

G. K. OSBORN.
Lamp-Burner.

No. 220,725.

Patented Oct. 21, 1879.

Fig. 1.

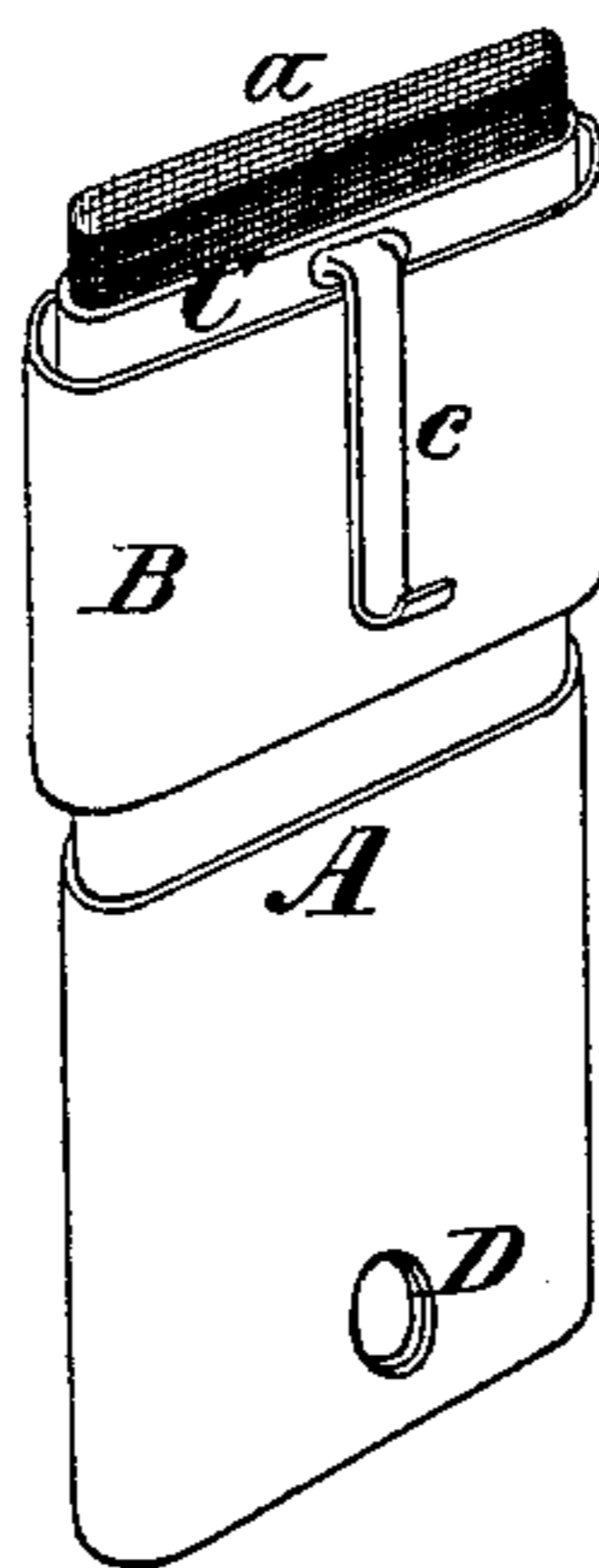


Fig. 2.

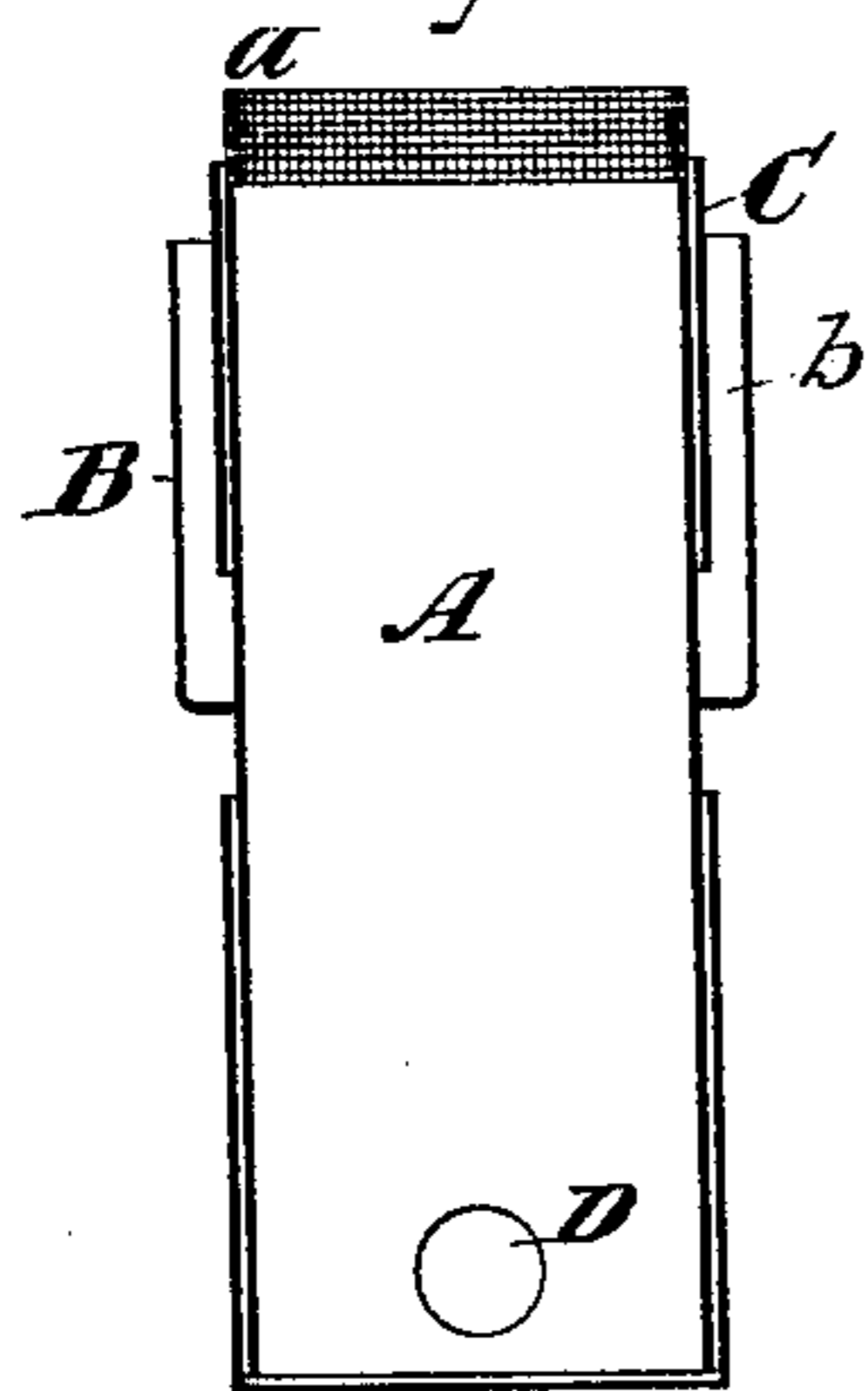
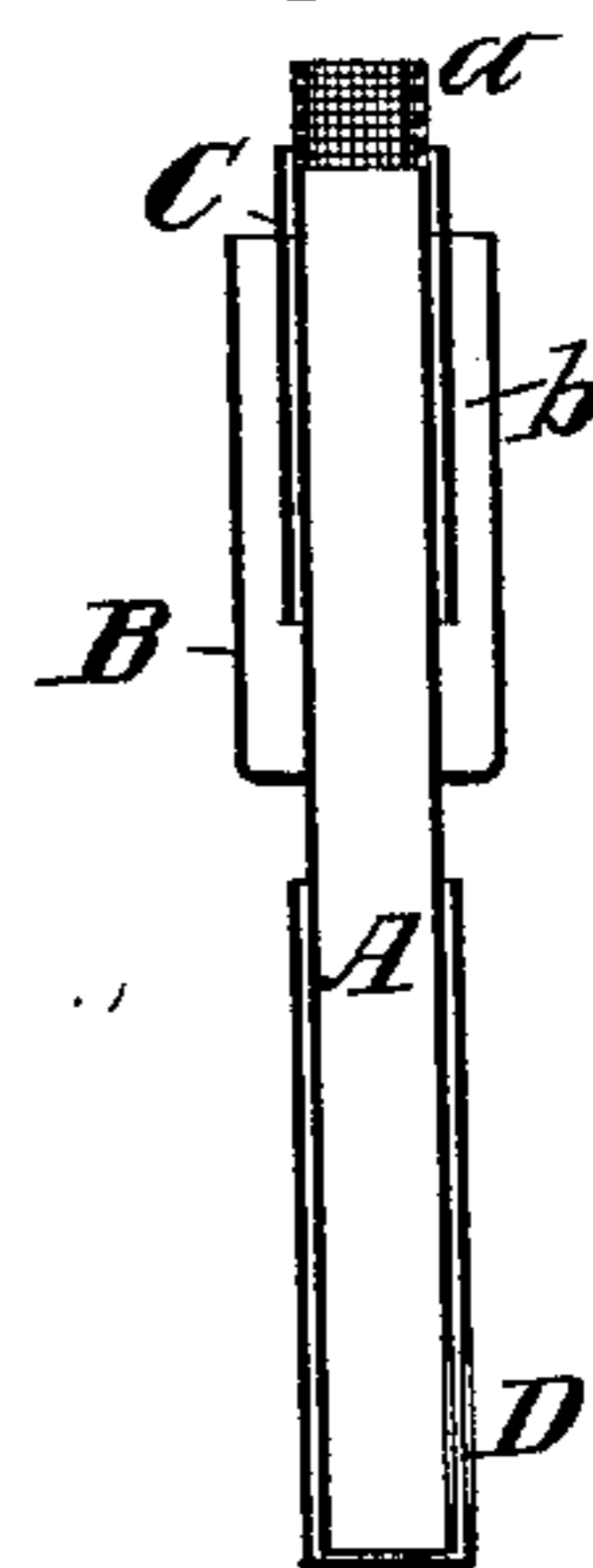


Fig. 3.



ATTEST.

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GEORGE K. OSBORN, OF BROOKLYN, ASSIGNOR TO THE UNITED STATES ILLUMINATING COMPANY, OF NEW YORK, N. Y.

IMPROVEMENT IN LAMP-BURNERS.

Specification forming part of Letters Patent No. **220,725**, dated October 21, 1879; application filed September 19, 1879.

To all whom it may concern:

Be it known that I, GEORGE K. OSBORN, of Brooklyn, in the county of Kings and State of New York, have invented certain Improvements in Burners, of which the following is a specification.

The principal object of this invention is to produce a burner that will supply the wick freely with oil, and yet be free from drip and odor.

To this end the invention consists, partly, in a slide embracing the wick-tube, and arranged to play up and down in the vaporizing-cavity and partly in the wick-tube of sheet metal provided with a tip of wire-gauze.

It also consists in various combinations of parts, all as will be hereinafter set forth.

In the drawings, Figure 1 is a perspective view of my burner, comprising the wick-tube and its attachments. Fig. 2 is a vertical mid-section of the same through the broad way of the wick. Fig. 3 is a vertical mid-section taken in a plane at right angles to the plane of Fig. 2.

A represents an ordinary wick-tube of sheet metal, provided with a tip, *a*, of wire-gauze, securely affixed to the wick-tube and forming a continuation of the same, through which the wick plays.

B is the shell or wall of an annular cavity, *b*, which I call a "vaporizing-cavity." This cavity entirely surrounds the wick-tube, and is open only at the top. Such oil as may pass over into it, owing to undue capillarity, will be vaporized and rise so as to impinge directly upon and feed the flame. Thus no disagreeable odor is emitted by reason of the overflow, all of the odorous emanation being burned.

C is a slide, which fits snugly around the wick-tube, but which may be readily adjusted up and down upon the tube within the cavity *b* by means of a handle, *c*, or other equivalent mechanism. The slide serves the twofold purpose of increasing and diminishing the flame by exposing and covering, at different times, more or less of the gauze tip, and of transmitting heat from the flame to the overflow oil being vaporized in the cavity *b*. This

materially assists in the elevation of the temperature and consequent vaporization.

By providing the burner-tube with a gauze tip I obtain a better and larger flame than is had from a simple tube of sheet metal, and at the same time combine with it all the advantages arising from the sheet-metal body.

I am aware that an inverted cone or cup of perforated metal or gauze has been affixed to the top of the wick-tube of a burner for the purpose of conducting heat to the wick and to supply hot air to the base of the flame; but this forms no part of the wick-tube proper, as in my invention.

My tip serves to sustain the extremity of the wick by closely embracing it, yet permits the vaporized oil to burn at the sides as well as at the top of the wick, being controlled by the slide.

D is an aperture, through which the oil passes to reach the wick.

Though shown as applied to a flat wick, it is obvious that my improvements might also be applied to a cylindrical or Argand burner, if desired.

Heretofore drip-cups have been applied to burners to catch the overflow and return it to the lamp, and wicks made of gauze stuffed with asbestos, mineral wool, and other non-combustible substances have been used; but none of these form any part of my present invention.

Having thus described my invention, I claim—

1. In a burner, a wick-tube, A, of sheet metal having a tip, *a*, of wire-gauze attached thereto and forming a substantial continuation or elongation of the same, the said tip being arranged to closely embrace the wick throughout, substantially as and for the purposes set forth.

2. In a burner, the combination of the wick-tube A, having a prolongation or tip of wire-gauze fixed thereto, a vaporizing-cavity, *b*, surrounding the upper part of said tube, and a slide, C, arranged to be moved up and down inside, or partly inside, of the said cavity and to embrace some part of the gauze tip, substantially as set forth.

3. In a burner, a sheet-metal wick-tube, A, having a gauze tip, *a*, in combination with a slide, C, having a handle, *c*, or its equivalent, substantially as set forth.

4. In a burner, the combination, with a wick-tube surrounded by a vaporizing-cavity, *b*, open only at the top, of the slide C, arranged to be moved up and down on the tube inside, or partly inside, of the said vaporizing-cavity, substantially as and for the purposes set forth.

5. In a burner, the combination of a sheet-

metal wick-tube, A, having a gauze tip, *a*, attached to and forming a prolongation of the same, with the shell or wall B, attached to said tube, and arranged to form a narrow annular cavity, *b*, open only at the top, substantially as set forth.

GEO. K. OSBORN.

Witnesses:

C. McCAULEY,
EVAN EVANS.