(No Model.)

H. W. HAYDEN.

ARGAND LAMP BURNER.

No. 247,561. Patented Sept. 27, 1881.

Fig. 1.

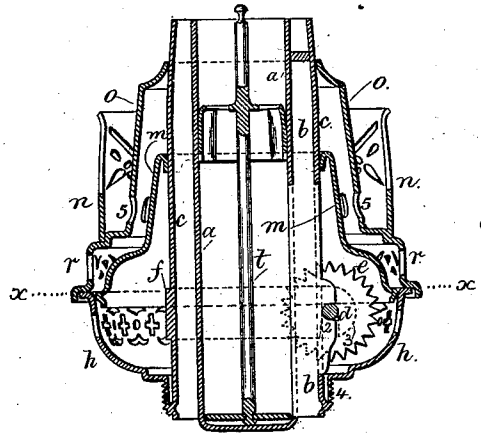


Fig. 3.

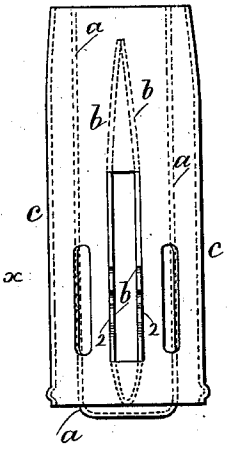


Fig. 4.

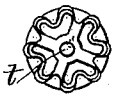
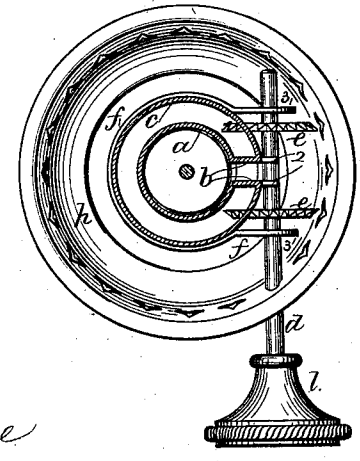


Fig. 2.



Witnesses

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per Lemuel W. Serrell

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UNITED STATES PATENT OFFICE.

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

ARGAND-LAMP BURNER.

SPECIFICATION forming part of Letters Patent No. 247,561, dated September 27, 1881.

Application filed November 22, 1880. (No model.)

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 an Improvement in Argand-Lamp Burners, of which the following is a specification.

In my Reissue Patent No. 4,541, September 5, 1871, there is a flat wick bent up into a circular form and a lateral air-inlet. The wick is raised by a holder with teeth; and in my Patent No. 132,831, November 5, 1872, there is a similar wick, and the wick-raising wheels act at the central part of the wick.

My present invention relates to this class of lamps, and is made for preventing the edges of the wick becoming displaced in raising and lowering the same, and thereby insure a straight and uniform upper end to the wick, and prevent the difficulty heretofore experienced in burners of this class of one edge of the wick receiving more motion that the other edge in raising and lowering the same, and thereby rendering the flame unequal.

I make use of two wick-raising wheels that act upon the wick near its edges to move the same with uniformity up or down, and thereby insure an even flame. I also support the axis of the wick-raising wheels in a peculiar manner for obtaining durability and lessening the cost of manufacture.

In the drawings, Figure 1 is a vertical section of the burner. Fig. 2 is a sectional plan at the line *x x*, Fig. 1, the conical division and chimney-holder being removed. Fig. 3 is an elevation of the wick-tube. Fig. 4 is a plan view of a device for cleaning the interior of the air-tube.

The central air-tube, *a*, is closed at the lower end. It has a lateral opening, and there is a folded strip of metal, *b*, secured to the outside of the air-tube at the edges of the long lateral opening, so that air can pass into this tube *a* at this place. The wick-tube *c* is of a size to allow the necessary space for the wick between the air-tube *a* and the interior of the wick-tube *c*, and this wick-tube *c* tapers at the upper end, so as to closely surround the wick. The edges of the plate *b* project through a slot in the wick-tube *c* corresponding, or nearly so, to the other slot in the air-tube *a*, and this allows for the parts being soldered firmly where they come together. There are notches in the projecting edges 2 of the folded plate *b* to form a portion of the bearing for the axis *d* of the wick-raising wheels *e*, and the band *f* nearly surrounds the wick-tube *c*, and it is notched to form hook-shaped ends 3, that set down over the axis *d* and complete the supports or bearings for this axis.

In manufacturing this lamp it is usual to introduce the wick-raising wheels and arbor in their places, the arbor resting in the notched bearings 2, and the band *f* is slipped down, with its hooks passing over the axis *d*, after which the band *f* is secured by solder.

The foraminous shell *h* is secured to the lower end of the wick-tube, and it contains the screw 4 for connecting the burner to the reservoir.

The button or head *l* to the wick-raiser axis is preferably applied after the other parts have been put into place. It is made as a hollow shell soldered to the arbor, with a cap at the end, that is held in place by the edges of the shell being turned over it.

There are openings in the wick-tube for the wick-raisers to pass through, and these wick-raisers being at each side of the lateral opening where the air reaches the air-tube, the said wick-raisers will act upon the wick near the edges thereof and move said wick up and down with uniformity, and prevent one corner of the wick becoming higher than the other, or the flame being unequal.

In order to separate the inner and outer drafts of the lamp, I employ the division-cone *m*, the base of which rests within the upper edge of the burner-shell, and I provide a chimney-holder, *n*, that is preferably movable. Said chimney-holder is made with a cone, *o*, within it. The upper end of the cone fits around the wick-tube. There are holes at 5 in the cone, and the metal of the chimney-holder below the base of the cone *o* is perforated to form a second air-distributer, *r*.

From the foregoing it will be apparent that the conical division *m* separates the outer and inner drafts, and that the foraminous shell *h* becomes an air-distributer to the currents that pass into the central air-tube, and that the air-

distributer *r* regulates the exterior currents that ascend through the holes 5 and pass to the outside of the flame, thus insuring steadiness of flame and perfect combustion.

There is a rod, *t*, with a button at its lower end, within the air-tube *a*, which may be used for removing any carbonaceous matter which may fall in said tube.

I claim as my invention—

1. The two wick-raising wheels upon one arbor, in combination with the air-tube, the wick-tube, and the plates between the air-tube and wick-tube, forming the lateral air-inlet, said wick-raising wheels acting through slots in the wick-tube at each side of the lateral air-inlet, substantially as set forth.

2. The band *f*, adapted to partially surround the wick-tube and form bearings for the arbor of the wick-raiser, in combination with the air-tube, wick-tube, wick-raiser, and the bearing 2 on the edges of the plate *b*, as set forth.

Signed by me this 8th day of November, 1880.

H. W. HAYDEN.

Witnesses:
GEO. E. TERRY,
GEO. H. BENHAM.