Apr. 10, 1923.

1,451,116

J. I. ROBIN

GAS BURNER

Filed Jan. 21, 1920

Fig. 3.

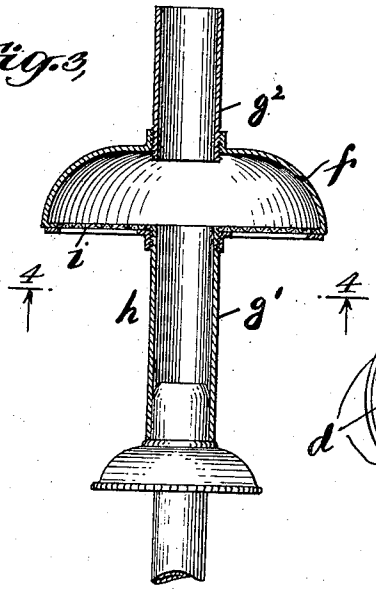
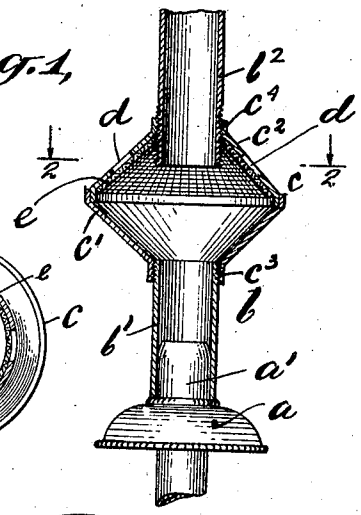


Fig. 1.



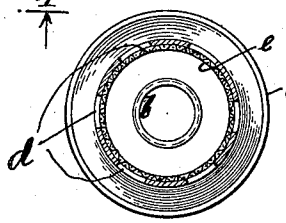


Fig. 2.

Fig. 4.

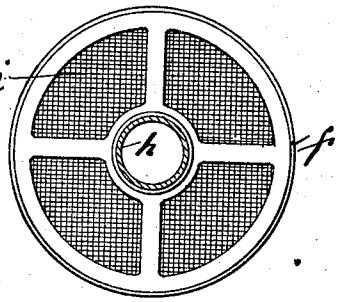


Fig. 5.

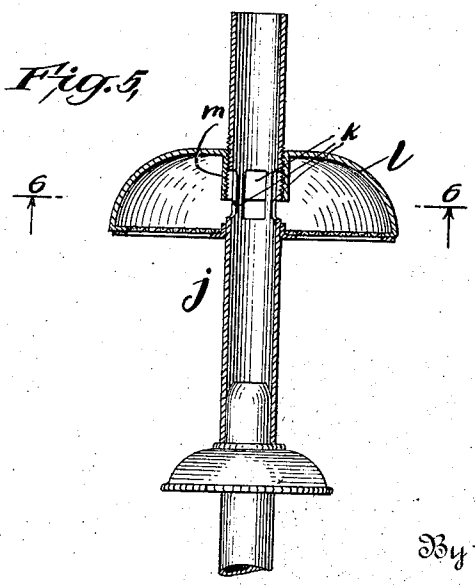
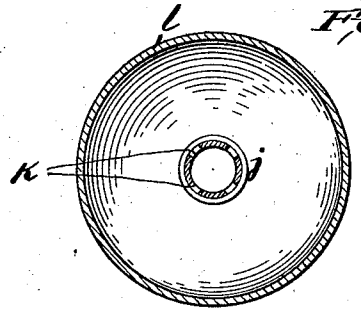


Fig. 6.



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By his Attorney
Mark Ordeman

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UNITED STATES PATENT OFFICE.

JACOB I. ROBIN, OF NEW YORK, N. Y.

GAS BURNER.

Application filed January 21, 1920. Serial No. 352,959.

To all whom it may concern:

Be it known that I, JACOB I. ROBIN, a citizen of the United States of America, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Gas Burners, of which the following is a specification.

The present invention relates to burners, particularly gas burners, and has for its principal object to provide a new and improved burner which will be simple and durable in construction and which, with a comparatively small amount of fuel, will produce an intense flame which can be advantageously used for the production of brilliant incandescent light, for heating purposes, soldering, etc.

With this object in view, my invention consists substantially in a Bunsen burner and a conducting tube formed with a comparatively large air or mixing chamber intersecting the flow of the gas mixture above the nozzle of the Bunsen burner, whereby a perfectly blue flame of intense heat is produced at the end of the conducting tube.

My invention also consists in the novel construction arrangement and combination of parts as will be hereinafter more fully described and defined in the appended claims.

In the accompanying drawing which forms part of this specification and in which similar reference characters denote corresponding parts, Fig. 1 is a vertical section of my new burner; Fig. 2 is a cross section on line 2—2 of Fig. 1; Fig. 3 is a vertical section of a modified construction; Fig. 4, a cross section on line 4—4 of Fig. 3; Fig. 5 is a vertical section of another modification, and Fig. 6 is a cross section on line 6—6 of Fig. 5.

Referring to the drawing more in detail, and first to the construction shown in Figs. 1 and 2, a denotes the Bunsen burner which may be of usual construction and b, the conducting tube mounted over the nozzle a' of the Bunsen.

This conducting tube is composed of two longitudinal sections b', b^2 between which is inserted a hollow body c to serve as an air chamber. The body c is composed of two substantially conical sections c', c^2 mounted on one another with their larger diameters and joined together to form a single piece. On top and bottom the body c is provided with short cylindrical necks c^3, c^4 adapted to engage the pipe sections b', b^2. In the upper section c^2 of the body c I provide a plurality of air openings d and over the inner face of said section is mounted a piece of wire netting or gauze e to cover said openings.

The pipe sections b', b^2 are adapted to be adjustable relative to one another so that the free space within the chamber c between the opposite ends of said sections may be enlarged or reduced in order to regulate the quantity of air desired to be added to the gas mixture flowing from the bunsen through the conducting tube.

As the mixture rises in the tube and burns at the free end of the section b^2 air is being sucked into the chamber c through its openings d which mixes with the burning mixture and, owing to the rapid supply of oxygen, produces a flame of intense heat.

By enlarging the space between the opposite ends of the pipe sections b', b^2 the quantity of air to be added to the mixture issuing from the Bunsen burner may be regulated according to the intensity of the heat desired.

A burner of this construction may be used in lieu of a blowpipe, thus dispensing with bellows or other means for producing air currents.

The construction just described may be variously modified. Thus, in Figs. 3 and 4, the chamber f is shown in form of a bell, inserted between the sections g', g^2 of the pipe h.

The mouth portion of the bell is apertured and covered with gauze or wire netting i. The pipe sections g' g^2 are adjustably mounted in the central neck portions f', f^2 of the bell in a similar manner as in the first described construction.

In the modification according to Figs. 5 and 6, the conducting tube j is made as a continuous piece which, on its circumference intermediate its ends, is provided with longitudinal recesses k. The bell-shaped body l is formed centrally with an inwardly projecting sleeve-shaped portion m which fits over the tube.

The openings k and the sleeve m are so admeasured relative to one another that according to the position of the bell on the tube the sleeve m may obstruct the openings

k more or less to regulate the currents of air passing therethrough into the pipe.

The bell may be made adjustable on the tube *j* by providing the latter with outer and the sleeve *m* with corresponding inner thread as shown.

Since various other modifications may be made without deviating from the principle of my invention, I do not wish to restrict myself to the details shown and described.

What I claim and desire to secure by Letters Patent is:

1. A gas burner comprising a bunsen, a conducting tube composed of two superposed and separated sections and a mixing chamber between said sections, said mixing chamber having air holes arranged at an angle to the central vertical axis thereof, so that the air drawn into said chamber during the flow of the gas will be directed into the path of the latter and thereby become thoroughly mixed therewith before passing into the upper section of the conducting tube.

2. In a gas burner, a bunsen, a conducting tube composed of two superposed and separated sections and a mixing chamber interposed between said sections, said mixing chamber having its upper part made in form of a converted cone formed with a plurality of air holes, so that the air drawn into said chamber during the flow of the gas will be directed into the path of the latter and become thoroughly mixed with it before passing into the upper section of the conducting tube.

3. In a gas burner, a bunsen, a conducting tube composed of two superposed and separated sections, and a mixing chamber interposed between said sections, said sections being adjustable relative to one another and to said mixing chamber and the latter having a plurality of openings arranged at an angle to the central vertical axes thereof so that the air drawn into said chamber during the flow of the gas will be directed into the path of the latter and become thoroughly mixed with it before passing into the upper section of said conducting tube.

4. In a gas burner, a bunsen, a conducting tube composed of two superposed separated sections and a mixing chamber between said sections, said sections being adjustable relative to one another and to said mixing chamber and the latter being formed with perforations in its upper part arranged at an angle to the central axis of said chamber and a lining of wire netting covering said perforations, substantially and for the purpose as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JACOB I. ROBIN.

Witnesses:
HENRY J. ROBIN,
FRANCES WECHSLER.