAL	872,000	6,730	3,325	102,952,000	461,703	331,251

B.—TYPE AND CAPACITY OF ENGINES AND CAPACITY OF DYNAMOS.

	England and Wales.	Scotland.	Ireland.	United Kingdom.
	Horse-Power.	Horse-Power.	Horse-Power.	Horse-Power.
Steam Engines, Reciprocating ...	212,645	36,897	2,161	251,703
Steam Turbines	5,696	240	10	5,946
Internal Combustion Engines (gas, oil, &c.)	57,850	5,727	1,048	64,625
Water Power	1,952	878	106	2,936
Other Power	3,834	2,207	—	6,041
TOTAL	281,977	45,949	3,325	331,251
Capacity of Dynamos driven by:—	Kilowatts.	Kilowatts.	Kilowatts.	Kilowatts.
Steam Engines, Reciprocating ...	61,075	12,340	661	74,076
Steam Turbines	5,296	160	—	5,456
Other Power	12,201	1,434	18	13,653
TOTAL	78,572	13,934	679	93,185

C.—AMOUNT OF ELECTRICITY PURCHASED.

NOTE.—The figures in this Table are given to the nearest thousand in each case.

	England and Wales.	Scotland.	Ireland.	United Kingdom.
	Board of Trade Units.	Board of Trade Units.	Board of Trade Units.	Board of Trade Units.
Amount of Electricity Purchased ...	55,824,000	6,730,000	156,000	62,710,000

Shipbuilding and Marine Engineering Trades—continued.

(a) PRIVATE FIRMS—continued.

TABLE IV.—CAPACITY OF ENGINES OWNED AND AMOUNT OF ELECTRICITY PURCHASED.

A.—CAPACITY OF ENGINES OWNED, COMPARED WITH GROSS VALUE OF OUTPUT AND NUMBER OF PERSONS EMPLOYED.

NOTE.—The Gross Value of Output in this Table is given to the nearest thousand pounds.

	ENGLAND AND WALES AND IRELAND.*			SCOTLAND.			UNITED KINGDOM.		
	£		Horse-Power.	£		Horse-Power.	£		Horse-Power.
Factories with their own Engines.	26,582,000	120,558	65,569	15,425,000	64,259	48,977	42,007,000	184,817	114,546
Workshops (not using Power).	489,000	3,098	—	60,000	397	—	549,000	3,495	—
TOTAL	27,071,000	123,656	65,569	15,485,000	64,656	48,977	42,556,000	188,312	114,546

B.—TYPE AND CAPACITY OF ENGINES AND CAPACITY OF DYNAMOS.

	England and Wales and Ireland.*	Scotland.	United Kingdom.
	Horse-Power.	Horse-Power.	Horse-Power.
Steam Engines, Reciprocating	48,657	34,157	82,814
Steam Turbines	180	500	680
Internal Combustion Engines (gas, oil, &c.)	15,559	13,410	28,969
Water Power	665	625	1,290
Other Power	508	285	793
TOTAL	65,569	48,977	114,546
	Kilowatts.	Kilowatts.	Kilowatts.
Capacity of Dynamos driven by :—			
Steam Engines, Reciprocating	14,451	10,819	25,270
Steam Turbines	—	300	300
Other Power	3,348	6,273	9,621
TOTAL	17,799	17,392	35,191

C.—AMOUNT OF ELECTRICITY PURCHASED.

NOTE.—The figures in this Table are given to the nearest thousand in each case.

	England and Wales and Ireland.*	Scotland.	United Kingdom.
	Board of Trade Units.	Board of Trade Units.	Board of Trade Units.
Amount of Electricity Purchased	13,427,000	2,888,000	16,315,000

* The figures for England and Wales and for Ireland have been combined in order to avoid the disclosure of particulars relating to the few firms in Ireland.

Shipbuilding and Marine Engineering Trades—continued.

(b) GOVERNMENT YARDS AND LIGHTHOUSE AUTHORITIES.

(1) Shipbuilding in Dockyards.

TABLE I.—OUTPUT.

	England and Wales.	Ireland.	United Kingdom.
	Quantity.		
	Displacement Tonnage.	Displacement Tonnage.	Displacement Tonnage.
Ships :—			
War Vessels, Dockyard-built	37,300	—	37,300
Steamships, other than War Vessels :—			
Iron or Steel :—			
Hull and Fittings	600	—	600
Boats, including Barges and Lighters :—			
Iron or Steel	1,890	23	1,913
	Value.		
	£	£	£
Ships :—			
War Vessels, Dockyard-built	3,355,481	—	3,355,481
Steamships, other than War Vessels :—			
Iron or Steel :—			
Hull and Fittings	35,722	—	35,722
Boats, including Barges and Lighters :—			
Iron or Steel	19,022	379	19,401
Vessels :—			
Repairs, Reconstruction, and Refits	2,174,856	45,603	2,220,459
Work carried out by Dockyard employees on Contract-built Ships.	84,650	—	84,650
Repairs, &c., to craft belonging to other Departments of Government; Indian, Colonial and Foreign Governments; Private Individuals; and to H.M. Ships, in respect to damages sustained from Private Vessels in default.	10,128	17	10,145
Making and repairing fittings, apparatus, equipment, and gear for H.M. Naval Establishments on Shore, e.g., R.N. Barracks, Colleges :—			
Furniture	1,962	66	2,028
Other Work	37,179	1,832	39,011
Miscellaneous work for other Navy Departments (Victualling, Ordnance, Medical, Coaling, &c.).	109,064	1,689	110,753
Miscellaneous work done for other Departments of Government; Indian, Colonial, and Foreign Governments; Private Individuals; &c.	29,364	388	29,752
TOTAL VALUE	5,857,428	49,974	5,907,402

Shipbuilding and Marine Engineering Trades—continued.

(b) GOVERNMENT YARDS AND LIGHTHOUSE AUTHORITIES—continued.

(1) Shipbuilding in Dockyards—continued.

TABLE II.—COST OF MATERIALS USED, SHOWN IN RELATION TO VALUE OF OUTPUT.

	England and Wales.	Ireland.	United Kingdom.
I.	£	£	£
Cost of Materials Used, including value of "Contract Work."	3,540,192	20,283	3,560,475
II.			
Value of Output	5,857,428	49,974	5,907,402
III.			
Value of Output, less Cost of Materials Used...	2,317,236	29,691	2,346,927

TABLE III.—PERSONS EMPLOYED.

AVERAGE NUMBER OF PERSONS* AT WORK ON THE LAST WEDNESDAYS IN APRIL, JULY, AND OCTOBER, 1907, AND JANUARY, 1908.

	Males.			Females.			Males and Females.		
	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.
ENGLAND & WALES:—									
Wage-earners ...	1,332	20,647	21,979	3	52	55	1,335	20,699	22,034
Salaried Persons ...	59	726	785	—	—	—	59	726	785
TOTAL ...	1,391	21,373	22,764	3	52	55	1,394	21,425	22,819
IRELAND:—									
Wage-earners ...	40	484	524	—	—	—	40	484	524
Salaried Persons ...	—	16	16	—	—	—	—	16	16
TOTAL ...	40	500	540	—	—	—	40	500	540
UNITED KINGDOM:—									
Wage-earners ...	1,372	21,131	22,503	3	52	55	1,375	21,183	22,558
Salaried Persons ...	59	742	801	—	—	—	59	742	801
TOTAL ...	1,431	21,873	23,304	3	52	55	1,434	21,925	23,359

* Including the whole of the Staff employed in connexion with Power Establishment for Shipbuilding Yards and Workshops.

Shipbuilding and Marine Engineering Trades—continued.

(b) GOVERNMENT YARDS AND LIGHTHOUSE AUTHORITIES—continued.

(1) Shipbuilding in Dockyards—continued.

TABLE IV.—CAPACITY OF ENGINES OWNED AND AMOUNT OF ELECTRICITY PURCHASED.*

A.—CAPACITY OF ENGINES OWNED, COMPARED WITH GROSS VALUE OF OUTPUT AND NUMBER OF PERSONS EMPLOYED.

	ENGLAND AND WALES.			IRELAND.			UNITED KINGDOM.		
	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.
Factories with their own Engines.	£		Horse-Power.	£		Horse-Power.	£		Horse-Power.
	6,369,048	24,790	59,909	54,603	579	2,089	6,423,651	25,369	61,998
TOTAL ...	6,369,048	24,790	59,909	54,603	579	2,089	6,423,651	25,369	61,998

B.—TYPE AND CAPACITY OF ENGINES AND CAPACITY OF DYNAMOS.

	England and Wales.	Ireland.	United Kingdom.
	Horse-Power.	Horse-Power.	Horse-Power.
Steam Engines, Reciprocating	58,480	2,089	60,569
Steam Turbines	25	—	25
Internal Combustion Engines (gas, oil, &c.)	516	—	516
Other Power	888	—	888
TOTAL	59,909	2,089	61,998
Capacity of Dynamos driven by:—			
Steam Engines, Reciprocating	Kilowatts.	Kilowatts.	Kilowatts.
	12,942	180	13,122
Other Power	123	—	123
TOTAL	13,065	180	13,245

C.—AMOUNT OF ELECTRICITY PURCHASED.

	England and Wales.	Ireland.	United Kingdom.
	Board of Trade Units.	Board of Trade Units.	Board of Trade Units.
Amount of Electricity Purchased	30,643	—	30,643

* This Table includes particulars relating to Dockyard Workshops for which separate details of Engines Owned and Amount of Electricity Purchased were not furnished.

Shipbuilding and Marine Engineering Trades—*continued.*(b) GOVERNMENT YARDS AND LIGHTHOUSE AUTHORITIES—*continued.*

(2) Dockyard Workshops.

TABLE I.—OUTPUT.

	England and Wales.	Ireland.	United Kingdom.
	£	£	£
Work Done by Dockyard employees on Naval Stores, &c., in—			
Saw Mills	41,099	760	41,859
Mast and Boat Houses	33,024	58	33,082
Blockmakers' Shops	503	1	504
Block Mill	4,007	—	4,007
Joiners', Wheelwrights', &c., Shops	7,464	108	7,572
Ship Fitters' Shops	5,404	68	5,472
Shipwrights' Pattern and Gunnery Shops	6,888	—	6,888
Roperies	108,073	—	108,073
Rigging Houses	1,120	21	1,141
Sail Lofts	3,884	94	3,978
Iron Foundries	10,405	172	10,577
Galvanising Shops	4,720	85	4,805
Boiler Shops	10,518	1	10,519
Gun Mounting Shops	3,856	—	3,856
Fitting and Pattern Shops	14,857	27	14,884
Brass Foundries	149,910	1,295	151,205
Coppersmiths' Shops	986	—	986
Electric Shops	7,295	54	7,349
Central Electric Power, &c., Station	39,019	914	39,933
Smitheries	9,612	26	9,638
Plumbers' Shops	895	54	949
Colour Lofts	25,001	330	25,331
Painters' Shops	18,889	523	19,412
Hosemakers' Shops	2,089	31	2,120
Chemical Products	36	—	36
Storehouses	2,066	7	2,073
TOTAL VALUE	511,620	4,629	516,249

TABLE II.—COST OF MATERIALS USED, SHOWN IN RELATION TO
VALUE OF OUTPUT.

	England and Wales.	Ireland.	United Kingdom.
	£	£	£
I.			
Cost of Materials Used	389,198	3,970	393,168
II.			
Value of Output	511,620	4,629	516,249
III.			
Value of Output <i>less</i> Cost of Materials Used	122,422	659	123,081

Shipbuilding and Marine Engineering Trades—*continued.*(b) GOVERNMENT YARDS AND LIGHTHOUSE AUTHORITIES—*continued.*(2) Dockyard Workshops—*continued.*

TABLE III.—PERSONS EMPLOYED.

AVERAGE NUMBERS AT WORK ON THE LAST WEDNESDAYS IN APRIL, JULY, AND
OCTOBER, 1907, AND JANUARY, 1908.

	Males.			Females.			Males and Females.		
	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.
ENGLAND AND WALES :—									
Wage-earners	163	1,569	1,732	1	230	231	164	1,799	1,963
Salaried Persons	—	8	8	—	—	—	—	8	8
TOTAL	163	1,577	1,740	1	230	231	164	1,807	1,971
IRELAND :—									
Wage-earners	3	36	39	—	—	—	3	36	39
Salaried Persons*	—	—	—	—	—	—	—	—	—
TOTAL	3	36	39	—	—	—	3	36	39
UNITED KINGDOM :—									
Wage-earners	166	1,605	1,771	1	230	231	167	1,835	2,002
Salaried Persons*	—	8	8	—	—	—	—	8	8
TOTAL	166	1,613	1,779	1	230	231	167	1,843	2,010

TABLE IV.—CAPACITY OF ENGINES OWNED AND AMOUNT OF
ELECTRICITY PURCHASED.NOTE.—Particulars of Engines Owned and Amount of Electricity Purchased are
included with those relating to Dockyard Establishments (*see* page 199).

* Salaried Persons in Ireland are included with those returned in connexion with the Shipbuilding Yard.

Shipbuilding and Marine Engineering Trades—*continued.*(b) GOVERNMENT YARDS AND LIGHTHOUSE AUTHORITIES—*continued.*

(3) Lighthouse Authorities.

TABLE I.—OUTPUT.

	England and Wales.	Scotland.	Ireland.	United Kingdom.
Repairs and other Work carried out by the employees of Public Authorities in connexion with:—	£	£	£	£
Steam Vessels	2,325	—	—	2,325
Light Vessels	5,055	—	—	5,055
Light Houses	4,827	—	4,099	23,794
Buoys and Beacons... ..	2,347	—	—	—
Other Work	7,466	—	—	—
Oil Gas Made	—	710	—	710
Total Value of Work Done	22,020	710	4,099	26,829

TABLE II.—COST OF MATERIALS USED, SHOWN IN RELATION TO VALUE OF OUTPUT.

	England and Wales.	Scotland.	Ireland.	United Kingdom.
I. Cost of Materials Used	£ 6,266	£ 468	£ 1,035	£ 7,769
II. Value of Output... ..	22,020	710	4,099	26,829
III. Value of Output less Cost of Materials Used...	15,754	242	3,064	19,060

TABLE III.—PERSONS EMPLOYED.

AVERAGE NUMBERS AT WORK ON THE LAST WEDNESDAYS IN APRIL, JULY, AND OCTOBER, 1907, AND JANUARY, 1908.

	Males.		
	Under 18 years of age.	Over 18 years of age.	Total.
ENGLAND AND WALES:—			
Wage-earners	7	140	147
Salaried Persons	1	8	9
TOTAL	8	148	156
SCOTLAND:—			
Wage-earners	—	2	2
Salaried Persons	—	—	—
TOTAL	—	2	2
IRELAND:—			
Wage-earners	2	48	50
Salaried Persons	—	3	3
TOTAL	2	51	53
UNITED KINGDOM:—			
Wage-earners	9	190	199
Salaried Persons	1	11	12
TOTAL	10	201	211

TABLE IV.—CAPACITY OF ENGINES OWNED.

No engine-power.

CYCLE AND MOTOR TRADES.

TABLE I.—OUTPUT.

NOTE.—The figures of quantity in this Table are given to the nearest hundred in each case, and those of value to the nearest thousand. Amounts lower than fifty for quantity and five hundred for value are not shown.

	England and Wales.	Scotland.	Ireland.	United Kingdom.
Quantity.				
Motor Vehicles (other than Motor Cycles)	Number. *	Number. *	Number. —	Number. 8,800
Motor Chassis	*	*	—	1,500
TOTAL—Motor Vehicles and Chassis	9,800	500	—	10,300
Cycles (with or without Tyres)	602,700	10,500	2,100	615,300
Motor Cycles	3,700	—	—	3,700
Value.				
Motor Vehicles (other than Motor Cycles)	£ *	£ *	£ —	£ 2,948,000
Motor Chassis	*	*	—	637,000
TOTAL—Motor Vehicles and Chassis	3,390,000	195,000	—	3,585,000
Cycles (with or without Tyres)	3,343,000	40,000	13,000	3,396,000
Motor Cycles	137,000	—	—	137,000
Motor Parts and Accessories (including Lamps)	541,000	11,000	—	552,000
Cycle and Motor Cycle Parts and Accessories:—				
Lamps	72,000	—	—	72,000
Saddles	97,000	—	—	97,000
Other Parts and Accessories	1,670,000	6,000	—	1,676,000
TOTAL—Cycle and Motor Cycle Parts and Accessories	1,839,000	6,000	—	1,845,000
Iron and Steel Manufactures of all kinds	55,000	3,000	—	58,000
Engineering Work of all kinds	47,000	—	—	47,000
Rubber Manufactures	19,000	—	—	19,000
Other Products	14,000	1,000	—	15,000
Repairs	1,505,000	95,000	34,000	1,634,000
Work in Progress	253,000	39,000	—	292,000
TOTAL VALUE OF GOODS MADE AND WORK DONE.	11,143,000	390,000	47,000	11,580,000

* In order to avoid the possible disclosure of particulars relating to certain firms, figures can only be shown for the United Kingdom as a whole.

Cycle and Motor Trades—continued.

TABLE II.—COST OF MATERIALS USED AND AMOUNT PAID TO OTHER FIRMS FOR WORK GIVEN OUT TO THEM, SHOWN IN RELATION TO VALUE OF OUTPUT.

NOTE.—The figures in this Table are given to the nearest thousand in each case.

	England and Wales.	Scotland.	Ireland.	United Kingdom.
I.	£	£	£	£
Cost of Materials Used	5,221,000	238,000	21,000	5,480,000
Amount Paid to other Firms for Work Given Out to them. } Total	189,000	9,000	1,000	199,000
	5,410,000	247,000	22,000	5,679,000
II.				
Value of Output	11,143,000	390,000	47,000	11,580,000
III.				
Value of Output less Cost of Materials Used and Amount Paid to other Firms for Work Given Out to them. }	5,733,000	143,000	25,000	5,901,000

TABLE III.—PERSONS EMPLOYED.

AVERAGE NUMBERS AT WORK ON THE LAST WEDNESDAYS IN JANUARY, APRIL, JULY, AND OCTOBER.

NOTE.—These figures include (a) the average number of persons at work on the last Wednesdays in January, April, July, and October in establishments where power is used; and (b) the numbers "ordinarily" employed in establishments where no power is used.

	Males.			Females.			Males and Females.		
	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.
ENGLAND AND WALES :—									
Wage-earners ...	6,025	33,603	39,628	1,606	4,358	5,964	7,631	37,961	45,592
Salaried Persons ...	689	4,362	5,051	285	614	899	974	4,976	5,950
TOTAL	6,714	37,965	44,679	1,891	4,972	6,863	8,605	42,937	51,542
SCOTLAND :—									
Wage-earners ..	349	1,365	1,714	11	20	31	360	1,385	1,745
Salaried Persons ...	35	263	298	13	41	54	48	304	352
TOTAL	384	1,628	2,012	24	61	85	408	1,689	2,097
IRELAND :—									
Wage-earners ...	86	235	321	—	8	8	86	243	329
Salaried Persons ...	3	58	61	—	14	14	3	72	75
TOTAL	89	293	382	—	22	22	89	315	404
UNITED KINGDOM :—									
Wage-earners ...	6,460	35,203	41,663	1,617	4,386	6,003	8,077	39,589	47,666
Salaried Persons ...	727	4,683	5,410	298	669	967	1,025	5,352	6,377
TOTAL	7,187	39,886	47,073	1,915	5,055	6,970	9,102	44,941	54,043

Cycle and Motor Trades—continued.

TABLE IV.—CAPACITY OF ENGINES OWNED AND AMOUNT OF ELECTRICITY PURCHASED.

A.—CAPACITY OF ENGINES OWNED, COMPARED WITH GROSS VALUE OF OUTPUT AND NUMBER OF PERSONS EMPLOYED.

NOTE.—The Gross Value of Output in this Table is given to the nearest thousand pounds.

	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.
	ENGLAND AND WALES.			SCOTLAND.		
	£		Horse-Power.	£		Horse-Power.
Factories with their own Engines ...	10,242,000	45,128	14,702	364,000	1,796	583
Factories renting their Power ...	147,000	655	—	—	—	—
Workshops (not using Power) ...	754,000	5,759	—	26,000	301	—
TOTAL	11,143,000	51,542	14,702	390,000	2,097	583
	IRELAND.			UNITED KINGDOM.		
	£		Horse-Power.	£		Horse-Power.
Factories with their own Engines ...	34,000	245	106	10,640,000	47,169	15,391
Factories renting their Power ...	—	—	—	147,000	655	—
Workshops (not using Power) ...	13,000	159	—	793,000	6,219	—
TOTAL	47,000	404	106	11,580,000	54,043	15,391

B.—TYPE AND CAPACITY OF ENGINES AND CAPACITY OF DYNAMOS.

	England and Wales.	Scotland.	Ireland.	United Kingdom.
	Horse-Power.	Horse-Power.	Horse-Power.	Horse-Power.
Steam Engines, Reciprocating ...	3,346	31	23	3,400
Internal Combustion Engines (gas, oil, &c.) ...	11,338	536	83	11,957
Water Power	18	16	—	34
TOTAL	14,702	583	106	15,391
	Kilowatts.	Kilowatts.	Kilowatts.	Kilowatts.
Capacity of Dynamos driven by :—				
Steam Engines, Reciprocating ...	676	—	1	677
Other Power	1,543	6	10	1,559
TOTAL	2,219	6	11	2,236

C.—AMOUNT OF ELECTRICITY PURCHASED.

NOTE.—The figures in this Table are given to the nearest thousand in each case.

	England and Wales.	Scotland.	Ireland.	United Kingdom.
	Board of Trade Units.	Board of Trade Units.	Board of Trade Units.	Board of Trade Units.
Amount of Electricity Purchased ...	6,617,000	134,000	19,000	6,770,000

CUTLERY TRADE.

TABLE I.—OUTPUT.

NOTE.—The figures in this Table are given to the nearest thousand in each case.

	England and Wales and Ireland.*	Scotland.	United Kingdom.
Steel Cutlery (including Table Cutlery, Pocket Cutlery, Scissors, Razors, &c.) and Repairs.	£ 1,433,000	£ 2,000	£ 1,435,000
Parts of Cutlery (handles, &c.)	77,000	—	77,000
Electro-plated Goods of Britannia Metal, Pewter, German Silver, and similar Metals, and parts thereof.	177,000	—	177,000
Parts of Electro-plated Goods	3,000	—	3,000
Tools and Implements :—			
Files and Rasps	21,000	—	21,000
Edge Tools (including Joiners' Tools)	9,000	—	9,000
Other Sorts	38,000	—	38,000
TOTAL.—Tools and Implements	68,000	—	68,000
Other Iron and Steel Manufactures	24,000	—	24,000
TOTAL VALUE OF GOODS MADE AND REPAIRS ...	1,782,000	2,000	1,784,000
Amount Received for Work Done for the Trade on :—			
Cutlery	149,000	1,000	150,000
Electro-plated Goods	12,000	—	12,000
Tools	1,000	—	1,000
Other Work	8,000	—	8,000
TOTAL VALUE OF WORK DONE	170,000	1,000	171,000
TOTAL VALUE OF GOODS MADE AND WORK DONE	1,952,000	3,000	1,955,000

TABLE II.—COST OF MATERIALS USED AND AMOUNT PAID TO OTHER FIRMS FOR WORK GIVEN OUT TO THEM, SHOWN IN RELATION TO VALUE OF OUTPUT.

NOTE.—The figures in this Table are given to the nearest thousand in each case.

	England and Wales and Ireland.*	Scotland.	United Kingdom.
I.			
Cost of Materials Used	£ 734,000	£ 1,000	£ 735,000
Amount paid to Other Firms for Work Given Out to them	139,000	—	139,000
TOTAL	873,000	1,000	874,000
II.			
Value of Output :—			
Goods Made for Sale and Repairs	1,782,000	2,000	1,784,000
Work Done for the Trade	170,000	1,000	171,000
TOTAL	1,952,000	3,000	1,955,000
III.			
Value of Output, less Cost of Materials used and Amount Paid to Other Firms for Work Given out to them.	1,079,000	2,000	1,081,000

* The figures for England and Wales and for Ireland have been combined in order to avoid the possible disclosure of particulars relating to the few firms in Ireland.

Cutlery Trade—continued.

TABLE III.—PERSONS EMPLOYED.

AVERAGE NUMBERS AT WORK ON THE LAST WEDNESDAYS IN JANUARY, APRIL, JULY, AND OCTOBER.

NOTE.—These figures include (a) the average number of persons at work on the last Wednesdays in January, April, July, and October in establishments where power is used; and (b) the numbers "ordinarily" employed in establishments where no power is used.

	Males.			Females.			Males and Females.		
	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.
ENGLAND AND WALES AND IRELAND :—*									
Wage-earners	1,397	8,295	9,692	883	1,873	2,756	2,280	10,168	12,448
Salaried Persons	84	1,960	2,044	83	212	295	167	2,172	2,339
TOTAL	1,481	10,255	11,736	966	2,085	3,051	2,447	12,340	14,787
SCOTLAND :—									
Wage-earners	6	26	32	1	4	5	7	30	37
Salaried Persons	1	5	6	—	1	1	1	6	7
TOTAL	7	31	38	1	5	6	8	36	44
UNITED KINGDOM :—									
Wage-earners	1,403	8,321	9,724	884	1,877	2,761	2,287	10,198	12,485
Salaried Persons	85	1,965	2,050	83	213	296	168	2,178	2,346
TOTAL	1,488	10,286	11,774	967	2,090	3,057	2,455	12,376	14,831

TABLE IV.—CAPACITY OF ENGINES OWNED AND AMOUNT OF ELECTRICITY PURCHASED.

A.—CAPACITY OF ENGINES OWNED, COMPARED WITH GROSS VALUE OF OUTPUT AND NUMBER OF PERSONS EMPLOYED.

NOTE.—The Gross Value of Output in this Table is given to the nearest thousand pounds.

	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.
	ENGLAND AND WALES AND IRELAND.*			SCOTLAND.			UNITED KINGDOM.		
	£		Horse-Power.	£		Horse-Power.	£		Horse-Power.
Factories with their own Engines.	1,469,000	9,512	5,204	3,000	41	4	1,472,000	9,553	5,208
Factories renting part of their Power.	28,000	144	40	—	—	—	28,000	144	40
Factories renting all their Power.	161,000	1,086	—	†	3	—	161,000	1,089	—
Workshops (not using Power).	294,000	4,045	—	—	—	—	294,000	4,045	—
TOTAL	1,952,000	14,787	5,244	3,000	44	4	1,955,000	14,831	5,248

* The figures for England and Wales and for Ireland have been combined in order to avoid the possible disclosure of particulars relating to the few firms in Ireland.

† Under £500.

Cutlery Trade—continued.

TABLE IV.—CAPACITY OF ENGINES OWNED AND AMOUNT OF ELECTRICITY PURCHASED—continued.

B.—TYPE AND CAPACITY OF ENGINES AND CAPACITY OF DYNAMOS.

	England and Wales and Ireland.*	Scotland.	United Kingdom.
	Horse-Power.	Horse-Power.	Horse-Power.
Steam Engines, Reciprocating	3,315	—	3,315
Internal Combustion Engines (gas, oil, &c.)	1,814	4	1,818
Water Power	115	—	115
TOTAL...	5,244	4	5,248
	Kilowatts.	Kilowatts.	Kilowatts.
Capacity of Dynamos driven by :—			
Steam Engines, Reciprocating	534	—	534
Other Power	44	—	44
TOTAL...	578	—	578

C.—AMOUNT OF ELECTRICITY PURCHASED.

NOTE.—The figures in this Table are given to the nearest thousand in each case.

	England and Wales and Ireland.*	Scotland.	United Kingdom.
	Board of Trade Units.	Board of Trade Units.	Board of Trade Units.
Amount of Electricity Purchased	273,000	10,000	283,000

* The figures for England and Wales and for Ireland have been combined in order to avoid the possible disclosure of particulars relating to the few firms in Ireland.

TOOL AND IMPLEMENT TRADES.

TABLE I.—OUTPUT.

NOTE.—The figures in this Table are given to the nearest thousand in each case. Amounts lower than five hundred are not shown.

	England and Wales.	Scotland.	Ireland.	United Kingdom.
	£	£	£	£
Implements and Tools and Parts thereof (including Repairs) :—				
Agricultural (including Spades, Shovels, Hoes, Hayforks, Ploughs, Harrows, Pickaxes, &c.)	842,000	48,000	18,000	908,000
Files and Rasps	498,000	11,000	—	509,000
Saws and Machine Knives... ..	349,000	7,000	—	356,000
Edge Tools (including Joiners' Tools)	534,000	5,000	—	539,000
Engineers' Tools (including Milling Cutters, Stocks and Dies, Drills, Wrenches, Spanners, &c.)	400,000	2,000	—	402,000
Other Sorts	249,000	9,000	—	258,000
TOTAL—Implements and Tools	2,872,000	82,000	18,000	2,972,000
Machinery :—				
Machine Tools	141,000	—	—	141,000
Other Machinery and Accessories	77,000	—	—	77,000
TOTAL—Machinery	218,000	—	—	218,000
Crucible Steel	155,000	—	—	155,000
Steel Bars, Castings, Forgings, &c.	138,000	16,000	—	154,000
Other Iron and Steel Manufactures	78,000	7,000	—	85,000
Other Products	30,000	—	—	30,000
TOTAL VALUE OF GOODS MADE	3,491,000	105,000	18,000	3,614,000
Amount Received for Work Done for the Trade :—				
Agricultural Tools and Implements	2,000	—	—	2,000
Files and Rasps	69,000	1,000	—	70,000
Saws and Machine Knives... ..	1,000	—	—	1,000
Edge Tools	10,000	—	—	10,000
Engineers' Tools	2,000	—	—	2,000
Other Sorts of Tools	4,000	—	—	4,000
TOTAL VALUE OF WORK DONE	88,000	1,000	—	89,000
TOTAL VALUE OF GOODS MADE AND WORK DONE.	3,579,000	106,000	18,000	3,703,000

TABLE II.—COST OF MATERIALS USED AND AMOUNT PAID TO OTHER FIRMS FOR WORK GIVEN OUT TO THEM, SHOWN IN RELATION TO VALUE OF OUTPUT.

NOTE.—The figures in this Table are given to the nearest thousand in each case.

	England and Wales.	Scotland.	Ireland.	United Kingdom.
	£	£	£	£
I.				
Cost of Materials Used	1,471,000	60,000	8,000	1,539,000
Amount Paid to Other Firms for Work Given Out to them.	73,000	1,000	—	74,000
TOTAL	1,544,000	61,000	8,000	1,613,000
II.				
Value of Output :—				
Goods Made for Sale	3,491,000	105,000	18,000	3,614,000
Work Done for the Trade	88,000	1,000	—	89,000
TOTAL	3,579,000	106,000	18,000	3,703,000
III.				
Value of Output less Cost of Materials Used and Amount Paid to Other Firms for Work Given Out to them.	2,035,000	45,000	10,000	2,090,000

Tool and Implement Trades—continued.

TABLE III.—PERSONS EMPLOYED.

A.—AVERAGE NUMBER OF PERSONS (EXCEPT OUTWORKERS) AT WORK ON THE LAST WEDNESDAYS IN JANUARY, APRIL, JULY, AND OCTOBER.

NOTE.—These figures include (a) the average number of persons at work on the last Wednesdays in January, April, July, and October in establishments where power is used; and (b) the numbers "ordinarily" employed in establishments where no power is used.

	Males.			Females.			Males and Females.		
	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.
ENGLAND AND WALES:—									
Wage-earners ...	3,219	14,753	17,972	554	1,377	1,931	3,773	16,130	19,903
Salaried Persons ...	201	2,506	2,707	69	358	427	270	2,864	3,134
TOTAL ...	3,420	17,259	20,679	623	1,735	2,358	4,043	18,994	23,037
SCOTLAND:—									
Wage-earners ...	68	374	442	12	21	33	80	395	475
Salaried Persons ...	4	43	47	1	4	5	5	47	52
TOTAL ...	72	417	489	13	25	38	85	442	527
IRELAND:—									
Wage-earners ...	11	132	143	—	2	2	11	134	145
Salaried Persons ...	—	2	2	—	—	—	—	2	2
TOTAL ...	11	134	145	—	2	2	11	136	147
UNITED KINGDOM:—									
Wage-earners ...	3,298	15,259	18,557	566	1,400	1,966	3,864	16,659	20,523
Salaried Persons ...	205	2,551	2,756	70	362	432	275	2,913	3,188
TOTAL ...	3,503	17,810	21,313	636	1,762	2,398	4,139	19,572	23,711

B.—AVERAGE NUMBER OF OUTWORKERS ON 1ST FEBRUARY AND 1ST AUGUST, 1907.

	Males.	Females.	Males and Females.
ENGLAND AND WALES ...	125	48	173
SCOTLAND ...	—	—	—
IRELAND ...	—	—	—
TOTAL.—UNITED KINGDOM ...	125	48	173

TABLE IV.—CAPACITY OF ENGINES OWNED AND AMOUNT OF ELECTRICITY PURCHASED.

A.—CAPACITY OF ENGINES OWNED, COMPARED WITH GROSS VALUE OF OUTPUT AND NUMBER OF PERSONS EMPLOYED.

NOTE.—The Gross Value of Output in this Table is given to the nearest thousand pounds. Amounts lower than five hundred are not shown.

	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.
	ENGLAND AND WALES.			SCOTLAND.		
	£		Horse-Power.	£		Horse-Power.
Factories with their own Engines ...	3,288,000	19,159	17,786	100,000	475	1,183
Factories Renting their Power ...	50,000	408	—	—	4	—
Workshops (not using Power) ...	241,000	3,470	—	6,000	48	—
TOTAL ...	3,579,000	23,037	17,786	106,000	527	1,183
	IRELAND.			UNITED KINGDOM.		
	£		Horse-Power.	£		Horse-Power.
Factories with their own Engines ...	17,000	137	237	3,405,000	19,771	19,206
Factories Renting their Power ...	1,000	8	—	51,000	420	—
Workshops (not using Power) ...	—	2	—	247,000	3,520	—
TOTAL ...	18,000	147	237	3,703,000	23,711	19,206

Tool and Implement Trades—continued.

TABLE IV.—CAPACITY OF ENGINES OWNED AND AMOUNT OF ELECTRICITY PURCHASED—continued.

B.—TYPE AND CAPACITY OF ENGINES AND CAPACITY OF DYNAMOS.

	England and Wales.	Scotland.	Ireland.	United Kingdom.
	Horse-Power.	Horse-Power.	Horse-Power.	Horse-Power.
Steam Engines, Reciprocating ...	10,190	818	74	11,082
Steam Turbines ...	6	—	—	6
Internal Combustion Engines (gas, oil, &c.) ...	7,070	226	40	7,336
Water Power ...	520	139	123	782
TOTAL ...	17,786	1,183	237	19,206
	Kilowatts.	Kilowatts.	Kilowatts.	Kilowatts.
Capacity of Dynamos driven by:—				
Steam Engines, Reciprocating ...	183	195	—	378
Other Power ...	156	—	—	156
TOTAL ...	339	195	—	534

C.—AMOUNT OF ELECTRICITY PURCHASED.

NOTE.—The figures in this Table are given to the nearest thousand in each case.

	England and Wales.	Scotland.	Ireland.	United Kingdom.
	Board of Trade Units.	Board of Trade Units.	Board of Trade Units.	Board of Trade Units.
Amount of Electricity Purchased ...	2,179,000	6,000	20,000	2,205,000

BLACKSMITHING TRADE.

TABLE I.—OUTPUT.

NOTE.—The figures in this Table are given to the nearest thousand in each case. Amounts lower than five hundred are not shown.

	England and Wales.	Scotland.	Ireland.	United Kingdom.
Horse-shoes	£ 87,000	£ 5,000	—	£ 92,000
Fences and Gates	268,000	97,000	16,000	381,000
Builders' Ironmongery	*	*	*	106,000
Ornamental Ironwork	67,000	5,000	—	72,000
Structural Ironwork	54,000	1,000	30,000	85,000
Other Ironwork	82,000	11,000	—	93,000
Agricultural Implements and Tools	*	*	*	5,000
Other Products	3,000	—	4,000	7,000
General and Jobbing Work	1,264,000	354,000	7,000	1,625,000
TOTAL VALUE OF GOODS MADE AND WORK DONE.	1,927,000	481,000	58,000	2,466,000

TABLE II.—COST OF MATERIALS USED, SHOWN IN RELATION TO VALUE OF OUTPUT.

NOTE.—The figures in this Table are given to the nearest thousand in each case.

	England and Wales.	Scotland.	Ireland.	United Kingdom.
I. Cost of Materials Used	£ 748,000	£ 200,000	£ 40,000	£ 988,000
II. Value of Output	1,927,000	481,000	58,000	2,466,000
III. Value of Output less Cost of Materials Used	1,179,000	281,000	18,000	1,478,000

TABLE III.—PERSONS EMPLOYED.

AVERAGE NUMBERS AT WORK ON THE LAST WEDNESDAYS IN JANUARY, APRIL, JULY AND OCTOBER.

NOTE.—These figures include (a) the average number of persons at work on the last Wednesdays in January, April, July, and October in establishments where power is used; and (b) the numbers "ordinarily" employed in establishments where no power is used.

	Males.			Females.			Males and Females.		
	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.
ENGLAND AND WALES:—									
Wage-earners	2,368	11,311	13,679	14	148	162	2,382	11,459	13,841
Salaried Persons	60	2,792	2,852	6	34	40	66	2,826	2,892
TOTAL	2,428	14,103	16,531	20	182	202	2,448	14,285	16,733
SCOTLAND:—									
Wage-earners	572	2,579	3,151	4	17	21	576	2,596	3,172
Salaried Persons	8	733	741	—	17	17	8	750	758
TOTAL	580	3,312	3,892	4	34	38	584	3,346	3,930
IRELAND:—									
Wage-earners	13	165	178	—	—	—	13	165	178
Salaried Persons	4	35	39	—	9	9	4	44	48
TOTAL	17	200	217	—	9	9	17	209	226
UNITED KINGDOM:—									
Wage-earners	2,953	14,055	17,008	18	165	183	2,971	14,220	17,191
Salaried Persons	72	3,560	3,632	6	60	66	78	3,620	3,698
TOTAL	3,025	17,615	20,640	24	225	249	3,049	17,840	20,889

* In order to avoid the possible disclosure of particulars relating to certain firms, figures can only be shown for the United Kingdom as a whole.

Blacksmithing Trade—continued.

TABLE IV.—CAPACITY OF ENGINES OWNED AND AMOUNT OF ELECTRICITY PURCHASED.

A.—CAPACITY OF ENGINES OWNED, COMPARED WITH GROSS VALUE OF OUTPUT AND NUMBER OF PERSONS EMPLOYED.

NOTE.—The Gross Value of Output in this Table is given to the nearest thousand pounds.

	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.
ENGLAND AND WALES.						
	£		Horse-Power.	£		Horse-Power.
Factories with their own Engines	839,000	5,005	3,129	197,000	1,105	908
Factories renting their Power	2,000	18	—	1,000	9	—
Workshops (not using Power)	1,086,000	11,710	—	283,000	2,816	—
TOTAL	1,927,000	16,733	3,129	481,000	3,930	908
SCOTLAND.						
	£		Horse-Power.	£		Horse-Power.
Factories with their own Engines	54,000	170	76	1,090,000	6,280	4,113
Factories renting their Power	—	—	—	3,000	27	—
Workshops (not using Power)	4,000	56	—	1,373,000	14,582	—
TOTAL	58,000	226	76	2,466,000	20,889	4,113
IRELAND.						
	£		Horse-Power.	£		Horse-Power.
Factories with their own Engines	—	—	—	—	—	—
Factories renting their Power	—	—	—	—	—	—
Workshops (not using Power)	—	—	—	—	—	—
TOTAL	—	—	—	—	—	—
UNITED KINGDOM.						
	£		Horse-Power.	£		Horse-Power.
Factories with their own Engines	839,000	5,005	3,129	1,090,000	6,280	4,113
Factories renting their Power	2,000	18	—	3,000	27	—
Workshops (not using Power)	1,086,000	11,710	—	1,373,000	14,582	—
TOTAL	1,927,000	16,733	3,129	2,466,000	20,889	4,113

B.—TYPE AND CAPACITY OF ENGINES AND CAPACITY OF DYNAMOS.

	England and Wales.	Scotland.	Ireland.	United Kingdom.
	Horse-Power.	Horse-Power.	Horse-Power.	Horse-Power.
Steam Engines, Reciprocating	1,168	428	30	1,626
Internal Combustion Engines (gas, oil, &c.)	1,922	431	46	2,399
Water Power	39	49	—	88
TOTAL	3,129	908	76	4,113
Capacity of Dynamos driven by:—				
Steam Engines, Reciprocating	Kilowatts. 3	Kilowatts. 54	Kilowatts. —	Kilowatts. 57
Other Power	3	—	—	3
TOTAL	6	54	—	60

C.—AMOUNT OF ELECTRICITY PURCHASED.

NOTE.—The figures in this Table are given to the nearest thousand in each case.

	England and Wales.	Scotland.	Ireland.	United Kingdom.
Amount of Electricity Purchased	Board of Trade Units. 156,000	Board of Trade Units. 29,000	Board of Trade Units. 1,000	Board of Trade Units. 186,000

NEEDLE, PIN, FISH-HOOK, AND BUTTON TRADES.

The Factories and Workshops covered by the following Tables are situated in England and Wales, with the exception of one establishment in Scotland.

TABLE I.—OUTPUT.

NOTE.—The figures in this Table are given to the nearest thousand in each case.

	England and Wales.
	£
Finished Needles and Steel Pins (including Crochet Hooks, Knitting Pins, &c., of Steel)	335,000
Hair Pins (including Hair Curlers and Wavers)	90,000
Pins, Other Sorts	227,000
Fish-hooks and Fishing Tackle	131,000
Hooks and Eyes and Buckles	136,000
Buttons and Studs :—	
Wholly or partly of Metal (including buttons covered with linen, cloth, &c.)...	296,000
Not of Metal	191,000
TOTAL—Buttons and Studs	487,000
Eyelets and Fasteners	55,000
Metal Smallwares	29,000
Military Accoutrements and Ornaments	27,000
Fancy Articles	27,000
Other Products	17,000
TOTAL VALUE OF GOODS MADE FOR SALE	1,561,000
Amount Received for Work Done for the Trade	38,000
TOTAL VALUE OF GOODS MADE AND WORK DONE	1,599,000

TABLE II.—COST OF MATERIALS USED AND AMOUNT PAID TO OTHER FIRMS FOR WORK GIVEN OUT TO THEM, SHOWN IN RELATION TO VALUE OF OUTPUT.

NOTE.—The figures in this Table are given to the nearest thousand in each case.

	England and Wales.
	£
I.	
Cost of Materials Used	728,000
Amount Paid to Other Firms for Work Given Out to them	25,000
TOTAL	753,000
II.	
Value of Output :—	
Goods Made for Sale	1,561,000
Work Done for the Trade	38,000
TOTAL	1,599,000
III.	
Value of Output less Cost of Materials Used and Amount Paid to Other Firms for Work Given Out to them.	846,000

Needle, Pin, Fish-Hook, and Button Trades—continued.

TABLE III.—PERSONS EMPLOYED.

A.—AVERAGE NUMBER OF PERSONS (EXCEPT OUTWORKERS) AT WORK ON THE LAST WEDNESDAYS IN JANUARY, APRIL, JULY, AND OCTOBER.

NOTE.—These figures include (a) the average number of persons at work on the last Wednesdays in January, April, July, and October in establishments where power is used; and (b) the numbers "ordinarily" employed in establishments where no power is used.

	Males.			Females.			Males and Females.		
	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.
ENGLAND AND WALES :—									
Wage-earners	646	3,222	3,868	2,313	6,032	8,345	2,959	9,254	12,213
Salaried Persons	36	616	652	91	296	387	127	912	1,039
TOTAL	682	3,838	4,520	2,404	6,328	8,732	3,086	10,166	13,252

B.—AVERAGE NUMBER OF OUTWORKERS ON 1ST FEBRUARY AND 1ST AUGUST, 1907.

	Males.	Females.	Males and Females.
ENGLAND AND WALES ...	283	1,365	1,648

TABLE IV.—CAPACITY OF ENGINES OWNED AND AMOUNT OF ELECTRICITY PURCHASED.

A.—CAPACITY OF ENGINES OWNED, COMPARED WITH GROSS VALUE OF OUTPUT AND NUMBER OF PERSONS EMPLOYED.

NOTE.—The Gross Value of Output in this Table is given to the nearest thousand pounds.

	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.
	ENGLAND AND WALES.		
	£		Horse-Power.
Factories with their own Engines	1,499,000	12,134	3,255
Factories renting their Power	24,000	190	—
Workshops (not using Power)	76,000	928	—
TOTAL	1,599,000	13,252	3,255

Needle, Pin, Fish-Hook, and Button Trades—*continued.*TABLE IV.—CAPACITY OF ENGINES OWNED AND AMOUNT OF ELECTRICITY PURCHASED—*continued.*

B.—TYPE AND CAPACITY OF ENGINES AND CAPACITY OF DYNAMOS.

		England and Wales.
		Horse-Power.
Steam Engines, Reciprocating	...	1,812
Internal Combustion Engines (gas, oil, &c.)	...	1,268
Water Power	...	175
TOTAL	...	3,255
		Kilowatts.
Capacity of Dynamos driven by :—		
Steam Engines, Reciprocating	...	167
Other Power	...	33
TOTAL	...	200

C.—AMOUNT OF ELECTRICITY PURCHASED.

NOTE.—The figure in this Table is given to the nearest thousand.

		England and Wales.
		Board of Trade Units.
Amount of Electricity Purchased	...	221,000

LOCK AND SAFE TRADES.

TABLE I.—OUTPUT.

NOTE.—The figures in this Table are given to the nearest thousand in each case.

		England and Wales.†	Scotland.	United Kingdom.
		£	£	£
Locks, Latches, and Keys	...	*	*	586,000
Safes	...	*	*	319,000
Hinges, Hooks, and Brackets	...	*	*	16,000
Other Iron and Steel Manufactures	...	52,000	—	52,000
Brass Manufactures	...	16,000	—	16,000
Other Products	...	3,000	—	3,000
TOTAL VALUE OF GOODS MADE FOR SALE	...	986,000†	6,000	992,000
Amount Received for Work Done for the Trade (Key filing, &c.)	...	18,000†	2,000	20,000
TOTAL VALUE OF GOODS MADE AND WORK DONE	...	1,004,000†	8,000	1,012,000

TABLE II.—COST OF MATERIALS USED AND AMOUNT PAID TO OTHER FIRMS FOR WORK GIVEN OUT TO THEM, SHOWN IN RELATION TO VALUE OF OUTPUT.

NOTE.—The figures in this Table are given to the nearest thousand in each case.

		England and Wales.†	Scotland.	United Kingdom.
		£	£	£
I.				
Cost of Materials Used	...	353,000	3,000	356,000
Amount Paid to Other Firms for Work Given Out to them	...	10,000	—	10,000
TOTAL	...	363,000	3,000	366,000
II.				
Value of Output :—				
Goods Made for Sale	...	986,000	6,000	992,000
Work Done for the Trade	...	18,000	2,000	20,000
TOTAL	...	1,004,000	8,000	1,012,000
III.				
Value of Output less Cost of Materials Used and Amount Paid to Other Firms for Work Given Out to them.	...	641,000	5,000	646,000

* In order to avoid the possible disclosure of particulars relating to certain firms, figures can only be shown for the United Kingdom as a whole.

† Including particulars in respect of one establishment in Ireland.

Lock and Safe Trades—continued.

TABLE III.—PERSONS EMPLOYED.

A.—AVERAGE NUMBER OF PERSONS (EXCEPT OUTWORKERS) AT WORK ON THE LAST WEDNESDAYS IN JANUARY, APRIL, JULY, AND OCTOBER.

NOTE.—These figures include (a) the average number of persons at work on the last Wednesdays in January, April, July, and October in establishments where power is used; and (b) the numbers "ordinarily" employed in establishments where no power is used.

	Males.			Females.			Males and Females.		
	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.
ENGLAND & WALES* :—									
Wage-earners ...	844	5,121	5,965	403	852	1,255	1,247	5,973	7,220
Salaried Persons ...	48	485	533	13	76	89	61	561	622
TOTAL ...	892	5,606	6,498	416	928	1,344	1,308	6,534	7,842
SCOTLAND :—									
Wage-earners ...	15	51	66	2	2	4	17	53	70
Salaried Persons ...	1	8	9	1	—	1	2	8	10
TOTAL ...	16	59	75	3	2	5	19	61	80
UNITED KINGDOM :—									
Wage-earners ...	859	5,172	6,031	405	854	1,259	1,264	6,026	7,290
Salaried Persons ...	49	493	542	14	76	90	63	569	632
TOTAL ...	908	5,665	6,573	419	930	1,349	1,327	6,595	7,922

B.—AVERAGE NUMBER OF OUTWORKERS ON 1ST FEBRUARY AND 1ST AUGUST, 1907.

	Males.	Females.	Males and Females.
ENGLAND AND WALES ...	287	2	289
SCOTLAND ...	—	—	—
UNITED KINGDOM ...	287	2	289

TABLE IV.—CAPACITY OF ENGINES OWNED AND AMOUNT OF ELECTRICITY PURCHASED.

A.—CAPACITY OF ENGINES OWNED, COMPARED WITH GROSS VALUE OF OUTPUT AND NUMBER OF PERSONS EMPLOYED.

NOTE.—The Gross Value of Output in this Table is given to the nearest thousand pounds.

	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.
	£		Horse-Power.	£		Horse-Power.	£		Horse-Power.
ENGLAND AND WALES.*									
Factories with their own Engines.	919,000	6,869	2,330	6,000	52	20	925,000	6,921	2,350
Factories Renting their Power.	9,000	60	—	—	—	—	9,000	60	—
Workshops (not using Power).	76,000	913	—	2,000	28	—	78,000	941	—
TOTAL ...	1,004,000	7,842	2,330	8,000	80	20	1,012,000	7,922	2,350

* Including particulars in respect of one establishment in Ireland.

Lock and Safe Trades—continued.

TABLE IV.—CAPACITY OF ENGINES OWNED AND AMOUNT OF ELECTRICITY PURCHASED—continued.

B.—TYPE AND CAPACITY OF ENGINES AND CAPACITY OF DYNAMOS.

	England and Wales.	Scotland.	United Kingdom.
Steam Engines, Reciprocating ...	907	—	907
Internal Combustion Engines (gas, oil, &c.) ...	1,354	20	1,374
Water Power ...	69	—	69
TOTAL ...	2,330	20	2,350
Capacity of Dynamos driven by :—	Kilowatts.	Kilowatts.	Kilowatts.
Steam Engines, Reciprocating ...	379	—	379
Other Power ...	21	—	21
TOTAL ...	400	—	400

C.—AMOUNT OF ELECTRICITY PURCHASED.

NOTE.—The figures in this Table are given to the nearest thousand in each case.

	England and Wales.	Scotland.	United Kingdom.
Amount of Electricity Purchased ...	Board of Trade Units. 312,000	Board of Trade Units. 8,000	Board of Trade Units. 320,000

SMALL ARMS TRADES.

TABLE I.—OUTPUT.

NOTE.—The figures of quantity in this Table are given to the nearest hundred in each case, and those of value to the nearest thousand. Amounts lower than fifty in the case of quantity and five hundred in the case of value are not shown.

	England and Wales.*	Scotland.	United Kingdom.
	Quantity.		
	Number.	Number.	Number.
Sporting Guns, Carbines, and Rifles	53,700	500	54,200
Military Rifles and Carbines	65,500	—	65,500
Tubes to be made into barrels of Firearms	16,200	—	16,200
Value.			
	£	£	£
Sporting Guns, Carbines, and Rifles	276,000	9,000	285,000
Military Rifles and Carbines	239,000	—	239,000
Miniature and Cadet Rifles and Carbines; Air-guns and Rifles of all sorts; Revolvers and Pistols; Swords, Cut-lasses, Bayonets, and Arms of other sorts, not Firearms.	75,000	—	75,000
Tubes to be made into barrels of Firearms	9,000	—	9,000
Locks, Actions, and other parts of Firearms	38,000	—	38,000
Gun Implements	12,000	—	12,000
Ammunition, including Cartridge Filling	†	†	24,000
Cycle and Motor Parts and Accessories	9,000	—	9,000
Other Iron and Steel Manufactures	5,000	—	5,000
Other Products	—	1,000	1,000
Repairs	†	†	27,000
TOTAL VALUE OF GOODS MADE AND REPAIRS ...	708,000	16,000	724,000
Amount Received for Work Done for the Trade (Filing, Engraving, Finishing, &c.)	14,000	—	14,000
TOTAL VALUE OF GOODS MADE AND WORK DONE	722,000	16,000	738,000

TABLE II.—COST OF MATERIALS USED AND AMOUNT PAID TO OTHER FIRMS FOR WORK GIVEN OUT TO THEM, SHOWN IN RELATION TO VALUE OF OUTPUT.

NOTE.—The figures in this Table are given to the nearest thousand in each case. Amounts lower than five hundred are not shown.

	England and Wales.*	Scotland.	United Kingdom.
	I.		
	£	£	£
Cost of Materials Used	170,000	6,000	176,000
Amount Paid to Other Firms for Work Given Out to them	23,000	1,000	24,000
TOTAL	193,000	7,000	200,000
II.			
Value of Output :—			
Goods Made for Sale (including Repairs)	708,000	16,000	724,000
Work Done for the Trade	14,000	—	14,000
TOTAL	722,000	16,000	738,000
III.			
Value of Output, less Cost of Materials Used and Amount Paid to Other Firms for Work Given Out to them.	529,000	9,000	538,000

* Including particulars in respect of one establishment in Ireland.

† In order to avoid the possible disclosure of particulars relating to certain firms, figures can only be shown for the United Kingdom as a whole.

Small Arms Trades—continued.

TABLE III.—PERSONS EMPLOYED.

AVERAGE NUMBERS AT WORK ON THE LAST WEDNESDAYS IN JANUARY, APRIL, JULY, AND OCTOBER.

NOTE.—These figures include (a) the average number of persons at work on the last Wednesdays in January, April, July, and October in establishments where power is used; and (b) the numbers "ordinarily" employed in establishments where no power is used.

	Males.			Females.			Males and Females.		
	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.
ENGLAND & WALES* :—									
Wage-earners... ..	409	3,804	4,213	24	111	135	433	3,915	4,348
Salaried Persons	27	329	356	7	32	39	34	361	395
TOTAL	436	4,133	4,569	31	143	174	467	4,276	4,743
SCOTLAND :—									
Wage-earners... ..	16	77	93	—	3	3	16	80	96
Salaried Persons	—	13	13	—	3	3	—	16	16
TOTAL	16	90	106	—	6	6	16	96	112
UNITED KINGDOM :—									
Wage-earners... ..	425	3,881	4,306	24	114	138	449	3,995	4,444
Salaried Persons	27	342	369	7	35	42	34	377	411
TOTAL	452	4,223	4,675	31	149	180	483	4,372	4,855

TABLE IV.—CAPACITY OF ENGINES OWNED AND AMOUNT OF ELECTRICITY PURCHASED.

A.—CAPACITY OF ENGINES OWNED, COMPARED WITH GROSS VALUE OF OUTPUT AND NUMBER OF PERSONS EMPLOYED.

NOTE.—The Gross Value of Output in this Table is given to the nearest thousand pounds.

	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.
	ENGLAND AND WALES.*			SCOTLAND.			UNITED KINGDOM.		
	£		Horse-Power.	£		Horse-Power.	£		Horse-Power.
Factories with their own Engines.	616,000	3,958	2,603	12,000	82	16	628,000	4,040	2,619
Factories renting their Power.	19,000	137	—	—	—	—	19,000	137	—
Workshops (not using Power).	87,000	648	—	4,000	30	—	91,000	678	—
TOTAL	722,000	4,743	2,603	16,000	112	16	738,000	4,855	2,619

* Including particulars in respect of one establishment in Ireland.

Small Arms Trades—*continued.*TABLE IV.—CAPACITY OF ENGINES OWNED AND AMOUNT OF ELECTRICITY PURCHASED—*continued.*

B.—TYPE AND CAPACITY OF ENGINES AND CAPACITY OF DYNAMOS.

	England and Wales.	Scotland.	United Kingdom.
Steam Engines, Reciprocating	Horse-Power. 745	Horse-Power. —	Horse-Power. 745
Internal Combustion Engines (gas, oil, &c.)	1,858	16	1,874
TOTAL...	2,603	16	2,619
Capacity of Dynamos driven by :—	Kilowatts.	Kilowatts.	Kilowatts.
Steam Engines, Reciprocating	100	—	100
Other Power	881	—	881
TOTAL...	981	—	981

C.—AMOUNT OF ELECTRICITY PURCHASED.

NOTE.—The figures in this Table are given to the nearest thousand in each case.

	England and Wales.	Scotland.	United Kingdom.
Amount of Electricity Purchased	Board of Trade Units. 33,000	Board of Trade Units. 3,000	Board of Trade Units. 36,000

HEATING, LIGHTING, VENTILATING, AND SANITARY ENGINEERING TRADES.

TABLE I.—OUTPUT.

NOTE.—The figures in this Table are given to the nearest thousand in each case. Amounts lower than five hundred are not shown.

	England and Wales.*	Scotland.	United Kingdom.
Manufacture and Installation of :—	£	£	£
Heating Apparatus	531,000	27,000	558,000
Gas and Electric Light Appliances	†	†	692,000
Ventilating Appliances and Apparatus	189,000	10,000	199,000
Sanitary Appliances... ..	†	†	388,000
Water Appliances	†	†	174,000
Grates, Ranges, Stoves, and Hearth Furniture	295,000	3,000	298,000
Gas Meters	77,000	—	77,000
Heating, Ventilating, and other Apparatus and Appliances, not separately distinguished.	125,000	—	125,000
TOTAL—Apparatus and Appliances	2,273,000	238,000	2,511,000
Machinery and Engineering	109,000	—	109,000
Hardware, Hollow-ware, &c.	49,000	—	49,000
Other Iron and Steel Manufactures	29,000	—	29,000
Manufactures of Other Metals	19,000	—	19,000
Other Products	68,000	6,000	74,000
Repair and Jobbing Work for Customers	118,000	7,000	125,000
TOTAL VALUE	2,665,000	251,000	2,916,000

TABLE II.—COST OF MATERIALS USED AND AMOUNT PAID TO OTHER FIRMS FOR WORK GIVEN OUT TO THEM, SHOWN IN RELATION TO VALUE OF OUTPUT.

NOTE.—The figures in this Table are given to the nearest thousand in each case.

	England and Wales.*	Scotland.	United Kingdom.
I.	£	£	£
Cost of Materials Used	1,217,000	89,000	1,306,000
Amount Paid to Other Firms for Work Given Out to them	22,000	21,000	43,000
TOTAL	1,239,000	110,000	1,349,000
II.			
Value of Output	2,665,000	251,000	2,916,000
III.			
Value of Output less Cost of Materials Used and Amount Paid to Other Firms for Work Given Out to them.	1,426,000	141,000	1,567,000

* Including particulars in respect of one establishment in Ireland.

† In order to avoid the possible disclosure of particulars relating to certain firms, figures can only be shown for the United Kingdom as a whole.

Heating, Lighting, Ventilating, and Sanitary Engineering
Trades—continued.

TABLE III.—PERSONS EMPLOYED.

AVERAGE NUMBERS AT WORK ON THE LAST WEDNESDAYS IN JANUARY, APRIL,
JULY, AND OCTOBER.

NOTE.—These figures include (a) the average number of persons at work on the last Wednesdays in January, April, July, and October in establishments where power is used; and (b) the numbers "ordinarily" employed in establishments where no power is used.

	Males.			Females.			Males and Females.		
	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.
ENGLAND AND WALES* :—									
Wage-earners ...	1,106	8,198	9,304	461	1,847	2,308	1,567	10,045	11,612
Salaried Persons ...	136	1,295	1,431	27	148	175	163	1,443	1,606
TOTAL ...	1,242	9,493	10,735	488	1,995	2,483	1,730	11,488	13,218
SCOTLAND :—									
Wage-earners ...	109	875	984	5	13	18	114	888	1,002
Salaried Persons ...	11	74	85	7	10	17	18	84	102
TOTAL ...	120	949	1,069	12	23	35	132	972	1,104
UNITED KINGDOM :—									
Wage-earners ...	1,215	9,073	10,288	466	1,860	2,326	1,681	10,933	12,614
Salaried Persons ...	147	1,369	1,516	34	158	192	181	1,527	1,708
TOTAL ...	1,362	10,442	11,804	500	2,018	2,518	1,862	12,460	14,322

TABLE IV.—CAPACITY OF ENGINES OWNED AND AMOUNT OF ELECTRICITY PURCHASED.

A.—CAPACITY OF ENGINES OWNED, COMPARED WITH GROSS VALUE OF OUTPUT AND NUMBER OF PERSONS EMPLOYED.

NOTE.—The Gross Value of Output in this Table is given to the nearest thousand pounds.

	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.
	£		Horse-Power.	£		Horse-Power.	£		Horse-Power.
	ENGLAND AND WALES.*			SCOTLAND.			UNITED KINGDOM.		
Factories with their own Engines.	2,415,000	12,134	2,982	237,000	1,046	515	2,652,000	13,180	3,497
Factories renting their Power.	76,000	379	—	—	—	—	76,000	379	—
Workshops (not using Power).	174,000	705	—	14,000	58	—	188,000	763	—
TOTAL ...	2,665,000	13,218	2,982	251,000	1,104	515	2,916,000	14,322	3,497

* Including particulars in respect of one establishment in Ireland.

Heating, Lighting, Ventilating, and Sanitary Engineering
Trades—continued.

TABLE IV.—CAPACITY OF ENGINES OWNED AND AMOUNT OF ELECTRICITY PURCHASED—continued.

B.—TYPE AND CAPACITY OF ENGINES AND CAPACITY OF DYNAMOS.

	England and Wales.*	Scotland.	United Kingdom.
	Horse-Power.	Horse-Power.	Horse-Power.
Steam Engines, Reciprocating ...	1,150	302	1,452
Internal Combustion Engines (gas, oil, &c.) ...	1,832	213	2,045
TOTAL ...	2,982	515	3,497
	Kilowatts.	Kilowatts.	Kilowatts.
Capacity of Dynamos driven by :—			
Steam Engines, Reciprocating ...	200	175	375
Other Power ...	59	115	174
TOTAL ...	259	290	549

C.—AMOUNT OF ELECTRICITY PURCHASED.

NOTE.—The figures in this Table are given to the nearest thousand in each case.

	England and Wales.*	Scotland.	United Kingdom.
	Board of Trade Units.	Board of Trade Units.	Board of Trade Units.
Amount of Electricity Purchased ...	850,000	1,000	851,000

* Including particulars in respect of one establishment in Ireland.

RAILWAY CARRIAGE AND WAGON TRADES.

TABLE I.—OUTPUT.

NOTE.—The figures in this Table are given to the nearest thousand in each case. Amounts lower than five hundred are not shown.

	England and Wales.	Scotland.	Great Britain.
	£	£	£
Railway Carriages for Passengers, and parts thereof ...	*	*	1,541,000
Railway Wagons, Trucks, &c., and parts thereof, for Ballast, Minerals, or Merchandise :—			
With Timber Framing	*	*	1,542,000
With Steel Under-frames and Timber Bodies... ..	*	*	1,200,000
Entirely of Steel and Iron... ..	*	*	2,392,000
Not separately distinguished	6,000	—	6,000
TOTAL—Railway Wagons, Trucks, &c.	4,483,000	657,000	5,140,000
Parts and Accessories of Railway Carriages and Wagons, returned as such.	*	*	642,000
Railway Wheels and Axles complete (other than those included with Carriages, Wagons, &c.).	*	*	745,000
Tramcars, and parts thereof	*	*	459,000
Parts of Tramcars, returned as such	109,000	4,000	113,000
Colliery Wagons, Tubs, &c., of Steel or Timber	120,000	3,000	123,000
Vehicles for Goods, horse-drawn	28,000	—	28,000
Machinery and Accessories	133,000	2,000	135,000
Iron and Steel Manufactures and Structural Work	120,000	88,000	208,000
Other Products	12,000	—	12,000
TOTAL VALUE OF GOODS MADE	8,005,000	1,141,000	9,146,000
Repair Work (including Repairing Contracts)	665,000	39,000	704,000
TOTAL VALUE OF GOODS MADE AND WORK DONE	8,670,000	1,180,000	9,850,000

TABLE II.—COST OF MATERIALS USED AND AMOUNT PAID TO OTHER FIRMS FOR WORK GIVEN OUT TO THEM, SHOWN IN RELATION TO VALUE OF OUTPUT.

NOTE.—The figures in this Table are given to the nearest thousand in each case.

	England and Wales.	Scotland.	Great Britain.
	£	£	£
I.			
Cost of Materials Used	5,531,000	743,000	6,274,000
Amount Paid to Other Firms for Work Given Out to them	13,000	1,000	14,000
TOTAL	5,544,000	744,000	6,288,000
II.			
Value of Output :—			
Goods Made for Sale	8,005,000	1,141,000	9,146,000
Repair Work... ..	665,000	39,000	704,000
TOTAL	8,670,000	1,180,000	9,850,000
III.			
Value of Output less Cost of Materials Used and Amount Paid to Other Firms for Work Given Out to them.	3,126,000	436,000	3,562,000

* In order to avoid the possible disclosure of particulars relating to certain firms, figures can only be shown for Great Britain as a whole.

Railway Carriage and Wagon Trades—continued.

TABLE III.—PERSONS EMPLOYED.

AVERAGE NUMBERS AT WORK ON THE LAST WEDNESDAYS IN JANUARY, APRIL, JULY, AND OCTOBER.

	Males.			Females.			Males and Females.		
	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.
ENGLAND AND WALES :—									
Wage-earners	2,841	21,010	23,851	61	87	148	2,902	21,097	23,999
Salaried Persons	237	1,204	1,441	14	52	66	251	1,256	1,507
TOTAL	3,078	22,214	25,292	75	139	214	3,153	22,353	25,506
SCOTLAND :—									
Wage-earners	322	2,766	3,088	1	17	18	323	2,783	3,106
Salaried Persons	38	188	226	—	19	19	38	207	245
TOTAL	360	2,954	3,314	1	36	37	361	2,990	3,351
GREAT BRITAIN :—									
Wage-earners	3,163	23,776	26,939	62	104	166	3,225	23,880	27,105
Salaried Persons	275	1,392	1,667	14	71	85	289	1,463	1,752
TOTAL	3,438	25,168	28,606	76	175	251	3,514	25,343	28,857

TABLE IV.—CAPACITY OF ENGINES OWNED AND AMOUNT OF ELECTRICITY PURCHASED.

A.—CAPACITY OF ENGINES OWNED, COMPARED WITH GROSS VALUE OF OUTPUT AND NUMBER OF PERSONS EMPLOYED.

NOTE.—The Gross Value of Output in this Table is given to the nearest thousand pounds.

	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.
	ENGLAND AND WALES.			SCOTLAND.			GREAT BRITAIN.		
	£		Horse-Power.	£		Horse-Power.	£		Horse-Power.
Factories with their own Engines.	8,656,000	25,422	27,713	1,180,000	3,351	2,694	9,836,000	28,773	30,407
Workshops (not using Power).	14,000	84	—	—	—	—	14,000	84	—
TOTAL	8,670,000	25,506	27,713	1,180,000	3,351	2,694	9,850,000	28,857	30,407

Railway Carriage and Wagon Trades—continued.

TABLE IV.—CAPACITY OF ENGINES OWNED AND AMOUNT OF ELECTRICITY PURCHASED—continued.

B.—TYPE AND CAPACITY OF ENGINES AND CAPACITY OF DYNAMOS.

	England and Wales.	Scotland.	Great Britain.
	Horse-Power.	Horse-Power.	Horse-Power.
Steam Engines, Reciprocating	25,462	2,694	28,156
Steam Turbines	718	—	718
Internal Combustion Engines (gas, oil, &c.)	1,353	—	1,353
Other Power	180	—	180
TOTAL	27,713	2,694	30,407
	Kilowatts.	Kilowatts.	Kilowatts.
Capacity of Dynamos driven by :—			
Steam Engines, Reciprocating	6,897	605	7,502
Steam Turbines	368	—	368
Other Power	298	—	298
TOTAL	7,563	605	8,168

C.—AMOUNT OF ELECTRICITY PURCHASED.

NOTE.—The figures in this Table are given to the nearest thousand in each case.

	England and Wales.	Scotland.	Great Britain.
	Board of Trade Units.	Board of Trade Units.	Board of Trade Units.
Amount of Electricity Purchased	903,000	230,000	1,133,000

RAILWAYS (CONSTRUCTION, REPAIR, AND MAINTENANCE OF PERMANENT WAY, ROLLING STOCK, PLANT, &c.).

TABLE I.—OUTPUT.

NOTE.—The figures in this Table are given to the nearest thousand in each case. Amounts lower than five hundred are not shown.

	England and Wales.	Scotland.	Ireland.	United Kingdom.
	£	£	£	£
I. Engineering Department (New Works, Repairs, and Maintenance) :—				
Permanent Way	7,698,000	1,151,000	503,000	9,352,000
Roads, Bridges, Signals, and Other Works	2,325,000	254,000	107,000	2,686,000
Stations and Buildings	1,547,000	121,000	81,000	1,749,000
Docks, Harbours, Wharves, and Canals ...	702,000	36,000	7,000	745,000
TOTAL—Engineering Department ...	12,272,000	1,562,000	698,000	14,532,000
II. Locomotive Department :—				
Engines, Tools, &c. : Construction and Repair.	7,089,000	619,000	210,000	7,918,000
Buildings : New Works, Repairs, and Maintenance (not included under Head I.).	164,000	6,000	6,000	176,000
TOTAL—Locomotive Department ...	7,253,000	625,000	216,000	8,094,000
III. Carriages, Wagons, &c. :—				
Carriages : Construction and Repairs ...	3,978,000	364,000	124,000	4,466,000
Wagons : Construction and Repairs ...	3,028,000	576,000	98,000	3,702,000
Road Vehicles for Passengers and Goods : Construction and Repairs.	259,000	12,000	1,000	272,000
Buildings : New Works, Repairs, and Maintenance (not included under Head I.).	31,000	2,000	—	33,000
TOTAL—Carriages, Wagons, &c. ...	7,296,000	954,000	223,000	8,473,000
IV. Waterworks : Repairs and Maintenance ...	*	*	—	155,000
V. Electric Works :—				
Buildings and Lines : New Works, Repairs, and Maintenance.	*	*	*	154,000
VI. Steamboats :—Repairs	314,000	6,000	2,000	322,000
VII. Other Productive Departments :—				
Lamps and Fittings for Lighting purposes.	*	*	*	150,000
Saddlery and Harness	*	*	*	32,000
Tarpaulins, Wagon Covers, &c.	*	*	*	345,000
Clothing	*	*	*	19,000
Printing	*	*	*	70,000
Hoists and Cranes (not previously returned under Head I.) : Construction and Repairs.	*	*	*	303,000
Gas Manufactured for Companies' use (not included under other Heads).	*	*	*	286,000
Electricity for Stations, &c.	*	*	*	128,000
Telegraphs and Telephones	*	*	*	481,000
Buildings (not returned under other Heads) : New Works, Repairs, and Maintenance.	*	*	*	92,000
Provender	*	*	*	308,000
Iron and Steel Manufactures	*	*	*	198,000
Grease	*	*	*	116,000
Trucks, Barrows, &c.	*	*	*	39,000
Wood Manufactures	*	*	*	131,000
Other Manufactures and Work Done ...	*	*	*	282,000
TOTAL—Other Productive Departments.	2,644,000	257,000	79,000	2,980,000
TOTAL VALUE OF GOODS MADE AND WORK DONE.	30,081,100	3,410,000	1,219,000	34,710,000

* In order to avoid the possible disclosure of particulars relating to certain Companies, figures can only be shown for the United Kingdom as a whole.

Railways (Construction, Repair, and Maintenance of Permanent Way, Rolling Stock, Plant, &c.)—continued.

TABLE II.—COST OF MATERIALS USED, SHOWN IN RELATION TO VALUE OF OUTPUT.

NOTE.—The figures in this Table are given to the nearest thousand in each case.

	England and Wales.	Scotland.	Ireland.	United Kingdom.
I. Cost of Materials Used	£ 15,228,000	£ 1,781,000	£ 595,000	£ 17,604,000
II. Value of Output	30,081,000	3,410,000	1,219,000	34,710,000
III. Value of Output less Cost of Materials Used...	14,853,000	1,629,000	624,000	17,106,000

TABLE III.—PERSONS EMPLOYED.

AVERAGE NUMBERS AT WORK ON THE LAST WEDNESDAYS IN JANUARY, APRIL, JULY, AND OCTOBER.

	Males.			Females.			Males and Females.		
	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.
ENGLAND & WALES :—									
Wage-earners...	11,360	185,349	196,709	253	1,414	1,667	11,613	186,763	198,376
Salaried Persons ...	647	6,900	7,547	—	10	10	647	6,910	7,557
TOTAL	12,007	192,249	204,256	253	1,424	1,677	12,260	193,673	205,933
SCOTLAND :—									
Wage-earners...	821	22,191	23,012	5	76	81	826	22,267	23,093
Salaried Persons ...	60	786	846	2	3	5	62	789	851
TOTAL	881	22,977	23,858	7	79	86	888	23,056	23,944
IRELAND :—									
Wage-earners...	339	11,190	11,529	—	42	42	339	11,232	11,571
Salaried Persons ...	9	370	379	—	13	13	9	383	392
TOTAL	348	11,560	11,908	—	55	55	348	11,615	11,963
UNITED KINGDOM :—									
Wage-earners...	12,520	218,730	231,250	258	1,532	1,790	12,778	220,262	233,040
Salaried Persons ...	716	8,056	8,772	2	26	28	718	8,082	8,800
TOTAL	13,236	226,786	240,022	260	1,558	1,818	13,496	228,344	241,840

Railways (Construction, Repair, and Maintenance of Permanent Way, Rolling Stock, Plant, &c.)—continued.

TABLE IV.—CAPACITY OF ENGINES OWNED AND AMOUNT OF ELECTRICITY PURCHASED.

A.—CAPACITY OF ENGINES OWNED, COMPARED WITH GROSS VALUE OF OUTPUT AND NUMBER OF PERSONS EMPLOYED.

NOTE.—The Gross Value of Output in this Table is given to the nearest thousand pounds.

	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.
ENGLAND AND WALES.						
Companies using Power in connexion with their Productive Departments.	£ 30,018,000	205,201	Horse-Power. 253,048	£ 3,402,000	23,846	Horse-Power. 14,691
Companies not so using Power ...	63,000	732	—	8,000	98	—
TOTAL	30,081,000	205,933	253,048	3,410,000	23,944	14,691
SCOTLAND.						
IRELAND.						
Companies using Power in connexion with their Productive Departments.	£ 1,199,000	11,669	Horse-Power. 5,560	£ 34,619,000	240,716	Horse-Power. 273,299
Companies not so using Power ...	20,000	294	—	91,000	1,124	—
TOTAL	1,219,000	11,963	5,560	34,710,000	241,840	273,299

B.—TYPE AND CAPACITY OF ENGINES AND CAPACITY OF DYNAMOS.

	England and Wales.	Scotland.	Ireland.	United Kingdom.
ENGINES.				
Steam Engines, Reciprocating ...	Horse-Power. 202,385	Horse-Power. 14,265	Horse-Power. 4,960	Horse-Power. 221,610
Steam Turbines	28,320	—	—	28,320
Internal Combustion Engines (gas, oil, &c.)	11,127	416	462	12,005
Water Power	10,659	10	138	10,807
Other Power	557	—	—	557
TOTAL	253,048	14,691	5,560	273,299
DYNAMOS.				
Capacity of Dynamoes driven by :—	Kilowatts.	Kilowatts.	Kilowatts.	Kilowatts.
Steam Engines, Reciprocating ...	54,761	2,809	1,056	58,626
Steam Turbines	20,402	—	—	20,402
Other Power	5,075	813	297	6,185
TOTAL	80,238	3,622	1,353	85,213

C.—AMOUNT OF ELECTRICITY PURCHASED.

NOTE.—The figures in this Table are given to the nearest thousand in each case.

	England and Wales.	Scotland.	Ireland.	United Kingdom.
Amount of Electricity Purchased ...	Board of Trade Units. 106,169,000	Board of Trade Units. 4,574,000	Board of Trade Units. 200,000	Board of Trade Units. 110,943,000

ROYAL ORDNANCE FACTORIES.

The Royal Ordnance Factories are all situated in England.

TABLE I.—OUTPUT.

	England.
	£
Guns, Howitzers, and parts thereof	423,896
Automatic, Machine, and Quick-Firing Guns, and parts thereof.	9,217
Gun-mountings or Carriages, and parts thereof	452,703
Torpedoes and Submarine Mine Appliances	265,943
Shot and Shell	191,788
Explosives and Propellants	256,434
Ammunition and Components	1,021,667
Military Rifles and Carbines:—	
New Rifles and Carbines*	115,918
Parts of Rifles, &c.	108,569
Repairs and Conversions	79,968
Swords, Cutlasses, and Bayonets	7,926
Transport Vehicles	63,160
Saddlery and Harness... ..	393
Electric Light and Engineer Stores	6,461
Camp Equipage	9,299
Ammunition Packages	164,341
Miscellaneous	182,127
TOTAL VALUE	3,359,810

TABLE II.—COST OF MATERIALS USED, SHOWN IN RELATION TO VALUE OF OUTPUT.

	England.
	£
Cost of Materials Used I.	1,908,151
Value of Output II.	3,359,810
Value of Output less Cost of Materials Used III.	1,451,659

TABLE III.—PERSONS EMPLOYED.

AVERAGE NUMBERS AT WORK ON THE LAST WEDNESDAYS IN APRIL, JULY, AND OCTOBER, 1907, AND JANUARY, 1908.

	Males.			Females.			Males and Females.		
	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.	Under 18 years of age.	Over 18 years of age.	Total.
ENGLAND:—									
Wage-earners	849	12,011	12,860	—	181	181	849	12,192	13,041
Salaried Persons	62	1,414	1,476	—	16	16	62	1,430	1,492
TOTAL	911	13,425	14,336	—	197	197	911	13,622	14,533

* The number of New Rifles and Carbines made was 36,539.

Royal Ordnance Factories—continued.

TABLE IV.—CAPACITY OF ENGINES OWNED.

A.—CAPACITY OF ENGINES OWNED, COMPARED WITH GROSS VALUE OF OUTPUT AND NUMBER OF PERSONS EMPLOYED.

	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.
	ENGLAND.		
	£		Horse-Power.
Factories with their own Engines	3,359,810	14,533	12,745

B.—TYPE AND CAPACITY OF ENGINES AND DYNAMOS.

	England.
	Horse-Power.
Steam Engines, Reciprocating	11,997
Steam Turbines	670
Internal Combustion Engines (gas, oil, &c.)	35
Water Power	43
TOTAL	12,745
Capacity of Dynamos driven by:—	Kilowatts.
Steam Engines, Reciprocating	1,165
Steam Turbines	500
Other Power	—
TOTAL	1,665

HIS MAJESTY'S NAVAL ESTABLISHMENTS AT HOME.

(ORDNANCE DEPARTMENT.)

TABLE I.—OUTPUT.

—	England.
Work carried out by employees of Admiralty on :—	£
Repairs to Torpedoes	25,556
Filling and Repair of Shells and Cartridges	24,582
Repairs to Ordnance, &c.	20,914
Repairs to Ammunition Packages	11,026
Work on Naval Ordnance Vessels	896
Generation of Electricity	100
VALUE OF WORK DONE	83,074

TABLE II.—COST OF MATERIALS USED, SHOWN IN RELATION TO VALUE OF OUTPUT.

—	England.
Cost of Materials Used I.	£ 6,386
Value of Output II.	83,074
Value of Output less Cost of Materials Used III.	76,688

TABLE III.—PERSONS EMPLOYED.

AVERAGE NUMBERS AT WORK ON THE LAST WEDNESDAYS IN APRIL, JULY, AND OCTOBER, 1907, AND JANUARY, 1908.

—	Males.		
	Under 18 years of age.	Over 18 years of age.	Total.
ENGLAND :—			
Wage-earners	44	1,063	1,107
Salaried Persons	—	11	11
TOTAL	44	1,074	1,118

TABLE IV.—CAPACITY OF ENGINES OWNED AND AMOUNT OF ELECTRICITY PURCHASED.

A.—CAPACITY OF ENGINES OWNED, COMPARED WITH GROSS VALUE OF OUTPUT AND NUMBER OF PERSONS EMPLOYED.

—	Gross Value of Output.	Number of Persons Employed.	Total Capacity of Engines.
	ENGLAND.		
Factories with their own Engines	£ 83,074	1,118	Horse-Power. 810

His Majesty's Naval Establishments at Home (Ordnance Department)—continued.

TABLE IV.—CAPACITY OF ENGINES OWNED AND AMOUNT OF ELECTRICITY PURCHASED—continued.

B.—TYPE AND CAPACITY OF ENGINES AND DYNAMOS.

—	England.
Steam Engines, Reciprocating	Horse-Power. 766
Internal Combustion Engines (gas, oil, &c.)	44
TOTAL	810
Capacity of Dynamos driven by :— Steam Engines, Reciprocating	Kilowatts. 25

C.—AMOUNT OF ELECTRICITY PURCHASED.

—	England.
Amount of Electricity Purchased	Board of Trade Units. 35,036