

SECTION VIII.

CHEMICAL AND ALLIED TRADES.

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SECTION VIII.—CHEMICAL AND ALLIED TRADES.

GENERAL REPORT.

The following Section deals with the trades engaged in the manufacture of chemicals, drugs, medicines, perfumery, prepared foods, oils, fertilizers, glue, disinfectants, soap, candles, paints, colours, varnish, explosives, ammunition, matches, and firelighters.

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 have 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 have been shown in the classification adopted in the Export and Import Lists where that was applicable, but in the case of several 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 sulphuric acid shows only that portion of the sulphuric acid made in the year of return which was either sold as sulphuric acid or remained in stock at the end of the year as sulphuric acid, and does not include sulphuric acid used in the manufacture of other products by the firms manufacturing the acid. On the other hand, some firms have made two Returns for two separate establishments and have treated the goods transferred from one works to the other as sales and purchases. All such 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 gross output in order to arrive at the net output (see below).

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. 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 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 some articles, such as proprietary and patent medicines, prepared foods, toilet preparations, paints, &c., the expenses of sale are very heavy, and the net output per head will be seen to be much above the average.

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 at 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. | Materials Used. | Work Given Out. | Net Output. | Persons Employed (except Out-workers). Average. | Net Output per Person Employed (excluding Out-workers). | Horse-Power of Engines at Factories. |
|--|--------------------------------------|-----------------|-----------------|--|---|---|--------------------------------------|
| | Selling Value or Value of Work Done. | | | Excess of Column (1) over Columns (2) and (3). | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| Chemicals, Coal Tar Products, Drugs, and Perfumery Trades. | £ 24,025,000 | £ 14,448,000 | £ 9,000 | £ 9,568,000 | 52,257 | 183 | 110,721 |
| Seed-Crushing Trade ... | 12,961,000 | 11,573,000 | — | 1,388,000 | 7,696 | 180 | 26,492 |
| Oil and Tallow Trades (excluding Seed-Crushing). | 6,603,000 | 5,490,000 | — | 1,113,000 | 5,887 | 189 | 7,031 |
| Fertilizer, Glue, Sheep-dip, and Disinfectant Trades. | 5,861,000 | 3,941,000 | — | 1,920,000 | 12,444 | 154 | 21,900 |
| Soap and Candle Trades ... | 12,218,000 | 9,312,000 | — | 2,906,000 | 18,718 | 155 | 16,938 |
| Paint, Colour, and Varnish Trades. | 8,562,000 | 5,818,000 | — | 2,744,000 | 13,840 | 198 | 14,575 |
| Explosives, Ammunition, and Fireworks Trades. | 3,947,000 | 2,438,000 | — | 1,509,000 | 12,744 | 118 | 15,522 |
| Match and Firelighter Trades | 855,000 | 446,000 | — | 409,000 | 4,256 | 96 | 1,591 |
| Total | 75,032,000 | 53,466,000 | 9,000 | 21,557,000 | 127,842 | — | 214,770 |

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. | | |
| Chemicals, Coal Tar Products, Drugs, and Perfumery Trades. | 3,002 | 37,116 | 1,559 | 4,363 | 552 | 5,020 | 88 | 557 | — | — |
| Seed-Crushing Trade ... | 113 | 6,640 | — | 52 | 88 | 771 | 3 | 29 | — | — |
| Oil and Tallow Trades (excluding Seed-Crushing). | 194 | 4,327 | 6 | 73 | 125 | 1,066 | 9 | 87 | — | — |
| Fertilizer, Glue, Sheep-dip, and Disinfectant Trades. | 516 | 9,295 | 158 | 833 | 144 | 1,407 | 16 | 75 | — | — |
| Soap and Candle Trades ... | 2,029 | 9,361 | 1,414 | 2,792 | 297 | 2,528 | 37 | 260 | — | — |
| Paint, Colour, and Varnish Trades. | 823 | 8,779 | 127 | 845 | 352 | 2,640 | 43 | 231 | — | — |
| Explosives, Ammunition, and Fireworks Trades. | 564 | 5,898 | 1,275 | 4,088 | 55 | 703 | 20 | 141 | — | — |
| Match and Firelighter Trades | 235 | 685 | 924 | 2,021 | 25 | 297 | 13 | 56 | 1 | 116 |
| Total | 7,476 | 82,101 | 5,463 | 15,067 | 1,638 | 14,432 | 229 | 1,436 | 1 | 116 |

In the whole group 86·1 per cent. of the persons employed were wage-earners and 13·9 per cent. were salaried persons (including principals).

Of the wage-earners 81·4 per cent. were males and 18·6 per cent. were females; 8·3 per cent. of the males and 26·6 per cent. of the females were under 18 years of age.

Of the salaried persons 90·6 per cent. were males and 9·4 per cent. were females; 10·2 per cent. of the males and 13·7 per cent. of the females were under 18 years of age.

The 117 outworkers shown in the above Table do not necessarily represent as many individual persons, some outworkers being on the books of more than one firm. On the other hand, it is probable that in certain cases the persons actually working for a firm include 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 Office on the Schedules for the group, is £75,032,000, to which should be added £7,082,000, the value of similar products included in their statements of output by manufacturers who made their Returns on Schedules for other trades. The resulting total of £82,114,000, however, contains a considerable amount of duplication.

The following statement shows the estimated valued of the output of each trade, substantially free from duplication within the same trade :—

| | Value. | |
|---|-------------|---------------|
| | £ | £ |
| Chemicals, Coal Tar Products, Drugs and Perfumery Trades | 18,000,000 | to 22,000,000 |
| Seed-Crushing Trade | £13,250,000 | |
| Oil and Tallow Trades (excluding Seed-Crushing) | 6,200,000 | to 7,500,000 |
| Fertilizer, Glue, Sheep-dip, and Disinfectant Trades | 7,423,000 | „ 8,123,000 |
| Soap and Candle Trades | 11,631,000 | „ 11,676,000 |
| Paint, Colour, and Varnish Trades | 7,321,000 | „ 8,600,000 |
| Explosives, Ammunition, and Fireworks Trades | 4,000,000 | „ 4,500,000 |
| Match and Firelighter Trades | £848,000 | |

The total value of the output of the group contains a large amount of duplication as between trade and trade, *e.g.*, between soda compounds and soap, coal tar products and disinfectants, oils and paints, glycerine and explosives, and it is not possible to estimate with any precision the value of the output of the group, taken as a whole. Explosives and ammunition (valued at about £1,278,000), manufactured in the Royal Ordnance Factories and work done in the Naval Ordnance Department in filling and repairing shells and cartridges (valued at about £25,000), are not included in the sum of £4,000,000 to £4,500,000 shown above as the estimated value of explosives and ammunition manufactured in the United Kingdom. Further, goods valued at about £3,521,000 which are chiefly made by trades not comprised in the present group are dealt with in the separate Reports for the trades in question. Goods and work shown in the Returns of output to a value lying between £2,096,000 and £9,920,000 have been excluded from the above statement on the ground that they are included in the value of more finished goods in the same trades.

The value of exports of the products of this group of trades amounted in 1907 to £25,271,000 free on board, and the net imports (*i.e.*, imports less re-exports) to £30,389,000. These net imports, however, include crude oils, chemicals, and other products, which are more of the nature of raw materials for British trades than comparable with the finished products of the trade.

The following statement shows the net output of factories and workshops separately, so far as the Returns were made on the Schedules for the respective trades :—

| | Factories. Workshops. | |
|--|-----------------------|-------------|
| | Net Output. | Net Output. |
| Chemicals, Coal Tar Products, Drugs, and Perfumery Trades | £ 8,866,000 | £ 702,000 |
| Seed-Crushing Trade | 1,388,000 | — |
| Oil and Tallow Trades (excluding Seed-Crushing) | 1,051,000 | 62,000 |
| Fertilizer, Glue, Sheep-dip, and Disinfectant Trades | 1,903,000 | 17,000 |
| Soap and Candle Trades | 2,844,000 | 62,000 |
| Paint, Colour, and Varnish Trades | 2,706,000 | 38,000 |
| Explosives, Ammunition, and Fireworks Trades | 1,482,000 | 27,000 |
| Match and Firelighter Trades | 398,000 | 11,000 |
| Total | 20,638,000 | 919,000 |

Fuel Consumed.—All firms with factories receiving the Schedules for this group of trades were asked to furnish a voluntary statement regarding 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 respecting workshops, where the quantity used is naturally much less than in factories in proportion to net output :—

| Trade. | Net Output of Firms furnishing particulars. | | Fuel consumed by Firms furnishing particulars. | |
|--|---|---------------------------------|--|---------|
| | Amount. | Percentage of Total Net Output. | Coal. | Coke. |
| | £ | | Tons. | Tons. |
| Chemicals, Coal Tar Products, Drugs, and Perfumery Trades | 6,058,000 | 63·3 | 2,065,201 | 150,085 |
| Seed-Crushing Trade | 1,319,000 | 95·0 | 176,318 | 947 |
| Oil and Tallow Trades (excluding Seed-Crushing) | 850,000 | 76·4 | 117,986 | 2,694 |
| Fertilizer, Glue, Sheep-dip, and Disinfectant Trades | 1,700,000 | 88·5 | 240,291 | 12,658 |
| Soap and Candle Trades | 2,409,000 | 82·9 | 276,814 | 7,345 |
| Paint, Colour, and Varnish Trades | 2,360,000 | 86·0 | 131,258 | 13,228 |
| Explosives, Ammunition, and Fireworks Trades | 1,304,000 | 85·4 | 153,060 | 2,794 |
| Match and Firelighter Trades | 396,000 | 96·8 | 7,657 | 1,719 |
| Total | 16,396,000 | 76·0 | 3,168,585 | 191,470 |

DETAILED REPORTS.

Chemicals, Coal Tar Products, Drugs, and Perfumery Trades.

The Tables on pages 571 to 574 are based on Returns received from establishments (whether using power or not) engaged in the manufacture and compounding of chemicals, coal tar products, drugs, patent medicines, prepared foods, perfumery, and allied products.

The gross value of these products as returned to the Census Office on the Schedules for the chemical trades was £24,025,000, to which should be added £2,861,000, the value of similar products included in their statements of output by firms, companies, and local authorities that made their Returns on Schedules for other trades. On account of the varied and complicated nature of this industry, where many of the products pass through several different branches and have been recorded at each stage by the different manufacturers, and, further, on account of the very comprehensive nature of some of the grouped headings under which manufacturers were asked to return their output, it has not been found possible to frame any close estimate of the value of the products of this industry taken as a whole and after allowing for the elimination of all duplication. For example, acids, essential oils, and sulphur are to a large extent raw materials for the manufacture of other chemical products, though to some extent they are probably sold outside of the chemical industry.

With regard to the groups of "unenumerated chemicals," "fine and pharmaceutical preparations," and "drugs and galenical preparations," in some instances the same goods are included in more than one group in different stages of their manufacture and in other cases duplication occurs inside one and the same group.

The gross value of the goods returned to the Census Office under those headings where duplication would be most likely to occur was about 9½ million pounds sterling and of those same descriptions (so far as they can be identified in the statistics of exports) goods to the value of about 4½ millions sterling were exported. Setting off any duplication in other parts of the Schedules against sales of these products to other trades, there is left a possible duplication of five million pounds sterling, while a consideration of the details of the Returns shows that actual duplication cannot have been less than one million pounds. Taking as a whole, therefore, the chemical products included in the following statement their value may be estimated at a sum lying between 18 and 22 millions sterling. To this sum should be added £3,965,000, the value of goods of kinds which are chiefly produced by other trades and £16,000 received for drug grinding and other work done mainly for merchants and retailers.

The following statement shows the chief classes of chemical and allied products as returned to the Census Office, beginning with those groups which either contain duplication or are materials for the manufacture of other products and ending with goods in their final stage, ready for use:—

| | Returned on Schedules for the Chemical Trades. | | Returned on Schedules for other Trades. | | Total. | |
|--|--|-----------|---|---------|-----------|-----------|
| | Quantity. | Value. | Quantity. | Value. | Quantity. | Value. |
| Acids:— | Tons. | £ | Tons. | £ | Tons. | £ |
| Acetic Acid | 6,000 | 91,000 | — | — | 6,000 | 91,000 |
| Hydrochloric Acid | 198,000 | 241,000 | 2,000 | 1,000 | 200,000 | 242,000 |
| Nitric Acid | 6,000 | 91,000 | 600 | 9,000 | 6,600 | 100,000 |
| Sulphuric Acid | 475,000 | 861,000 | 73,000 | 111,000 | 548,000 | 972,000 |
| Sulphur | 31,000 | 148,000 | — | — | 31,000 | 148,000 |
| Essential Oils | Lbs. | | Lbs. | | Lbs. | |
| | 479,000 | 112,000 | 21,000 | 5,000 | 500,000 | 117,000 |
| Wood Distillation Products (except Acetic Acid and Mordants). | * | 46,000 | * | 16,000 | * | 62,000 |
| Fine and Pharmaceutical Chemicals (including Alkaloids, Chloroform, Ether, &c.). | * | 1,643,000 | * | 152,000 | * | 1,795,000 |
| Drugs and Galenical Preparations | * | 2,506,000 | * | 68,000 | * | 2,574,000 |
| Chemicals not otherwise enumerated. | * | 3,066,000 | * | 306,000 | * | 3,372,000 |

* Recorded by value only.

| | Returned on Schedules for the Chemical Trades. | | Returned on Schedules for other Trades. | | Total. | |
|--|--|------------|---|-----------|------------|------------|
| | Quantity. | Value. | Quantity. | Value. | Quantity. | Value. |
| Coal Tar Products (except Dyes):— | Lbs. | £ | Lbs. | £ | Lbs. | £ |
| Anthracene | 3,319,000 | 8,000 | 296,000 | 2,000 | 3,615,000 | 10,000 |
| Benzol and Toluol | Galls. | | Galls. | | Galls. | |
| | 3,278,000 | 120,000 | 3,049,000 | 69,000 | 6,327,000 | 189,000 |
| Carbolic Acid | 670,000 | 44,000 | 19,000 | 1,000 | 689,000 | 45,000 |
| | Cwts. | | Cwts. | | Cwts. | |
| | 149,000 | 145,000 | 22,000 | 26,000 | 171,000 | 171,000 |
| Coal Tar, Crude | Tons. | | Tons. | | Tons. | |
| | 25,000 | 26,000 | 833,000 | 819,000 | 858,000 | 845,000 |
| | Galls. | | Galls. | | Galls. | |
| Coal Tar, Refined, and Varnish | 4,815,000 | 54,000 | 1,685,000 | 12,000 | 6,500,000 | 66,000 |
| Naphtha | 4,327,000 | 150,000 | 290,000 | 8,000 | 4,617,000 | 158,000 |
| | Cwts. | | Cwts. | | Cwts. | |
| Naphthalene | 255,000 | 33,000 | 44,000 | 12,000 | 299,000 | 45,000 |
| | Tons. | | Tons. | | Tons. | |
| Pitch | 537,000 | 684,000 | 176,000 | 175,000 | 713,000 | 859,000 |
| | Galls. | | Galls. | | Galls. | |
| Tar Oil, Creosote, &c.... | 49,022,000 | 545,000 | 17,690,000 | 157,000 | 66,712,000 | 702,000 |
| Other Sorts and Unspecified | * | 346,000 | * | 50,000 | * | 396,000 |
| Total—Coal Tar Products (except Dyes). | — | 2,155,000 | — | 1,331,000 | — | 3,486,000 |
| Soda Compounds (except Chromates, Cyanides, Borax, and Salt). | Tons. | | Tons. | | Tons. | |
| | 682,000 | 3,317,000 | 25,000 | 73,000 | 707,000 | 3,390,000 |
| Bleaching Materials:— | | | | | | |
| Bleaching Powder | 109,000 | 444,000 | — | — | 109,000 | 444,000 |
| Other Sorts | 16,000 | 77,000 | 1,000 | 6,000 | 17,000 | 83,000 |
| Total—Bleaching Materials | 125,000 | 521,000 | 1,000 | 6,000 | 126,000 | 527,000 |
| Aluminous Sulphates (including Alum). | Tons. | | Tons. | | Tons. | |
| | 72,000 | 213,000 | 1,000 | 3,000 | 73,000 | 216,000 |
| Mordants (other than Aluminous Sulphates). | * | 34,000 | * | 2,000 | * | 36,000 |
| Coal Tar Dyes | Cwts. | | | | Cwts. | |
| | 139,000 | 373,000 | — | — | 139,000 | 373,000 |
| Dyewoods and Tanning Materials, ground or prepared. | * | 98,000 | — | — | * | 98,000 |
| Extracts for Tanners, Printers, and Dyers. | * | 316,000 | * | 6,000 | * | 322,000 |
| Finishing Materials for Textile Trades. | * | 353,000 | * | 26,000 | * | 379,000 |
| Borax | Tons. | | | | Tons. | |
| | 14,000 | 205,000 | — | — | 14,000 | 205,000 |
| Patent Medicines | * | 1,306,000 | * | 238,000 | * | 1,544,000 |
| Photographic Materials (Plates, Paper, and Films). | * | 581,000 | * | 328,000 | * | 909,000 |
| Prepared Foods for Infants and Invalids. | * | 576,000 | * | 50,000 | * | 626,000 |
| Perfumed Spirits | Galls. | | | | Galls. | |
| | 111,000 | 302,000 | — | — | 111,000 | 302,000 |
| Perfumery and Toilet Preparations (except Perfumed Spirits and Toilet Soap). | * | 510,000 | * | 102,000 | * | 612,000 |
| Druggists' Sundries | * | 119,000 | * | 3,000 | * | 122,000 |
| Compressed Gases | * | 118,000 | * | 7,000 | * | 125,000 |
| Brewers' Finings | * | 71,000 | * | 3,000 | * | 74,000 |
| Boiler Composition and Disin-crustants. | * | 62,000 | * | 15,000 | * | 77,000 |
| Total | — | 20,035,000 | — | 2,861,000 | — | 22,896,000 |

* Recorded by value only.

The products in the following statement were also made in chemical works, but the largest portion of their manufacture is conducted by firms which have made their Returns to the Census Office on Schedules for other trades, and reference may be made to the Reports on the trades concerned for further information in regard to the total production of such goods in the United Kingdom :—

| | Quantity. Tons. | Value. £ |
|---|--------------------|-------------|
| Copper, Unwrought | — | 1,326,000 |
| Copper, Sulphate of | 26,000 | 598,000 |
| Purple Iron Ore | — | 315,000 |
| Mineral Residues containing Gold, Silver, &c. | — | 62,000 |
| Pyrites, Burnt... .. | — | 13,000 |
| Arsenic and its Oxides | 2,000 | 55,000 |
| Ammonia, Sulphate of | 28,000 | 319,000 |
| Manures, other than Sulphate of Ammonia ... | — | 205,000 |
| Soap :— | Cwts. | |
| Toilet | 30,000 | 126,000 |
| Other Sorts | 95,000 | 75,000 |
| Disinfectants, Insecticides, Weed-killers, and Sheep and Cattle Dressings | — | 137,000 |
| Culinary Preparations and Grocers' Sundries | — | 59,000 |
| Oils, Soluble and Other, for Textile and similar trades | — | 41,000 |
| Ammoniacal Liquor | — | 34,000 |
| Other Products | — | 600,000 |
| Total | | 3,965,000 |

In addition, the sum of £25,000 was received by various firms for work done for the trade, such as drug grinding, and, as the firms making Returns to the Census Office stated that they paid £9,000 to other firms for work given out to them, it may be assumed that the balance of the work, valued at £16,000, was done for merchants and retailers.

The headings in the statement on page 547 from "soda compounds" to the end are believed to represent products ready for consumption in their final stage (so far at least as regards the chemical trades), and the figures given show substantially the entire quantity produced. The figures entered against the first ten of the headings in the first statement, on page 546 (from "acids" to "chemicals not otherwise enumerated") do not, however, necessarily represent the total make of any of the products so included, but only products retained in stock or sold to other trades or to the public or to other chemical firms (whose output is also included in the statement) for refining or for use in the manufacture of other chemicals or preparations. A similar statement applies to a small portion of the goods included in the class of "coal tar products other than dyes." Where firms not only make products of those classes but also themselves use the whole or part thereof in connexion with the manufacture of other chemicals or preparations in their own works, the part so used is not included in the Returns of output of the products in question.

In order to obtain particulars of the total make of hydrochloric, nitric, and sulphuric acids, as a measure of the importance of a large section of the chemical industry, all firms receiving the Schedules for the chemical trades were asked to make a voluntary statement as to their total make of those acids (whether used by themselves or not), estimating it according to certain standard strengths. The information obtained is summarised below in a statement which covers all firms officially recorded as makers of acids, whether making Returns on the Schedules for the chemical trades or on those for other trades :—

Hydrochloric Acid : 53 firms stated that their total make was 419,325 tons of acid at 29° Tw. ; the total make of nine firms that made for sale 46,922 tons of unknown strength and of five firms that made none for sale is not known ; and one firm on the official list stated that they made no hydrochloric acid in the censal year.

Nitric Acid : 34 firms stated that their total make was 12,929 tons at 90°–100° Tw. ; the total make of 12 firms that made for sale 1,065 tons of unknown strength and of 15 firms that made none for sale is not known ; and seven firms on the official list stated that they made no nitric acid in the censal year.

Sulphuric Acid : 129 firms stated that their total make was 1,046,891 tons at 140° Tw. ; the total make of 28 firms that made for sale 86,671 tons of unknown strength and of 12 firms that made none for sale is not known ; and one firm on the official list stated that they made no sulphuric acid in the censal year. On the basis of Mr. George Lunge's calculations ("Sulphuric Acid and Alkali," London, 1903) it is estimated that the possible output of sulphuric acid from pyrites burnt in the United Kingdom is 1,044,000 tons of pure sulphuric acid, to which may be added about 80,000 tons for acid from other materials, making a total of 1,124,000 tons equivalent to 1,459,000 tons of sulphuric acid at 140° Tw.

Manufacturers were also asked to make a voluntary statement respecting the quantity of salt decomposed, and in reply 59 firms stated that the quantity used by them was 542,000 tons. It is not possible to state the exact proportion which this quantity bears to the total salt decomposed, but by reference to the Report on salt mines, brine pits, and salt works (see pages 56 to 58) it would appear (a) that alkali manufacturers used about 337,000 tons of salt (pumped in Cheshire and Staffordshire) conveyed to their works in brine and did not return it as salt in their Returns to the Census Office, (b) that alkali manufacturers used in the form of brine a further quantity of salt pumped in Lancashire not exceeding 157,000 tons, and (c) that about 280,000 tons of coarse white salt were made for chemical or manufacturing purposes.

A further request was made for a voluntary statement as to the quantity of wood consumed in wood distillation. Firms with an output of wood distillation products, including acetic acid and mordants, which was valued at £41,000 stated that they consumed 27,300 tons of wood, while firms with an output valued at £9,000 did not give any information.

The following statement shows the production, exports of, and imports of those chemical products in reference to which a comparison can be made.

| | Production for Sale. | Exports, 1907. | Net Imports,* 1907. |
|--|-------------------------|-------------------|------------------------|
| | Tons. | Tons. | Tons. |
| Acid, Sulphuric | 548,000 | 3,900 | 3,600 |
| Aluminous Sulphates (including Alum) | 73,000 | 10,000 | † |
| Bleaching Powder | 109,000 | 54,000 | 8,800 |
| Bleaching Materials, Other | 17,000 | — | — |
| Borax | 14,000 | † | 1,700 |
| Coal Products (not Dyes) :— | Cwts. | Cwts. | |
| Anthracene and Naphthalene | 331,000 | 100,000 | |
| Carbolic Acid | 171,000 | | £ |
| Other Sorts (except Coke) | 689,000 | 126,000 | 87,000† |
| | £ | £ | |
| | 3,215,000 | 1,362,000 | |
| | Cwts. | Cwts. | |
| Coal Tar Dyes | 139,000 | 51,000 | 322,000 |
| | £ | £ | |
| Essential Oils | 117,000 | † | 263,000 |
| | £ | £ | |
| Extracts for Tanners, Dyers, &c. | 322,000 | 179,000† | 727,000 |
| | Tons. | Tons. | Tons. |
| Soda Compounds (except Chromates, Cyanides, Borax, and Salt). | 707,000 | 285,000 | 17,000 |

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

† Not separately specified.

‡ Dye-stuffs (other than coal-tar dyes) only.

With the exception of sulphuric acid and essential oils the quantities of the above products shown as made for sale also represent the total make of those products. The total make of sulphuric acid is estimated above at 1,459,000 tons ; the total make of essential oils is not known. The total value of the exports of chemicals, drugs, perfumery, and other goods covered by the Schedules for the chemicals, coal tar products, drugs, and perfumery trades amounted in 1907 to about £9,086,000, free on board. The total value of the net imports of chemicals, &c., in the same year was about £8,748,000 at port of landing ; a considerable portion of those imports consisted of goods which formed the materials for further manufacture in the United Kingdom. The exports and imports of disinfectants are included in these figures (*see* page 558).

Net Output.—The net output of the factories and workshops covered by the Tables on pages 571 to 574 (whose gross output was valued at £24,025,000) was £9,568,000, 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 that it was not less than 9½ or more than 14 million pounds sterling. The amount paid to other firms for work given out was £9,000.

The net output per head of persons employed in the censal year was a little over £183, but it should be borne in mind that in the drug, patent medicine, perfumery, and prepared food trades the cost of advertisement and other sales expenses (which have to be defrayed from the net output) are very heavy, ranging in many cases from 25 to 40 per cent. of the gross output.

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 571 to 574 is returned as 52,257, viz., 46,040 wage earners and 6,217 salaried persons, the total number being distributed by age and sex as follows:—

| Males:— | | Females:— | |
|-----------------|--------|-----------------|-------|
| Under 18 | 3,554 | Under 18 | 1,647 |
| Over 18 | 42,136 | Over 18 | 4,920 |

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 | 43,258 | 43,780 | 43,507 | 43,573 |
| Salaried Persons | 5,488 | 5,509 | 5,541 | 5,552 |
| Total | 48,746 | 49,289 | 49,048 | 49,125 |

There were also 2,510 wage earners and 695 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 | 22,372,000 | 48,726 | 110,721 |
| Factories renting their Power | 161,000 | 326 | — |
| Workshops (not using Power) | 1,492,000 | 3,205 | — |
| Total | 24,025,000 | 52,257 | 110,721 |

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

| | Horse-Power. |
|--|--------------|
| Steam Engines:— | |
| Reciprocating | 92,619 |
| Steam Turbines | 435 |
| Total—Steam Engines | 93,054 |
| Internal Combustion Engines (gas, oil, &c.) | 15,469 |
| Water Power | 1,924 |
| Other Power | 274 |
| Total | 110,721 |

As shown above, whereas the total number of persons employed in factories in the chemical trades was 49,052, firms employing 326 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 | ... | 10,776 |
| Steam Turbines | ... | 301 |
| Other Power | ... | 8,126 |
| Total | ... | 19,203 |

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-fourth of the engine-power belonging to chemical 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 | 10,776 | 10,385 | 54,827,000 |
| Steam Turbines | 301 | 250 | 986,000 |
| Other Power | 8,126 | 7,968 | 25,616,000 |
| Total | 19,203 | 18,603 | 81,429,000 |

About 35,901,000 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 able to state only the amounts paid by them, but the total quantity so estimated forms a very small proportion of the whole.

Seed-Crushing Trade.

Output.—The Tables on pages 575 and 576 contain particulars received from factories engaged in the crushing of oil-seeds and the manufacture of oil-cakes. The gross output of the firms that made their Returns on the Schedule for the seed-crushing trade consisted of 1,371,000 tons of “oils, oil-cakes, and sundries,” valued at £12,940,000 and of other products, valued at £21,000, making a total value of £12,961,000. In addition, 29,000 tons of oils, oil cakes, and sundries, valued at £227,000, were returned on Schedules for other trades, raising the aggregate to £13,188,000. This gross total includes crude oil made at some factories and sold to others for refining, refined oil, cakes and a small quantity of sundries, besides other oils, soap, &c., included under “other products.” The seed-crushing firms were unable to give separate particulars of the values of the different classes of their products, and the total given above shows the gross value of the goods made in the year of return, whether sold or warehoused.

In order to obtain a measure of the trade as a whole, free from duplication, all manufacturers of seed-oils and cakes were asked to state the quantities of the different kinds of crude oil and oil-cake made by them, and this information was furnished for over 98 per cent. of the total output, the distribution of the remainder has been estimated.

Based on the particulars thus furnished, the following statement gives an estimate of the total make of crude oil and of cakes produced by seed-crushing firms and by manufacturers that made their Returns on the Schedules for other trades. It includes oils

produced by soap-making firms and used by them in the manufacture of soap; the value of such oil is not included in the aggregate of £13,188,000:—

| Seed-Oils :— | Quantity. Tons. |
|---|--------------------|
| Cotton-seed, Crude | 112,000 |
| Linseed, Raw | 106,000 |
| Rape-seed, Brown or Raw | 14,000 |
| Other seed, Raw | 18,000 |
| Total—Seed-Oils | 250,000 |
| Oil-seed Cakes, Sweetened and not Sweetened (including Meals) :— | |
| Cotton-seed | 551,000 |
| Linseed | 250,000 |
| Rape-seed | 36,000 |
| Compound Cakes and Other Sorts | 309,000 |
| Total—Oil-seed Cakes | 1,146,000 |

The particulars furnished voluntarily on the Schedule for the seed-crushing trade show that the quantity of crude oil expressed by some firms and sold to others for refining (and appearing as output in the Returns both as crude and refined) was very small, if any. Taking the cakes at market prices ex-mill their value would be about £6,700,000, leaving about £6,500,000 for oils (mainly refined) together with about £50,000 for sundries, such as by-products, and £21,000 for "other products" chiefly made by other trades.

As only the make of crude oils in the United Kingdom, and not the amount of such oils refined, was shown in the production Returns those quantities cannot be compared precisely with the exports and imports, which, however, are set forth in the following Table:—

| Seed Oil :— | Exports, 1907. Net Imports,* 1907. | |
|------------------------------------|------------------------------------|--------|
| | Tons. | Tons. |
| Cotton-seed Oil : Unrefined | 70 | 1,000 |
| " " " " Refined | 28,800 | 12,500 |
| Linseed Oil : Pure | 21,000 | 10,700 |
| " " " " Not Pure | 2,600 | 1,300 |
| Rape-seed Oil | 4,500 | 8,000 |
| Other Sorts | 1,200 | 5,300 |

Particulars of the exports and imports of oil-seed cakes, in comparison with the quantities produced in the United Kingdom, are given in the following Table:—

| | Production. | Exports, 1907. | Net Imports,* 1907. |
|--|------------------|----------------|---------------------|
| | Tons. | Tons. | Tons. |
| Oil-seed Cake, Sweetened and not Sweetened :— | | | |
| Cotton-seed Cake | 551,000 | 13,900 | 161,500 |
| Linseed Cake | 250,000 | 100 | 140,800 |
| Rape-seed Cake | 36,000 | 1,800 | 5,100 |
| Compound Cakes and Other Sorts | 309,000 | 7,000 | 36,200 |
| Total | 1,146,000 | 22,800 | 343,600 |

The total quantity of oil-seed cakes imported and retained for use was three-tenths of the quantity manufactured in the United Kingdom. Only 2 per cent. of the home production was exported.

Net Output.—The net output of the factories covered by the Tables on pages 575 and 576 (whose gross output was valued at £12,961,000) was £1,388,000, that sum representing the total amount by which the value of the output of those factories exceeded the cost of the materials used. The actual cost of materials used by those factories, taken as a whole, was approximately 11½ millions sterling.

The net output per head of persons employed in the censal year was a little over £180.

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

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 575 and 576 is returned as 7,696, viz., 6,805 wage-earners and 891 salaried persons, the total number being distributed by age and sex as follows:—

| Males :— | | Females :— | |
|-----------------|-------|-----------------|----|
| Under 18 | 201 | Under 18 | 3 |
| Over 18 | 7,411 | Over 18 | 81 |

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 | 7,144 | 6,693 | 6,293 | 7,089 |
| Salaried Persons | 890 | 897 | 882 | 897 |
| Total | 8,034 | 7,590 | 7,175 | 7,986 |

Power.—The capacity of the engines at seed-crushing factories was 26,492 horse-power.

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

| | Horse-Power. |
|---|---------------|
| Steam Engines :— | |
| Reciprocating | 25,259 |
| Steam Turbines | 261 |
| Total—Steam Engines | 25,520 |
| Internal Combustion Engines (gas, oil, &c.) | 722 |
| Water Power | 250 |
| Total... .. | 26,492 |

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 | 1,061 |
| Steam Turbines... .. | 35 |
| Total | 1,096 |

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 6 per cent. of the engine-power belonging to seed-crushing factories was required 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 | 1,061 | 827 | 1,737,000 |
| Steam Turbines | 35 | 35 | 32,000 |
| Total | 1,096 | 862 | 1,769,000 |

Board of Trade Units.

About 53,000 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 some small firms who were able to state only the amounts paid by them.

Plant.—Firms that received the Schedule for the seed-crushing industry were asked to furnish a voluntary statement of the number of presses used by them and their weekly capacity in tons of seed crushed. In reply firms whose total output of crude oil was 228,000 tons (or about 94 per cent. of the total production recorded on the Schedule for the trade) and whose total output of oil-seed cake was 834,000 tons (or over 93 per cent. of the total production so recorded) stated that they owned 1,745 presses with a weekly capacity of 33,025 tons.

Oil and Tallow Trades (excluding Seed-crushing).

Output.—The Tables on pages 577 to 579 are based on Returns received from factories and workshops (other than those engaged in crushing oil-seeds and refining seed-oil) where oil, tallow, and subsidiary products are manufactured. The aggregate gross value of the output of the firms that made their Returns on the Schedules for the oil and tallow trades is returned as £6,603,000, to which should be added £1,953,000, the value of similar products included in their statements of output by firms that made their Returns on Schedules for other trades. The resulting total of £8,556,000 contains, however, a certain amount of duplication.

The output of the trade consists partly of oils used in the manufacture of burning, lubricating, soluble, and other oils, and partly of those latter classes of oils, tallow, and other finished products.

The output of finished products is returned as follows:—

| | Returned on Schedules for the Oil and Tallow Trades. | | Returned on Schedules for other Trades. | | Total. | |
|--|--|-----------|---|-----------|-----------|-----------|
| | Quantity. | Value. | Quantity. | Value. | Quantity. | Value. |
| | Tons. | £ | Tons. | £ | Tons. | £ |
| Grease, Tallow, Animal Fat, and Stearine | 55,000 | 1,459,000 | 39,000 | 999,000 | 94,000 | 2,458,000 |
| Lubricating Oils and Greases | — | 1,571,000 | — | 470,000 | — | 2,041,000 |
| Soluble and other Oils for the Textile Trades. | — | 276,000 | — | 220,000 | — | 496,000 |
| Burning Oils | — | 363,000 | — | 28,000 | — | 391,000 |
| Turpentine and Turpentine Substitutes | — | 32,000 | — | 75,000 | — | 107,000 |
| Other Oil Products | — | 68,000 | — | — | — | 68,000 |
| Waste Products | — | 17,000 | — | — | — | 17,000 |
| Total | — | 3,786,000 | — | 1,792,000 | — | 5,578,000 |

In addition, the firms that made their Returns on the Schedules for the oil and tallow trades included in their statements of output the following products that are chiefly made by other trades, in the Reports on which they are discussed:—

| | Quantity. | Value. |
|--|-----------|---------|
| | Tons. | £ |
| Guano | 23,000 | 125,000 |
| Bones for Manure | 8,000 | 29,000 |
| Other Manures, except Superphosphates | — | 27,000 |
| Paints and Colours | — | 62,000 |
| Candles | — | 50,000 |
| Soap | — | 42,000 |
| Bones (except Whalebone) for manufacturing purposes | — | 46,000 |
| Pitch | — | 42,000 |
| Other Products | — | 128,000 |
| Total | — | 551,000 |

The semi-manufactured products of the industry are included in the following statement:—

| | Returned on Schedules for the Oil and Tallow Trades. | Returned on Schedules for other Trades. | Total. |
|--|--|---|-----------|
| | £ | £ | £ |
| Fish Oil, Manufactured Directly | 389,000 | 49,000 | 438,000 |
| Oils, not Lubricating, Textile, Burning, or Seed | 1,874,000 | 112,000 | 1,986,000 |
| Total | 2,263,000 | 161,000 | 2,424,000 |

The fish oil was probably all used in the manufacture of oils shown in the first statement, and its value is consequently duplicated in that of the oils there shown. With regard to the other oils valued at £1,986,000, examination of the individual Returns shows that there is no duplication as regards oils valued at £540,000 returned on the Schedules for the oil and tallow trades. Oils returned on other Schedules to the value of £68,000 also appear to be free from duplication with other headings. There remain oils to the value of £1,378,000 which are possibly duplicated, part of them being materials for the manufacture of lubricating oils and part being blends of simple oils. There should also be added the sum of £3,000 received for boiling, blending, and refining oils for merchants; the value of the oils so treated is not known. The total value of oils of all kinds (other than seed and essential oils) made in the United Kingdom in the year of return may, therefore, be estimated, free from duplication, at a sum lying between £3,500,000 and £5,000,000, and, omitting the value of the goods which are chiefly made by other trades, the value of the main products of the oil, tallow, and turpentine trades, taken as a whole, may be estimated at a sum lying between £6,200,000 and £7,500,000. The aggregate output of tallow, animal fat, grease, and stearine, as returned to the Census Office was 94,000 tons, to which should be added 7,000 tons used for further manufacture by soap-making firms that melted it, making a total of 101,000 tons. Out of this the total returned as tallow was 40,000 tons, but it is impossible to say how far this quantity represents the total quantity of tallow made in the year of return, as a large number of manufacturers who were asked to state voluntarily their total make of tallow did not furnish the desired information.

Owing to the difference between the classification of oils adopted for the purposes of the Census and that employed in the record of imports and exports, it is not possible to make any close comparison between the production in the United Kingdom and the import and export trade. It appears, however, that the value of the exports of cocoa-nut, olive, palm, and other oils (except essential, medicinal, and seed oils) in 1907 was £1,559,000, free on board, whereas the net imports (*i.e.*, imports less re-exports) of similar oils were valued at £2,837,000 at port of landing. The imports, however, include crude cocoa-nut, olive, and palm oils to the value of £1,528,000, and fish, animal, and castor oils to the value of £781,000, all of which are used for refining and subsequent manufacture.

The exports of grease, tallow, animal fat, and stearine in 1907 amounted to 41,000 tons, and the net imports of tallow and stearine to 52,000 tons.

Net Output.—The net output of the factories and the workshops covered by the Tables on pages 577 to 579 (whose gross output was valued at £6,603,000) was £1,113,000, 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. The actual cost of materials used by the trade taken as a whole cannot be precisely stated, but it may be estimated to be between 3¼ and 5 million pounds sterling.

The net output per head of persons employed in the censal year was a little over £189.

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 577 to 579 is returned as 5,887, viz.:—4,600 wage-earners and 1,287 salaried persons, the total number being distributed by age and sex as follows:—

| Males:— | | Females:— | |
|-----------------|-------|-----------------|-----|
| Under 18 | 319 | Under 18 | 15 |
| Over 18 | 5,393 | Over 18 | 160 |

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 | 4,125 | 4,300 | 4,365 | 4,236 |
| Salaried Persons | 1,164 | 1,173 | 1,172 | 1,178 |
| Total | 5,289 | 5,473 | 5,537 | 5,414 |

There were also 343 wage-earners and 115 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 | 6,287,000 | 5,425 | 7,031 |
| Factories renting their Power | 6,000 | 4 | — |
| Workshops (not using Power) | 310,000 | 458 | — |
| Total | 6,603,000 | 5,887 | 7,031 |

| Classed according to kinds of power, the particulars are :— | | | | Horse-Power. |
|---|-----|-----|-----|--------------|
| Steam Engines, Reciprocating | ... | ... | ... | 6,124 |
| Internal Combustion Engines (gas, oil, &c.) | ... | ... | ... | 768 |
| Water Power | ... | ... | ... | 30 |
| Other Power | ... | ... | ... | 109 |
| Total | ... | ... | ... | 7,031 |

Precise details as to the amount and kind of power rented 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 | ... | ... | ... | 435 |
| Other Power... .. | ... | ... | ... | 28 |
| Total | ... | ... | ... | 463 |

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-tenth of the engine-power belonging to oil and tallow 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. | | Board of Trade Units. |
|--------------------------------------|----------------------------|---|------------------------|-----------------------|
| | | Capacity of Dynamos. | Electricity Generated. | |
| Steam Engines : Reciprocating | Kilowatts. 435 | Kilowatts. 229 | 609,000 | 609,000 |
| Other Power | 28 | 22 | 56,000 | 56,000 |
| Total | 463 | 251 | 665,000 | 665,000 |

About 156,000 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 some small firms who were able to state only the amounts paid by them.

Fertilizer, Glue, Sheep-Dip, and Disinfectant Trades.

Output.—The Tables on pages 580 to 582 are based on Returns received from factories and workshops engaged in the manufacture of chemical manures, glue, sheep-dip, disinfectants, and other similar products. The aggregate gross value of the output of the firms that made their Returns on the Schedule for the fertilizer, glue, sheep-dip, and disinfectant trades is returned as £5,861,000, to which should be added £3,684,000, the value of similar goods included in their statements of output by firms making their Returns on Schedules for other trades. The resulting total of £9,545,000 contains, however, some duplication. Manures produced from sludge, &c., by local authorities and valued at about £20,000 are not included in the foregoing figures.

The following statement shows the output of manures, disinfectants, and glue, size, and gelatine. In the Schedule for the fertilizer, glue, &c., trades manufacturers were asked to state the quantities of the four classes of manures separately, but were permitted to state in one sum, if they so chose, the values of all classes of manures made by them, as it was understood that there would be considerable difficulty in furnishing the details of the values. Nevertheless, firms whose output amounted to 42 per cent. of the total quantity of manure made furnished separate particulars regarding the values of the various classes of manures made by them. On the basis thus furnished the values of the various classes of manures have been calculated, and it is believed that the resulting figures are substantially accurate. Their sum agrees with the total value actually returned to the Census Office.

| | Returned on the Schedule for the Fertilizer, Glue, &c. Trades. | | Returned on Schedules for other Trades. | | Total. | |
|--|--|-----------|---|-----------|------------------|-----------|
| | Quantity. | Value. | Quantity. | Value. | Quantity. | Value. |
| Manures :— | Tons. | £ | Tons. | £ | Tons. | £ |
| Basic Slag | 203,000 | 277,000 | 38,000 | 81,000 | 241,000 | 358,000 |
| Sulphate of Ammonia | 1,000 | 13,000 | 263,000 | 2,855,000 | 264,000 | 2,868,000 |
| Superphosphates | 525,000 | 1,136,000 | 80,000 | 185,000 | 605,000 | 1,321,000 |
| Other Manures | 456,000 | 2,116,000 | 56,000 | 237,000 | 512,000 | 2,353,000 |
| Total—Manures | 1,185,000 | 3,542,000 | 437,000 | 3,358,000 | 1,622,000 | 6,900,000 |
| Disinfectants, Insecticides, Weed-killers, and Sheep and Cattle Dressings. | — | 593,000 | — | 154,000 | — | 747,000 |
| Glue, Size, and Gelatine | Cwts. 645,000 | 573,000 | Cwts. 106,000 | 80,000 | Cwts. 751,000 | 653,000 |
| Bones for Manufacturing Purposes and Bone By-products. | — | 105,000 | — | 83,000 | — | 188,000 |
| Animal Residues | — | 26,000 | — | 9,000 | — | 35,000 |
| Total | — | 4,839,000 | — | 3,684,000 | — | 8,523,000 |

The aggregate gross value of the manures recorded in the above statement amounts to £6,900,000, but there is some duplication between the class of "other manures," which includes compound manures, and the other classes. It appears from the evidence given before the Departmental Committee which reported in 1905 on the working of the Fertilizers and Feeding Stuffs Act, 1893, (Cd. 2386) that the basic slag not exported is used direct on the land, while the sulphate of ammonia not exported is almost entirely, and the superphosphates to some extent, used for making compound manures. The exports of sulphate of ammonia in 1907 amounted to 231,000 tons, so that the amount available for making compound manures was 33,000 tons, the value of which at works would be about £360,000. From an examination of the individual Returns it appears that 56,000 tons of manures, valued at £237,000 and included under the heading "other manures," consisted of fish guano, bone manure, greaves, and other manures not included under the first three headings in the above statement and, therefore, not involving any duplication with those headings. The whole output of those manures was, however, not returned as such by name to the Census Office, and the evidence given before the above-mentioned Departmental Committee points to the conclusion that, apart from the sulphate of ammonia already dealt with, there is a possibility of duplication in respect of about

300,000 tons of "other manures," the probable value of the components of which may, on the basis of the average cost of materials, be estimated at about £700,000. In so far as such manures were made from imported chemical products other than superphosphates, or were compounded from imported manures, there is no duplication. Taking together, therefore, the sulphate of ammonia exported, and the basic slag, superphosphates, bone-manure, fish-manure, and other manures made in the United Kingdom, their quantity, taken as a whole and free from duplication, may be estimated at between 1,289,000 tons and 1,589,000 tons, valued, after allowing for the increased value due to compounding, at between £5,800,000 and £6,500,000.

The total exports of manures manufactured in the United Kingdom amounted, in 1907, to 611,000 tons, valued, free on board, at £4,003,000, viz., 231,000 tons of sulphate of ammonia valued at £2,753,000, and 380,000 tons of "other manures" valued at £1,250,000. Basic slag and superphosphates were included in "other manures" in 1907, but in 1908 the exports were: basic slag, 171,000 tons, £247,000; superphosphates, 146,000 tons, £367,000. The total exports of "other manures," including basic slag and superphosphates, in 1908 amounted to 420,000 tons, valued at £1,174,000, free on board.

The net imports (*i.e.*, imports less re-exports) of manures in 1907 were as follows:—

| | Quantity. Tons. | Value. £ |
|--------------------------|--------------------|-------------|
| Bones for Manure | 44,000 | 196,000 |
| Guano | 30,000 | 138,000 |
| Nitrate of Soda | 107,000 | 1,183,000 |
| Phosphate of Lime | 505,000 | 826,000 |
| Other Sorts | 146,000 | 265,000 |
| Total | 832,000 | 2,608,000 |

The bones (which are understood to be mainly in the form of bone meal), guano, and nitrate of soda mostly go direct into consumption, while the phosphate of lime is chiefly used for making superphosphates and compound manures. The "other manures" are chiefly kainit, but include also rags, meat meal, dried blood, sulphate of ammonia, sulphate of lime, gypsum, &c. Taking into account all the imported manures except phosphate of lime and the estimated weight of the output (less exports) of artificial manures made in the United Kingdom, it follows that there was available for consumption in the United Kingdom in 1907 between 1,000,000 tons and 1,300,000 tons of artificial manures, of which between two-thirds and three-fourths consisted of goods of British manufacture.

In 1907, the exports of disinfectants, insecticides, &c., were included with unenumerated chemicals; in 1908 (when unenumerated chemicals on the 1907 classification were exported to a value of £2,869,000 compared with £2,701,000 in 1907) they amounted (excluding tobacco offal) to 277,000 cwts., valued at £382,000 free on board; the imports are not separately recorded. The net imports (*i.e.*, imports less re-exports) of glue, size, and gelatine in 1907 were 213,000 cwts., and of glue stock and pieces for making glue 165,000 cwts., while the exports of glue, size, and gelatine were 265,000 cwts.; the net imports were thus nearly three-tenths and the exports a little over 35 per cent. of the quantity made in the United Kingdom in the censal year. The net imports of bones for manufacturing purposes other than manure in 1907 were about 6,000 tons valued at about £35,000 at port of landing.

In addition to the goods shown in the statement on the previous page, the firms that made their Returns on the Schedule for the fertilizer, glue, sheep-dip, and disinfectant trades included in their statements of output the following goods which are mainly produced by other trades:—

| | Quantity. Tons. | Value. £. |
|--|--------------------|--------------|
| Sulphuric Acid | 67,000 | 94,000 |
| Grease, Tallow, and Animal Fat | 19,000 | 468,000 |
| Cattle Foods (Cake and Artificial Feeding Stuffs) | — | 211,000 |
| Chemical Products, Drugs, Perfumery, &c. | — | 196,000 |
| Oils | — | 30,000 |
| Soap | — | 12,000 |
| Other Products | — | 11,000 |
| Total | ... | 1,022,000 |

There is no duplication between the above classes of products.

Taking into consideration the output of manures, disinfectants, glue, size, gelatine, bones, and animal residues as returned on all Schedules, its value, taken as a whole, may be estimated at a sum lying between £7,423,000 and £8,123,000. In addition, tallow, cattle foods, and other goods to the value of £1,022,000 were made by firms that furnished Returns on the Schedule for the fertilizer and kindred trades and are dealt with in the Reports on the trades by which they are chiefly manufactured.

Net Output.—The net output of the factories and workshops covered by the Tables on pages 580 to 582 (whose gross output was valued at £5,861,000) was £1,920,000, 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. 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 £3,241,000 and £3,941,000.

The net output per head of persons employed in the censal year was a little over £154.

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 580 to 582 is returned as 12,444, viz.:—10,802 wage-earners and 1,642 salaried persons, the total number being distributed by age and sex as follows:—

| Males:— | | Females:— | |
|-----------------|--------|-----------------|-----|
| Under 18 | 660 | Under 18 | 174 |
| Over 18 | 10,702 | Over 18 | 908 |

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 | 10,856 | 12,176 | 9,689 | 10,128 |
| Salaried Persons | 1,606 | 1,620 | 1,587 | 1,587 |
| Total | 12,462 | 13,796 | 11,276 | 11,715 |

There were also 90 wage earners and 42 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 | 5,810,000 | 12,306 | 21,900 |
| Factories renting their Power | 3,000 | 6 | — |
| Workshops (not using Power) | 48,000 | 132 | — |
| Total | 5,861,000 | 12,444 | 21,900 |

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

| | Horse-Power. |
|--|--------------|
| Steam Engines, Reciprocating | 19,030 |
| Internal Combustion Engines (gas, oil, &c.) | 2,539 |
| Water Power | 265 |
| Other Power | 46 |
| Total | 21,900 |

Precise details as to the amount and kind of power rented 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 | ... | 823 |
| Other Power | ... | 47 |
| Total | ... | 870 |

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 6 per cent. of the engine-power belonging to fertilizer, glue, sheep-dip, and disinfectant 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. | Kilowatts. | Board of Trade Units. |
| Other Power | 823 | 623 | 985,000 |
| | 47 | 43 | 80,000 |
| Total | 870 | 666 | 1,065,000 |

About 877,000 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 able to state only the amounts paid by them.

Soap and Candle Trades.

The Tables on pages 583 to 585 are based on Returns received from factories and workshops mainly engaged in the manufacture of soap and candles. The aggregate gross value of the output of the firms that made their Returns on the Schedules for the soap and candle trades is returned as £12,218,000, to which should be added £579,000, the value of similar goods manufactured by firms that made their Returns on Schedules for other trades. The resulting total of £12,797,000, however, contains a certain amount of duplication.

The following statement shows the output of the main products of the industry:—

| | Returned on Schedules for the Soap and Candle Trades. | | Returned on Schedules for other Trades. | | Total. | |
|---|---|------------|---|---------|-----------|------------|
| | Quantity. | Value. | Quantity. | Value. | Quantity. | Value. |
| Soap:— | Cwts. | £ | Cwts. | £ | Cwts. | £ |
| Household or Laundry Soap (in bars or tablets). | 5,637,000 | 6,194,000 | 12,000 | 12,000 | 5,669,000 | 6,206,000 |
| Toilet Soap | 251,000 | 946,000 | 30,000 | 126,000 | 281,000 | 1,072,000 |
| Soap Powder | 727,000 | 705,000 | 14,000 | 10,000 | 741,000 | 715,000 |
| Soft Soap | 562,000 | 432,000 | 71,000 | 54,000 | 633,000 | 486,000 |
| Polishing and Scouring Soap | 113,000 | 146,000 | — | — | 113,000 | 146,000 |
| Other Sorts | 130,000 | 141,000 | 104,000 | 90,000 | 234,000 | 231,000 |
| Total—Soap | 7,440,000 | 8,564,000 | 231,000 | 292,000 | 7,671,000 | 8,856,000 |
| Candles (including Night-lights) | lbs. | 1,829,000 | lbs. | 212,000 | lbs. | 2,041,000 |
| Glycerine:— | Cwts. | | Cwts. | | Cwts. | |
| Crude | 164,000 | 251,000 | 1,000 | 1,000 | 165,000 | 252,000 |
| Distilled | 153,000 | 353,000 | 25,000 | 58,000 | 178,000 | 411,000 |
| Total—Glycerine | 317,000 | 604,000 | 26,000 | 59,000 | 343,000 | 663,000 |
| Paraffin Wax (Refined) | Cwts. | 110,000 | Cwts. | 15,000 | Cwts. | 125,000 |
| Washing Materials, other than Soaps. | — | 23,000 | — | — | — | 23,000 |
| Waste Products | — | 12,000 | — | 1,000 | — | 13,000 |
| Total | — | 11,142,000 | — | 579,000 | — | 11,721,000 |

The output of soap as shown above is substantially free from duplication, except in the case of "other sorts" of soap which consist partly of textile soaps, and partly of "basis soap" made for sale to other soap manufacturers to be made into toilet soap, soap powder, &c. The 104,000 cwts. of "other sorts" of soap returned on Schedules for other trades appear to be mainly textile soaps, and of the 130,000 cwts. returned on Schedules for the soap and candle trade 25,000 cwts. (valued at £32,000, free on board) were exported in 1907 as "soap stock" and 27,000 cwts. (valued at £21,000, free on board) as "other sorts, including cotton seed oil soap." There was thus left 78,000 cwts. (valued approximately at £90,000) consisting partly of textile soaps and partly of soap for sale to other soap manufacturers who included its value in the value of the soaps made by them; in such soaps are included the 30,000 cwts. of toilet soap and about 9,000 cwts. of soap powder made by manufacturers of toilet preparations, &c., and returned by them on Schedules for the chemical trades.

The total output of soap in the United Kingdom in the census year may, therefore, be taken as lying between 7,593,000 cwts., valued at about £8,766,000, and 7,632,000 cwts., valued at about £8,811,000.

The exports and imports of soap are shown in the following statement in comparison with the gross production:—

| | Production. | Exports, 1907. | Net Imports,* 1907. |
|--|-------------|----------------|---------------------|
| | Cwts. | Cwts. | Cwts. |
| Household and Laundry Soap (in bars or tablets). | 5,669,000 | 1,114,000† | 217,000† |
| Toilet Soap | 281,000 | 50,000 | 18,000‡ |
| Soap Powder | 741,000 | 24,000 | 67,000 |
| Soft Soap | 633,000 | § | § |
| Polishing and Scouring Soap | 113,000 | | |
| Other Sorts | 234,000 | 52,000 | 322,000 |
| Total | 7,671,000 | 1,240,000 | 624,000 |

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

† Described as "Household Soap."

‡ Including "Transparent Soap."

§ Not shown separately; included under "Other Sorts."

|| Including "Soap Stock" and "Other Sorts, including Cotton Seed Oil Soap."

It thus appears that a little under 16·2 per cent. of the total quantity of soap made in the United Kingdom in the year of return was exported, while the net imports (which consisted largely of cotton seed oil soap from the United States for use in the textile trades and of 132,000 cwts. of soap stock, which is used in the manufacture of other forms of soap) were less than one-twelfth of the quantity of soaps made in the United Kingdom. The exports of candles and nightlights in 1907 were 31,789,000 lbs., or about 26 per cent. of the quantity made in the United Kingdom, while the net imports were only 524,000 lbs.

The glycerine used by manufacturers of explosives, &c., is partly purchased from British makers of glycerine who made their Returns on Schedules for the soap and candle trades and is partly imported. About 32,000 cwts. of glycerine (which, on the basis of figures for subsequent years, may be taken to be mainly crude) were imported in 1907 and retained in the United Kingdom, and as crude glycerine contains about 80 per cent. of glycerine, those retained imports would be equal to about 26,000 cwts. of distilled glycerine. It is probable, therefore, that the 25,000 cwts. of distilled glycerine returned on Schedules for other trades does not represent distilled glycerine refined from crude glycerine made by British manufacturers, and, consequently, that there is no duplication in respect of its value. The total make of crude glycerine in the United Kingdom in 1907 may be estimated at about 356,000 cwts. or nearly 12 times the net imports; the exports in the same year were returned as 200,000 cwts., not distinguished between crude and distilled, but assuming that the same proportions held in 1907 as in 1908 the exports in 1907 would be equivalent to 226,000 cwts. of crude glycerine or about 63 per cent. of the estimated quantity produced in the United Kingdom.

The output of paraffin wax shown in the statement on the previous page is exclusive of wax produced in connexion with the Scotch shale oil industry, for which see pages 50 and 51.

In addition, the following products, which are mainly manufactured in other trades, were included in their statements of output by firms that made their Returns on the Schedules for the soap and candle trades:—

| | Value. £ |
|---|------------------|
| Grease, Tallow, Animal Fat, and Stearine | 387,000 |
| Lubricating Oils and Greases | 171,000 |
| Oils other than Lubricating | 241,000 |
| Chemicals and Toilet Preparations | 99,000 |
| Other Products | 178,000 |
| Total | 1,076,000 |

With the exception of tallow to the value of about £18,000 returned by firms of tallow-melters and probably sold to firms of soap and candle manufacturers, there appears to be no substantial duplication between the products in the above statement and the finished products set forth in the statement on page 560, the tallow returned by soap and candle making firms being mainly additions to their stocks of refined tallow.

Taking it as a whole and free from duplication, the value of the output of soap, candles, glycerine, &c., as returned on the Schedules for all trades may be estimated at a sum lying between £11,631,000 and £11,676,000. In addition oils, tallow, and other products, to the value of £1,076,000 are dealt with in the Reports on the trades where they are chiefly manufactured.

Net Output.—The net output of the factories and workshops covered by the Tables on pages 583 to 585 (whose gross output was valued at £12,218,000) was £2,906,000, 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. 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 £9,249,000 and £9,294,000.

The net output per head of persons employed in the censal year was a little over £155.

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 583 to 585 is returned as 18,718, viz., 15,596 wage-earners and 3,122 salaried persons, the total number being distributed by age and sex as follows:—

| Males:— | | Females:— | |
|----------------|--------|----------------|-------|
| Under 18... .. | 2,326 | Under 18... .. | 1,451 |
| Over 18 | 11,889 | Over 18 | 3,052 |

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 | 15,376 | 15,535 | 14,715 | 14,997 |
| Salaried Persons | 3,034 | 3,250 | 2,912 | 2,919 |
| Total | 18,410 | 18,785 | 17,627 | 17,916 |

There were also 440 wage-earners and 93 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 | 11,955,000 | 18,185 | 16,938 |
| Workshops (not using Power) | 263,000 | 533 | — |
| Total | 12,218,000 | 18,718 | 16,938 |

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

| Steam Engines:— | | Horse-Power. |
|--|------------|---------------|
| Reciprocating | ... | 15,250 |
| Steam Turbines | ... | 38 |
| Total | ... | 15,288 |
| Internal Combustion Engines (gas, oil, &c.) | ... | 820 |
| Water Power | ... | 39 |
| Other Power | ... | 791 |
| Total | ... | 16,938 |

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 | ... | 3,504 |
| Other Power | ... | 333 |
| Total | ... | 3,837 |

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 34 per cent. of the engine-power belonging to soap and candle 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 few 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 | 3,504 | 3,443 | 4,884,000 |
| Other Power | 333 | 333 | 336,000 |
| Total | 3,837 | 3,776 | 5,220,000 |

About 445,000 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 able to state only the amounts paid by them.

Plant.—In order to obtain a measure of the capacity of the industry all firms with factories that received the Schedule for the soap and candle trades were requested to state voluntarily their maximum annual capacity for the manufacture of soap and candles. Firms whose output of soap was 4,756,000 cwts., or 64 per cent. of the gross total (7,440,000 cwts.) returned on the Schedules for the soap and candle trades, stated that their maximum annual capacity was 8,180,000 cwts.; thus their output was 58 per cent. of their maximum capacity. Further, firms whose output of candles was 26,707,000 lbs., or 25 per cent. of the total (106,001,000 lbs.) returned on the Schedules for the soap and candle trades, stated that their maximum annual capacity was 50,658,000 lbs.; their output was thus 53 per cent. of their maximum capacity. Soap (231,000 cwts.) and candles (16,374,000 lbs.) returned on Schedules for other trades are not included in these calculations.

Paint, Colour, and Varnish Trades.

Output.—The Tables on pages 586 to 588 are based on Returns received from factories and workshops principally engaged in the manufacture of paints, colours, and varnish. The aggregate gross value of the output of the firms that made their Returns on the Schedules for the paint, colour, and varnish trades is returned as £8,562,000, to which should be added £565,000, the value of similar products included in their statements of

output by firms that made their Returns on Schedules for other trades. The resulting total of £9,127,000 contains, however, a certain amount of duplication.

The following statement shows the particulars furnished regarding the output of the main products of the industry :—

| | Returned on Schedules for the Paint, Colour, and Varnish Trades. | Returned on Schedules for other Trades. | Total. |
|--|--|---|-----------|
| Dry Colours and Pigments :— | £ | £ | £ |
| White Lead | 526,000 | 239,000 | 765,000 |
| Other Sorts | 1,223,000 | 113,000 | 1,336,000 |
| Total—Dry Colours and Pigments ... | 1,749,000 | 352,000 | 2,101,000 |
| Paints and Enamels in Paste or mixed for use (including Ship's Composition)... | 3,870,000 | 176,000 | 4,046,000 |
| Varnish (including Litho and Letterpress Varnish)... | 1,775,000 | 33,000 | 1,808,000 |
| Paint and Varnish Makers' Materials, unspecified ... | 50,000 | — | 50,000 |
| Putty | 42,000 | 4,000 | 46,000 |
| Linseed Oil, Boiled and Refined | 523,000 | — | 523,000 |
| Total | 8,009,000 | 565,000 | 8,574,000 |

In addition, the firms that made their Returns on Schedules for the paint, colour, and varnish trades included in their statements of output the following goods, which are chiefly made by other trades and are dealt with in the Reports on those trades :—

| | Value. |
|--|---------|
| Lubricating Oils and Greases | 73,000 |
| Burning and Other Oils | 47,000 |
| Turpentine and Turpentine Substitutes | 73,000 |
| Unenumerated Chemicals | 69,000 |
| Printers' Ink | 57,000 |
| Grease, Tallow, and Animal Fat | 27,000 |
| Other Products | 131,000 |
| Total... .. | 477,000 |

Further, firms that made paints or ship's composition executed painting work to the value of £76,000, exclusive of the value of the paint or composition made by those firms, but excluding in a few cases some paint bought from other manufacturers.

There is some duplication between the two headings "dry colours and pigments" and "paints and enamels in paste or mixed for use." Examination of the individual Returns shows that paints and enamels in paste or mixed for use amounting in value to £2,888,000 were made by firms that also made dry colours and pigments, and to that extent it is probable that there is no substantial duplication. The remainder of the paints and enamels (valued at £1,133,000 on the Schedules for the paint, colour, and varnish trades and at £25,000 on Schedules for other trades) were mixed by firms that did not make dry colours, and, consequently, the materials for making them (the total cost of which was about £740,000 and £16,000 respectively) so far as they consisted of colours were purchased either from British or from foreign firms making dry colours; in the former case there is duplication in the Returns. The paint and varnish makers' materials valued at £50,000 may be assumed to be all duplicated in the value of the paints made, but the linseed oil valued at £523,000 may have been sold partly to firms outside the trade for their own use and partly to firms of paint makers who returned an output of mixed paints on the Schedules for the paint, colour, and varnish trades. The total value of all the paints, colours, putty, boiled linseed oil, and varnish, made in the United Kingdom in the year of return for sale together with the amount received for painting work may be estimated, taken as a whole, at a sum lying between £7,321,000 and £8,600,000.

The aggregate value of the gross output of the firms that made their Returns on the Schedules for the paint, colour and varnish trades is, as already stated, £8,562,000. Deducting the value of painters' and varnish makers' materials (£50,000) and making allowance for duplication in the value of dry paints (the principal part of £740,000) and boiled linseed oil (£523,000) used in the manufacture of mixed paints, the value of the output of those firms may, taken as a whole, be estimated at a sum lying between 7¼ and 8½ million pounds sterling.

The white lead included in the first statement on the previous page does not represent the whole of the white lead made in the United Kingdom, but only that made for sale or stock by paint manufacturers. As already stated on page 252 it may be estimated that the total make of white lead in the United Kingdom, including that made for their own use by paint manufacturers, was about 50,000 tons and its value about £1,060,000.

Owing to the fact that the classification of paints adopted, on the grounds of the convenience of the trade, for the purposes of the Census is different from that adopted for the purposes of the export and import statistics, it is not possible to compare with any precision the production of paints in the United Kingdom with the quantities exported or imported. The following statement, however, gives the particulars published regarding exports and imports, and it will be observed that materials for paints as well as mixed paints are included under the same headings :—

| | Exports, 1907. | | Net Imports,* 1907. | |
|------------------------------------|----------------|-----------|---------------------|-----------|
| | Quantity. | Value. | Quantity. | Value. |
| Painters' Colours and Materials :— | Cwts. | £ | Cwts. | £ |
| Nickel Oxide | † | 1,000 | 24,000 | 125,000 |
| White Lead | 400,000 | 485,000 | 296,000 | 306,000 |
| Zinc Oxide | 89,000 | 108,000 | 286,000 | 329,000 |
| Other Sorts | 1,505,000 | 1,965,000 | 1,566,000 | 864,000 |
| Total | 1,994,000 | 2,559,000 | 2,172,000 | 1,624,000 |

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

† 109 cwts.

Net Output.—The net output of the factories and workshops covered by the Tables on pages 586 to 588 (whose gross output was valued at £8,562,000) was £2,744,000, 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. 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 4½ and 5¼ million pounds sterling.

The net output per head of persons employed in the censal year was a little over £198. It should be remembered in this connexion that in many cases the manufacturers' expenses of sale (*e.g.*, advertisements, travelling, &c.) are very heavy.

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 586 to 588 is returned as 13,840, *viz.*, 10,574 wage-earners and 3,266 salaried persons, the total number being distributed by age and sex as follows :—

| Males :— | | Females :— | |
|-----------------|--------|-----------------|-------|
| Under 18 | 1,175 | Under 18 | 170 |
| Over 18 | 11,419 | Over 18... .. | 1,076 |

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 | 10,168 | 10,429 | 10,547 | 10,343 |
| Salaried Persons | 3,187 | 3,205 | 3,184 | 3,195 |
| Total | 13,355 | 13,634 | 13,731 | 13,538 |

There were also 202 wage-earners and 73 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 | 8,454,000 | 13,556 | 14,575 |
| Factories renting their Power | 5,000 | 9 | — |
| Workshops (not using Power) | 103,000 | 275 | — |
| Total | 8,562,000 | 13,840 | 14,575 |

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

| | Horse-Power. |
|--|--------------|
| Steam Engines, Reciprocating | 10,485 |
| Internal Combustion Engines (gas, oil, &c.) | 3,469 |
| Water Power | 567 |
| Other Power | 54 |
| Total | 14,575 |

Precise details as to the amount and kind of power rented 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 | 448 |
| Other Power | 64 |
| Total | 512 |

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 paint, colour, and varnish 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. 448 | Kilowatts. 209 | Board of Trade Units. 208,000 |
| Other Power | 64 | 64 | 71,000 |
| Total | 512 | 273 | 279,000 |

About 2,215,000 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 able to state only the amounts paid by them, but the total quantity so estimated forms a very small proportion of the whole.

Explosives, Ammunition, and Fireworks Trades.

Output.—The Tables on pages 589 and 590 are based on Returns received from factories and workshops engaged in the manufacture of explosives, ammunition, and fireworks. The aggregate gross value of the output of the firms that made their Returns on the Schedules for the explosives, ammunition, and fireworks trades is returned as £3,947,000, to which should be added £962,000, 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 £4,909,000 contains, however, an amount of duplication. Explosives, ammunition, &c., made in Government factories (and valued, at cost, at £1,278,101) are not included (for these see pages 168 and 169).

The following statement shows the details furnished on the Schedules for the explosives, ammunition, and fireworks trades, relating to the products manufactured and valued at £3,947,000 :—

| | Value. |
|--|-----------|
| Explosives and Propellants (including Gunpowder, Cordite, Smokeless Powders, Dynamite, and other High Explosives) | 2,175,000 |
| Ammunition and Components (including Military, Naval, and Sporting Ammunition; Shot, Shell and Torpedoes; Cartridges and Cases, filled or empty; Safety Fuzes, Military Fuzes, Electric and other Fuzes, Detonators, Fog Signals, Tubes, Primers, &c.; Percussion Caps; Rockets and other Combustibles for warlike purposes, &c.) | 1,435,000 |
| Fireworks (including Toy Fireworks, Display Fireworks, and Distress and Night Signals for the Merchant Marine)... .. | 103,000 |
| Sundry Chemical Products | 58,000 |
| Metal Products | 104,000 |
| Other Products | 72,000 |

The output of explosives and propellants shown above does not represent the value of the total quantity manufactured, but only of that portion which was not used by the makers in the manufacture of ammunition, &c. In addition, ammunition and components to the value of £962,000 were included in their statements of output by firms that made their Returns on Schedules for other trades, raising the total value of this group of products to £2,397,000.

From an examination of the individual Returns, there appears to be no duplication in respect of ammunition, fuzes, shot, shell, torpedoes, &c., valued at £1,521,000 (£725,000 on Schedules for the explosives and ammunition trades and £796,000 on Schedules for other trades); components to the value of £63,000 (£29,000 on the Schedules for the explosives and ammunition trades and £34,000 on Schedules for other trades) are duplicated; there is duplication in ammunition valued at £681,000 on the Schedules for the explosives and ammunition trades and £132,000 on Schedules for other trades. The materials used in the production of this last-mentioned class may be estimated at about £565,000, and the materials used in the manufacture of fireworks amounted to about £45,000, but both of those amounts consisted only partly of gunpowder, &c., purchased from manufacturers of explosives. The total value of the explosives, ammunition, and fireworks made in the United Kingdom may thus be estimated at a sum lying between £4,000,000 and £4,500,000. In addition, chemical and other products to the value of £234,000 were produced by firms that made their Returns on the Schedules for the explosives and ammunition trades, and are dealt with in the Reports on the trades by which they are chiefly manufactured.

Ammunition and fireworks were not separately distinguished in the Export and Import Lists in 1907, but the value of the exports of ammunition and components, shot, shell, torpedoes, and fireworks was £898,000, free on board, or about three-eighths of the value at works of the ammunition and fireworks manufactured by private makers in the United Kingdom; the value of the net imports (*i.e.*, imports less re-exports) at the port of landing was £113,000. The value of the explosives and propellants exported in 1907 was £1,367,000, free on board, but it is not possible to say precisely what proportion this bears to the total output; the value of the net imports at port of landing was £23,000.

Net Output.—The net output of the factories and workshops covered by the Tables on pages 589 and 590 (whose gross output was valued at £3,947,000) was £1,509,000,

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. The actual cost of materials used by those factories and workshops, taken as a whole, cannot be stated, but it may be estimated at a sum lying between £2,000,000 and £2,400,000.

The net output per head of persons employed in the censal year was a little over £118.

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 589 and 590 is returned as 12,744, viz., 11,825 wage-earners and 919 salaried persons, the total number being distributed by age and sex as follows:—

| | | | |
|-----------------|-------|-----------------|-------|
| Males:— | | Females:— | |
| Under 18 | 619 | Under 18 | 1,295 |
| Over 18 | 6,601 | Over 18 | 4,229 |

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 | 11,873 | 11,157 | 11,352 | 11,394 |
| Salaried Persons | 884 | 892 | 866 | 873 |
| Total | 12,757 | 12,049 | 12,218 | 12,267 |

There were also 381 wage-earners and 40 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. |
|---|------------------------|-------------------------------------|----------------------------|
| Factories with their own Engines | £ 3,890,000 | 12,323 | Horse-Power. 15,522 |
| Workshops (not using Power) | 57,000 | 421 | — |
| Total | 3,947,000 | 12,744 | 15,522 |

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

| | Horse-Power. |
|--|--------------|
| Steam Engines, Reciprocating | 12,395 |
| Internal Combustion Engines (gas, oil, &c.) | 1,615 |
| Water Power | 1,405 |
| Other Power | 107 |
| Total | 15,522 |

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 | 2,688 |
| Other Power | 90 |
| Total | 2,778 |

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 1000 horse-power, and allowing about 10 per cent. for loss of energy in conversion) about 27 per cent. of the engine-power belonging to explosives, ammunition, and fireworks 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 few 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. |
| Steam Engines, Reciprocating | Kilowatts. 2,688 | Kilowatts. 2,576 | Board of Trade Units. 3,522,000 |
| Other Power | 90 | 79 | 49,000 |
| Total | 2,778 | 2,655 | 3,571,000 |

About 135,000 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 some small firms who were able to state only the amounts paid by them.

Match and Firelighter Trades.

Output.—The Tables on pages 591 and 592 contain particulars received from factories and workshops engaged in the production of matches of all kinds and firelighters. The aggregate value of the output of the firms that made their Returns on the Schedule for the match and firelighter trades is returned as £855,000, to which should be added £7,000, the value of similar products included in their statements of output by firms that made their Returns on Schedules for other trades, raising the total to £862,000.

The following statement, which is free from duplication, gives the particulars furnished respecting the output of the match and firelighter trades:—

| | Returned on the Schedule for the Match and Firelighter Trade. | Returned on Schedules for other Trades. | Total. |
|--|---|---|-----------|
| Matches of all kinds (including Wax Tapers, Vesuvians, Braided Lights, &c.) | £ 775,000 | £ 5,000 | £ 780,000 |
| Firelighters | 66,000 | 2,000 | 68,000 |
| Other Products | 14,000 | — | 14,000 |
| Total | 855,000 | 7,000 | 862,000 |

The value of exports of matches in 1907 was £76,000, and of net imports (*i.e.*, imports less re-exports) £365,000, but, as already stated, the value of exports is taken free on board and that of imports at the port of landing, while that of the production of the United Kingdom is calculated as at works. It would, therefore, appear that the net imports amounted in value to a little less than one-half of the value of the matches made in the United Kingdom, and that about 9 or 10 per cent. of the latter was exported.

Net Output.—The net output of the factories and workshops covered by the Tables on pages 591 and 592 (whose gross output was valued at £855,000) was £409,000, 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. The actual cost of materials used by those factories and workshops, taken as a whole, was £446,000.

The net output per head of persons employed (excluding outworkers) in the censal year was a little over £96.

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 591 and 592, is returned as 4,256, viz., 3,865 wage-earners and 391 salaried persons, the total number being distributed by age and sex as follows:—

| | | | |
|-----------------|-----|-----------------|-------|
| Males:— | | Females:— | |
| Under 18 | 260 | Under 18 | 937 |
| Over 18 | 982 | Over 18 | 2,077 |

In addition, the average number of outworkers on the books of the employing firms on February 1st and August 1st, 1907, was 117, viz., 1 male and 116 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 | 3,946 | 3,803 | 3,466 | 3,694 |
| Salaried Persons | 347 | 353 | 371 | 402 |
| Total | 4,293 | 4,156 | 3,837 | 4,096 |

There were also 138 wage-earners and 23 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 | 832,000 | 4,095 | 1,591 |
| Workshops (not using Power) | 23,000 | 161 | — |
| Total | 855,000 | 4,256 | 1,591 |

| Classed according to kinds of power, the particulars are:— | | | Horse-Power. |
|--|-----|-----|--------------|
| Steam Engines, Reciprocating | ... | ... | 1,294 |
| Internal Combustion Engines (gas, oil, &c.) | ... | ... | 287 |
| Water Power | ... | ... | 10 |
| Total | ... | ... | 1,591 |

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 | ... | 101 |
| Other Power | ... | 15 |
| Total | ... | 116 |

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-ninth of the engine-power belonging to match and firelighter 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 the following statement summarises the information furnished:—

| Dynamos driven by | Total Capacity of Dynamos. | Electricity Generated, so far as particulars were returned. |
|-------------------------------------|----------------------------|---|
| | Kilowatts. | Board of Trade Units. |
| Steam Engines, Reciprocating | 101 | 10,000 |
| Other Power | 15 | 5,000 |
| Total | 116 | 15,000 |

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 some small firms who were able to state only the amounts paid by them.

TABLES.

CHEMICALS, COAL TAR PRODUCTS, DRUGS, AND PERFUMERY TRADES.

TABLE I.—OUTPUT.

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

| | United Kingdom.* | |
|--|------------------|-----------|
| | Quantity. | Value. |
| Acids:— | Tons. | £ |
| Acetic Acid | 6,000 | 91,000 |
| Hydrochloric Acid | 198,000 | 241,000 |
| Nitric Acid | 6,000 | 91,000 |
| Sulphuric Acid | 475,000 | 861,000 |
| Aluminous Sulphates (including Alum) | 72,000 | 213,000 |
| Ammoniacal Liquor | † | 34,000 |
| Ammonia, Sulphate of | 28,000 | 319,000 |
| Arsenic and its Oxides | 2,000 | 55,000 |
| Bleaching Materials:— | | |
| Bleaching Powder | 109,000 | 444,000 |
| Other Sorts | 16,000 | 77,000 |
| TOTAL—Bleaching Materials | 125,000 | 521,000 |
| Boiler Composition and Disincrustants | † | 62,000 |
| Borax | 14,000 | 205,000 |
| Brewers' Finings | † | 71,000 |
| Coal Tar Products (except Dyes):— | Lbs. | |
| Anthracene | 3,319,000 | 8,000 |
| Benzol and Toluol | Galls. | |
| ... | 3,278,000 | 120,000 |
| ... | 670,000 | 44,000 |
| Carbolic Acid | Cwts. | |
| ... | 149,000 | 145,000 |
| Coal Tar, Crude | 488,000 | 26,000 |
| ... | Galls. | |
| Coal Tar, Refined, and Varnish | 4,815,000 | 54,000 |
| Naphtha | 4,327,000 | 150,000 |
| ... | Cwts. | |
| Naphthalene | 255,000 | 33,000 |
| ... | Tons. | |
| Pitch | 537,000 | 684,000 |
| ... | Galls. | |
| Tar Oil, Creosote, &c. | 49,022,000 | 545,000 |
| Other Sorts and Unspecified | † | 346,000 |
| TOTAL—Coal Tar Products (except Dyes) | — | 2,155,000 |
| Coal Tar Dyes | Cwts. | |
| ... | 139,000 | 373,000 |
| Compressed Gases:— | | |
| Carbonic Acid | † | 81,000 |
| Other Gases | † | 37,000 |
| Copper, Sulphate of | Tons. | |
| ... | 26,000 | 598,000 |
| Copper, Unwrought | † | 1,326,000 |
| Culinary Preparations and Grocers' Sundries | † | 59,000 |
| Disinfectants, Insecticides, Weed-killers, and Sheep and Cattle Dressings | † | 137,000 |
| Druggists' Sundries | † | 119,000 |
| Drugs and Galenical Preparations | † | 2,506,000 |
| Dyewoods and Tanning Materials, Ground or Prepared | † | 98,000 |
| Essential Oils | Lbs. | |
| ... | 479,000 | 112,000 |
| Extracts for Tanners, Printers, and Dyers | † | 316,000 |
| Fine and Pharmaceutical Chemicals (including Alkaloids, Chloroform, Ether, &c.) | † | 1,643,000 |
| Finishing Materials for Textile Trades:— | | |
| Epsom and Glaubers' Salts | † | 70,000 |
| Gums | † | 94,000 |
| Other Sorts, not Oils | † | 189,000 |

* In order to avoid the possible disclosure of particulars relating to certain firms, figures as to the several classes of output can only be shown for the United Kingdom as a whole; separate totals are, however, shown for each division of the United Kingdom.

† Recorded by Value only.

Chemicals, Coal Tar Products, Drugs, and Perfumery Trades—continued.

TABLE I.—OUTPUT—continued.

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

| | United Kingdom.* | |
|--|------------------|------------|
| | Quantity. | Value. |
| | | £ |
| Manures, other than Sulphate of Ammonia | † | 205,000 |
| Mineral Residues containing Gold, Silver, &c. | † | 62,000 |
| Mordants (other than Aluminous Sulphates) | † | 34,000 |
| Oils, Soluble and Other, for Textile and Other Trades | † | 41,000 |
| Patent Medicines | † | 1,306,000 |
| | Galls. | |
| Perfumed Spirits | 111,000 | 302,000 |
| Perfumery and Toilet Preparations (except Perfumed Spirits and Toilet Soap) | † | 510,000 |
| Photographic Materials (Plates, Paper, and Films) | † | 581,000 |
| Prepared Foods for Infants and Invalids | † | 576,000 |
| Purple Iron Ore... .. | † | 315,000 |
| Pyrites, Burnt | † | 13,000 |
| | Cwts. | |
| Toilet | 30,000 | 126,000 |
| Other Sorts... .. | 95,000 | 75,000 |
| | Tons. | |
| Soda Compounds (except Chromates, Cyanides, Borax, and Salt) | 682,000 | 3,317,000 |
| Sulphur | 31,000 | 148,000 |
| Wood Distillation Products (except Acetic Acid and Mordants):— | | |
| Acetate of Lime | † | 11,000 |
| Charcoal | † | 26,000 |
| Wood Spirits | † | 5,000 |
| Other Products | † | 4,000 |
| Chemicals not otherwise enumerated | † | 3,066,000 |
| Other Products | † | 600,000 |
| TOTAL VALUE OF GOODS MADE FOR SALE | — | 24,000,000 |
| Work Done for the Trade (Drug Grinding, &c.) | † | 25,000 |
| TOTAL VALUE OF GOODS MADE AND WORK DONE | — | 24,025,000 |
| TOTAL VALUE FOR ENGLAND AND WALES | — | 21,998,000 |
| TOTAL VALUE FOR SCOTLAND | — | 1,895,000 |
| TOTAL VALUE FOR IRELAND | — | 132,000 |

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 | 13,108,000 | 1,259,000 | 81,000 | 14,448,000 |
| Amount Paid to Other Firms for Work Given Out to them. | 9,000 | — | — | 9,000 |
| TOTAL | 13,117,000 | 1,259,000 | 81,000 | 14,457,000 |
| II. | | | | |
| Value of Output:— | | | | |
| Goods made for Sale | 21,973,000 | 1,895,000 | 132,000 | 24,000,000 |
| Work Done for the Trade | 25,000 | — | — | 25,000 |
| TOTAL | 21,998,000 | 1,895,000 | 132,000 | 24,025,000 |
| III. | | | | |
| Value of Output less Cost of Materials Used and Amount Paid to Other Firms for Work Given Out to them. | 8,881,000 | 636,000 | 51,000 | 9,568,000 |

* In order to avoid the possible disclosure of particulars relating to certain firms, figures as to the several classes of output can only be shown for the United Kingdom as a whole; separate totals are, however, shown for each division of the United Kingdom.

† Recorded by Value only.

Chemicals, Coal Tar Products, Drugs, and Perfumery 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 | 2,907 | 34,200 | 37,107 | 1,457 | 3,924 | 5,381 | 4,364 | 38,124 | 42,488 |
| Salaried Persons | 525 | 4,609 | 5,134 | 65 | 476 | 541 | 590 | 5,085 | 5,675 |
| TOTAL | 3,432 | 38,809 | 42,241 | 1,522 | 4,400 | 5,922 | 4,954 | 43,209 | 48,163 |
| SCOTLAND:— | | | | | | | | | |
| Wage-earners | 80 | 2,585 | 2,665 | 97 | 429 | 526 | 177 | 3,014 | 3,191 |
| Salaried Persons | 22 | 367 | 389 | 23 | 79 | 102 | 45 | 446 | 491 |
| TOTAL | 102 | 2,952 | 3,054 | 120 | 508 | 628 | 222 | 3,460 | 3,682 |
| IRELAND:— | | | | | | | | | |
| Wage-earners | 15 | 331 | 346 | 5 | 10 | 15 | 20 | 341 | 361 |
| Salaried Persons | 5 | 44 | 49 | — | 2 | 2 | 5 | 46 | 51 |
| TOTAL | 20 | 375 | 395 | 5 | 12 | 17 | 25 | 387 | 412 |
| UNITED KINGDOM:— | | | | | | | | | |
| Wage-earners | 3,002 | 37,116 | 40,118 | 1,559 | 4,363 | 5,922 | 4,561 | 41,479 | 46,040 |
| Salaried Persons | 552 | 5,020 | 5,572 | 88 | 557 | 645 | 640 | 5,577 | 6,217 |
| TOTAL | 3,554 | 42,136 | 45,690 | 1,647 | 4,920 | 6,567 | 5,201 | 47,056 | 52,257 |

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 | 20,408,000 | 44,842 | 104,092 | 1,832,000 | 3,472 | 4,119 |
| Factories renting their Power | 153,000 | 315 | — | 8,000 | 11 | — |
| Workshops (not using Power) | 1,437,000 | 3,006 | — | 55,000 | 199 | — |
| TOTAL | 21,998,000 | 48,163 | 104,092 | 1,895,000 | 3,682 | 4,119 |
| | IRELAND. | | | UNITED KINGDOM. | | |
| | £ | | Horse-Power. | £ | | Horse-Power. |
| Factories with their own Engines | 132,000 | 412 | 2,510 | 22,372,000 | 48,726 | 110,721 |
| Factories renting their Power | — | — | — | 161,000 | 326 | — |
| Workshops (not using Power) | — | — | — | 1,492,000 | 3,205 | — |
| TOTAL | 132,000 | 412 | 2,510 | 24,025,000 | 52,257 | 110,721 |

Chemicals, Coal Tar Products, Drugs, and Perfumery 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 ... | 87,660 | 3,956 | 1,003 | 92,619 |
| Steam Turbines ... | 435 | — | — | 435 |
| Internal Combustion Engines (gas, oil, &c.) | 15,314 | 148 | 7 | 15,469 |
| Water Power ... | 409 | 15 | 1,500 | 1,924 |
| Other Power ... | 274 | — | — | 274 |
| TOTAL ... | 104,092 | 4,119 | 2,510 | 110,721 |
| | Kilowatts. | Kilowatts. | Kilowatts. | Kilowatts. |
| Capacity of Dynamos driven by:— | | | | |
| Steam Engines: Reciprocating ... | 10,160 | 47 | 569 | 10,776 |
| Steam Turbines ... | 301 | — | — | 301 |
| Other Power ... | 7,052 | 6 | 1,068 | 8,126 |
| TOTAL ... | 17,513 | 53 | 1,637 | 19,203 |

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 ... | 35,840,000 | 61,000 | — | 35,901,000 |

SEED-CRUSHING 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. |
|---------------------------------|----------------------------------|------------------|-------------------|
| | Quantity. | | |
| | Tons. | Tons. | Tons. |
| Oil, Oilcakes, and Sundries ... | 1,253,000 | 118,000 | 1,371,000 |
| Other Products ... | <i>(Recorded by Value only.)</i> | | |
| | Value. | | |
| | £ | £ | £ |
| Oil, Oilcakes, and Sundries ... | 11,844,000 | 1,096,000 | 12,940,000 |
| Other Products ... | 20,000 | 1,000 | 21,000 |
| TOTAL VALUE ... | 11,864,000 | 1,097,000 | 12,961,000 |

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 and Ireland.* | Scotland. | United Kingdom. |
|--|---------------------------------|-----------|-----------------|
| | £ | £ | £ |
| I. Cost of Materials Used ... | 10,589,000 | 984,000 | 11,573,000 |
| II. Value of Output ... | 11,864,000 | 1,097,000 | 12,961,000 |
| III. Value of Output less Cost of Materials Used ... | 1,275,000 | 113,000 | 1,388,000 |

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 AND IRELAND* :— | | | | | | | | | |
| Wage-earners ... | 108 | 6,100 | 6,208 | — | 48 | 48 | 108 | 6,148 | 6,256 |
| Salaried Persons ... | 68 | 669 | 737 | 1 | 18 | 19 | 69 | 687 | 756 |
| TOTAL ... | 176 | 6,769 | 6,945 | 1 | 66 | 67 | 177 | 6,835 | 7,012 |
| SCOTLAND :— | | | | | | | | | |
| Wage-earners ... | 5 | 540 | 545 | — | 4 | 4 | 5 | 544 | 549 |
| Salaried Persons ... | 20 | 102 | 122 | 2 | 11 | 13 | 22 | 113 | 135 |
| TOTAL ... | 25 | 642 | 667 | 2 | 15 | 17 | 27 | 657 | 684 |
| UNITED KINGDOM :— | | | | | | | | | |
| Wage-earners ... | 113 | 6,640 | 6,753 | — | 52 | 52 | 113 | 6,692 | 6,805 |
| Salaried Persons ... | 88 | 771 | 859 | 3 | 29 | 32 | 91 | 800 | 891 |
| TOTAL ... | 201 | 7,411 | 7,612 | 3 | 81 | 84 | 204 | 7,492 | 7,696 |

* 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.

Seed-Crushing 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 AND WALES AND IRELAND.* | | | SCOTLAND. | | | UNITED KINGDOM. | | |
|-----------------------------------|---------------------------------|-------|--------------|-----------|-----|--------------|-----------------|-------|--------------|
| | £ | | Horse-Power. | £ | | Horse-Power. | £ | | Horse-Power. |
| Factories with their own Engines. | 11,864,000 | 7,012 | 23,542 | 1,097,000 | 684 | 2,950 | 12,961,000 | 7,696 | 26,492 |

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 ... | 22,714 | 2,545 | 25,259 |
| Steam Turbines ... | 261 | — | 261 |
| Internal Combustion Engines (gas, oil, &c.) ... | 437 | 285 | 722 |
| Water Power ... | 130 | 120 | 250 |
| Other Power ... | — | — | — |
| TOTAL ... | 23,542 | 2,950 | 26,492 |

| | England and Wales and Ireland.* | Scotland. | United Kingdom. |
|----------------------------------|---------------------------------|------------|-----------------|
| | Kilowatts. | Kilowatts. | Kilowatts. |
| Capacity of Dynamos driven by:— | | | |
| Steam Engines: Reciprocating ... | 1,007 | 54 | 1,061 |
| Steam Turbines ... | 35 | — | 35 |
| TOTAL ... | 1,042 | 54 | 1,096 |

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 ... | 49,000 | 4,000 | 53,000 |

* 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.

OIL AND TALLOW TRADES (EXCLUDING SEED-CRUSHING).

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. | | |
| Fish Oil, Manufactured Directly ... | | | |
| Burning Oils ... | | | |
| Lubricating Oils and Greases ... | | | |
| Soluble and other Oils for the Textile Trades ... | | | |
| Oils not Lubricating, Textile, Burning, or Seed ... | | | |
| Turpentine and Turpentine Substitutes ... | | | |
| Other Oil Products ... | | | |
| | <i>(Recorded by Value only.)</i> | | |
| Grease, Tallow, Animal Fat, and Stearine ... | Tons. 45,000 | Tons. 10,000 | Tons. 55,000 |
| Guano ... | 16,000 | 7,000 | 23,000 |
| Bones (except Whalebone) for Manufacturing Purposes ... | | | |
| | <i>(Recorded by Value only.)</i> | | |
| Bones for Manure ... | † | † | 8,000 |
| Pitch ... | | | |
| Paints and Colours ... | | | |
| Soap ... | | | |
| Candles ... | | | |
| Other Manures, except Superphosphates ... | | | |
| Waste Products ... | | | |
| Other Products ... | | | |
| Amount Received for Work Done for the Trade (Boiling, Blending and Refining Oils). | | | |
| | Value. | | |
| | £ | £ | £ |
| Fish Oil, Manufactured Directly ... | 102,000 | 287,000 | 389,000 |
| Burning Oils ... | 329,000 | 34,000 | 363,000 |
| Lubricating Oils and Greases ... | 1,388,000 | 183,000 | 1,571,000 |
| Soluble and other Oils for the Textile Trades ... | 200,000 | 76,000 | 276,000 |
| Oils not Lubricating, Textile, Burning, or Seed ... | 1,786,000 | 88,000 | 1,874,000 |
| Turpentine and Turpentine Substitutes ... | 32,000 | — | 32,000 |
| Other Oil Products ... | † | † | 68,000 |
| Grease, Tallow, Animal Fat, and Stearine ... | 1,135,000 | 324,000 | 1,459,000 |
| Guano ... | 77,000 | 48,000 | 125,000 |
| Bones (except Whalebone) for Manufacturing Purposes ... | 46,000 | — | 46,000 |
| Bones for Manure ... | † | † | 29,000 |
| Pitch ... | † | † | 42,000 |
| Paints and Colours ... | † | † | 62,000 |
| Soap ... | † | † | 42,000 |
| Candles ... | † | † | 50,000 |
| Other Manures, except Superphosphates ... | 27,000 | — | 27,000 |
| Waste Products ... | 17,000 | — | 17,000 |
| Other Products ... | 110,000 | 18,000 | 128,000 |
| TOTAL VALUE OF GOODS MADE FOR SALE ... | 5,495,000 | 1,105,000 | 6,600,000 |
| Amount Received for Work Done for the Trade (Boiling, Blending, and Refining Oils). | 2,000 | 1,000 | 3,000 |
| TOTAL VALUE OF GOODS MADE AND WORK DONE | 5,497,000 | 1,106,000 | 6,603,000 |

* 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.

Oil and Tallow Trades (excluding Seed-Crushing)—*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 and Ireland.* | Scotland. | United Kingdom. |
|--|------|---------------------------------|-----------|-----------------|
| | I. | £ | £ | £ |
| Cost of Materials Used ... | ... | 4,584,000 | 906,000 | 5,490,000 |
| | II. | | | |
| Value of Output :— | | | | |
| • Goods Made for Sale ... | ... | 5,495,000 | 1,105,000 | 6,600,000 |
| Work Done for the Trade ... | ... | 2,000 | 1,000 | 3,000 |
| TOTAL ... | ... | 5,497,000 | 1,106,000 | 6,603,000 |
| | III. | | | |
| Value of Output less Cost of Materials Used... | ... | 913,000 | 200,000 | 1,113,000 |

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 ... | 166 | 3,592 | 3,758 | 6 | 62 | 68 | 172 | 3,654 | 3,826 |
| Salaried Persons ... | 100 | 926 | 1,026 | 8 | 76 | 84 | 108 | 1,002 | 1,110 |
| TOTAL ... | 266 | 4,518 | 4,784 | 14 | 138 | 152 | 280 | 4,656 | 4,936 |
| SCOTLAND :— | | | | | | | | | |
| Wage-earners ... | 28 | 735 | 763 | — | 11 | 11 | 28 | 746 | 774 |
| Salaried Persons ... | 25 | 140 | 165 | 1 | 11 | 12 | 26 | 151 | 177 |
| TOTAL ... | 53 | 875 | 928 | 1 | 22 | 23 | 54 | 897 | 951 |
| UNITED KINGDOM :— | | | | | | | | | |
| Wage-earners ... | 194 | 4,327 | 4,521 | 6 | 73 | 79 | 200 | 4,400 | 4,600 |
| Salaried Persons ... | 125 | 1,066 | 1,191 | 9 | 87 | 96 | 134 | 1,153 | 1,287 |
| TOTAL ... | 319 | 5,393 | 5,712 | 15 | 160 | 175 | 334 | 5,553 | 5,887 |

* 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.

Oil and Tallow Trades (excluding Seed-Crushing)—*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. | ENGLAND AND WALES AND IRELAND.* | | | SCOTLAND. | | | UNITED KINGDOM. | | |
|-----------------------------------|------------------------|-----------------------------|----------------------------|---------------------------------|--------------|-------|-----------|--------------|-------|-----------------|--------------|--|
| | | | | £ | Horse-Power. | | £ | Horse-Power. | | £ | Horse-Power. | |
| Factories with their own Engines. | 5,214,000 | 4,553 | 5,807 | 1,073,000 | 872 | 1,224 | 6,287,000 | 5,425 | 7,031 | | | |
| Factories renting their Power. | 6,000 | 4 | — | — | — | — | 6,000 | 4 | — | | | |
| Workshops (not using Power). | 277,000 | 379 | — | 33,000 | 79 | — | 310,000 | 458 | — | | | |
| TOTAL ... | 5,497,000 | 4,936 | 5,807 | 1,106,000 | 951 | 1,224 | 6,603,000 | 5,887 | 7,031 | | | |

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 ... | 5,117 | 1,007 | 6,124 |
| Internal Combustion Engines (gas, oil, &c.) ... | 601 | 167 | 768 |
| Water Power ... | 30 | — | 30 |
| Other Power ... | 59 | 50 | 109 |
| TOTAL ... | 5,807 | 1,224 | 7,031 |
| | Kilowatts. | Kilowatts. | Kilowatts. |
| Capacity of Dynamos driven by :— | | | |
| Steam Engines, Reciprocating ... | 403 | 32 | 435 |
| Other Power ... | 24 | 4 | 28 |
| TOTAL ... | 427 | 36 | 463 |

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 ... | 116,000 | 40,000 | 156,000 |

* 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.

FERTILIZER, GLUE, SHEEP-DIP, AND DISINFECTANT 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. |
|--|--------------------|-----------|----------|-----------------|
| | Quantity. | | | |
| | Tons. | Tons. | Tons. | Tons. |
| Manures :— | | | | |
| Basic slag | * | * | — | 203,000 |
| Sulphate of Ammonia | * | * | — | 1,000 |
| Superphosphates | 368,000 | 70,000 | 87,000 | 525,000 |
| Other Manures | 323,000 | 73,000 | 60,000 | 456,000 |
| TOTAL—Manures | 877,000 | 161,000 | 147,000 | 1,185,000 |
| | Value. | | | |
| | £ | £ | £ | £ |
| Manures :— | | | | |
| Basic Slag | 2,464,000 | 588,000 | 490,000 | 3,542,000 |
| Sulphate of Ammonia | * | * | * | 94,000 |
| Superphosphates | * | * | * | 573,000 |
| Other Manures | 404,000 | 56,000 | 8,000 | 468,000 |
| Sulphuric Acid | * | — | * | 105,000 |
| Glue, Size, and Gelatine... .. | * | * | — | 593,000 |
| Grease, Tallow, and Animal Fat | * | * | * | 211,000 |
| Bones for Manufacturing Purposes and Bone By-products. | * | * | — | 196,000 |
| Disinfectants, Insecticides, Weed Killers, and Sheep and Cattle Dressings. | * | * | — | 30,000 |
| Cattle Foods (Cake and Artificial Feeding Stuffs). | 26,000 | — | — | 26,000 |
| Chemical Products, Drugs, Perfumery, &c. ... | 12,000 | — | — | 12,000 |
| Oils | 8,000 | 3,000 | — | 11,000 |
| Animal Residues | | | | |
| Soap | | | | |
| Other Products | | | | |
| TOTAL VALUE... .. | 4,453,000 | 855,000 | 553,000 | 5,861,000 |

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 | 2,999,000 | 571,000 | 371,000 | 3,941,000 |
| II. Value of Output | 4,453,000 | 855,000 | 553,000 | 5,861,000 |
| III. Value of Output less Cost of Materials Used... | 1,454,000 | 284,000 | 182,000 | 1,920,000 |

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

Fertilizer, Glue, Sheep-dip, and Disinfectant 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 | 450 | 6,887 | 7,337 | 129 | 624 | 753 | 579 | 7,511 | 8,090 |
| Salaried Persons | 115 | 1,123 | 1,238 | 14 | 55 | 69 | 129 | 1,178 | 1,307 |
| TOTAL | 565 | 8,010 | 8,575 | 143 | 679 | 822 | 708 | 8,689 | 9,397 |
| SCOTLAND :— | | | | | | | | | |
| Wage-earners | 36 | 1,338 | 1,374 | 29 | 152 | 181 | 65 | 1,490 | 1,555 |
| Salaried Persons | 24 | 185 | 209 | 1 | 12 | 13 | 25 | 197 | 222 |
| TOTAL | 60 | 1,523 | 1,583 | 30 | 164 | 194 | 90 | 1,687 | 1,777 |
| IRELAND :— | | | | | | | | | |
| Wage-earners | 30 | 1,070 | 1,100 | — | 57 | 57 | 30 | 1,127 | 1,157 |
| Salaried Persons | 5 | 99 | 104 | 1 | 8 | 9 | 6 | 107 | 113 |
| TOTAL | 35 | 1,169 | 1,204 | 1 | 65 | 66 | 36 | 1,234 | 1,270 |
| UNITED KINGDOM :— | | | | | | | | | |
| Wage-earners | 516 | 9,295 | 9,811 | 158 | 833 | 991 | 674 | 10,128 | 10,802 |
| Salaried Persons | 144 | 1,407 | 1,551 | 16 | 75 | 91 | 160 | 1,482 | 1,642 |
| TOTAL | 660 | 10,702 | 11,362 | 174 | 908 | 1,082 | 834 | 11,610 | 12,444 |

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 | 4,408,000 | 9,282 | 16,474 | 852,000 | 1,768 | 3,667 |
| Factories renting their Power | 3,000 | 6 | — | — | — | — |
| Workshops (not using Power) | 42,000 | 109 | — | 3,000 | 9 | — |
| TOTAL | 4,453,000 | 9,397 | 16,474 | 855,000 | 1,777 | 3,667 |
| | IRELAND. | | | UNITED KINGDOM. | | |
| | £ | | Horse-Power. | £ | | Horse-Power. |
| Factories with their own Engines | 550,000 | 1,256 | 1,759 | 5,810,000 | 12,306 | 21,900 |
| Factories renting their Power | — | — | — | 3,000 | 6 | — |
| Workshops (not using Power) | 3,000 | 14 | — | 48,000 | 132 | — |
| TOTAL | 553,000 | 1,270 | 1,759 | 5,861,000 | 12,444 | 21,900 |

Fertilizer, Glue, Sheep-dip, and Disinfectant 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 ... | 14,787 | 2,854 | 1,389 | 19,030 |
| Internal Combustion Engines (gas, oil, &c.) ... | 1,499 | 720 | 340 | 2,559 |
| Water Power ... | 142 | 93 | 30 | 265 |
| Other Power ... | 46 | — | — | 46 |
| TOTAL ... | 16,474 | 3,667 | 1,759 | 21,900 |
| | Kilowatts. | Kilowatts. | Kilowatts. | Kilowatts. |
| Capacity of Dynamos driven by :— | | | | |
| Steam Engines, Reciprocating ... | 791 | 32 | — | 823 |
| Other Power ... | 47 | — | — | 47 |
| TOTAL ... | 838 | 32 | — | 870 |

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 ... | 813,000 | 64,000 | — | 877,000 |

| | 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 ... | 813,000 | 64,000 | — | 877,000 |

SOAP AND CANDLE 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. |
|---|--------------------|----------------|----------------|-------------------|
| | Quantity. | | | |
| | Cwts. | Cwts. | Cwts. | Cwts. |
| Soap :— | | | | |
| Household and Laundry Soap (in Bars or Tablets) ... | 5,181,000 | 305,000 | 171,000 | 5,657,000 |
| Toilet Soap ... | * | * | * | 251,000 |
| Soap Powder ... | * | * | * | 727,000 |
| Soft Soap ... | * | * | * | 562,000 |
| Polishing and Scouring Soap ... | * | * | — | 113,000 |
| Other Sorts ... | * | * | — | 130,000 |
| TOTAL—Soap ... | 6,716,000 | 531,000 | 193,000 | 7,440,000 |
| | Lbs. | Lbs. | Lbs. | Lbs. |
| Candles (including Nightlights) ... | * | * | * | 106,001,000 |
| Glycerine :— | Cwts. | Cwts. | Cwts. | Cwts. |
| Crude ... | 148,000 | 11,000 | 5,000 | 164,000 |
| Distilled ... | * | * | * | 153,000 |
| TOTAL—Glycerine ... | * | * | * | 317,000 |
| Lubricating Oils and Greases ... | | | | |
| Grease, Tallow, Animal Fat, and Stearine ... | | | | |
| Oils, other than Lubricating ... | | | | |
| | Cwts. | Cwts. | Cwts. | Cwts. |
| Paraffin Wax (Refined) ... | * | * | * | 70,000 |
| Chemicals and Toilet Preparations ... | | | | |
| Washing Materials, other than Soaps ... | | | | |
| Waste Products ... | | | | |
| Other Products ... | | | | |
| | Value. | | | |
| | £ | £ | £ | £ |
| Soap :— | | | | |
| Household and Laundry Soap (in Bars or Tablets) ... | 5,663,000 | 337,000 | 194,000 | 6,194,000 |
| Toilet Soap ... | * | * | * | 946,000 |
| Soap Powder ... | * | * | * | 705,000 |
| Soft Soap ... | * | * | * | 432,000 |
| Polishing and Scouring Soap ... | * | * | — | 146,000 |
| Other Sorts ... | * | * | — | 141,000 |
| TOTAL—Soap ... | 7,809,000 | 532,000 | 223,000 | 8,564,000 |
| Candles (including Nightlights) ... | * | * | * | 1,829,000 |
| Glycerine :— | £ | £ | £ | £ |
| Crude ... | 228,000 | 16,000 | 7,000 | 251,000 |
| Distilled ... | * | * | * | 353,000 |
| TOTAL—Glycerine ... | * | * | * | 604,000 |
| Lubricating Oils and Greases ... | * | * | — | 171,000 |
| Grease, Tallow, Animal Fat, and Stearine ... | * | * | * | 387,000 |
| Oils, other than Lubricating ... | * | * | * | 241,000 |
| Paraffin Wax (Refined) ... | * | * | * | 110,000 |
| Chemicals and Toilet Preparations ... | 99,000 | — | — | 99,000 |
| Washing Materials, other than Soaps ... | * | * | * | 23,000 |
| Waste Products ... | * | * | — | 12,000 |
| Other Products ... | * | * | * | 178,000 |
| TOTAL VALUE ... | 11,066,000 | 795,000 | 357,000 | 12,218,000 |

* 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.

Soap and Candle Trades—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 | £ 8,389,000 | £ 652,000 | £ 271,000 | £ 9,312,000 |
| II. Value of Output | 11,066,000 | 795,000 | 357,000 | 12,218,000 |
| III. Value of Output less Cost of Materials Used... | 2,677,000 | 143,000 | 86,000 | 2,906,000 |

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... | 1,829 | 8,505 | 10,334 | 1,343 | 2,660 | 4,003 | 3,172 | 11,165 | 14,337 |
| Salaried Persons ... | 275 | 2,297 | 2,572 | 32 | 240 | 272 | 307 | 2,537 | 2,844 |
| TOTAL | 2,104 | 10,802 | 12,906 | 1,375 | 2,900 | 4,275 | 3,479 | 13,702 | 17,181 |
| SCOTLAND:— | | | | | | | | | |
| Wage-earners... | 158 | 487 | 645 | 36 | 68 | 104 | 194 | 555 | 749 |
| Salaried Persons ... | 14 | 142 | 156 | 4 | 16 | 20 | 18 | 158 | 176 |
| TOTAL | 172 | 629 | 801 | 40 | 84 | 124 | 212 | 713 | 925 |
| IRELAND:— | | | | | | | | | |
| Wage-earners... | 42 | 369 | 411 | 35 | 64 | 99 | 77 | 433 | 510 |
| Salaried Persons ... | 8 | 89 | 97 | 1 | 4 | 5 | 9 | 93 | 102 |
| TOTAL | 50 | 458 | 508 | 36 | 68 | 104 | 86 | 526 | 612 |
| UNITED KINGDOM:— | | | | | | | | | |
| Wage-earners... | 2,029 | 9,361 | 11,390 | 1,414 | 2,792 | 4,206 | 3,443 | 12,153 | 15,596 |
| Salaried Persons ... | 297 | 2,528 | 2,825 | 37 | 260 | 297 | 334 | 2,788 | 3,122 |
| TOTAL | 2,326 | 11,889 | 14,215 | 1,451 | 3,052 | 4,503 | 3,777 | 14,941 | 18,718 |

Soap and Candle 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. | | | 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. |
| Factories with their own Engines ... | 10,826,000 | 16,711 | 15,517 | 791,000 | 901 | 1,054 |
| Workshops (not using Power) ... | 240,000 | 470 | — | 4,000 | 24 | — |
| TOTAL | 11,066,000 | 17,181 | 15,517 | 795,000 | 925 | 1,054 |
| IRELAND. | | | | | | |
| Factories with their own Engines ... | 338,000 | 573 | 367 | 11,955,000 | 18,185 | 16,938 |
| Workshops (not using Power) ... | 19,000 | 39 | — | 263,000 | 533 | — |
| TOTAL | 357,000 | 612 | 367 | 12,218,000 | 18,718 | 16,938 |

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

| | England and Wales. | Scotland. | Ireland. | United Kingdom. |
|---|---------------------|------------------|------------------|---------------------|
| Steam Engines: Reciprocating ... | Horse-Power. 14,061 | Horse-Power. 864 | Horse-Power. 325 | Horse-Power. 15,250 |
| Steam Turbines ... | — | — | 38 | 38 |
| Internal Combustion Engines (gas, oil, &c.) ... | 682 | 134 | 4 | 820 |
| Water Power | 39 | — | — | 39 |
| Other Power | 735 | 56 | — | 791 |
| TOTAL | 15,517 | 1,054 | 367 | 16,938 |
| Capacity of Dynamos driven by:— | | | | |
| Steam Engines, Reciprocating ... | Kilowatts. 3,358 | Kilowatts. 146 | — | Kilowatts. 3,504 |
| Other Power | 136 | 197 | — | 333 |
| TOTAL | 3,494 | 343 | — | 3,837 |

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. 444,000 | Board of Trade Units. 1,000 | Board of Trade Units. — | Board of Trade Units. 445,000 |

PAINT, COLOUR, AND VARNISH 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. |
|--|---------------------------------|-----------|-----------------|
| Dry Colours and Pigments :— | £ | £ | £ |
| White Lead | † | † | 526,000 |
| Other Sorts | 1,117,000 | 106,000 | 1,223,000 |
| TOTAL—Dry Colours and Pigments... .. | † | † | 1,749,000 |
| Paints and Enamels in Paste or Mixed for use (including Ships' Composition). | 3,355,000 | 515,000 | 3,870,000 |
| Varnish (including Litho and Letterpress Varnishes) | 1,714,000 | 61,000 | 1,775,000 |
| Printers' Ink | 57,000 | — | 57,000 |
| Paint and Varnish Makers' Materials, unspecified | 50,000 | — | 50,000 |
| Putty | † | † | 42,000 |
| Linseed Oil, Boiled or Refined .. | 493,000 | 30,000 | 523,000 |
| Lubricating Oils and Greases | 15,000 | 58,000 | 73,000 |
| Burning and Other Oils | † | † | 47,000 |
| Turpentine and Turpentine Substitutes | † | † | 73,000 |
| Grease, Tallow, and Animal Fat | † | † | 27,000 |
| Unenumerated Chemicals | † | † | 69,000 |
| Other Products | 91,000 | 40,000 | 131,000 |
| VALUE OF GOODS MADE FOR SALE | 7,645,000 | 841,000 | 8,486,000 |
| Amount received for Painting and other Work Done ... | 74,000 | 2,000 | 76,000 |
| TOTAL VALUE OF GOODS MADE AND WORK DONE ... | 7,719,000 | 843,000 | 8,562,000 |

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 and Ireland.* | Scotland. | United Kingdom. |
|---|---------------------------------|-----------|-----------------|
| I. | £ | £ | £ |
| Cost of Materials Used | 5,203,000 | 615,000 | 5,818,000 |
| II. | | | |
| Value of Output :— | | | |
| Goods Made for Sale | 7,645,000 | 841,000 | 8,486,000 |
| Amount received for Work Done... .. | 74,000 | 2,000 | 76,000 |
| TOTAL | 7,719,000 | 843,000 | 8,562,000 |
| III. | | | |
| Value of Output less Cost of Materials Used... .. | 2,516,000 | 228,000 | 2,744,000 |

* 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.

Paint, Colour, and Varnish 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 AND IRELAND* :— | | | | | | | | | |
| Wage-earners | 798 | 8,052 | 8,850 | 110 | 720 | 830 | 908 | 8,772 | 9,680 |
| Salaried Persons | 318 | 2,351 | 2,669 | 40 | 200 | 240 | 358 | 2,551 | 2,909 |
| TOTAL | 1,116 | 10,403 | 11,519 | 150 | 920 | 1,070 | 1,266 | 11,323 | 12,589 |
| SCOTLAND :— | | | | | | | | | |
| Wage-earners | 25 | 727 | 752 | 17 | 125 | 142 | 42 | 852 | 894 |
| Salaried Persons | 34 | 289 | 323 | 3 | 31 | 34 | 37 | 320 | 357 |
| TOTAL | 59 | 1,016 | 1,075 | 20 | 156 | 176 | 79 | 1,172 | 1,251 |
| UNITED KINGDOM :— | | | | | | | | | |
| Wage-earners | 823 | 8,779 | 9,602 | 127 | 845 | 972 | 950 | 9,624 | 10,574 |
| Salaried Persons | 352 | 2,640 | 2,992 | 43 | 231 | 274 | 395 | 2,871 | 3,266 |
| TOTAL | 1,175 | 11,419 | 12,594 | 170 | 1,076 | 1,246 | 1,345 | 12,495 | 13,840 |

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. | 7,617,000 | 12,323 | 12,830 | 837,000 | 1,233 | 1,745 | 8,454,000 | 13,556 | 14,575 |
| Factories renting their Power. | 5,000 | 9 | — | — | — | — | 5,000 | 9 | — |
| Workshops (not using Power). | 97,000 | 257 | — | 6,000 | 18 | — | 103,000 | 275 | — |
| TOTAL | 7,719,000 | 12,589 | 12,830 | 843,000 | 1,251 | 1,745 | 8,562,000 | 13,840 | 14,575 |

* 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.

Paint, Colour, and Varnish 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 and Ireland.* | Scotland. | United Kingdom. |
|--|---------------------------------|--------------|-----------------|
| | Horse-Power. | Horse-Power. | Horse-Power. |
| Steam Engines, Reciprocating | 9,099 | 1,386 | 10,485 |
| Internal Combustion Engines (gas, oil, &c.) | 3,128 | 341 | 3,469 |
| Water Power | 567 | — | 567 |
| Other Power | 36 | 18 | 54 |
| TOTAL | 12,830 | 1,745 | 14,575 |
| | Kilowatts. | Kilowatts. | Kilowatts. |
| Capacity of Dynamos driven by:— | | | |
| Steam Engines, Reciprocating | 405 | 43 | 448 |
| Other Power | 61 | 3 | 64 |
| TOTAL | 466 | 46 | 512 |

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 | 2,123,000 | 92,000 | 2,215,000 |

* 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.

EXPLOSIVES, AMMUNITION, AND FIREWORKS TRADES.

TABLE I.—OUTPUT.

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

| | United Kingdom.* |
|--|------------------|
| | £ |
| Explosives and Propellants (including Gunpowder, Cordite, Smokeless Powders, Dynamite, and other High Explosives). | 2,175,000 |
| Ammunition and Components (including Military, Naval, and Sporting Ammunition; Cartridges and Cases, filled or empty; Safety Fuzes, Military Fuzes, Electric and other Fuzes, Detonators, Fog Signals, Tubes, Primers, &c.; Percussion Caps; Rockets, and other Combustibles for warlike purposes, &c.). | 1,435,000 |
| Fireworks (including Toy Fireworks, Display Fireworks, and Distress and Night Signals for the Merchant Marine). | 103,000 |
| Sundry Chemical Products | 58,000 |
| Metal Products | 104,000 |
| Other Products | 72,000 |
| TOTAL VALUE | 3,947,000 |

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.*

| | United Kingdom.* |
|---|------------------|
| | £ |
| Cost of Materials Used I. | 2,438,000 |
| Value of Output II. | 3,947,000 |
| Value of Output less Cost of Materials Used III. | 1,509,000 |

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. |
| UNITED KINGDOM* :— | | | | | | | | | |
| Wage-earners | 564 | 5,898 | 6,462 | 1,275 | 4,088 | 5,363 | 1,839 | 9,986 | 11,825 |
| Salaried Persons | 55 | 703 | 758 | 20 | 141 | 161 | 75 | 844 | 919 |
| TOTAL | 619 | 6,601 | 7,220 | 1,295 | 4,229 | 5,524 | 1,914 | 10,830 | 12,744 |

* 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.

Explosives, Ammunition, and Fireworks 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. |
|---|------------------------|-----------------------------|----------------------------|
| | | | |
| | £ | | Horse-Power. |
| Factories with their own Engines | 3,890,000 | 12,323 | 15,522 |
| Workshops (not using Power) | 57,000 | 421 | — |
| TOTAL | 3,947,000 | 12,744 | 15,522 |

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

| | United Kingdom.* |
|--|------------------|
| | Horse-Power. |
| Steam Engines, Reciprocating | 12,395 |
| Internal Combustion Engines (gas, oil, &c.) | 1,615 |
| Water Power | 1,405 |
| Other Power | 107 |
| TOTAL | 15,522 |
| Capacity of Dynamoes driven by :— | |
| Steam Engines, Reciprocating | Kilowatts. |
| Other Power | 2,688 |
| | 90 |
| TOTAL | 2,778 |

C.—AMOUNT OF ELECTRICITY PURCHASED.

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

| | United Kingdom.* |
|--|-----------------------|
| | Board of Trade Units. |
| Amount of Electricity Purchased | 135,000 |

* 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.

MATCH AND FIRELIGHTER TRADES.

TABLE I.—OUTPUT.

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

| | United Kingdom.* |
|--|------------------|
| | £ |
| Matches of all kinds (including Wax Tapers for gas lighting, Vesuvians, Braided Lights, &c.) | 775,000 |
| Firelighters | 66,000 |
| Other Products... .. | 14,000 |
| TOTAL VALUE | 855,000 |

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.

| | United Kingdom.* |
|---|------------------|
| | £ |
| Cost of Materials Used I. | 446,000 |
| Value of Output II. | 855,000 |
| Value of Output less Cost of Materials Used III. | 409,000 |

TABLE III.—PERSONS EMPLOYED.

A.—AVERAGE NUMBER OF PERSONS (EXCEPT OUTWORKERS) 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. |
| UNITED KINGDOM* :— | | | | | | | | | |
| Wage-earners | 235 | 685 | 920 | 924 | 2,021 | 2,945 | 1,159 | 2,706 | 3,865 |
| Salaried Persons | 25 | 297 | 322 | 13 | 56 | 69 | 38 | 353 | 391 |
| TOTAL | 260 | 982 | 1,242 | 937 | 2,077 | 3,014 | 1,197 | 3,059 | 4,256 |

B.—AVERAGE NUMBER OF OUTWORKERS EMPLOYED ON 1ST FEBRUARY AND 1ST AUGUST, 1907.

| | Males. | Females. | Males and Females. |
|------------------------|--------|----------|--------------------|
| United Kingdom* | 1 | 116 | 117 |

* 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.

Match and Firelighter Trades—*continued.*

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

A.—CAPACITY OF ENGINES OWNED, COMPARED WITH THE 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. |
|---|------------------------|-----------------------------|----------------------------|
| UNITED KINGDOM.* | | | |
| | £ | | Horse-Power. |
| Factories with their own Engines | 832,000 | 4,095 | 1,591 |
| Workshops (not using Power) | 23,000 | 161 | — |
| TOTAL | 855,000 | 4,256 | 1,591 |

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

| | United Kingdom.* |
|--|------------------|
| | Horse-Power. |
| Steam Engines, Reciprocating | 1,294 |
| Internal Combustion Engines (gas, oil, &c.) | 287 |
| Water Power | 10 |
| TOTAL | 1,591 |
| | Kilowatts. |
| Capacity of Dynamos driven by :— | |
| Steam Engines, Reciprocating | 101 |
| Other Power | 15 |
| TOTAL | 116 |

C.—AMOUNT OF ELECTRICITY PURCHASED.

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

| | United Kingdom.* |
|--|---------------------------|
| | Board of Trade. Units. |
| Amount of Electricity Purchased | 36,000 |

* 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.