LANG & GILMAN.

Lamp.

No. 47,681. Patented May 9, 1865

Fig. 1

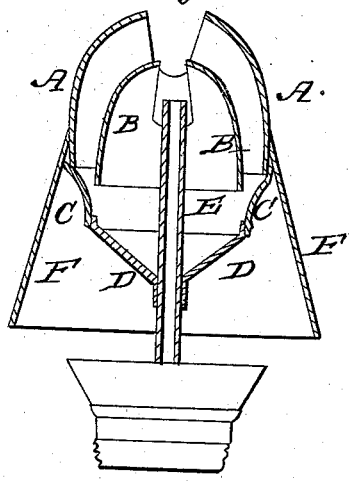


Fig. 3

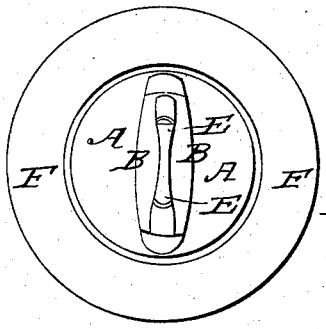


Fig. 2

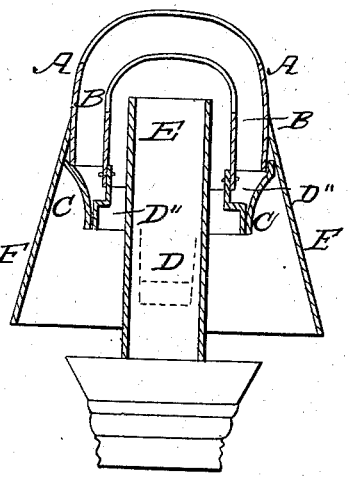


Fig. 4

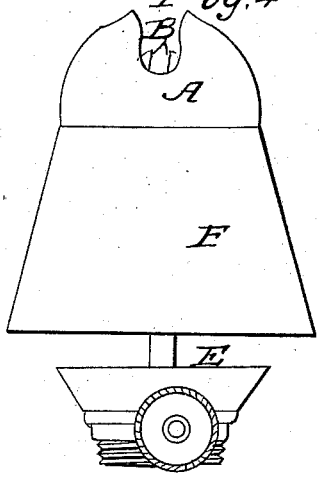


Fig. 6

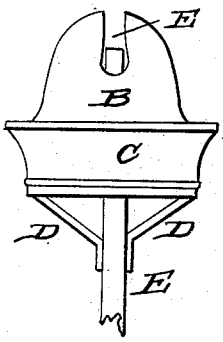


Fig. 5

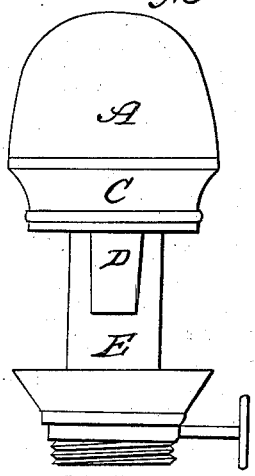
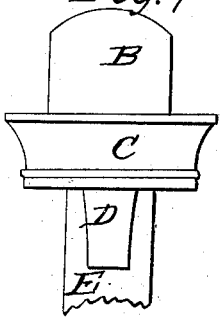


Fig. 7



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UNITED STATES PATENT OFFICE.

EDWARD M. LANG, OF WESTBROOK, AND ISAIAH GILMAN, OF PORTLAND, ME., ASSIGNORS TO THEMSELVES, JOS. L. WINSLOW, AND E. HERSEY.

IMPROVEMENT IN LAMPS.

Specification forming part of Letters Patent No. **47,681**, dated May 9, 1865.

To all whom it may concern:

Be it known that we, EDWARD M. LANG, of the town of Westbrook, and ISAIAH GILMAN, of the city of Portland, in the county of Cumberland, State of Maine, have invented a new and Improved Burner; and we do hereby declare the following to be a full and exact description of the construction of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a vertical section transversely to the wick-tube, and Fig. 2 is a vertical section in the direction of the width of the tube. Fig. 3 is a plan of the burner.

Similar letters referring to like parts in all the drawings, we will say that our invention consists in a combination as well as in a peculiar arrangement of a wick-tube, two cones or air-deflectors, a metallic annular conduit, and certain heat-conductors and cone-supporters, as hereinafter specified; and our invention further consists in the combination and arrangement of a removable truncated hollow cone or jacket, (made as hereinafter explained,) with the two cones or air-deflectors, the annular conduit or ring, and the wick-tube, when arranged and connected together essentially in manner as hereinafter set forth.

From the above it will be seen that our invention involves the employment of the metal conductors D D, for the purpose of conveying the heat from the wick-tube E to the outer cone, A A, either directly or through the medium of any support to said cone, which medium or support as shown in the drawings is the metal ring C C, thereby causing a more rapid supply of heated air to that part of the flame passing between the two cones; A A B B—the enlarged mouth and sloping sides of the outer cone being of the proportions and form (we believe) as best to direct and keep up the necessary supply of heated air to the flame. The inner cone, B B, may be attached directly to the outer cone, A A, or to the metal ring C C, by pieces of metal D″ D″, or by any other method that will hold the two cones relatively as arranged and allow as little transmission of heat from the inner cone to the outer cone aspossible.

We attach much importance to the proportions of distances relatively between the two cones and of the inner cone to the top of wick-tube, in connection with the relative shapes and proportions of the two mouths or orifices of said cones, the mouth of the inner cone being contracted at the apex and the mouth of the outer cone being enlarged at the apex.

The contraction of the discharging-mouth of the inner cone at the apex or middle of such mouth, or the enlargement of the mouth in opposite directions from its middle, in manner as shown in Fig. 3, when combined with an enlargement of the mouth of the outer cone at its middle or its contraction therefrom in opposite directions toward its ends, is productive of important advantages in spreading the flame of the wick and directing the air thereon in order to prevent it from smoking.

The metal conductors serve a twofold purpose, inasmuch as they rob the wick-tube of the heat that otherwise would go to the collar of the lamp, where it would be injurious, and convey it to the outer cone, A A, where it will do good. We do not limit ourselves to the number or size of the conductors D D.

We also employ in connection with the outer cone, A A, and other parts, as hereinafter decribed, a jacket, F F, in the form of the frustrum of a cone, or any other form not too contracted, and it may be constructed of any material, the object of said jacket being for the better controlment of the flame when the lamp is in motion, the operation of the burner being just as perfect without it when at rest. The jacket is removable at will, not being fastened to cone. The aperture to the jacket being small enough not to slip entirely over the outer cone, the weight of the jacket keeps it properly secured to the burner without the use of a special contrivance.

We make no claim to the employment of two cones or air-deflectors with a wick-tube. Neither do we claim simply making the orifice or mouth of the inner cone of less width than that of the outer cone.

What we claim as our invention or improvements is as follows:

1. The above-described combination, as well as the arrangement of the wick-tube E, the two cones, A B, the metallic annular conduit C, the conductors D D, and the supports D″ D″, or the equivalent of the latter.

2. The combination of the removable jacket

F with the two cones, A B, the ring C, and the wick-tube, arranged and connected substantially as specified.

3. The contraction of the mouth of the inner cone at its middle or its expansion in opposite directions therefrom, in combination with the expansion of the mouth of the outer cone at its middle or its diminution in opposite directions therefrom, in manner substantially as represented and hereinbefore described.

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