

(No Model.)

J. G. HALLAS.
INCANDESCENT GAS BURNER.

No. 556,628.

Patented Mar. 17, 1896.

Fig. 1.

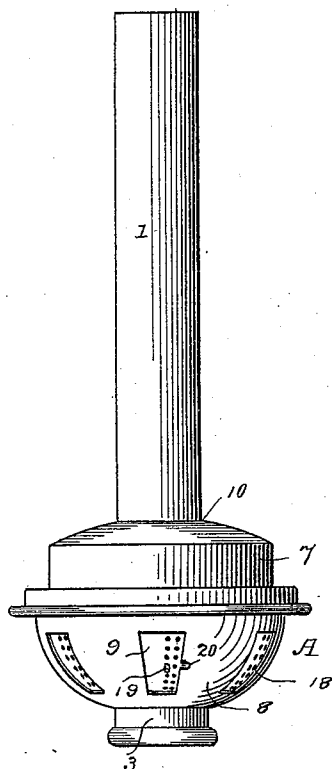
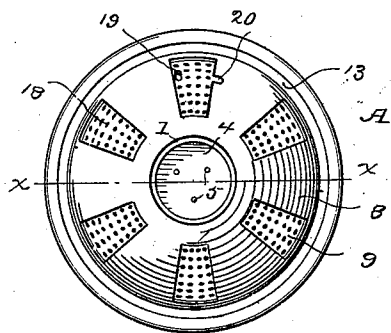


Fig. 2.



WITNESSES

H. A. Lamb
S. V. Richardson.

Fig. 3.

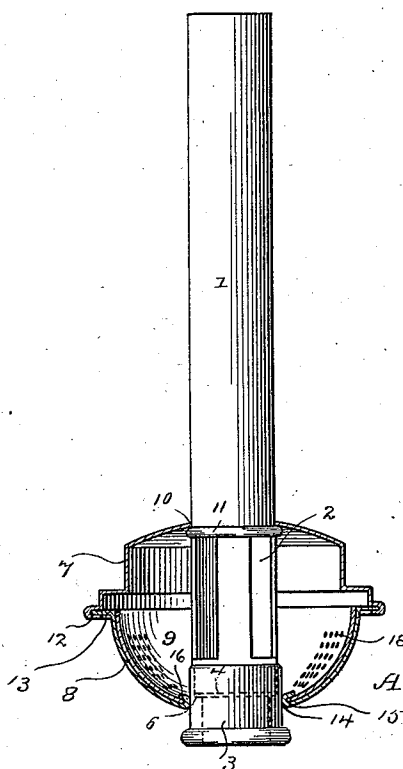
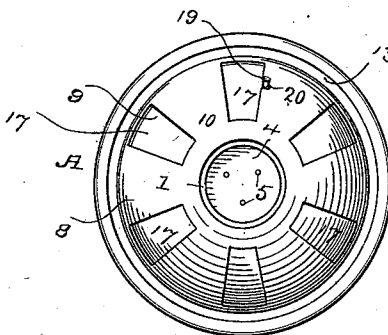


Fig. 4.



INVENTOR

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UNITED STATES PATENT OFFICE.

JAMES G. HALLAS, OF WATERBURY, CONNECTICUT, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE WELSBACH LIGHT COMPANY, OF GLOUCESTER CITY, NEW JERSEY.

INCANDESCENT GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 556,628, dated March 17, 1896.

Application filed September 5, 1895. Serial No. 561,508. (No model.)

To all whom it may concern:

Be it known that I, JAMES G. HALLAS, a citizen of the United States, residing at Waterbury, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Incandescent Gas-Burners; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to incandescent gas-burners of the Welsbach type—i. e., burners in which an ordinary Bunsen burner is used in connection with a depending mantle of refractory material which is made incandescent by the heat of the Bunsen burner. It is of course well understood that the operativeness of a Bunsen burner depends upon the proper admixture of gas and air.

My invention therefore has for its object to provide an air-regulator for this class of burners which shall be simple in operation, durable, and practically impossible to get out of repair, which shall render it impossible for insects to get into the burner, (the entrance of insects having proved a serious inconvenience in burners now in use,) and in which the cost of construction shall be reduced to the minimum.

With these ends in view I have devised the novel construction of which the following description, in connection with the accompanying drawings, is a specification, numbers being used to designate the several parts.

Figure 1 is an elevation of so much of an incandescent burner as is necessary to illustrate the principle of operation of my improvement, the air-regulator being in a partially-open position; Fig. 2, an inverted plan view, the air-regulator being in the fully-open position; Fig. 3, a section on the line *x x* in Fig. 2, and Fig. 4 is an inverted plan view showing the air-regulator closed.

1 denotes the Bunsen tube, which is provided with openings 2 for the admission of air and is threaded at its lower end to engage a corresponding thread in a base 3, there being within the base a gas-check consisting of a disk 4 having openings 5 for the passage of

gas, said disk resting upon a shoulder 6 in the base (see dotted lines, Fig. 3) and being retained in position by the tube.

A denotes the air-regulator as a whole, the same consisting of an upper shell denoted by 7, a lower shell denoted by 8, and a slide denoted by 9. The upper shell is provided with an opening 10, which just receives the tube, the shell resting upon a flange 11 on the tube. The exact shape of this shell is not of the essence of my invention. It is of course made ornamental in shape, so as to give a neat and attractive appearance to the burner, to meet the requirements of the trade. The upper shell and the lower shell are secured together by "closing," which may be effected in the following simple manner: At the upper edge of the lower shell I form a flange 13, about which I close the lower edge of the upper shell, as at 12. (See Fig. 3.) The general contour of the lower shell is preferably hemispherical, and the contour of the slide is such that it will lie closely within the lower shell and move freely therein, but at the same time prevent the passage of air into the chamber between the shell and the slide. The slide is provided with an opening 16 and the lower shell with an opening 14, which just receives the base. The opening through the lower shell is originally made smaller than opening 14, and the metal of the lower shell is turned into opening 16 in the slide and over the slide on its inner side, as at 15, (see Fig. 3,) so as to form a firm bearing for the slide and to hold it securely in place. The lower shell is provided with openings 17 to permit free passage of air into the chamber and thence to the base, and the slide is provided with groups of small openings 18, which are adapted to register wholly or partially with openings 17, as shown in Figs. 1 and 2, or to be turned past openings 17, so as to wholly stop the passage of air into the chamber, as indicated in Fig. 4.

19 is a finger-piece on the slide for convenience in operation, and 20 a notch in shell 8, which receives the finger-piece in the wholly-closed position of the slide, as in Fig. 4.

The operation is as usual in this class of burners. Gas passes into the base and into

the Bunsen tube through openings 5 in disk 4, which constitutes the gas-check. Air is admitted into the chamber through openings 17 and 18 and passes into the tube at openings 2, mingling with the gas in the tube in the usual manner. The amount of air admitted to the chamber is regulated by movement of the slide, as indicated in Figs. 1 and 2. By providing the slide with groups of small openings it is made feasible to admit any quantity of air into the tube that can possibly be required and at the same time to render it impossible for insects to get into the chamber, it having been found a serious inconvenience with this class of burners as heretofore constructed that insects attracted by the light would get into the chamber and be drawn into the tube.

Having thus described my invention, I claim—

The combination with a gas-burner having air-inlets, of an air-regulator consisting of two shells closed together to form a chamber around and outside of the air-inlets, and a slide for regulating the amount of air admitted to the chamber, one of said shells being provided with openings 17 for the admission of air and the slide being provided with groups of openings adapted to partially or wholly register with openings 17 and with an opening 16, the metal of the shell being turned into opening 16 and over the slide to form a bearing therefor and to hold it in place.

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

JAMES G. HALLAS.

Witnesses:

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