

# E. B. Requa.

## Lamp-Burner.

No 75978

Patented Mar. 24, 1868.  
Fig. 1.

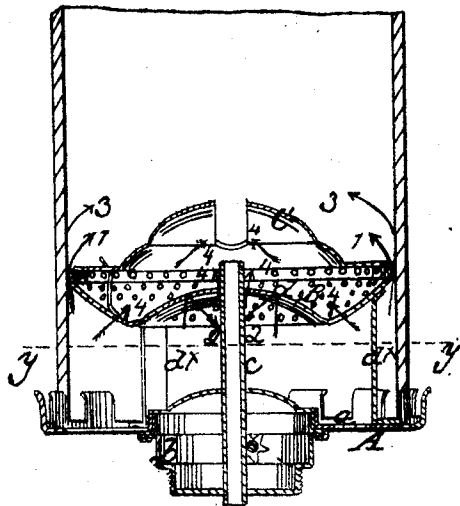


Fig. 2.

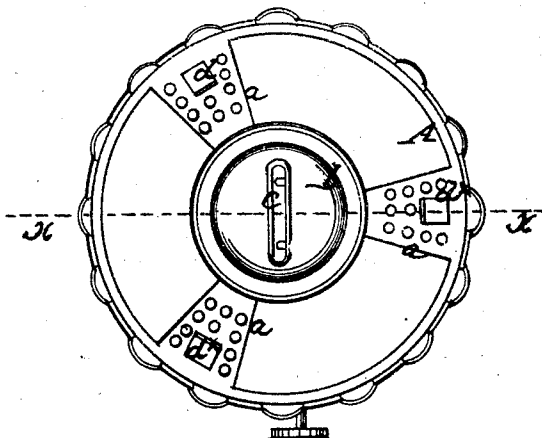
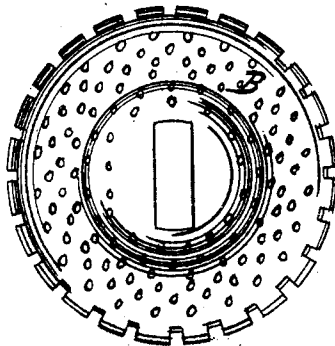


Fig. 3.



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E. B. REQUA, OF SOUTH BERGEN, NEW JERSEY.

Letters Patent No. 75,978, dated March 24, 1868.

## IMPROVEMENT IN LAMP-BURNERS.

The Schedule referred to in these Letters Patent and making part of the same.

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, E. B. REQUA, of South Bergen, in the county of Hudson, and State of New Jersey, have invented a new and improved Lamp-Burner; 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 make and use the same, reference being had to the accompanying drawings forming part of this specification.

This invention relates to a new and improved lamp-burner for burning coal-oil or petroleum, and of that class in which a cylindrical draught-chimney is used, and a great portion of the wick-tube exposed.

The present invention consists in a peculiar construction of the cone or deflector with a perforated plate, as hereinafter fully shown and described, whereby three very important results are obtained, to wit: first, the supplying the base of the flame within the cone with a requisite amount of oxygen; second, the supplying the upper part of the flame above the cone with a requisite amount of oxygen; and third, the keeping of the wick-tube in a proper cool state, so as to prevent a too rapid evaporation of the oil. These three conditions being attained, a brilliant illuminating flame is the result, and explosions effectually guarded against. In the accompanying sheet of drawings—

Figure 1 is a side sectional view of my invention, taken in the line *x x*, fig. 2.

Figure 2, a horizontal section of the same, taken in the line *y y*, fig. 1.

Figure 3, a detached plan or top view of the perforated plate.

Similar letters of reference indicate corresponding parts.

A represents a rim, which is connected by radial plates, *a*, with a central hub, *b*, in which the wick-tube *c* is fitted, and through which it passes, the wick-tube extending a considerable distance above the hub, as shown in fig. 1. The radial plates *a* are perforated so as not to impede the passage of air upward within the chimney, and the rim A is provided with short upright projections to prevent the lateral displacement of the glass draught-chimney, which rests on the rim A, as shown in red in fig. 1.

B represents a perforated cup-shaped plate, the diameter of which is equal to the internal diameter of the chimney, the edge of B being notched, so as to admit of the passage of air upward between B and the chimney, as indicated by the arms 1, (see fig. 1.) The cup-shaped plate B is attached to the radial plates *a* by uprights *d*, which are of such a height as to leave a large portion of the wick-tube *c* exposed, as shown in fig. 1. The central portion of B at its under side is concave, as shown at *d*, and this concave surface deflects air against the wick-tube *c*, as indicated by arrows 2; keeping the latter cool, and preventing a too rapid evaporation of the oil in the lamp. The wick-tube *c* passes loosely through B, a space being allowed all round it for the air to pass through.

C represents a cone or deflector, which is fitted upon the perforated cup-shaped plate B, and is perforated all around at its edge to admit of the escape of air therefrom, as indicated by arrows 3, the cone or deflector being a trifle less in diameter than B, in order that a space may be allowed for the escape of air.

The air that supplies the flame above the cone or deflector C is indicated by the arrows 1 and 3, and the air that supplies the base of the flame within the cone or deflector is indicated by the arrows 4, and passes through the perforations in B, and around the wick-tube *c*, and is deflected upon the lower part of the flame by the deflector, as will be fully understood by referring to fig. 1.

By the construction and arrangement of parts above described, a brilliant illuminating flame is obtained, the air being directed upon the flame at such points and in such quantities as to insure perfect combustion. In other burners of this class, the means employed for deflecting the air upon the flame are quite sufficient; in fact, so far as I am aware, none have been devised in which the principle of a cone or deflector and a perforated under cup-shaped plate have been adapted for this special class of burners. So far as supplying the flame properly with air is concerned, I have combined all the advantages possessed by the common burner, and at the same time retain all the advantages of the more modern-class burner, to wit, the keeping of the lower part of the chimney cool, so that it can be readily handled and removed at any time, and the prevention of too rapid an evaporation of the oil.

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

1. The perforated cup-shaped plate B, provided with an under concave surface  $d$ , through which the wick-tube  $c$  passes loosely, substantially as and for the purpose specified.

2. The lower rim A, with the wick-tube  $c$  attached, in connection with the perforated cup-shaped plate B and cone or deflector C, all arranged substantially in the manner as and for the purpose specified.

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Witnesses:

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