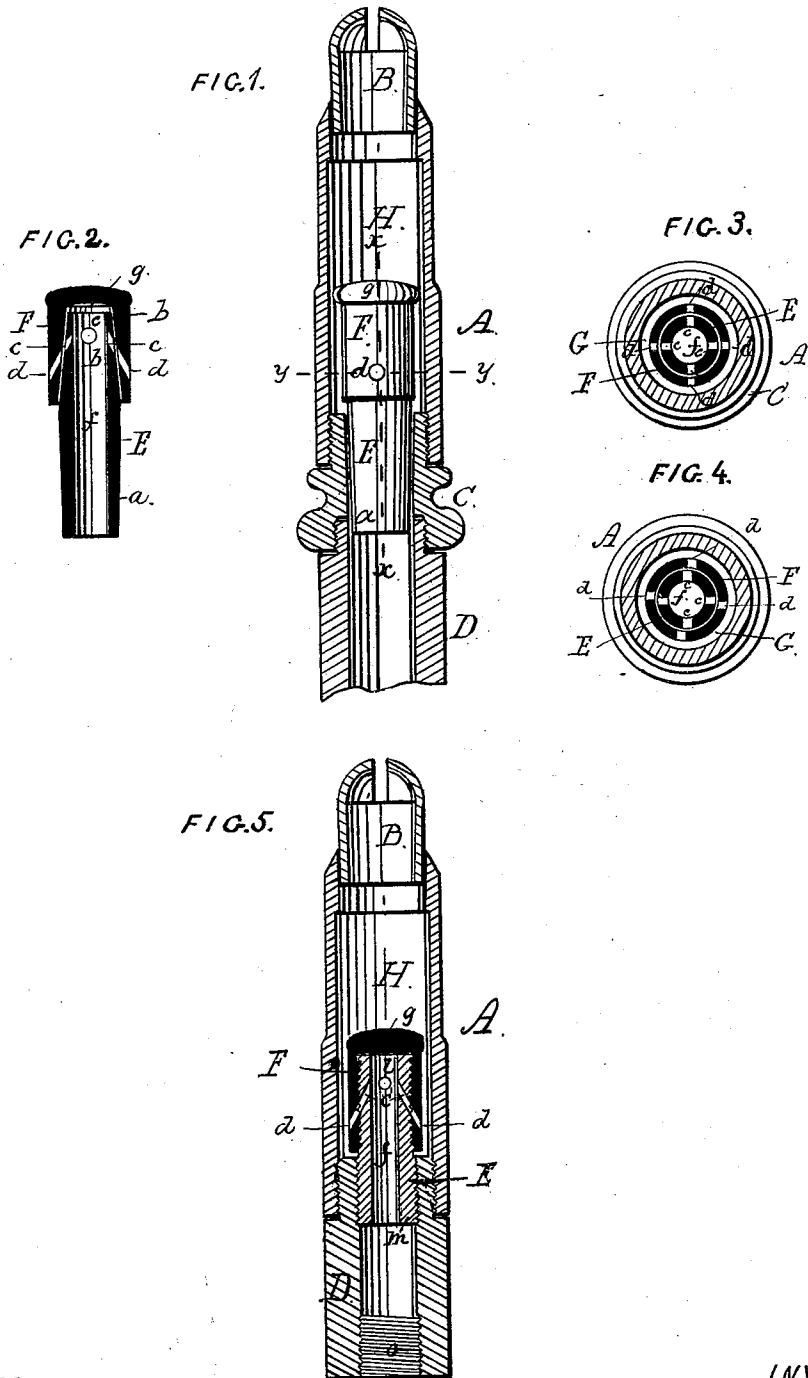


A. W. DINSMORE.
GAS-BURNER.

No. 177,224.

Patented May 9, 1876.



WITNESSES.

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UNITED STATES PATENT OFFICE.

ALBERT W. DINSMORE, OF LYNN, MASSACHUSETTS.

IMPROVEMENT IN GAS-BURNERS.

Specification forming part of Letters Patent No. **177,224**, dated May 9, 1876; application filed March 31, 1876.

To all whom it may concern:

Be it known that I, ALBERT W. DINSMORE, of Lynn, in the county of Essex and State of Massachusetts, have invented a certain new and useful Improvement in Gas-Burners, of which the following is a specification:

This invention relates to burners particularly for use in burning illuminating-gas; and consists in the combination, with a gas-burner, of a simple device, located in the same, for the purpose of checking the flow of the gas, as well as to regulate the quantity of gas to be burned in the use of the burner, all substantially as hereinafter described.

In the accompanying plate of drawings, Figure 1 is a central vertical section of a common gas-burner attached to a gas-pipe, and showing the present invention as applied to the same in side elevation. Fig. 2 is a central vertical section of the present invention on line *x x*, Fig. 1; Fig. 3, a horizontal cross-section on line *y y*, Fig. 1.

In the drawings, A represents a gas-burner, having a tip, B, and attached by a screw-thread to the nipple C on the gas-pipe D, all as ordinarily in gas-burners for burning illuminating-gas. E is a small tube, open at both ends and tapered at each end, substantially as shown in Fig. 2. This tube E, by its tapered end *a*, is adapted to be inserted and fit into the nipple C, or in the gas-pipe D when a nipple is not used. F, a regulating-cap, fitting over the taper end *b* of tube E. The cap F is of smaller diameter externally than the internal diameter of the burner, so that when in place on the tube, and the tube in the burner, an annular space, G, of chamber H will be left surrounding the cap. *c c* are apertures in tube E, inclining downwardly and outwardly. *d d* are similar apertures in cap F, and so arranged in the cap as to be coincident with the apertures *c* of tube E when the cap F is in its place on the tube E.

When the gas is burning at the burner-tip the gas passes up through pipe D into the orifice *f* of tube E, when it impinges against the under side of the top *g* of cap F, and, being deflected downwardly, passes through the inclined apertures *c* and *d*, when it enters the

annular space G of chamber H, and passes to and out at the burner-tip.

The application of the cap F, having apertures *d*, to tube E is for the purpose of checking the flow of the gas, and to regulate the quantity of gas desired to be burned; and it is accomplished by simply turning the cap F more or less to the right or left, which will cause the apertures *d* to pass by the apertures *c* in tube E, and accordingly close the communication between the two, and obviously diminish and decrease the quantity of gas passing to the burner-tip, Fig. 4 representing the cap turned sufficiently to reduce the communication one-half.

The tapered end *b* of tube E, when the cap is pressed firmly on, prevents its accidental displacement, either from the force of the gas impinging against its top, or by any sudden blow, jar, or disturbance of the burner or pipe.

In Fig. 5 is shown this invention as applied to, and forming more directly a part of, the burner.

Both ends of the tube E have a screw-thread cut on them, on one, *l*, of which the cap F is screwed, and the other end, *m*, screws into the burner-base I, which, by its internal screw-thread *o*, screws onto the nipple or gas-pipe.

This invention is particularly advantageous, aside from the benefits derived by its checking the flow of the gas and regulating the quantity burned, on account of the cheapness with which it can be applied for use, as in all cases where gas-burners are already in use it merely requires the application of the tube and cap, constructed substantially as described, to the same gas-burners, thereby not necessitating the throwing away of the old gas-burners or the purchasing of a full and complete gas-burner, as this simple arrangement of regulating device, with the simple manner in which it can be applied to gas burners now in use, manifestly can be supplied to the consumers of gas at a very trifling expense.

More or less number of apertures in tube E can be used, if desired; and the tube E and the burner-base I can be of one piece, its upper end being adapted for the application of the cap thereto, as above described.

I am aware that it is not, broadly, new to provide the pipe of a gas-burner with a tube, over which is arranged a movable cap, and the tube and cap each having lateral openings, and such, of itself, I disclaim.

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

In a gas-burner, the combination of the pipe

D, the tube E, arranged in the pipe, and the cap F, adjustably arranged over said tube, both the cap and the tube being formed with downwardly and upwardly inclined orifices *c* and *d*, as and for the object specified.

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Witnesses:

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