J. ANDERSON.

GAS-BURNER.

No. 188,836 Patented March 27, 1877.

FIG. 1.

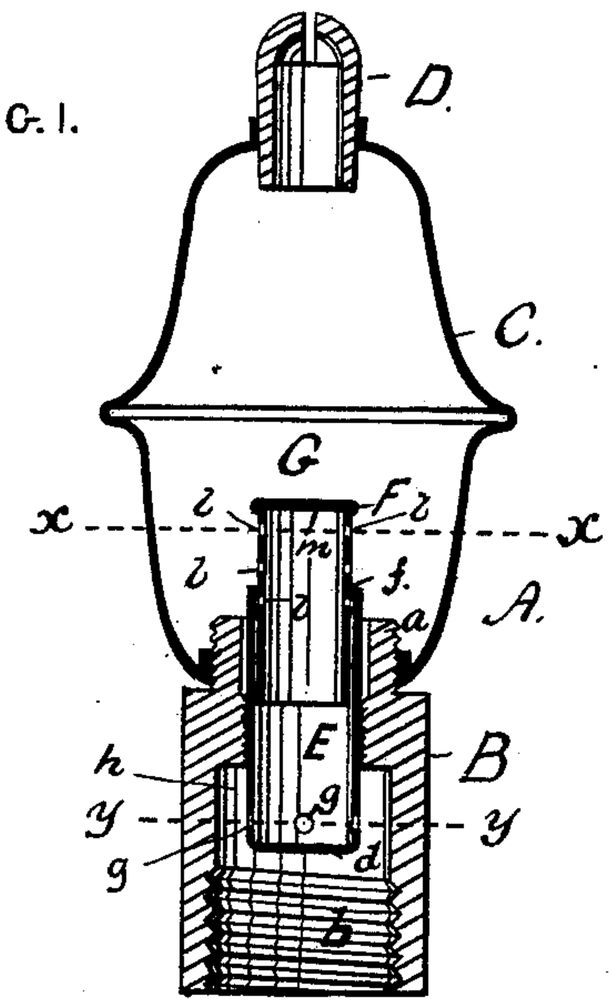


FIG. 2.

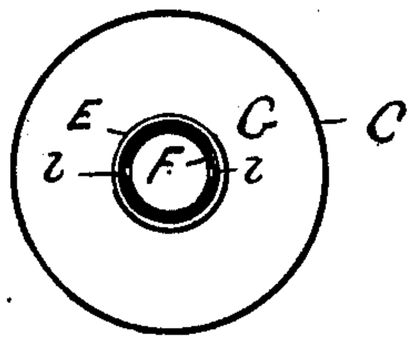
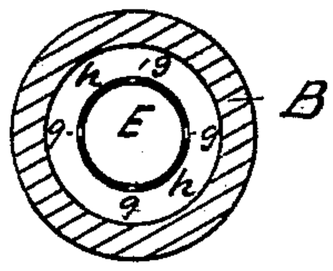


FIG. 3.



WITNESSES.

Henry A. Clark

Geo. H. Earl.

INVENTOR.

J. Anderson

Per

Brown Bros

Attorneys.

UNITED STATES PATENT OFFICE.

JAMES ANDERSON, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN GAS-BURNERS.

Specification forming part of Letters Patent No. **188,836**, dated March 27, 1877; application filed January 2, 1877.

To all whom it may concern:

Be it known that I, JAMES ANDERSON, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Gas-Burners, of which the following is a specification:

The object of this invention is to regulate and control the flow of the gas as it passes through the burner to be burned at the burner-tip; and it consists of an arrangement of parts, as will be hereinafter fully described.

In the accompanying plate of drawings the present invention is illustrated, Figure 1 being a vertical section of a gas-burner constructed according to this invention; Figs. 2 and 3, horizontal cross-sections, on lines *x x* and *y y*, respectively, Fig. 1.

A in the drawings represents a gas-burner for the burning of illuminating-gas, of which B is the base; C, a shell or casing, screwed to the burner-base B on the extension *a;* and D, the burner or lava tip in the top of said casing C. The burner-base B, by its internal screw-thread *b*, can be secured to the gas-pipe as ordinarily. E, a tube, adapted by a screw-thread to be screwed into the upper end of burner-base B. This tube E is closed at its bottom end *d*, and open at its upper end *f*. Near its bottom end, in its vertical sides, are four holes, *g*, which form a communication between the interior of tube E and the chamber *h*, into which the tube E projects, in the burner-base B. On the upper end of the tube E is a closely-fitting cap, F, which is arranged so that it can be adjusted vertically. In this cap are holes *l*, in the present instance three on each side, arranged in vertical lines. The upper part of the tube E, with its cap F, projects into the chamber G of casing C.

The object of the adjustable cap F on the tube E, with its holes *l*, is to check the force and regulate the flow and quantity of the gas passing through the burner to be burned, which is accomplished as follows: Moving the cap F down or up on the tube covers or uncovers the holes *l* of the cap F, by bringing them successively below or above the top end *f* of the tube E, and thus, obviously, more or less gas will pass out of the tube into the chamber G to the burner-tip. The holes *l* can be of such diameter as to allow, as they are more or less uncovered, a desired quantity of gas to pass through the burner in a given time—as, for instance, each hole being of a diameter sufficient for one foot of gas an hour to pass through it, by uncovering the upper two holes, two feet an hour, uncovering the next two holes, four feet an hour, and uncovering the next two holes, six feet an hour could pass through, and thus, obviously, with an equal and constant pressure of gas, the quantity of gas desired to pass through the burner to be burned at the burner tip, allowing, also, for the size of the burner-tip, could be easily governed and regulated.

The cap F is arranged to fit the tube E quite tightly, thereby preventing displacement after being set.

The gas passes from the gas-pipe into the chamber *h* in burner-base B, and, impinging against the top of said chamber, is there deflected, and then passes through the holes *g* into the chamber of tube E, and, striking against the top *m* of cap F, is again deflected, and passes through holes *l* into the chamber G, and thence to and out at the burner-tip D, where it is burned.

A more or less number of holes in the tube E and in the cap F can be used, if desired, and the cap can be arranged to be screwed onto the tube; but, as shown and constructed, it is cheap, simple, and serves all practical purposes.

In lieu of the tube, with its adjustable cap, being arranged in the burner, as hereinabove substantially described, it can be adapted to fit into the end of the gas-pipe on which the burner is screwed.

In such application it can be used in connection with the common and usual gas-burners.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

In combination with a gas-burner, the tube E, having holes *g*, and provided with an adjustable cap, F, having holes *l*, and adapted to be moved up and down within the fixed tube, for covering or uncovering more or less of the holes *l*, the whole being arranged and applied substantially as and for the purpose specified.

JAMES ANDERSON.

Witnesses:

EDWIN W. BROWN,

GEO. H. EARL.