H. W. HAYDEN.

Improvement in Lamp-Burners.

No. 115,466. Patented May 30, 1871.

Fig. 1.

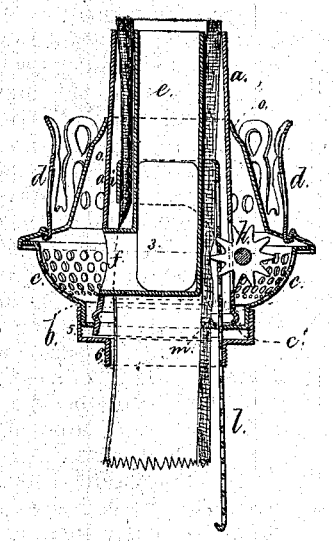


Fig. 4.

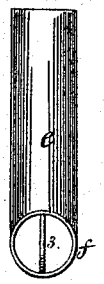


Fig. 3.

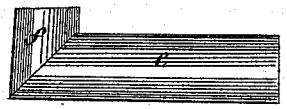


Fig. 5.

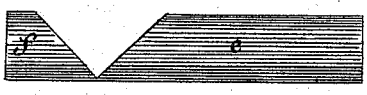
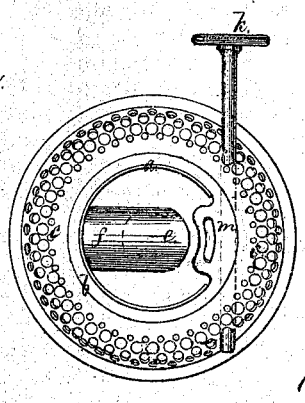


Fig. 2.



Witnesses,

Chas. H. Smith

Geo. T. Pinckney

Hiram W. Hayden

Lemuel W. Serrell Attys.

UNITED STATES PATENT OFFICE.

HIRAM W. HAYDEN, OF WATERBURY, CONNECTICUT, ASSIGNOR TO HOLMES, BOOTH & HAYDENS, OF SAME PLACE.

IMPROVEMENT IN LAMP-BURNERS.

Specification forming part of Letters Patent No. 115,466, dated May 30, 1871.

To all whom it may concern:

Be it known that I, HIRAM W. HAYDEN, of Waterbury, in the county of New Haven and State of Connecticut, have invented and made an Improvement in Lamps; and the following is declared to be a correct description of the same.

This invention is an improvement upon the Argand lamp patented by me July 12, A. D. 1870, No. 106,363; and this invention relates to an improvement in the interior air-tube for rendering the same stronger and preventing the flame flickering in consequence of irregularity in the ascending currents. I also make use of a movable collar screwed upon the lower end of the burner, so that the flat wick will be held in nearly a cylindrical form, and the burner can be screwed upon the ordinary-sized collar of the reservoir. By the removal of the collar from the burner the lower end of the wick-tube is exposed, so as to facilitate the insertion of the wick.

In the drawing, Figure 1 is a vertical section of the lamp-burner; Fig. 2 is an inverted plan of the same; Figs. 3 and 4 are side views of the air-tube detached; and Fig. 5 is a side view, showing the air-tube previous to bending and soldering.

The wick-tube *a*, screw *b*, air-distributer *c*, chimney-holder *d*, guide *o*, wick-holder *i*, rack-bar *l*, and wheels *h* and *k*, are of the same general character as the parts set forth and shown in said patent, and therefore do not require further description.

The inner air-tube *e*, instead of being made of two pieces soldered together, is made out of one piece of metal that is notched out, as shown in Fig. 5, and then bent up into the form shown in Fig. 3, and the edges soldered together. By having the parts *e f* of the air-tube made of one piece of metal, the metal that remains to join them (after the notch is cut) forms a rounding corner to prevent the wick being caught by any roughness in moving past this point; it also retains the pieces of the air-tube in the proper relative position while being soldered, and makes the air-tube much stronger and more reliable than it would be if made of two entirely separate pieces. I also introduce within the air-tube *e* a vertical division-plate, 3, to give an upward direction to the currents of air that pass into said tube *e*, and thereby prevent the flickering of the flame that arises from eddies in the air as it passes into the said tube *e*. The screw *b* is of a size to fit the larger size of collar employed on lamp-reservoirs, and this gives a good opening at the lower end of the wick-tube for introducing the wick; but in order to adapt this burner to smaller sizes of collars I make use of a reducing-band, 5, made with an internal screw to receive the screw *b*, and with a smaller and external screw at 6 to screw into the collar of the reservoir. This portion 6 of the reducing-band forms a guide for the wick and retains it in almost a cylindrical form, so that it will pass freely up or down the wick-tube. The guide *m* for the rack-bar *l* is made out of the sheet metal of the burner-shell *c'*, so as to be strong and not liable to break off in use. To form this guide the sheet metal of the shell is cut out for the reception of the lower end of the wick-tube; but the guide *m* is left projecting in this opening, and the lower end of the wick-tube *a* is removed at one side sufficiently to allow the said tube to project through the opening in the shell at all parts, except where the guide *m* is formed; and to retain the parts firmly in place the said tube *a* is spread both above and below the portion of said burner-shell (below the screw *b*) that surrounds said tube *a*, as seen in Fig. 1.

I am aware that a flat tube for a lamp has been made with a flaring lower end, and with teats or projections to take portions of the sheet metal of the burner; also, that a wick-tube has had two projecting ribs upon it.

I claim as my invention—

1. The interior air-tube *e*, made out of one piece of metal, notched, bent, and soldered in the manner and for the purposes set forth.

2. The guide *m* for the rack *l*, made of the metal of the burner-shell, and projecting inside the wick-tube *e*, as and for the purposes set forth.

3. The exterior Argand wick-tube *a*, united to the shell of the burner by passing said tube

through the metal of the shell and spreading said tube above and below said shell, as specified.

4. The reducing-band 5, made with an internal screw for the burner-screw *b*, and an external screw, 6, of smaller diameter for the reservoir, as and for the purposes set forth.

Signed by me this 9th day of March, A. D. 1871.

H. W. HAYDEN.

Witnesses:
AUGUSTUS M. BLAKESLEY,
E. S. HAYDEN.