

F. OUDEVILLE.
GAS BURNER.
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1,135,840.

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Fig. 1.

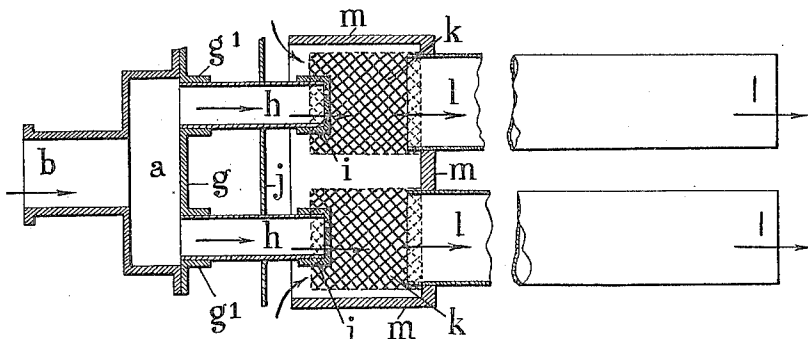


Fig. 2.

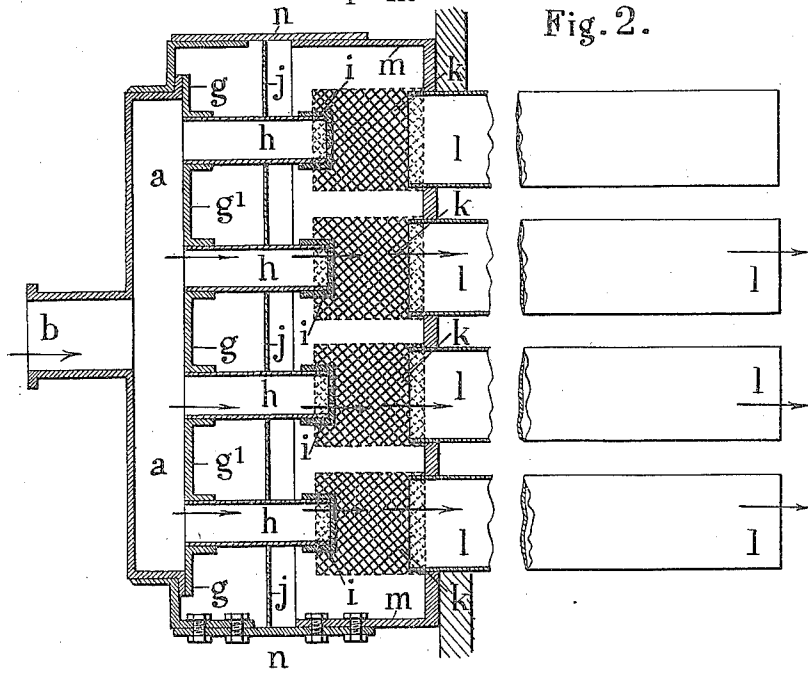
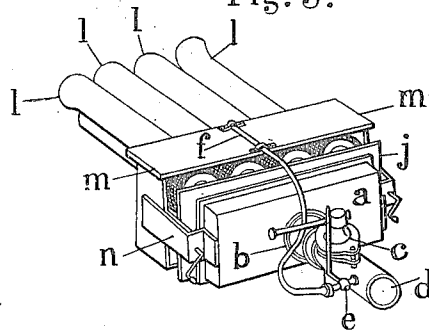


Fig. 3.



WITNESSES

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FRANÇOIS OUDEVILLE, OF PARIS, FRANCE, ASSIGNOR TO SOCIÉTÉ UNIVERSELLE DES APPAREILS CONTROLEURS, OF PARIS, FRANCE.

GAS-BURNER.

1,135,840.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FRANÇOIS OUDEVILLE, a citizen of the French Republic, and a resident of 23 Rue de Navarin, in the city of Paris, Republic of France, have invented a Gas-Burner, of which the following is a full, clear, and exact description.

The present invention relates to an apparatus for heating baking furnaces by gas. This apparatus comprises a kind of manifold constituting a collector-distributor in which enters the gas and on which are branched Bunsen injectors, discharging the gas through reticulated metal sleeves to mixing burner-tubes, arranged on a box in which cold air is admitted, this admission being regulated by a movable shield or screen. The whole of this apparatus, except the free end of the mixing burner tubes, is outside the furnace, at the mouth of the latter. The arrangement of the apparatus, outside the furnace, avoids the previous heating of this gas, the decomposition of the hydrocarbons and the fouling of the injector.

The air chamber which constitutes a cushion interposed between the gaseous current and the atmosphere, allows of an equal distribution of the air in the different burners; moreover, said chamber constitutes a protector in the case of an unexpected back firing from the interior of the furnace toward the exterior. The wire gauze or reticulated sleeves prevent a dangerous back firing to the exterior, in case of the gas being accidentally ignited at the injectors.

The invention will be described hereafter with reference to the accompanying drawing in which:

Figure 1 is a horizontal section of the apparatus; Fig. 2 shows the same apparatus in vertical section; Fig. 3 is a perspective view of the whole of the apparatus.

As illustrated in the drawing, said apparatus comprises a manifold *a* constituting a kind of collector-distributor to which the gas is admitted through a tube *b*. This tube is connected to a feeding cock *c* and to a tube *d* provided with a small gas intake cock *e* and a pilot light *f*.

The collector-distributor *a* is closed by a plate *g* having sleeves or bosses *g*¹ in which are engaged the injecting tubes or fuel supply pipes *h* provided at their free end with

caps *i* provided with holes. All these injectors are fitted in perforations provided in a metal plate *j* constituting a fender, shield or screen and movable on these injectors. The front part of each of the injectors is surrounded by a reticulated or foraminous metal sleeve *k* whose other end fits on a mixing burner-tube *l*. These mixing burner-tubes, arranged in front of the injectors, are secured in a box *m* connected to the collector by flanges *n*. Said box is open on the side of the shield or screen *j* so as to allow of the air entering therein. The gas enters, through the tube *b*, in the collector-distributor *a*, passes through the injectors *h* and the metallic reticulated sleeves *k* into the mixing burner-tubes *l*; under the action of the pressure, the gas injected in the mixing burner-tubes, drives along with it, through the metallic reticulated sleeve *k*, the air necessary for its combustion.

By means of the pilot-light, the gas mixed with air, lights at the ends of the mixing burner-tubes *l* and forms a large sheet of fire extending throughout the furnace. For extinguishing the apparatus, it suffices to close the feeding cock *c*.

The forms, accessories, details, materials and sizes of said apparatus may of course be varied without modifying the principle of the invention.

Claims:

1. An apparatus for heating baking furnaces by gas, comprising a gas collector-distributor, injector-tubes mounted on the collector-distributor and provided at their free ends with perforated caps, an air chamber in which enter the injector-tubes, mixing burner tubes fixed in said air chamber opposite the injector tubes, metallic sleeves connecting the injector-tubes and the mixing burner-tubes and preventing a dangerous back firing at the exterior, and a metallic screen the position of which is adjustable relatively to the entrance of the air chamber, for suitably modifying the admission of the air into said chamber.

2. In a gas burner for furnaces, a series of mixing and burner tubes adapted to enter the furnace, and exterior means for supplying air to said tubes and comprising an air box arranged in connection with the inlet ends of the several tubes and open to the atmosphere, at its rear end, a series of fuel

supply pipes extending into the open end of the air box, each pipe being in axial alinement with a tube, a manifold communicating with the several fuel pipes, a fender plate disposed between the open end of the air box and the manifold plate through which, the fuel pipes extend, and a fuel supply for the manifold.

3. In a liquid fuel burner, a series of mixing and burner tubes, the tubes being open at one end for the inlet of air, a box in which the said tubes are secured, a series of fuel conductors disposed in the rear of the inlets to the tubes and in line therewith, means for supplying fuel to the tubes, and a fender plate movable on the fuel conductors.

4. In a burner of the character described, a manifold, a mixing and burner tube open at one end for the inlet of air and fuel, a fuel conductor leading to the manifold and delivering adjacent to the said end of the tube, and a fender plate mounted to slide on said fuel conductor toward or from the outlet end thereof.

5. In a burner of the character described, a manifold, a mixing and burner tube open at one end for the admission of air and fuel, a reticulated element extending around said inlet end, and a fuel conductor leading to the manifold and having a delivery end in axial alinement with the tube and extending into the said reticulated element, the

fuel conductor being of considerably less diameter than the reticulated member.

6. In a burner of the character described, a mixing and burner tube open at one end for the admission of air and fuel, a reticulated element extending around said inlet end, and a fuel conductor having a delivery end in axial alinement with the tube and extending into the said reticulated element, there being an air box surrounding the inlet end of the tube, the reticulated element and the delivery end of the fuel conductor.

7. In a burner of the character described, a mixing and burner tube open at one end for the admission of air and fuel, a reticulated element extending around said inlet end, and a fuel conductor having a delivery end in axial alinement with the tube and extending into the said reticulated element, there being an air box surrounding the inlet end of the tube, the reticulated element and the delivery end of the fuel conductor; in combination with a fender plate extending at all sides of the fuel conductor at the rear of the said air box.

The foregoing specification of my apparatus for heating baking furnaces by gas signed by me this 16th day of September, 1913.

FRANÇOIS OUDEVILLE.

Witnesses:

HANSON C. COXE,
RENÉ THIRIOT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."