

## **Electricity : lighting, heating, cooking and power : Smoke Abatement Exhibition, 1910.**

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Corp Glasgow

**SMOKE  
ABATEMENT EXHIBITION.**

**1910**

**LIGHTING  
HEATING**

**ELECTRICITY**

**COOKING**

**AND  
POWER**



LET GLASGOW FLURISH

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The gift of  
Mr. P. Brears

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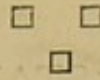
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Cookery  
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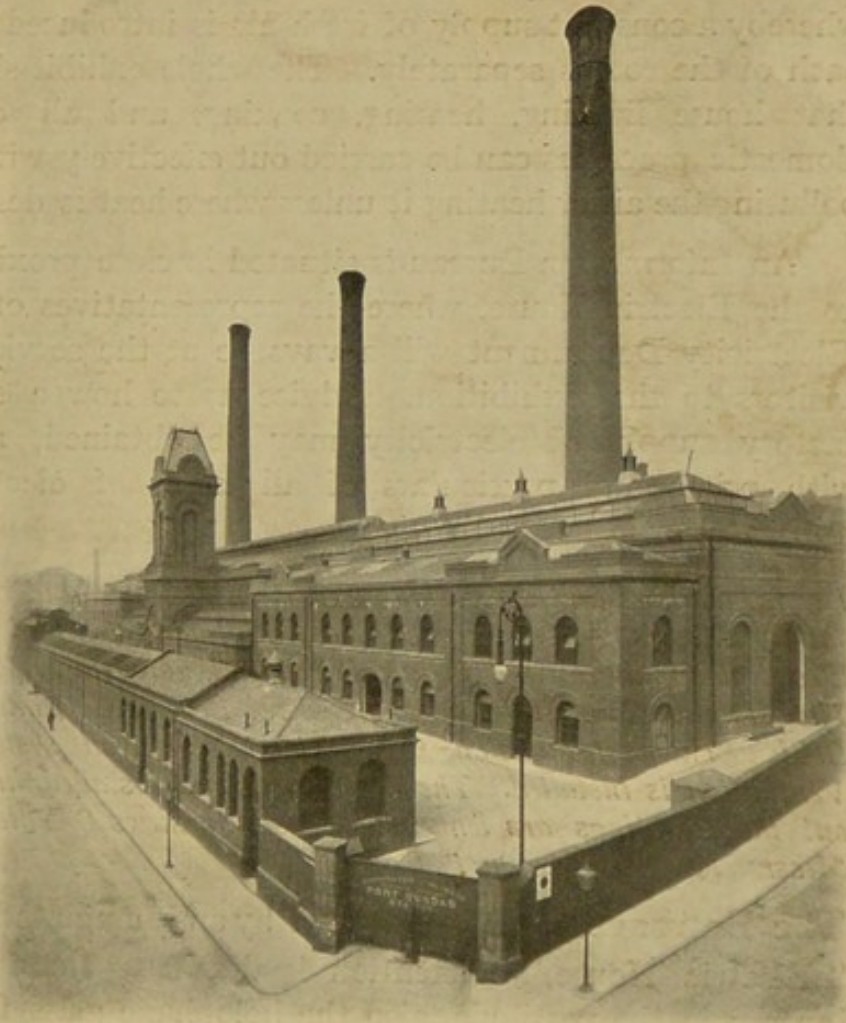
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CORPORATION OF  
GLASGOW.



ELECTRICITY DEPARTMENT.



PORT-DUNDAS POWER STATION.

Offices—  
75 WATERLOO STREET,  
GLASGOW.

Chief Engineer—  
W. W. LACKIE.

TELEGRAMS: "AMPERE, GLASGOW."

TELEPHONE NOS.—

Post Office 834, 835 and 844 Central,  
National 936 and 1304 Argyle.

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## Electricity means Cleanliness.

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### STAND No. I.

**I**N order to demonstrate the possibilities of electricity, a house of three rooms, together with kitchen, laundry, and bathroom has been fitted up, all the lighting, heating, cooking, and cleaning being done by means of electric appliances. There are no fireplaces or chimneys in any part of the house. The circulation of the air is effected by an electrical system of ventilation, whereby a constant supply of fresh air is introduced into each of the rooms separately. The whole exhibit shows that house lighting, heating, cooking, and all other domestic processes can be carried out effectively without polluting the air or heating it unless where heat is desired.

An Information Bureau is situated in close proximity to the Electric House, where the representatives of the Electricity Department will always be at the service of visitors to the Exhibition. Advice as to how a satisfactory supply of electricity may be obtained, along with prices and particulars of all kinds of electrical apparatus, will be gladly given.

*The furnishings and decorations have been designed and carried out by Messrs. A. Gardner & Sons, 36 Jamaica Street. The Electrical appliances and fittings have been kindly lent by Messrs. The Simplex Conduits Co., The General Electric Co., and The British Thomson-Houston Co. The Glover-Lyon system of Ventilation is installed. The Ventilating Fans installed throughout the Buildings are lent by Messrs. Matthews & Yates and Messrs. Keith, Blackman & Co.*

**The Entrance Hall** is indicated by an illuminated sign, "Electric House." Attention is drawn to the artistic lantern in the vestibule, also the holophane glass fitting in the hall, a 50 c.p. metal filament lamp being the source of light. It should be noted that the diffusion of the light through holophane glass is very pleasing to the eye. A convector, consuming from a half to one unit of current per hour, is ample to heat this area.

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Electricity Department is at

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Cleanliness means Health.

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75 Waterloo Street.

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## Health means Happiness.

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**Drawing Room** is furnished in Chippendale design.

The lighting is carried out by means of four brackets, each fitted with a 25 c.p. metal filament lamp and a standard lamp of the Corinthian column design with a 50 c.p. metal filament lamp. There is also an alternative lighting system installed, which consists of a ceiling fitting, with cut glass bowl containing one 100 c.p. metal filament lamp. The illumination obtained by either system is ample and the cost is low.

Attention is drawn to the distribution of the heating units, which are placed beneath writing tables, occasional tables, or, if desired, under the keyboard of the piano. It is claimed that heaters so placed will first warm the floor, the radiation from the floor then warming the air in the room, obviating cold draughts. Current is available from the plugs placed in convenient positions round the room for ornamental lighting or for connection to the portable radiators.

**Bedroom.**—The visitor is now called upon to note the appointments of the bedroom, the furniture of which consists of a suite in Queen Anne style. The lighting is done by a rise and fall 2-light pendant fitted with two 25 c.p. lamps over the dressing table, also a bracket with 5 c.p. carbon lamp over the bed. The bed light is controlled either from the door or by a pear switch at the bedside. Plugs are placed in convenient positions, from which current is available for the kettle, milk warmer, shaving water, radiators, and bedwarmer.

**Bathroom.**—The absence in this house of the coal-fired kitchen range, with its boiler pipes and cistern, makes it necessary to provide a hot-water service by other means. The "Therol" water heater will be seen doing this, and it is capable of delivering lukewarm or boiling water at any time during night or day merely by the user adjusting the handle of a combination tap. The apparatus creates no smell, requires no flue, is silent in operation, and absolutely free from danger.

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See our Showroom at 75 Waterloo Street.

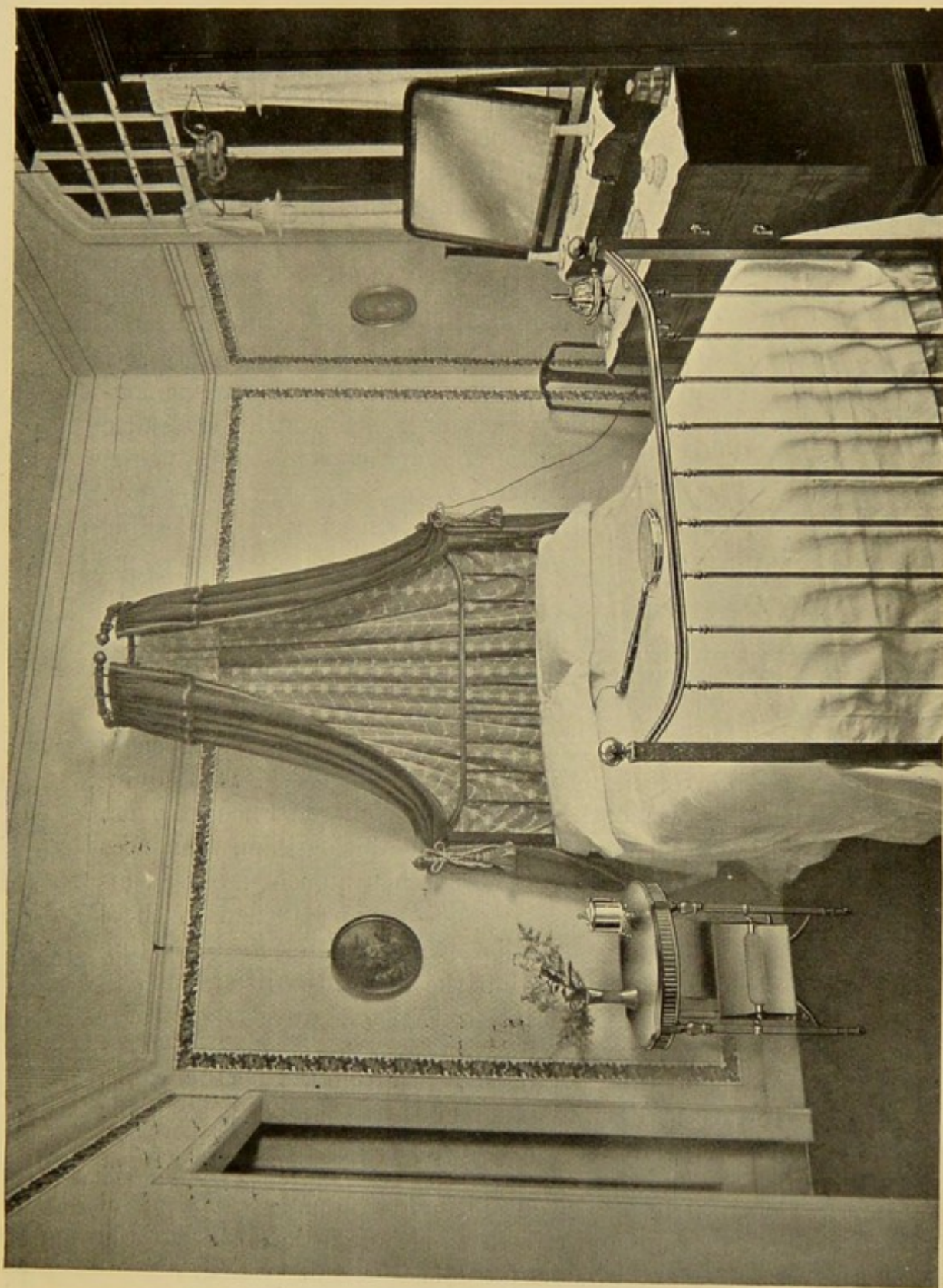
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Happiness is everyone's desire.

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Where the latest appliances can be seen.

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## Electricity gives light to the Worker,

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A small heater of the "Bastian" type provides a comfortable glow. On the table will be seen shaving water boiler and a novel shaving glass, the notable feature of which is the placing of the lamp behind the glass, securing a fine light without a glare in the eyes. A 25 c.p. metal filament lamp lights this apartment.

**Laundry.**—Passing to the laundry, operators will be seen working with electric irons. The materials are delivered daily from Cathkin Laundry by Messrs. Giffen & Bisset, Ltd. Under this arrangement it is possible to demonstrate effectively the variety of uses to which the electric iron can be put. Electric irons are made in sizes, weights, and shapes to suit all classes of fabrics, from the 3 lb. iron for fine laces to the 24 lb. iron as used by clothing manufacturers.

**The Kitchen,** of which an illustration is given, is perhaps the place of most interest to the ladies, a number of electric cooking appliances being shown in actual use. Several ovens of different design are on view, as the oven is probably the most important part of the kitchen equipment, the General Electric new oven, the Phoenix oven, and the Tricity cooker, on all of which grilling appliances are to be found. Ordinary kitchen utensils are used for boiling operations on the hot-plates attached to these ovens. Cooking utensils with the electric heating elements contained within the apparatus itself, such as kettles, coffee percolator, grills, etc., are also shown.

The hot water supply is drawn from the Therol heater, already described. A supplementary supply is available from the electrically-heated geyser.

The lighting is obtained from one 25 c.p. metal filament lamp, and the wiring is run on the surface of the walls to show what is possible with this system.

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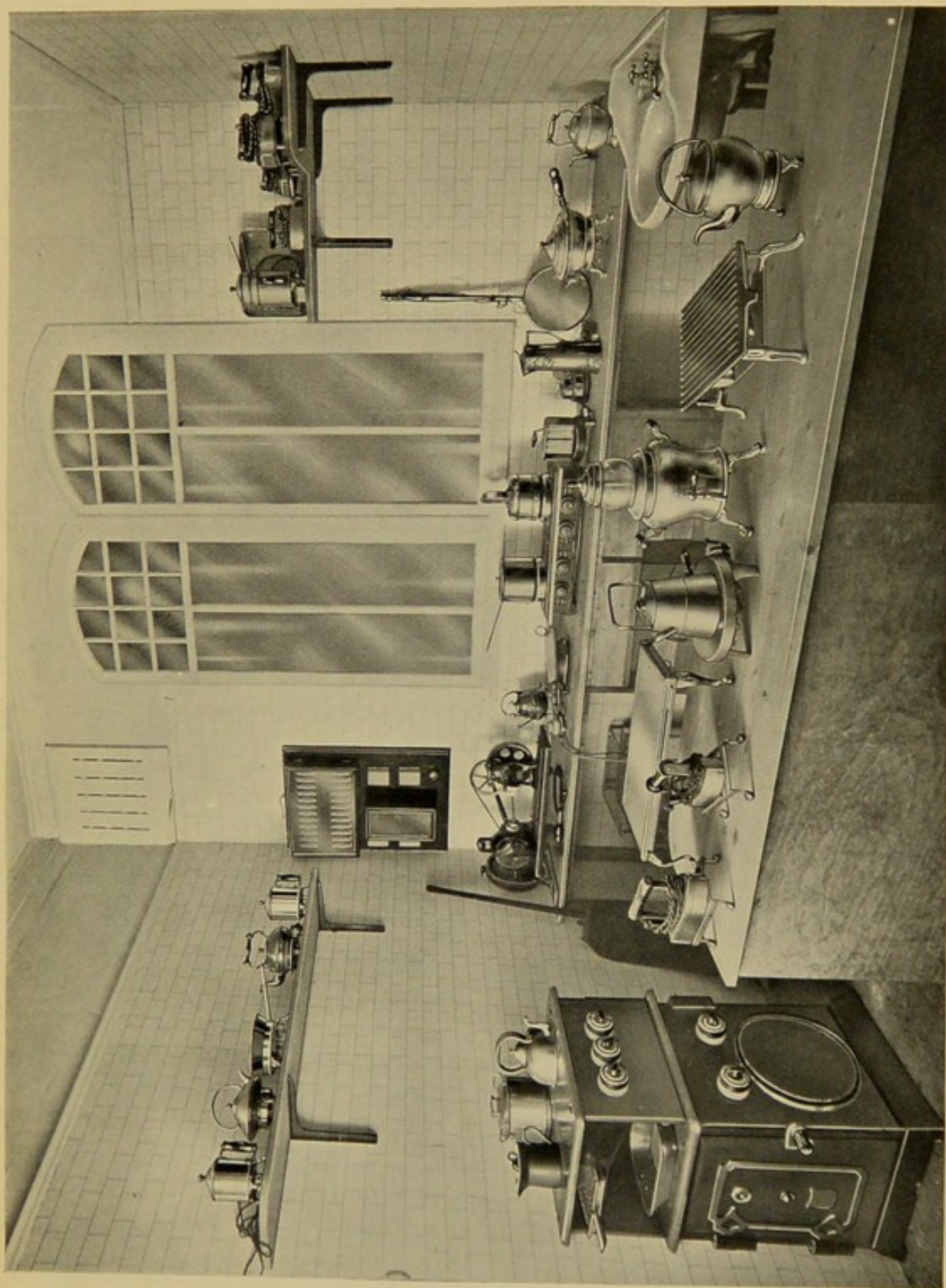
Ask for Pamphlet giving

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And makes the work lighter.

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Explanation of "Maximum Demand."

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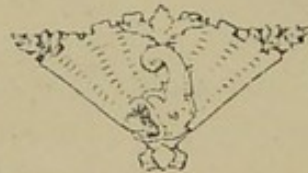
## A Light unmatched.

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**Dining Room.**—The furniture is of the Chippendale design, and various cooking utensils are distributed throughout the room, such as a coffee percolator, kettle, grill, toaster, and hot-plate.

The lighting equipment consists of a 6-light pendant, three 25 c.p. metal filament lamps being placed near the ceiling for general lighting, and three 25 c.p. metal filament lamps within a shade suspended just over the dining table. The lights are controlled by three switches.

The heating is effected by means of three small luminous radiators, these being placed in convenient positions to secure an even distribution of heat near the floor.



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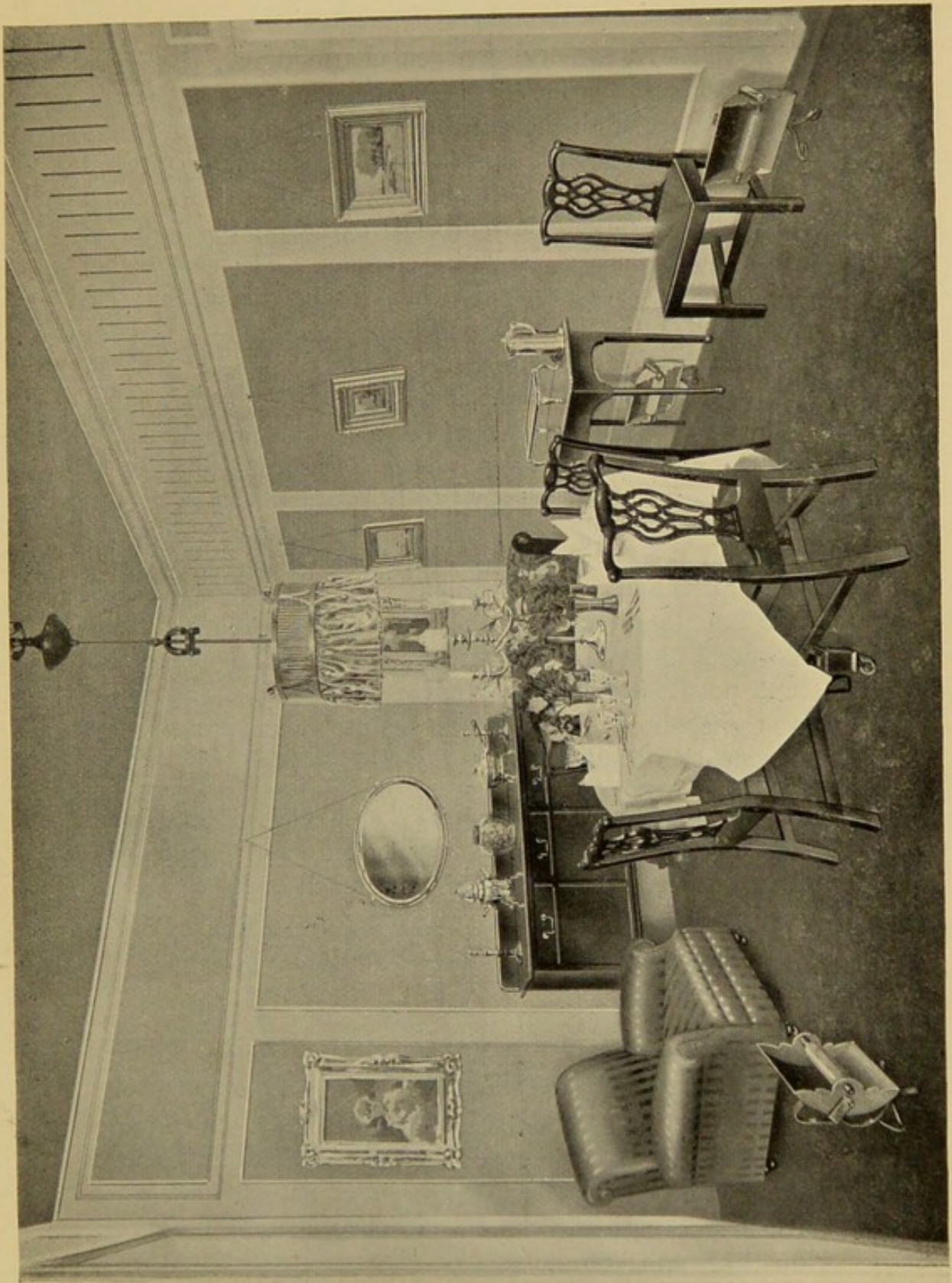
Electricity is always ready.

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No Matches required.

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Representatives will give prompt attention.

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## The Light subject is worthy

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**I**T has repeatedly been demonstrated that there is a direct relation between the state of the atmosphere and the health of the community; and authorities are agreed that the chimney stalks of the large manufacturing works and the domestic chimneys are the principal contributors to the vitiation of the air in a city such as Glasgow. The purification of the air, therefore, practically resolves itself into the question of smoke abatement. How can the great public needs of power, heat, and light be met in a reliable and economical manner, with the minimum emission of smoke? That is the problem; and the claims of electrical energy, as one of the most practicable solutions of it, are herein briefly set forth.

The uses of electricity for domestic and industrial purposes, and the instruments and apparatus in connection therewith, are now so varied, efficient, and economical that some detailed account of their properties and possibilities may not prove unacceptable, especially to those who are interested in the problem of atmospheric purification.

A supply of electricity is now available throughout the whole city. It is no longer looked upon as a luxury, but as a convenience, within the reach of all classes of the community. Few people are aware of the extent to which electrical energy can be employed in the house, office, factory, and shop.

### I.—LIGHT.

Dealing first with the question of public and private lighting, it is well known that the incandescent electric lamp is practically the only form of artificial illumination which does not affect the atmosphere; it is smokeless, dustless, and odourless.

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Enquiries at 75 Waterloo Street will

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**of weighty consideration.**

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With the substitution of the metal filament for the carbon filament, the incandescent electric lamp has become, not only one of the most efficient, but also one of the cheapest, forms of lighting. The metal filament lamp has reduced the electricity bill of the lighting consumer by at least one-half.

A 25 candle-power metal filament lamp can be kept alight for 32 hours with one unit of electricity, whereas a carbon filament lamp of the same candle-power will consume a unit in 10 hours.

The cost for upkeep of lamps has also been largely reduced, as the new lamp gives a light of undiminished brilliancy for over 2,000 hours, or twice the length of life of the carbon filament lamp. Further economy is effected by the tendency to use lamps of high candle powers placed in lofty positions, thus ensuring cleanliness, and dispensing with the necessity for frequent handling. Where larger units of light are in use, fewer lamps are required, and the first cost is considerably reduced in consequence.

The arc lamp has also been improved in various important respects. Arc lamp carbons can now be obtained impregnated with certain salts, and when compared with the old type four times the amount of light can be obtained for the same consumption of electricity. Lamps having carbons of this description are called "Flame" arc lamps.

Electric conductors are now being made in a form which renders the fixing of these in premises a comparatively simple and inexpensive matter, and enables wood casing and iron tubing to be dispensed with, if desired. These improved conductors have also added to the adaptability of electric supply for all purposes, and have reduced to a minimum the need for interference with walls and decorations.

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**receive immediate attention.**

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## Reflection saves Money.

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Electric lamps lend themselves, better than any other, to an arrangement for enhanced illumination without



HOLOPHANE.

increasing the candle-power of the source of light. This can be done by a judicious use of reflectors. Holophane cut glass reflectors, when properly placed, increase the lighting effect by as much as 80 per cent., and

being manufactured as a first-class article, Holophane Glass is in itself a distinctive decoration.

It should also be noted that the colour of mural decorations has a direct value on lighting, as darker colours *absorb*, and lighter colours *enhance*, the illuminative effect. All rival forms of lighting involve a flame, which means absorption of oxygen from the atmosphere, and the dissemination of hot objectionable vapours, which have a disastrous effect on dainty fabrics and decorations. With electric light the air remains as pure as in the hours of daylight.

Thus it may be seen there are many indirect advantages by the use of Electric Lighting which have a real money value, so often omitted in calculating the cost of various systems of lighting; in fact, the costs cannot be measured simply by the amount of the quarterly bills, but allowance must be made for the preservation of ceilings, papers, curtains, and general decorations.

### A metal filament lamp of

25 candle-power will consume one unit in 32 hours.

32 candle-power will consume one unit in 25 hours.

50 candle-power will consume one unit in 18 hours.

## II.—POWER.

The application of electricity for power purposes has developed rapidly of late, until now, there is hardly an industry in the city which has not an increasing

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Name your time.

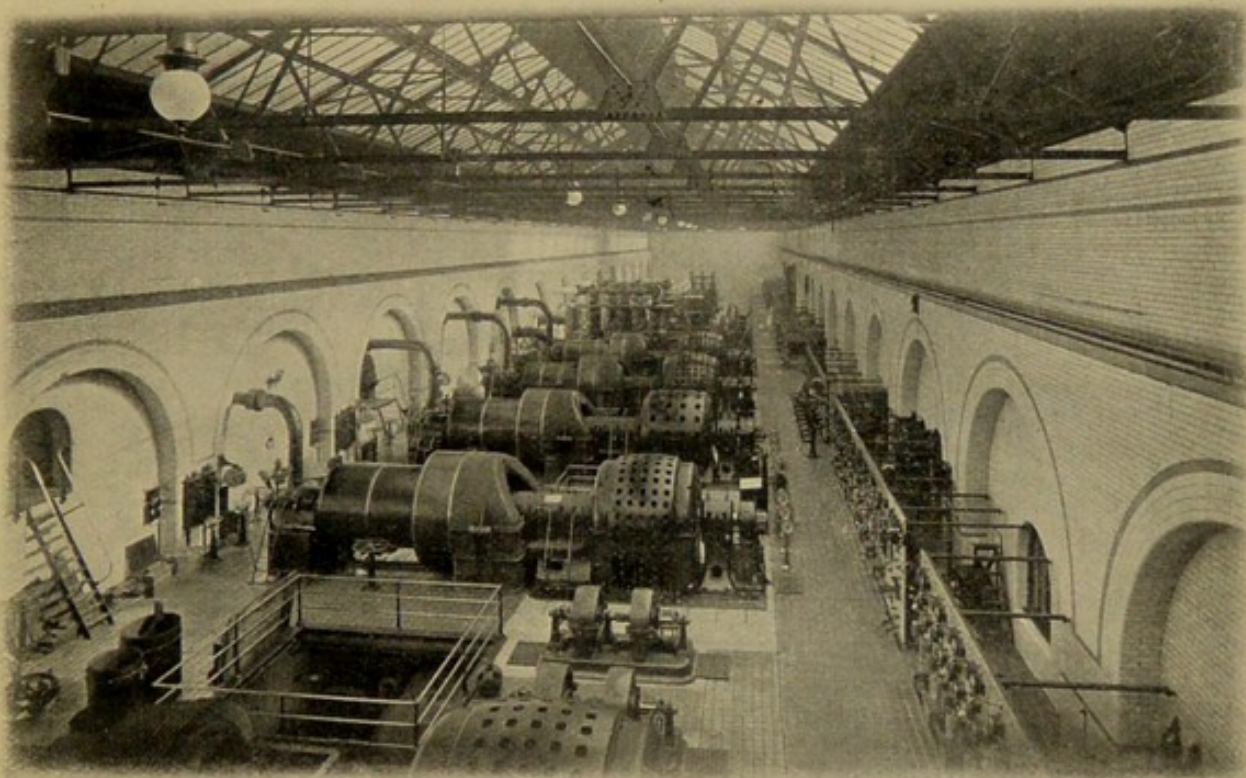
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## Reflectors enhance the Lighting.

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proportion of its operations dependent upon a continuous supply of electricity from the Corporation mains. Last year in Glasgow there were 112 different trades, representing 2,600 consumers, using electricity for power purposes. The demand for power goes on summer and winter alike, thus enabling the Electricity Department to cheapen the supply all round.



ENGINE ROOM, PORT-DUNDAS.

The cost of electric driving compares favourably with other forms of power supply. The advantages of the electric drive are universally admitted. The low cost of installing motors, the small space they occupy, the ease with which such plant can be extended, the entire lack of trouble or difficulty in starting and stopping, and the high efficiency of electric driving, are now so well known to the industrial community, that every day sees the older forms of power laid aside in

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**Our Representative will call.**

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## What are your Wants?

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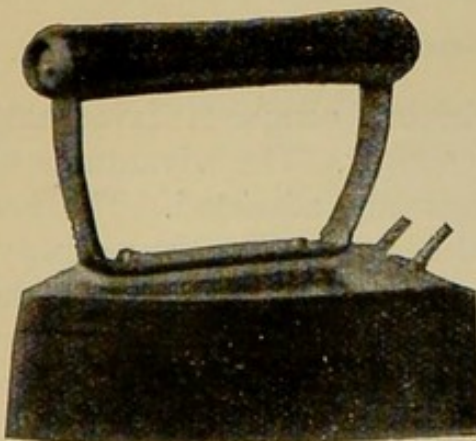
favour of the electric motor. In this connection, electricity is a prime factor in the solution of the smoke problem, and the purification of the atmosphere.

### III.—HEATING and COOKING.

During the past year a great development has taken place in the use of electricity for heating, cooking, and many other domestic processes, such as carpet sweeping, ironing, knife cleaning, boot polishing, etc. The cost of the appliances has been largely reduced and improvements have taken place in their construction. Electric heating and cooking appliances are clean and free from smell, giving off no fumes or other products of combustion. Electrical appliances for domestic use perform their work in a more healthy, expeditious, and cleanly manner than the older methods.

**The Electric Flat Iron** offers unique advantages. Manufacturers have made special efforts to perfect this piece of apparatus, and after many years of persistent experiment, we have a production, which we are to-day able to recommend thoroughly as practicable, efficient, and economical in use.

**Electric Irons** are made in sizes suitable for all varieties of work.



EASTMAN & WARNE. 3 LB. IRON.

Eastman & Warne.—3 lb. hot point iron, taking  $\frac{1}{4}$  unit. per hour, suitable for light fabrics.

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Ask our Advice *re* Installations of

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## Electricity will supply them!

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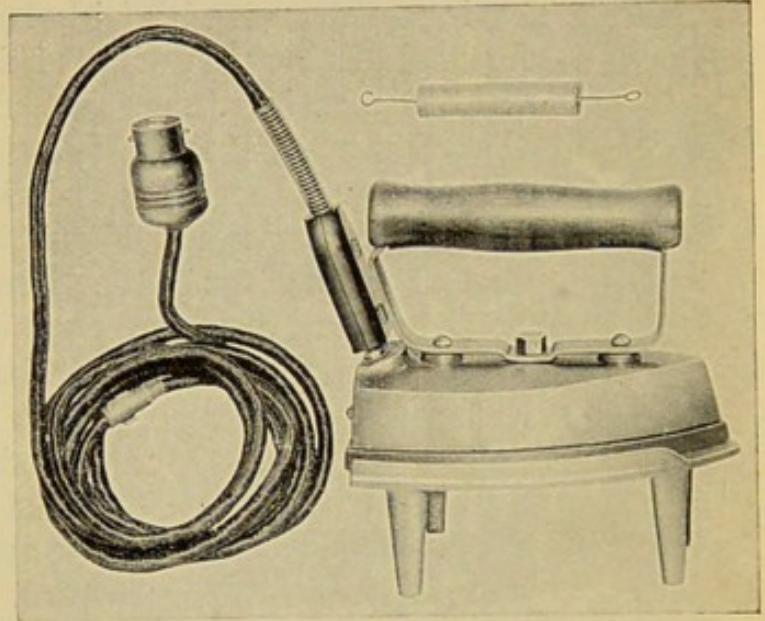
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General Electric Co.—4 lb. iron, taking  $\frac{1}{3}$  unit per hour, suitable for light fabrics and dry material.

Simplex Conduits Co.—5 lb. iron, taking  $\frac{1}{3}$  unit per hour, for laces and light laundry work.

Bastian. — 5 lb. iron, taking  $\frac{1}{2}$  unit per hour, for laces and light laundry work.

British Thomson-Houston Co.—6 lb. iron, taking  $\frac{1}{2}$  unit per hour, for general house work.



BRITISH THOMSON-HOUSTON CO. 6 LB. IRON.

Eastman & Warne.—8 to 10 lb. iron, taking  $\frac{3}{4}$  unit per hour, for general laundry and factory work.

Irons are also made in sizes up to 24 lbs. weight for use by tailors and the clothing trades.

Irons which heat rapidly to a high temperature have a higher consumpt, but current can be economised by switching off for short periods, without cooling the iron to such an extent as to interfere with the ironing operation. An iron with a low consumpt of current requires to be continuously in circuit while in use. Over a lengthy operation, the cost, comparing a low with a highly heated iron, is much the same.

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**Power, Heating, or Lighting.**

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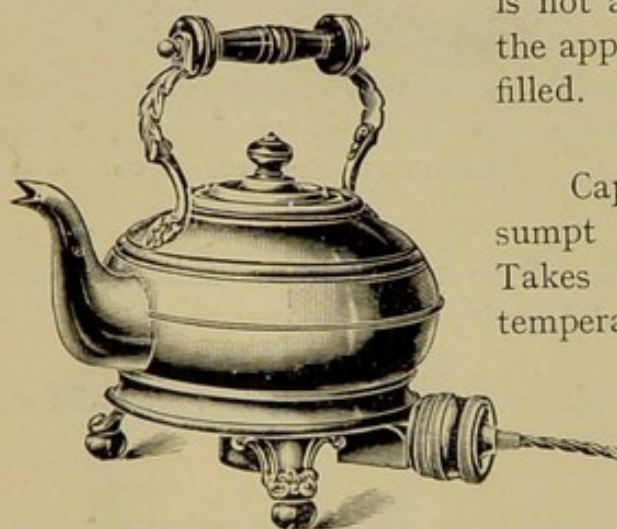
**Electricity is the acme of Convenience and Comfort.**

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**Electric Kettles** are at present more generally used than any other electrical cooking apparatus. Manufacturers are producing kettles of every description suitable for all purposes—small size, having a low consumption of current, suitable for afternoon tea, kitchen boilers of capacity, with proportionate consumption for speedy large boiling, kettles for the sick room, the Bronchitis kettle having an element with fairly large consumption of current for rapid boiling, in view of the necessity for rapidly creating a moist atmosphere. It should be understood that the operation of boiling water quickly depends entirely upon the current of electricity passed through the heating element, and it will be seen, from the description of the various kettles illustrated, that the cost of boiling a given quantity in any one of them is practically the same, although the time taken to do so will be shorter or longer in proportion to the consumption of current. It is well to note that the efficiency of Electric Kettles

is not appreciably decreased if the apparatus is only partially filled.



GENERAL ELECTRIC CO.'S KETTLE.

Capacity 3 pints; consumption one unit per hour. Takes 11 minutes to raise temperature of water to 212° F., or 15 pints of water can be boiled in one hour with the consumption of one unit of electricity.

**Verity's Bronchitis Kettles—**

Capacity 2 pints; consumption  $\frac{3}{4}$  unit per hour; takes 12 minutes to raise temperature of water to 212° F. or the kettle can be boiled five times in one hour with the consumption of  $\frac{3}{4}$  unit of electricity—13½ pints for rather less than one unit. The heating

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**Inspect our Show Room at 75 Waterloo Street.**

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## Electric Ovens require no Flues.

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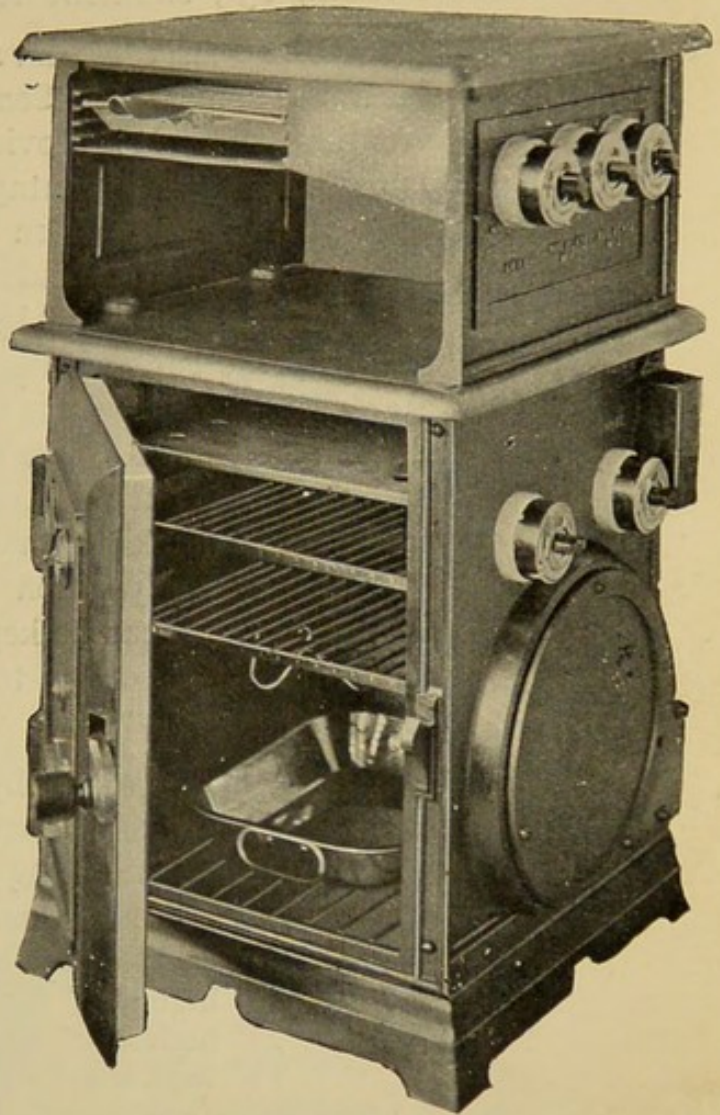
ture, the comfort of working in an atmosphere free from smells, and the absolute cleanliness of the whole operation.

**General Electric Co.'s Oven** — This oven has a cast-iron outer case, made in a substantial manner throughout, packed with  $1\frac{1}{2}$ " lagging, and the door fitted to prevent loss of heat. The heating is done by wire coils, made specially to stand red hot temperature without fear of oxidisation and supported in grooved fire-clay. The switching arrangements give one-third, two-thirds, or full heat. There is also the hot plate, which consists of two boiling rings with grill beneath. These are supplied separate from

the oven if desired. The top of the oven [forms a receptacle for warming dishes. Total consumption, 5 units per hour; arranged; oven, 2 units; two boiling rings, one unit each; grill, one unit.

Cost of cooking dinner for 10 to 12 persons about 5d. =  $\frac{1}{2}$ d. per head.

**The Phoenix Oven** is a sheet-iron structure having two hot plates and grill attached, doing similar work with practically the same consumption of current ( $4\frac{3}{4}$  units) as



GENERAL ELECTRIC CO.'S  
NEW 'ELECTRIC' COOKING RANGE.

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## Reflectors enhance the Lighting.

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## Avoid opening Door when Cooking,

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the oven above described. Size—Height,  $17\frac{1}{2}$ " ; depth, 13" ; breadth, 13" , sufficient to cook for 10 to 12 persons.

**Lancashire Electric Oven (Gray's system)**, made by Bertram Thomas, Ltd. Some novel features are introduced into this oven. It is provided with a thermometer, which is undoubtedly an advantage. As the oven is illuminated, there is no need to open the door until the cooking is completed. The oven heater is at the bottom, and the hot air generated by it is led by means of baffle-plates through a flue up the back of the oven to the top, thus the hot air strikes the food from the top, which is recognised as the correct method. The oven is provided with a switch, such that when put into a certain position the temperature can be raised quickly to that desired, and then by changing over to another position (taking a much less current) the temperature can be kept constant, as there is no loss due to radiation, owing to the non-conducting material fixed round the oven.

**The Silundum Ovens**, by Simplex Conduits Co., are the result of years of experimenting, and have a high working efficiency, the whole being a first-class production. These are made in various sizes :—

Internal Dimensions.	Consumpt per hour.
20" high $\times$ 13" $\times$ $10\frac{1}{2}$ " ,	- $1\frac{1}{2}$ units,
24" high $\times$ 16" $\times$ 13" ,	- 2 ,,
26" high $\times$ 20" $\times$ 18" ,	- 3 ,,

The grills are supplied separately with a consumpt of one unit per hour, the formation of the apparatus allowing also a boiling operation to be performed at the same time as grilling, ordinary kitchen utensils being used.

**The Bastian Oven** is simply constructed, having a sheet metal case  $18" \times 12" \times 13\frac{1}{2}"$  broad, sufficiently strong for the work required of it. The case or metal cupboard is made to fit over a hot plate  $17" \times 14"$ . Three switches control the heating, which it is possible to grade to four heats. The hot plate is available for boiling and toasting, and has a consumption of current ranging from  $\frac{1}{2}$  to  $1\frac{1}{2}$  units per hour.

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## Economise by Using

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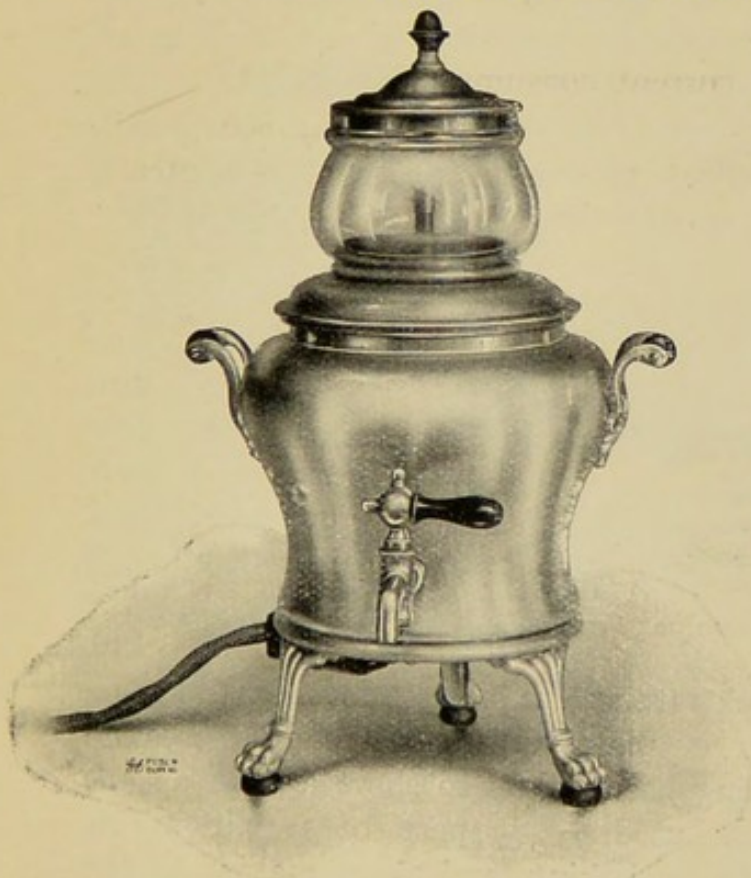
## Just read Thermometer on Oven.

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The "Tricity" Range, by the Berry Construction Co., Ltd., whose local agents are Messrs. Malcolm & Allan, Ltd., meets a long-felt want, being an arrangement adapting itself to a great variety of useful operations, which are explained in a separate catalogue.

Each hot plate (it is possible to have a combination of four) is controlled by two switches, giving low heat with  $\frac{2}{5}$  of a unit and high heat with a consumpt of  $\frac{4}{5}$  of a unit per hour. If all switches are in circuit the utmost possible consumpt would be  $3\frac{1}{2}$  units per hour. The utensils are specially prepared with a view to reducing the heat-loss to a minimum, and while they are exceptionally good, the price is low.

### GENERAL COOKERS.



BRITISH THOMSON-HOUSTON CO.

**Coffee Percolator**, capacity, 3 pints, consumpt  $\frac{1}{2}$  unit per hour.

This is a particularly attractive piece of apparatus. Water boils in lower receptacle, forces water and steam up through a tube into the glass globe, where it falls in the form of a fine spray on the ground coffee, through which the water percolates back into the reservoir.

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### Metal Filament Lamps.

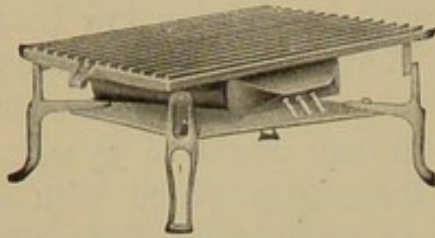
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## Toast your Bread by Electricity

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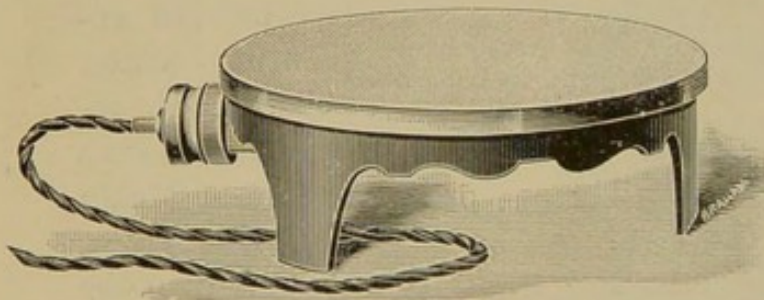
The entire strength of the coffee is thus extracted in the most economical manner, and the finest flavour is obtained. The operation for three pints of coffee takes about 25 minutes, but a less quantity would take proportionately less time.



BRITISH THOMSON-HOUSTON CO.

**Electric Grill.**—Properly grilled meat is a luxury, and the electric grill does its work quickly and efficiently. With the current switched on the grill plate becomes intensely hot in four minutes.

Apply the steak or chops: the juices are immediately sealed, one minute each side, and the current may be switched off, the plate retaining sufficient heat to cook the meat through as required. The whole operation is well done in ten minutes, with a current consumption of  $\frac{3}{20}$  of a unit, or allowing 24 chops or steaks to be grilled with a current consumption of one unit. Four 6 oz. steaks can be treated at one time.



GENERAL ELECTRIC CO.

**Hot Plate.**—Current consumption  $\frac{1}{2}$  unit per hour, consists of circular or square plate. The heat generates on the plate quickly,

which being thick retains the heat sufficiently to keep a breakfast, dinner, or plates warm for ten minutes, with the current having been on for so short a time as one minute. Current used, =  $\frac{1}{100}$  part of a unit. This device is suitable for baking, and sweet making in the kitchen or parlour, can be used in keeping sugar simmering or rolling sweets at very small cost.

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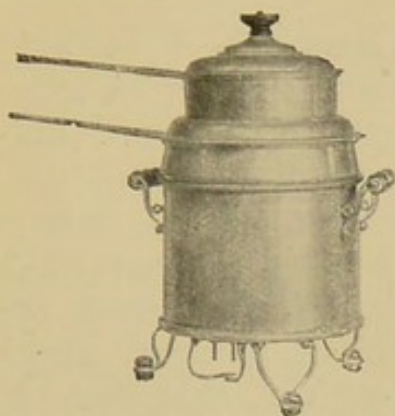
Send your Enquiries

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## At the Breakfast Table.

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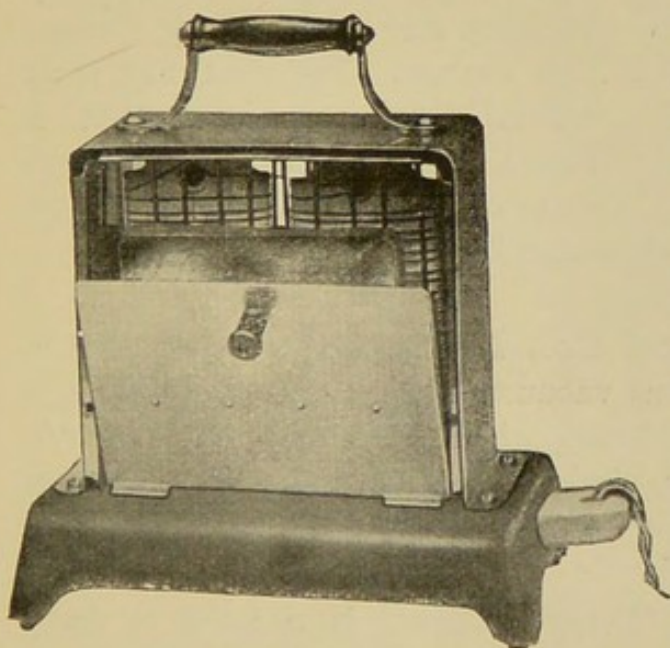


BRITISH THOMSON-HOUSTON CO.

**Cereal Cooker.**—This apparatus is made in various sizes, and is a combination for useful work, first as water heater, which is done with a somewhat low consumpt of current. When used as milk warmer or cereal cooker, the quantity of water in lower receptacle is small, it requires to simmer rather than boil, avoiding unnecessary evaporation. The egg steamer is a

notable feature, two minutes cooking the eggs to a nicety.

The device is also arranged for insertion of baby's food bottle by removal of the centre of lid. Three hours' use for one unit of electricity.



GENERAL ELECTRIC CO.

### Electric Toaster.

—Toast made by this apparatus has a desirable crispness and uniform colour. The toaster is well finished in nickel, and adds to the decorations of the dining table. It can be used during the meal upon the dining table without fear of burning. The element takes about five minutes

to heat, and will then toast two half slices of bread in about two minutes. It is fitted with flexible cord and an adapter, so that it can be connected to any convenient lamp holder. Current consumption  $\frac{1}{2}$  unit per hour.

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To 75 Waterloo Street.

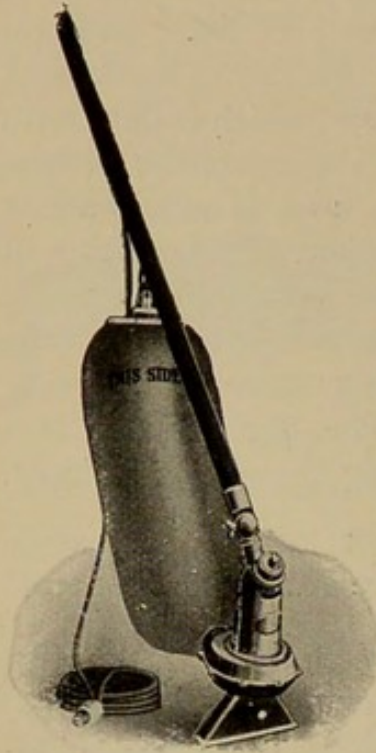
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## Spring Cleaning has no Terrors

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GENERAL ELECTRIC CO.

**Vacuum Cleaners.**—A method of sweeping and cleaning carpets, rugs, floors, etc., by suction. The dust on being extracted from the surface does not come into the air, but is forced into a receptacle, thereby reducing the labour of dusting, which is necessary after sweeping by the old-fashioned method. The sweeper illustrated is of a new type and comprises a small but powerful motor, which rotates an enclosed suction fan with an 8" flat nozzle, causing a vacuum. The motor, fan, brush, and all operating mechanism are completely enclosed and protected by aluminium casings. The dust bag is of special fabric, so woven that it filters the air and retains every

particle of dust. The complete machine weighs only 10 lbs. Current consumption  $\frac{1}{10}$  of a unit per hour.

**Eclipse Electrical Co., Liverpool,** are specialists in electrically driven vacuum cleaners, and produce a first-class article fitted with tubes and renovators or nozzles specially designed to clean walls, carpets, furniture, and a variety of other duties.

The Electric "Mary Ann" is claimed to have solved the servant problem, and there is no doubt it is a most convenient piece of apparatus for saving labour in the kitchen. It consists of a small electric motor and friction pulley fixed on a board with a special arrangement by means of which small rotary movable appliances, such as knife cleaners, coffee grinders, meat mincers, vacuum cleaners, etc., can be operated. An

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**Come and see us. Why delay?**

---

4. FOR QUANTITIES OVER 500,000 UNITS (Special Rates)

Demand of 268 Horse Power, or 200 Kilowatts,	-	2,800	560,000	
Do. 804 do., or 600 do.,	-	2,600	1,560,000	
Do. 1,877 do., or 1,400 do.,	-	2,400	3,360,000	} 3d.
Do. 2,681 do., or 2,000 do.,	-	2,250	4,500,000	
Do. 4,021 do., or 3,000 do.,	-	2,000	6,000,000	1 1/2d.

*Pro rata for Intermediate Hours and Quantities.*

I. FOR ANY QUANTITY,	-	1,000	-	1 1/2d.
	-		-	3/4d.

III.—FOR HEATING PURPOSES.

Where a supply of current for power or heating purposes is given, a minimum account of £2 per annum is payable in advance, but any account for current used by same consumer for lighting same premises where current for power or heating is consumed, is to be set off against the said minimum charge.

Where Demand Indicators are placed, the maximum demand taken will be that recorded on the Demand Indicator at the November, December, "January-February" surveys. Where no Indicators are placed, or where the supply is connected after the November-January period, the Corporation Electrical Engineer will fix the demand in accordance with the quantity of current applied for by the consumers, or by tests of the installation taking any modifying circumstances into consideration.

All supplies are subject to special terms and conditions which may be ascertained by applying to the Engineer, 75 Waterloo Street, Glasgow.

The Electricity Committee is at present considering a scheme whereby domestic consumers may get a supply of current for cooking, heating, and other domestic uses, at a rate lower than the charge for lighting from the lighting circuit, the running of separate wiring thus being avoided.

75 WATERLOO STREET,  
GLASGOW, 1st September, 1909.

We wish to serve you.

## Most Efficient System of Driving.

The following statement shows the cost of supplying power to several trades connected to the Corporation Mains. Further particulars and figures relating to trades not noted will be given on application, either at the Exhibition or at the Offices of the Department, 75 Waterloo Street.

CLASS OF CONSUMER.	Cost per H.P. Installed per annum.
BAKERS, - - - - -	£1 19 0
BUTCHERS, - - - - -	2 12 3
CLOTHING MANUFACTURERS, - - - - -	4 13 5
CRANES, - - - - -	1 4 10
DAIRIES, - - - - -	2 11 8
ENGINEERING TRADES, - - - - -	3 6 8
GENERAL FURNISHERS, - - - - -	1 18 7
HAIRDRESSERS, - - - - -	2 3 0
HAT AND CAP MANUFACTURERS, - - - - -	3 10 11
HOISTS, - - - - -	1 18 7
IRON AND STEEL WORKS, - - - - -	2 14 11
LAUNDRIES, - - - - -	4 16 9
LEAD MANUFACTURERS, - - - - -	1 12 4
MOTOR AND CYCLE MANUFACTURERS, - - - - -	4 4 7
PRINTERS AND PUBLISHERS, - - - - -	2 5 11
SAUSAGE MAKERS, - - - - -	1 17 7
SAW MILLS, - - - - -	1 9 3
SCULPTORS AND MARBLE CUTTERS, - - - - -	3 5 1
SOAP MANUFACTURERS, - - - - -	3 10 8
TANNERS, - - - - -	2 9 4
TOOL MAKERS AND CUTLERS, - - - - -	2 1 11
TUBE MANUFACTURERS, - - - - -	2 19 10
VACUUM CLEANING, ETC., - - - - -	3 5 11
WOOD POLISHING (FLOORS), - - - - -	0 16 7
WRIGHTS, - - - - -	1 3 0

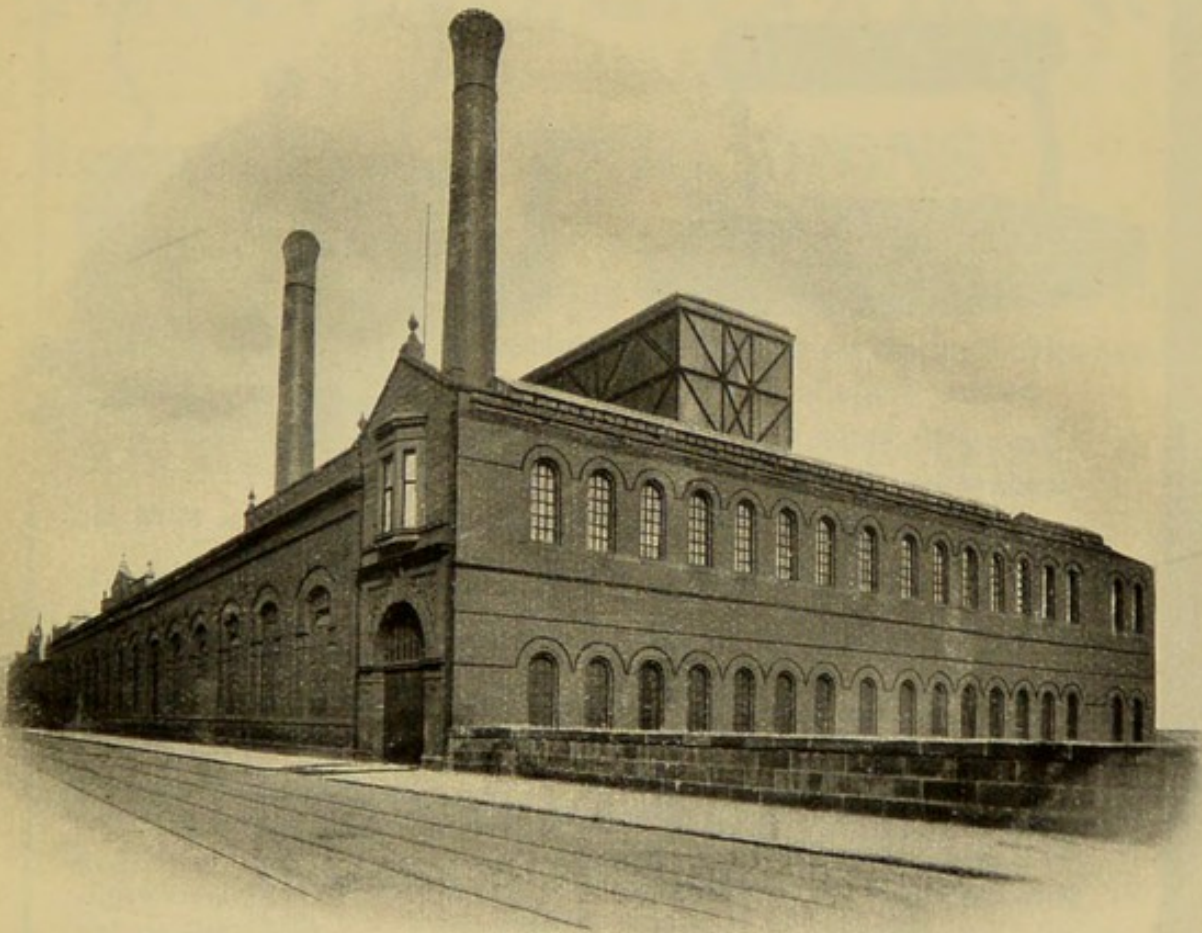
**Why delay? DO IT NOW!**

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**Electricity is Smokeless, Dustless, and Odourless.**

---

The electrically equipped house spells the complete abolition of the domestic chimney ; the electrical operation of industrial processes means the entire absence of black smoke ; and with the domestic chimney and the works chimney stalk superseded, there is presented to the mind the pleasing picture of a smokeless city and all the many advantages to health and happiness to be derived from an atmosphere free from impurity.

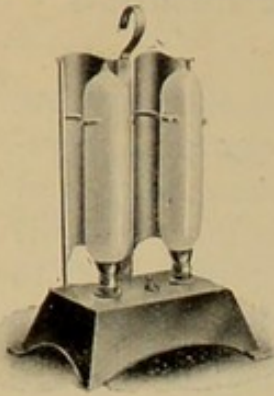


ST. ANDREW'S CROSS POWER STATION.

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**No more Smoke!**

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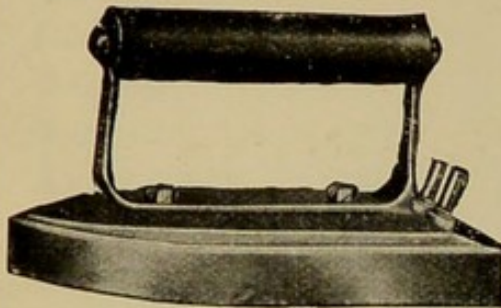


Electric Radiators  
from 21/.  
Convectors from 40/.

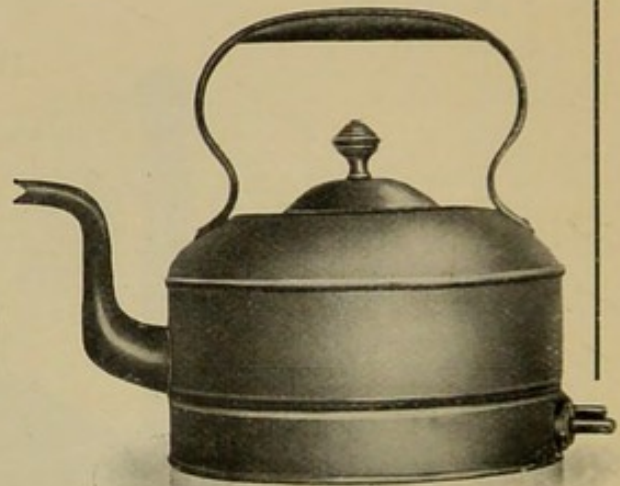
The Secret of Smoke Abatement.

# Electric Heating and Cooking.

SIMPLEX APPARATUS ENSURES SATISFACTION  
Twelve months guarantee with every appliance



Electric Irons from  
10/- each.  
(Inappreciable cost to operate.)



Electric Kettles from 10/6 each.

A full range of all classes of Domestic Appliances at  
**STAND No. 49.** Inspection invited.

COOKING DEMONSTRATIONS GIVEN.

## SIMPLEX CONDUITS, LIMITED.

Showrooms, - 72a Waterloo St., Glasgow.

H. G. BARRETT, Manager for Scotland.

Works, - - - - - Birmingham.

Telephone Nos.—  
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5177 Central.

“SPOOKIE” SHADES.

*A distinctive Novelty.*

CHEAP, DECORATIVE, and UNIQUE. □

ALSO ASK TO SEE

“HOLOPHANE.”

Every reputable Electrical Dealer will supply you with SIMPLEX material.

# JAMES STEVENS,

19a MAINS STREET,  
(Waterloo Street), CITY.

CONTRACTS TO CARRY OUT INSTALLATIONS FOR  
**LIGHTING, POWER,  
HEATING, and COOKING.**

## Specialty: **ELECTRIC IRONS.**

Irons supplied suitable for all classes of work, and are fitted with flexible wire with plug or adaptor ready for use either for supply from wall socket or from an ordinary lamp holder.

Simplicity is realised by a trial.

J. STEVENS IS PREPARED TO LEND AN ELECTRIC IRON ON TRIAL FOR **ONE WEEK** FREE OF COST. :: :

□ PAYMENT REQUIRED **ONLY** □  
IF SATISFACTORY.

3-lb.	Iron suitable for Laces and fine Fabrics,	- £0 12 0
4-lb.	Do. Blouses, etc.,	- 0 13 6
5-lb.	Do. Light Laundry Work,	- 0 15 0
6-lb.	Do. Do.,	- 0 16 0
8-lb.	Do. Starched Goods,	- 1 2 0

## Special Features

of the above Irons practically demonstrated if you call or

**TELEPHONE P.O. No. 453.**

# ELECTRIC

## OSBORNE & HUNTER

ENGINEERS AND  
CONTRACTORS

LIGHTING

CLOCKS

# POWER

BELLS

TELEPHONES

# &

# HEATING

—108<sup>A</sup>—

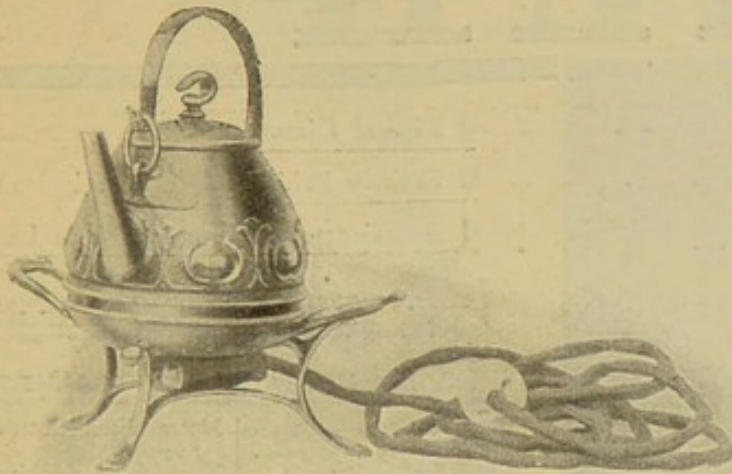
W. REGENT ST.,  
GLASGOW.

TELE- (NAT. DOUGLAS 779  
PHONES: (P.O. CENTRAL 5221.

### Estimates

□ □ □ Free.

# B. T. H. Electric Heating Devices.



B. T. H. Electric  
TEA KETTLES  
are made in a  
variety of designs  
to suit all tastes,  
and are supplied  
in either Antique  
Copper, Plain  
Copper or Brass  
highly polished  
and finished.

The entire absence of fire, smoke or smell enables them to be used with perfect safety on the Drawing-room or Dining-room table.

Prices, including eight feet of flexible cord and connector, from  
£1 1s. 0d. to £2 6s. 0d.

B. T. H. Electrically heated FLAT  
IRONS are simply delightful.

Will iron to perfection the most  
delicate lace or embroideries.

Made in six sizes from 3 lb. to 18 lb.  
at prices ranging from 15s. to £1 2s.

B. T. H. Electric Heating and  
Cooking Devices include Ovens,  
Coffee Percolators, Grids, Broilers,  
Frying Pans, Disc Stoves, etc.



*Write for particulars—*

**The B. T. H. CO., Ltd., Rugby, England.**

GLASGOW OFFICE, 91 Wellington Street.



The

# BECK FLAME LAMP



SIMPLICITY

☐ Liberal Discounts.

☐ Entirely British.

☐ Superior to any Foreign-Made Lamp.

## A FEW LARGE USERS.

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Charing Cross & Strand Electricity Supply Co.	Metropolitan Electric Supply.
Clyde Valley Power Co.	Norwich Corporation.
City of Cape Town.	Portsmouth "
City of Sydney, N.S.W.	Taunton "
Colchester Corporation.	The South Metropolitan Electric Light and Power Co.
Devonport "	Tynemouth Corporation
Eastbourne "	Worthing Corporation.
Guildford Electric Supply.	

### ☐ Railways.

Gt. Western Railway Co.	L. & N. W. Railway Co.
Lancs. & Yorks "	New South Wales Railway Co.

### ☐ Hotels, Theatres, Rinks, etc.

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Aitchison & Blair.	L. Gardner & Sons.
Armstrong, Whitworth & Co.	Liptons, Ltd.
Arnott & Co., Ltd.	Musselburgh Co-oper- ative Society, Ltd.
Boardmans, Ltd.	Sainsburys, Ltd.
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Colonial Offices.	Wm. Bain & Co
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**Etc. Etc. Etc. Etc.**

WORKS: HAYES, MIDDLESEX.

Head Office: Suffolk House, Laurence  
Pountney Hill, Cannon St., London, E.C.

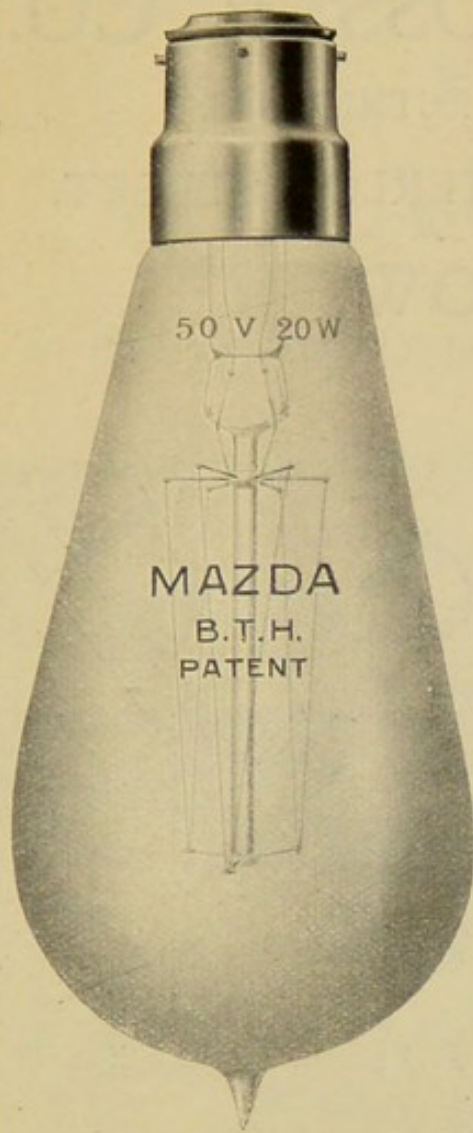
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224 St. Vincent Street, GLASGOW.

Telephone No. 1004 Argyle.



# MAZDA LAMPS

ARE MADE IN RUGBY, ARE THE BEST METAL FILAMENT ELECTRIC LAMPS OBTAINABLE, AND, OWING TO THEIR HIGH EFFICIENCY, GREATLY REDUCE THE COST FOR ELECTRIC LIGHTING, WHICH WILL BE CLEARLY DEMONSTRATED BY A TRIAL.

YOU CONSULT YOUR OWN BEST INTERESTS BY USING ONLY  
**MAZDA LAMPS.**

## PRICES.

WATTS.	APPROX. BRITISH C.P.	VOLTS.	CLEAR LAMPS.
13	10	25 to 27½	2 3
20	16	" "	" "
31½	25	" "	2 9
13	10	50 to 55	2 6
20	16	" "	" "
31½	25	" "	2 9
25	20	100 to 135	" "
50	40	" "	" "
125	100	" "	6 0
32	21	200 to 250	4 0
45	32	" "	" "
60	40	" "	3 9
140	100	" "	7 0

The B. T. H. CO., Ltd., Rugby, England.  
GLASGOW OFFICE, 91 Wellington Street.

# GRINDLAY, ROSS & Co.,

ENGINEERS AND ELECTRICIANS.

Works and Offices—47 WATERLOO STREET,

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REPAIRS TO ALL .  
CLASSES OF . . .  
ELECTRICAL PLANT  
A SPECIALTY. . .

**EVERYTHING  
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POWER . . .  
LIGHTING. .  
COOKING . .  
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BEST EQUIPPED, LARGEST AND MOST  
CENTRAL REPAIR WORKS IN GLASGOW.

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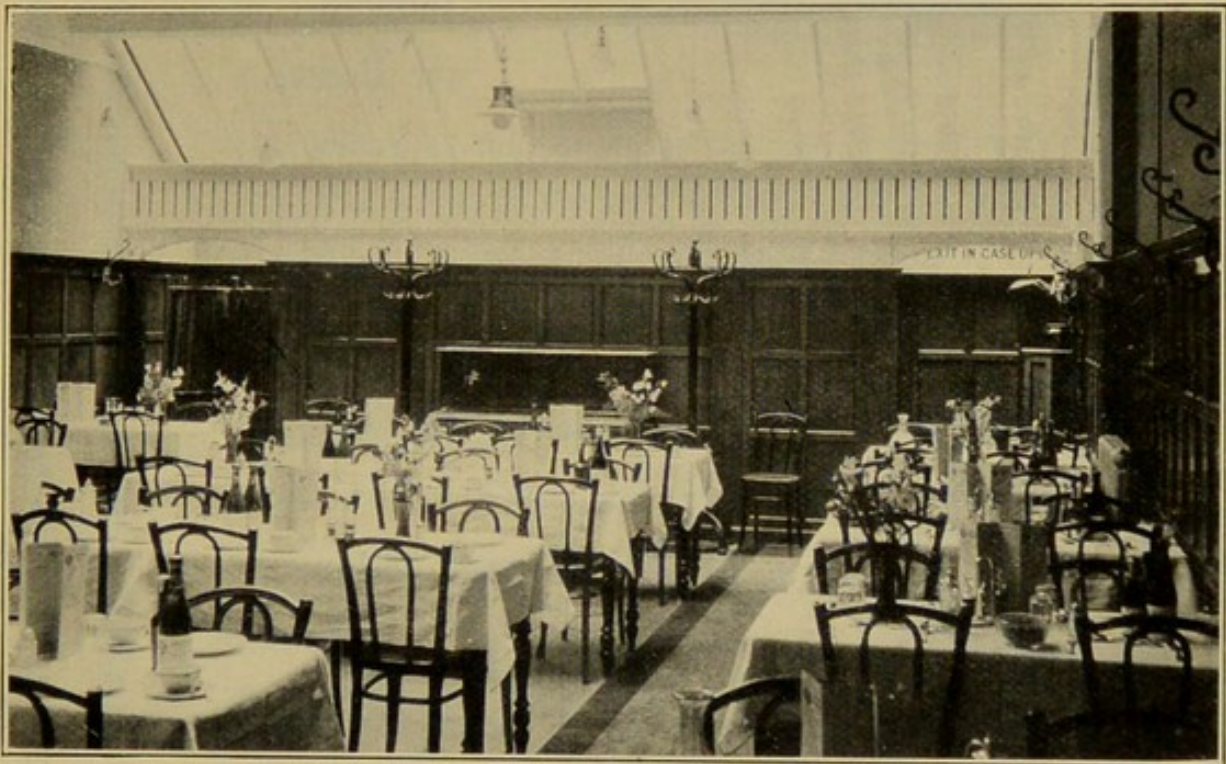
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# VENTILATION

WITHOUT

# DRAUGHTS

(See Glasgow Corporation Electricity Exhibit.)



AS INSTALLED IN A WELL-KNOWN LONDON RESTAURANT.

*Apply*

The

# **GLOVER-LYON**

## **Ventilation Co., Ltd.,**

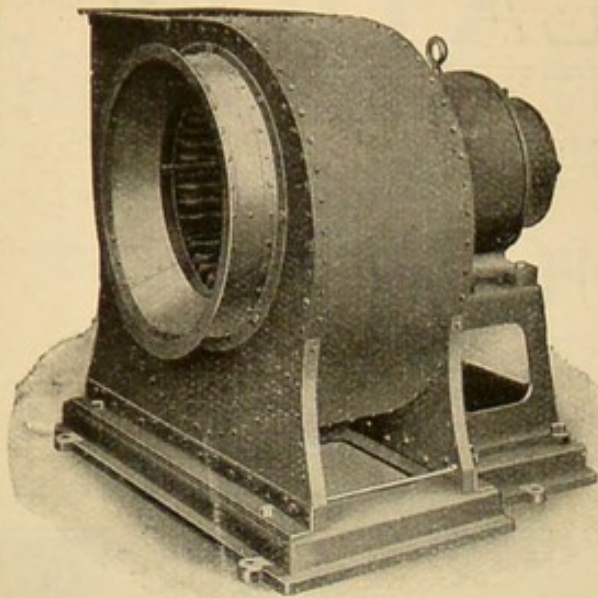
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Caxton House,  
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Telephone : 2225 Argyle.  
Telegrams : "Grandesco, Glasgow."

Telephone : 679 Westminster.  
Telegrams : "Gloivent, London."



## “Ordnance” Centrifugal Fans for

Forced and . . .  
Induced Draught  
for Boilers. . .

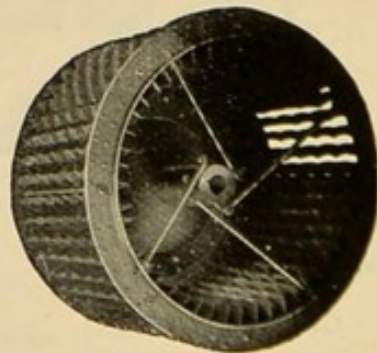
Ensure efficient combustion of the coal and hence reduce the smoke.

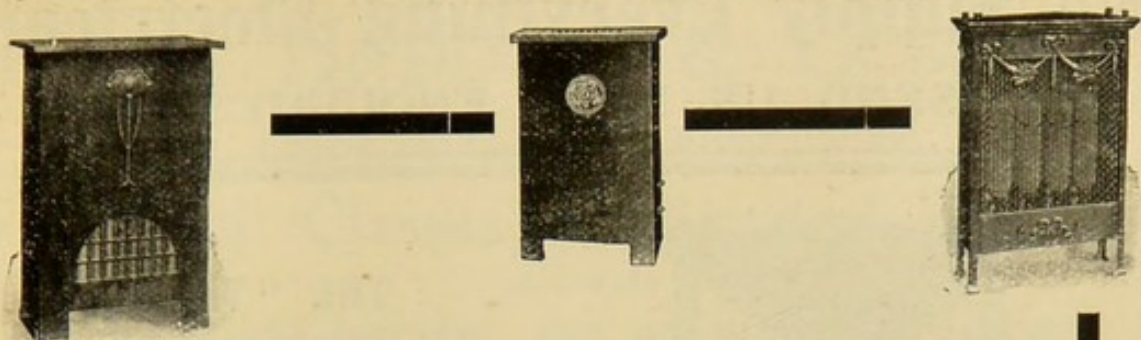
Mechanical draught is the only really practical method of obtaining smokeless combustion.

“Ordnance” Fans are highly efficient, owing to the patented construction of the blades, which prevents backslip of the air.

:: The Electric and Ordnance ::  
Accessories Co., Ltd., Birmingham.

*Glasgow:* J. & A. Anderson,  
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## Apparatus for Settling the Smoke Problem.

The greater amount of smoke in large towns comes from the inefficient domestic fireplace, and thus the only reliable means of preventing the production of this Smoke is to substitute electrical appliances for those using gas and coal.

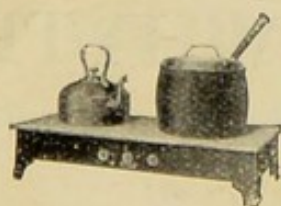
“ECLIPSE” Electric Heating and Cooking Devices perform their duty without producing Smoke or dirt.

Our prices are extremely reasonable considering the high quality and efficiency of our apparatus.

Complete line of Electric Cooking Apparatus manufactured, including—Ovens, Grills, Toasters, etc.

The Electric and Ordnance Accessories Co., Ltd.,  
Birmingham.

*Glasgow*: J. & A. Anderson, 231 St. Vincent Street.

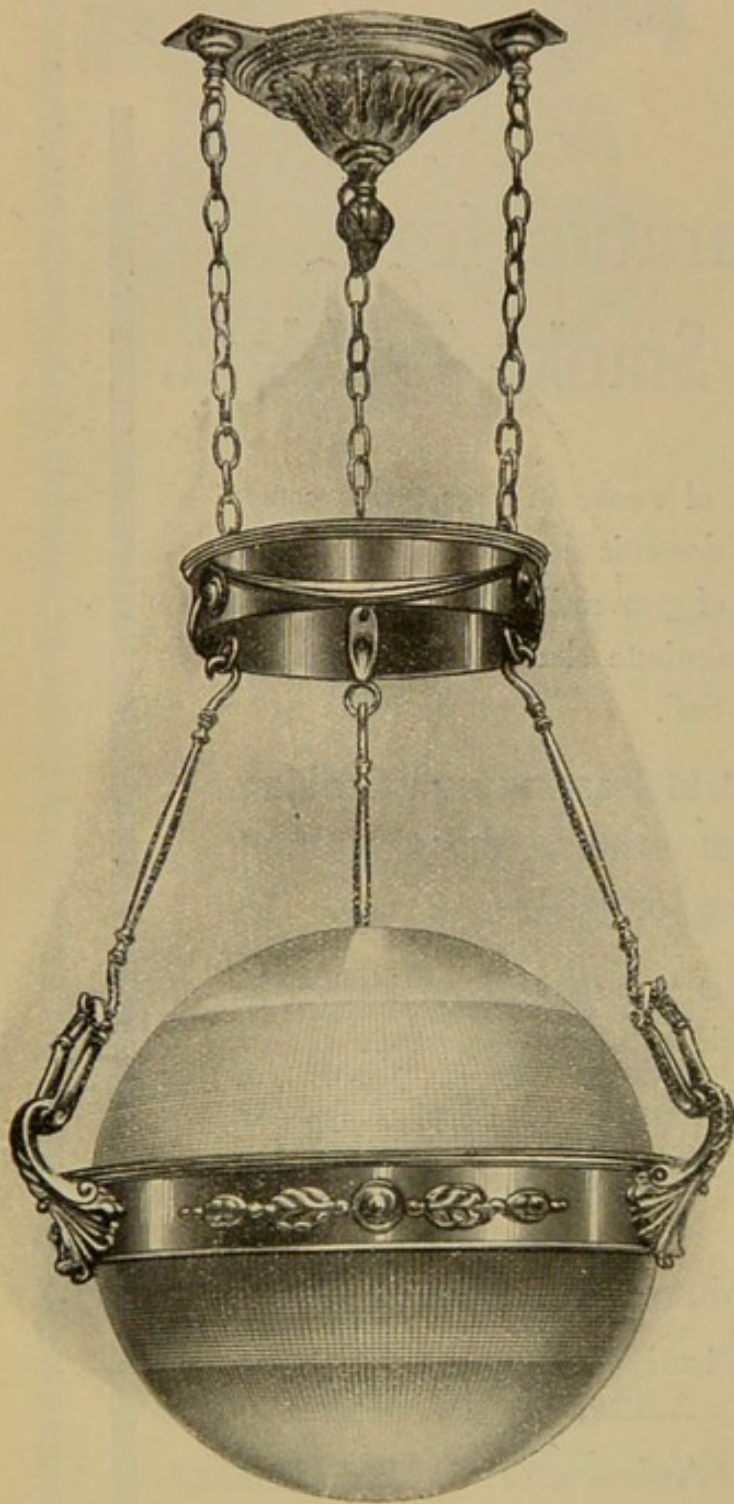


# We Supply Everything Electrical.

SEND US YOUR ENQUIRIES.

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## THE "THEROL" ELECTRIC WATER HEATER.

The Solution of the  
Domestic Hot-Water  
Problem.



## HOLOPHANE GLASS REFLECTORS.

The Scientific Method  
of Light Distribution.



## ELECTRIC BELLS

Which ring from  
Lighting Circuit with-  
out Troublesome Cells.



RADIATORS,  
MOTORS, FANS,  
VACUUM CLEANERS,  
METALLIC  
FILAMENT LAMPS,  
ETC., ETC.

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# Messrs. HADDOW & COMPANY

RESPECTFULLY INVITE ENQUIRIES

For all Classes of Electrical Work,

INCLUDING

DOMESTIC HEATING AND COOKING APPARATUS,

— METALLIC FILAMENT LAMPS, Etc. —

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## Ship Work.

GENERATING PLANTS.

ELECTRIC LIGHTING.

ELECTRIC SEARCHLIGHTS.

ELECTRIC FANS.

ELECTRIC BELLS.

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## Power Installations

FOR

SHIPYARDS, PUBLIC WORKS, FACTORIES.

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— COMPLETE INSTALLATIONS —

WITH

PETROL ENGINE, ACCUMULATORS, Etc.


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— (Off Blythwood Square), —

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Folding Hand Cleaner, £6 6 0.

## Our Specialities.

### VACUUM CLEANERS,

Hand, - - from 21s.

Electric, from £10 10s.

CLEANING WITHOUT DUST,  
TROUBLE, OR WORRY.

### ELECTRIC TYRE PUMPS

for Garage and Private use,

£10 10 0.

### DOMESTIC ELECTRIC MOTORS

for Hotel, Household,  
and General use.

$\frac{1}{4}$ -B.H.P. for driving Fans, Sewing  
Machines, Meat Choppers, Coffee  
Mills, etc., £3 15 0.

# E.E. Coy. Wholesale Supplies,

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Direct and Alternating  
Current.

Transform High to Low Vol-  
tage; Alternating Current to  
Direct Current, or vice versa.  
For Accumulator Charging,  
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Enormous saving effected.  
From £9 7 6.

**DYNAMOS** - Light about 12  
Ten Candle Power Lamps,  
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### GAS and OIL ENGINE ELECTRIC LIGHT SETS

For Country Houses, from £10.

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*Liberal Discounts.*



Electric Cleaner, £21.

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Electrical Engineers and Contractors

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**BELL and TELEPHONE INSTALLATIONS**

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WIRING BY EVERY SYSTEM.

COMPLETE PLANT INSTALLATIONS of every description.

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— Electrician. —

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— Electrician. —

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HEATING, COOKING, and other  
Appliances as described herein can be  
supplied by me at CHEAPEST PRICES  
from STOCK. Goods on Approval.

Note the Address and call or ring up  
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(OFF SAUCHIEHALL STREET).

118 DOUGLAS STREET  
(OFF SAUCHIEHALL STREET).

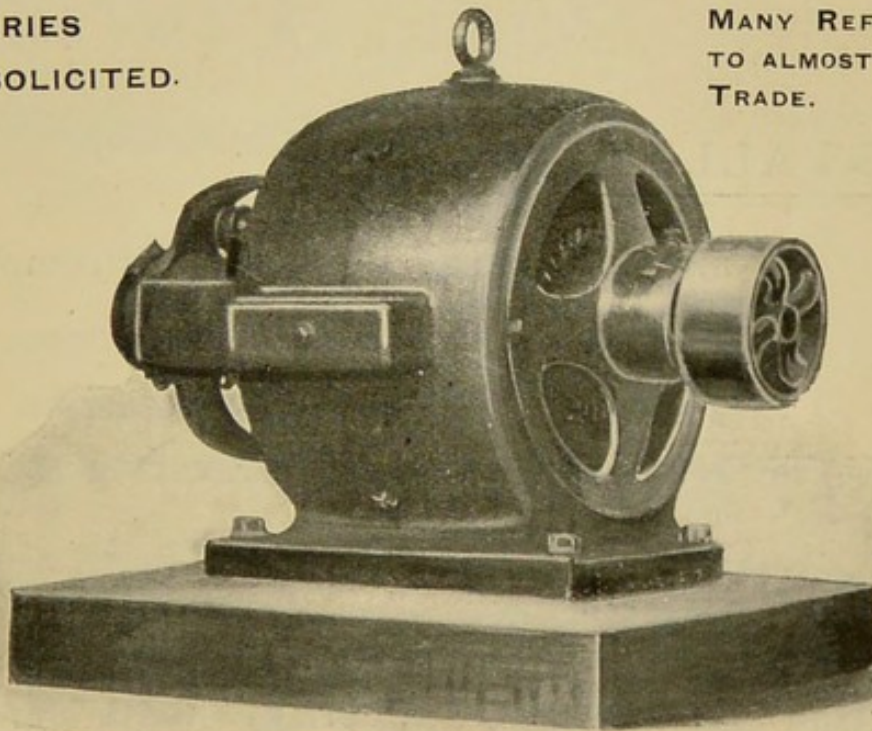
OUR SPECIALITY IS  
**ELECTRIC MOTORS,**

And the Application of same to Machinery for the  
following Trades:—

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BAKERS, CONFECTIONERS,  
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ENQUIRIES  
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MANY REFERENCES  
TO ALMOST ANY  
TRADE.



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TELEPHONES:—  
POST OFFICE, 1368. | NATIONAL, 113 DOUGLAS.

# ANDREW HUTCHESON,

*Electrical Engineer,*

211 WEST CAMPBELL STREET,

GLASGOW.

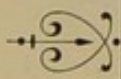
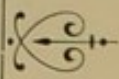


## INSTALLATIONS

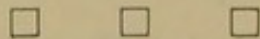
Of any Size carried out with Promptness  
by a Staff of Experienced Workmen. —

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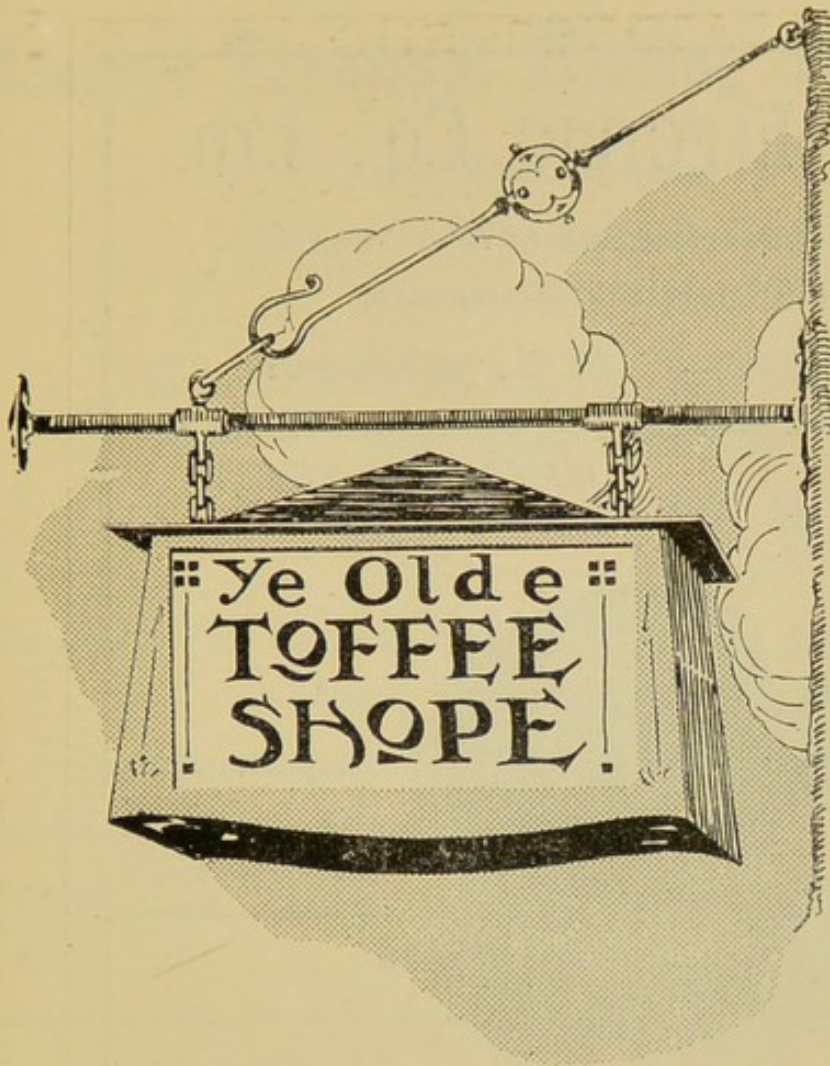
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 Cooking, Heating, and  
Ventilating Appliances. 

ALL KINDS OF ELECTRICAL SUPPLIES  
KEPT IN STOCK.



ADVICE AND ESTIMATES FREE.



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"Early to bed—early to rise,  
 Is not worth a hang if you don't advertise."

☞ Increase your business by having one of our artistic  
 Electric Signs. ☞ Designs to suit all trades.

☞ Enquiries invited for every description of Electric  
 Lighting and Power work. ☞ We are specialists in  
 Wooden Electric Fittings.

☞ Come up and see our Show-rooms.



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Electrical Engineers,

10 JAMAICA STREET,



Telephone No. 3286 Central.

**GLASGOW.**

# STANDARD ELECTRIC Co., LTD.,

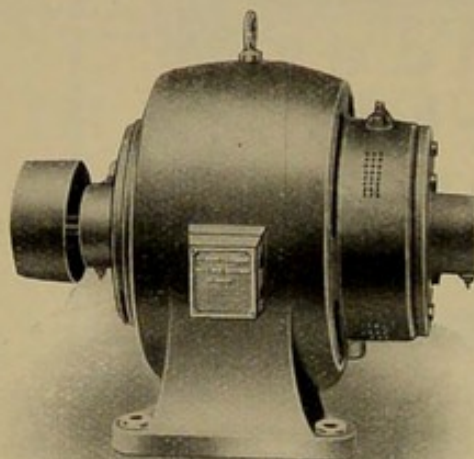
Manufacturers of  
Electric Motors and Accessories,

## LONDON:

47 VICTORIA STREET, S.W.

## GLASGOW:

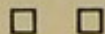
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123 COLVEND STREET.



## ELECTRIC MOTORS on Sale or HIRE.

### REPAIRS.

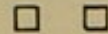
Motor Repairs of all kinds  
undertaken Promptly and  
. . . Economically. . . .



Rewinding Armatures  
. . . a Speciality. . .

### ACCESSORIES.

LAMPS, SWITCHES,  
BELLS, INDICATORS,  
. Etc., Etc., Etc. .



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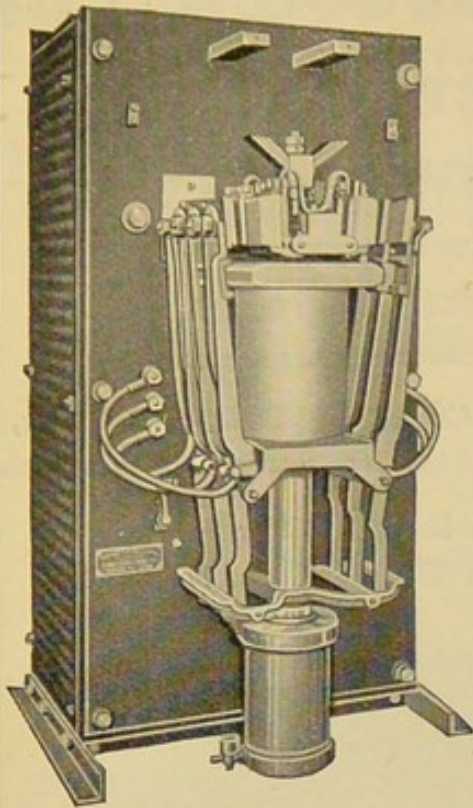
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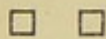
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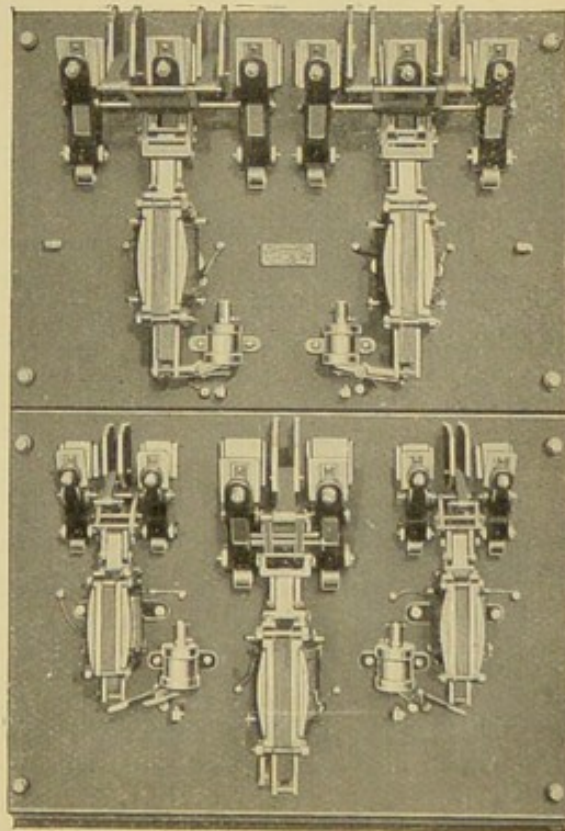
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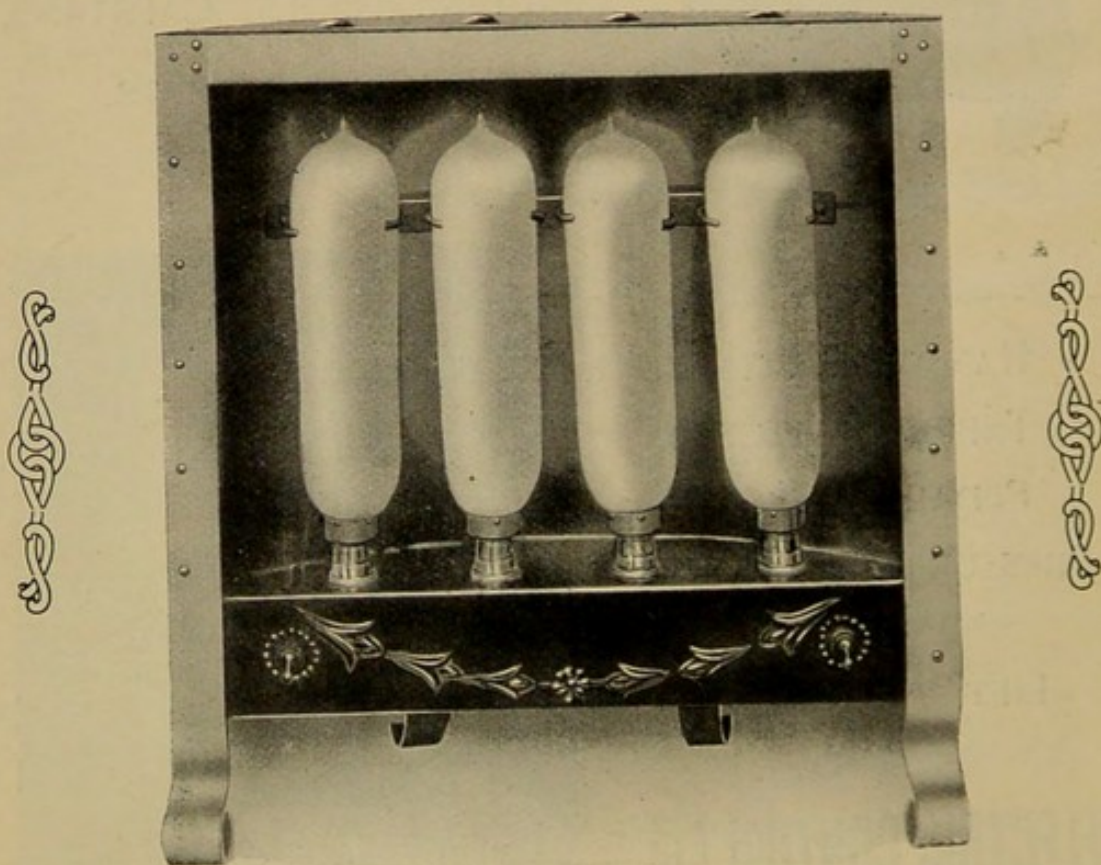
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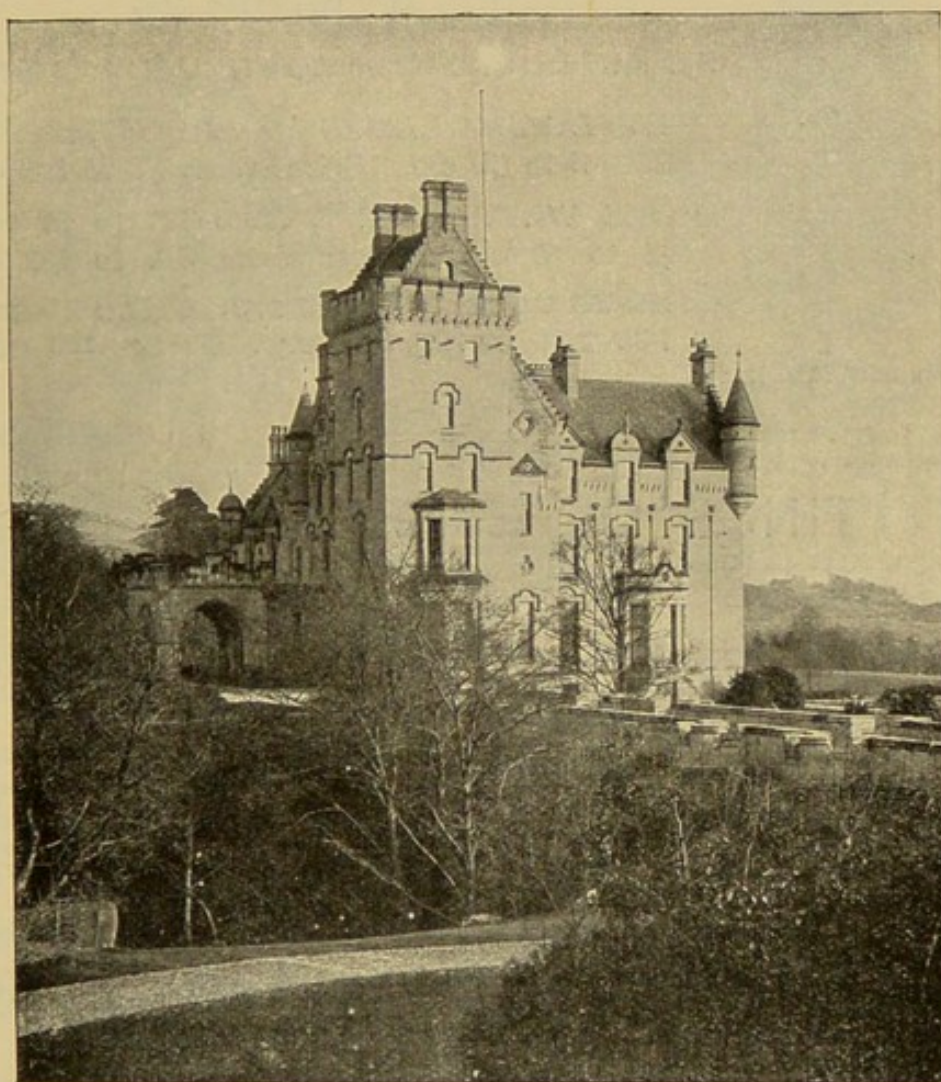


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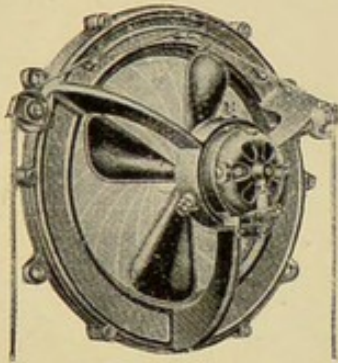
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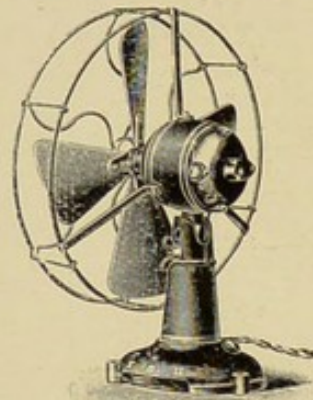


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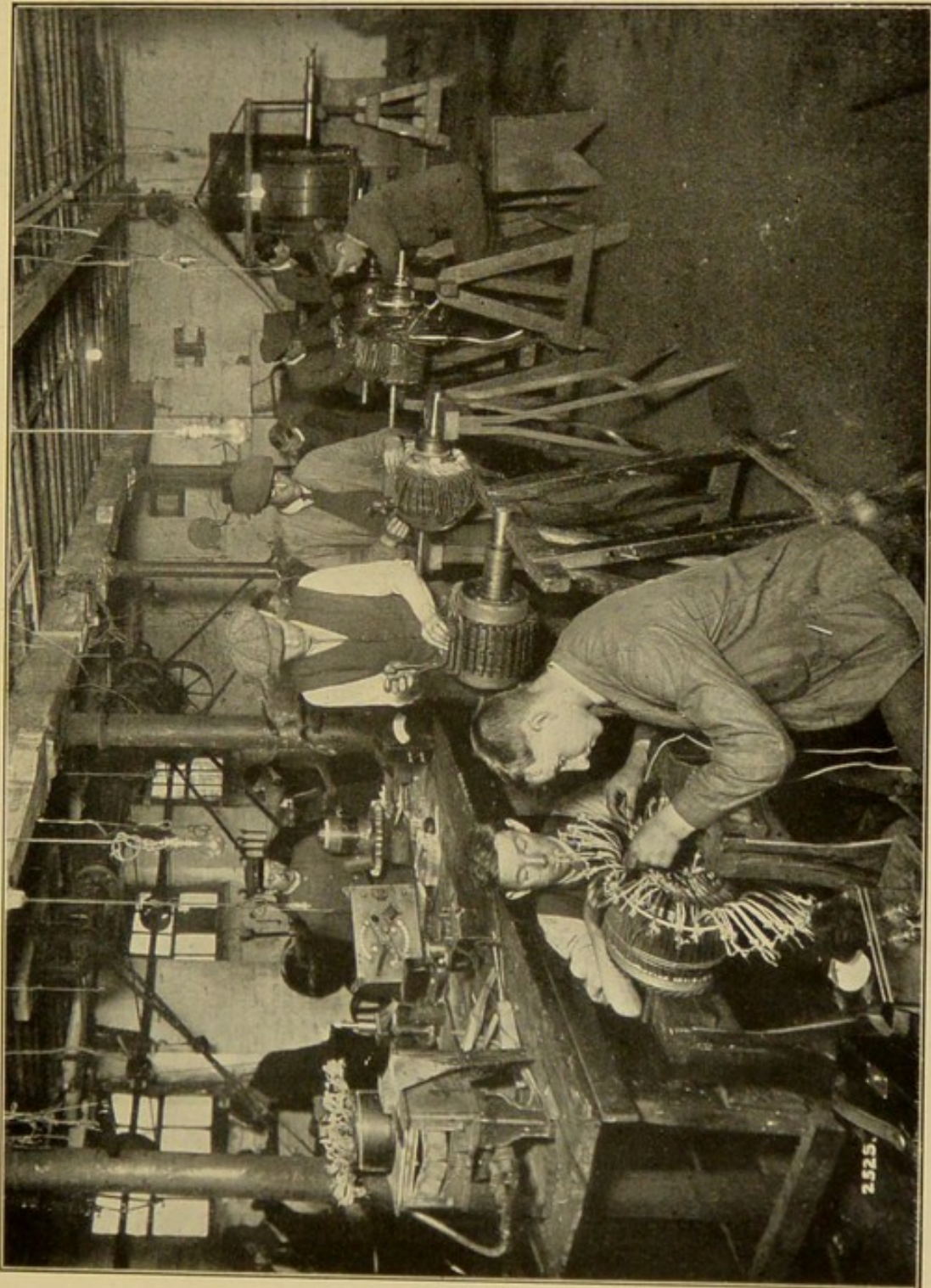
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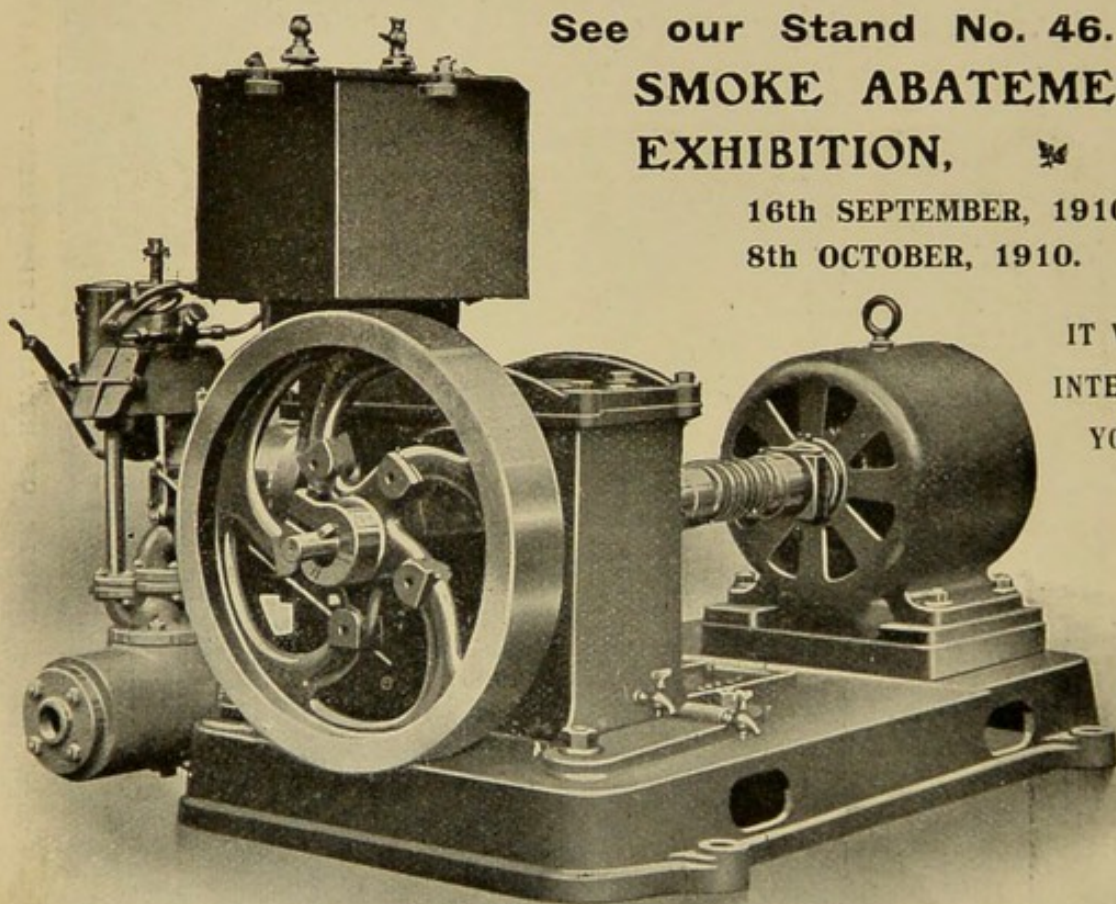
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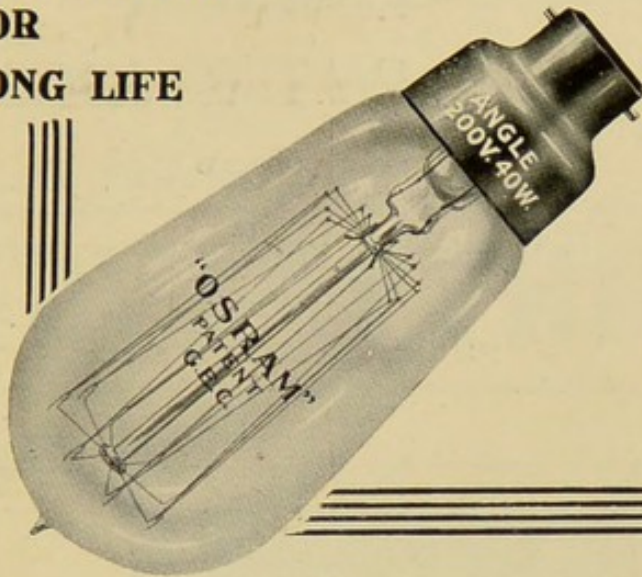
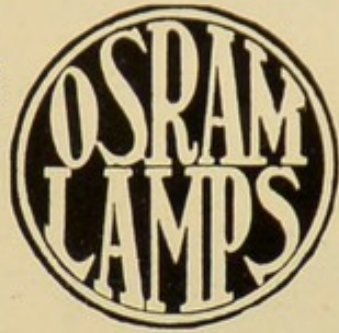
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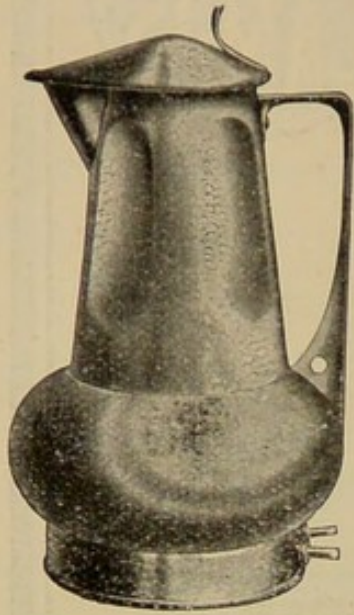


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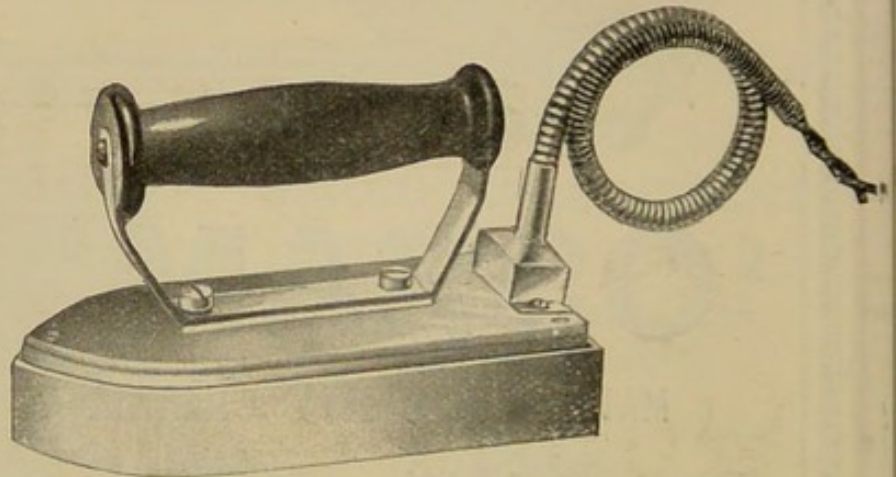
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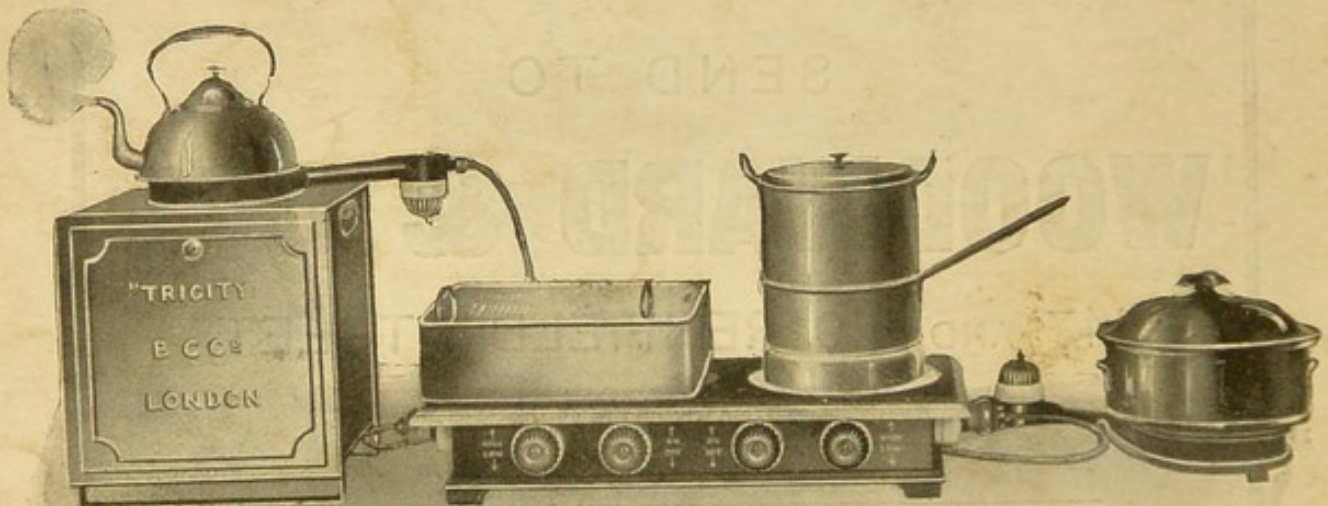
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