

J. BENSON & A. H. WATKINS.

Vapor-Burners.

No. 136,022.

Patented Feb. 18, 1873.

FIG. 1.

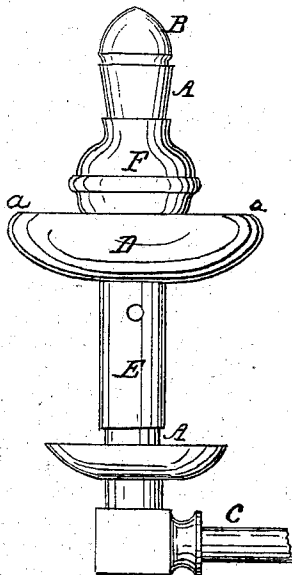


FIG. 2.

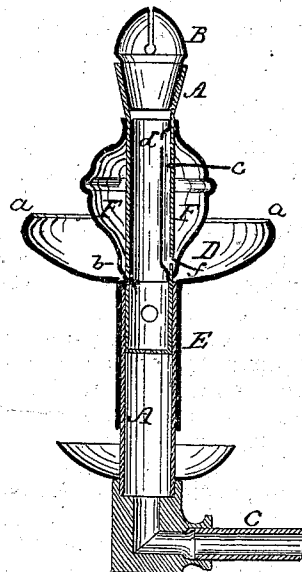
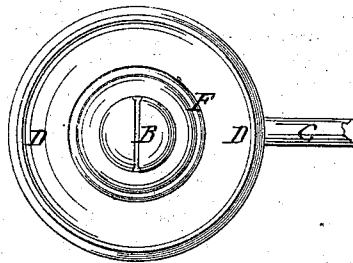


FIG. 3.



WITNESSES.

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UNITED STATES PATENT OFFICE.

JOSEPH BENSON AND ALBERT H. WATKINS, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN VAPOR-BURNERS.

Specification forming part of Letters Patent No. 136,022, dated February 18, 1873.

To all whom it may concern:

Be it known that we, JOSEPH BENSON and ALBERT H. WATKINS, both of Boston, in the county of Suffolk and State of Massachusetts, have invented a certain new and useful Improvement in Vapor-Burners; and that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing.

The present invention relates to vapor-burners, which are adapted to have a supplementary flame to more perfectly insure the vaporizing of the illuminating liquid; and the invention is particularly adapted to vapor-burners, constructed, in some degree, as described in our application dated September 23, 1872, for Letters Patent of the United States, and herein will be explained with particular reference thereto, although it is not intended to limit it to any one particular vapor-burner.

The invention consists in the application to the burner-tube of a disk made of a cup-shape. This disk is located a short distance below the burner-tip, in position for the supplementary jet to impinge against its interior periphery, and is of such shape as to fend off from the supplementary jet the upward current of air through the lantern, thereby obviating any liability of its being extinguished by sudden gusts of wind, &c.

In the accompanying plate of drawing, our improvement in vapor-burners is illustrated, Figure 1 being a side view; Fig. 2, a central vertical section; and Fig. 3, a plan view.

A, in the drawing, represents a vapor-burner tube, having burner-tip B and feed-tube C, as ordinarily. D, a cup-shaped disk, applied to burner-tube A, and surrounding the same by and through its sleeve E, which lightly fits the tube. The disk D is located just below the burner-tip B, and at its upper edge *a* flares or bends inward, as shown. *b* is the supplement jet-hole. This jet-hole *b* is at the lower

end of a supplementary chamber, F, about the burner-tube A, and its position is within the cup-shaped disk, so that the flame therefrom will impinge against the interior of the disk D. With the supplementary chamber F communication is made with the interior of burner-tube A by and through the inner chamber *c* of said tube, which chamber *c* at its upper end opens to the tube A and at its lower end to the supplementary chamber F, aforesaid, by respective apertures *d* and *f*.

The burner, otherwise than above described, is to be constructed in any of the ordinary modes, and is to be lighted, as commonly with other burners, by fire applied to the burner-tube, when, as it continues to burn, the supplementary jet, acting in the cup-shaped disk, secures and maintains the proper vaporizing of the illuminating medium employed, and the form of the disks, as is obvious, fends from the supplementary jet the upward currents of air along the burner-tube, preventing thereby the extinguishing of the supplementary jet from sudden gusts of wind, &c.

Having thus described our invention, we shall state our claim as follows:

The burner-tube, having the vertical chamber *c* communicating at its upper end with the tube A by the aperture *d*, and at its lower end with the double conical-shaped supplemental chamber F by the aperture *f*, as herein described, in combination with the jet-hole *b* and the cup-shaped disk D, having the inwardly-flaring edge *a* and sleeve E, the several parts constructed, arranged, and operating in respect to each other as herein shown and set forth.

The above specification of our invention signed by us this 15th day of October, A. D. 1872.

JOSEPH BENSON.

A. H. WATKINS.

Witnesses:

EDWIN W. BROWN,

ALBERT W. BROWN.