

F. HOLT.
Lamp-Burner.

No. 196,901.

Patented Nov 6, 1877.

Fig. 1.

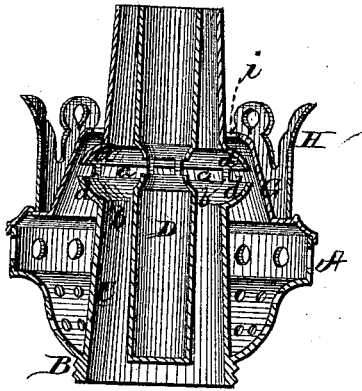


Fig. 2.

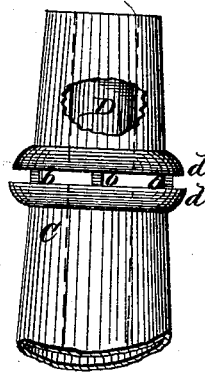


Fig. 3.

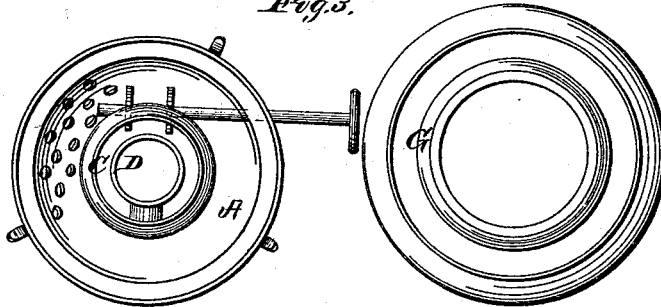


Fig. 4.

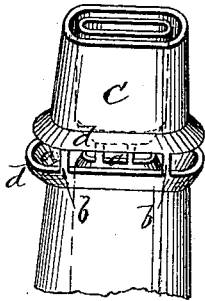
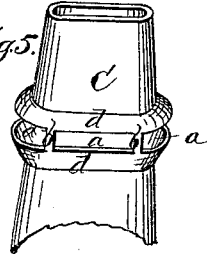


Fig. 5.



WITNESSES
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UNITED STATES PATENT OFFICE.

FRANCIS HOLT, OF NEWARK, NEW JERSEY.

IMPROVEMENT IN LAMP-BURNERS.

Specification forming part of Letters Patent No. **196,901**, dated November 6, 1877; application filed October 26, 1877.

To all whom it may concern:

Be it known that I, FRANCIS HOLT, of Newark, county of Essex, and State of New Jersey, have invented certain new and useful Improvements in Lamp-Burners; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to burners for lamps; and it consists in dividing the wick-tube in two parts, the two parts being connected by posts; or, in other words, in providing the wick-tube with a series of openings at any suitable point between its upper and lower ends.

My invention further consists in the construction of the wick-tube at the point where the openings are made, and in the combination of parts, as will be hereinafter more fully set forth.

The object of my invention is, primarily, to prevent explosions of lamps, and this is accomplished by preventing the heat from the flame being communicated to the oil in the reservoir.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a vertical section, showing my invention applied to an Argand burner. Fig. 2 is a side view of the wick-tube. Fig. 3 is a detail view of the burner. Figs. 4 and 5 show my invention as applied to flat wick-tubes.

A represents the base of an ordinary lamp-burner, with screw-collar B for attachment to the lamp-reservoir. C represents the wick-tube, which, for an Argand burner, is made in tubular form, and provided with an interior tube, D, to hold the wick in the proper circular form.

When the wick-tube C is made flat, for lamps using the ordinary flat wick, the interior tube D is, of course, not used.

The wick-tube C is, at any suitable point between its upper and lower ends, provided with a series of openings, *a a*, arranged on a horizontal line around the tube, with posts *b b* sepa-

rating said openings; or, in other words, the wick-tube is virtually made in two parts, one above the other, separated a suitable distance, and connected together by the posts *b b*. The wick passes up within the tube C, and is raised and lowered by the usual means. G represents the cap or dome of the burner, provided with the holder H for receiving the chimney. The dome G is so constructed as to extend above the openings *a* in the wick-tube, and to leave an air-space, *i*, between its upper edge and the wick-tube, for the passage of air upward around the tube to the flame.

The air is admitted to the inside of the dome G through suitable perforations, and strikes the wick at the openings *a a*, cooling the same, so that no heat can be transmitted through the wick. These openings or breaks in the wick-tube also prevent the heat from the flame at the top of said tube being transmitted down to the oil in the reservoir.

By practical experiments I have found that, no matter how hot the upper part of the burner or wick-tube may be, the lower part is absolutely cold, and, as it is well known that it is the transmission of heat through the wick-tube to the oil in the reservoir that generates gas, and this gas, under certain contingencies, will explode, it follows that, by my construction of the burner, no explosions can occur.

To facilitate the movement of the wick through the thus divided wick-tube, the adjacent ends of the two parts are made flaring, as shown at *d d*; otherwise the wick would swell or bulge outward in the openings *a*, and catch on the edges of the metal.

In an Argand burner the interior tube D will be provided with openings corresponding with the openings *a* in the wick-tube, and said interior tube contracted above and below said openings.

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

1. A wick-tube made of a single piece of metal, and provided with openings, as described, near its center, and at a point below the flame, for preventing the heat from communicating with the oil-reservoir, substantially as set forth.

2. In a lamp-burner, a wick-tube, C, pro-

vided with the openings *a*, and having the metal above and below said openings made bulged or flaring outward, substantially as and for the purposes herein set forth.

3. The combination, in a lamp-burner, of a perforated or slotted wick-tube, C, and an exterior hood, G, said hood extending slightly above the openings in the wick-tube, but falling short of the point of combustion sufficiently to prevent the downward conduction of heat,

an air passage being formed around the wick-tube at the terminus of the hood, all substantially as set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

FRANCIS HOLT.

Witnesses:

THOS. M. BRINTNALL,
W. E. HADDEN.