W. MOREHOUSE.

Lamp Burner.

No. 34,841. Patented April 1, 1862.

Fig. 2.

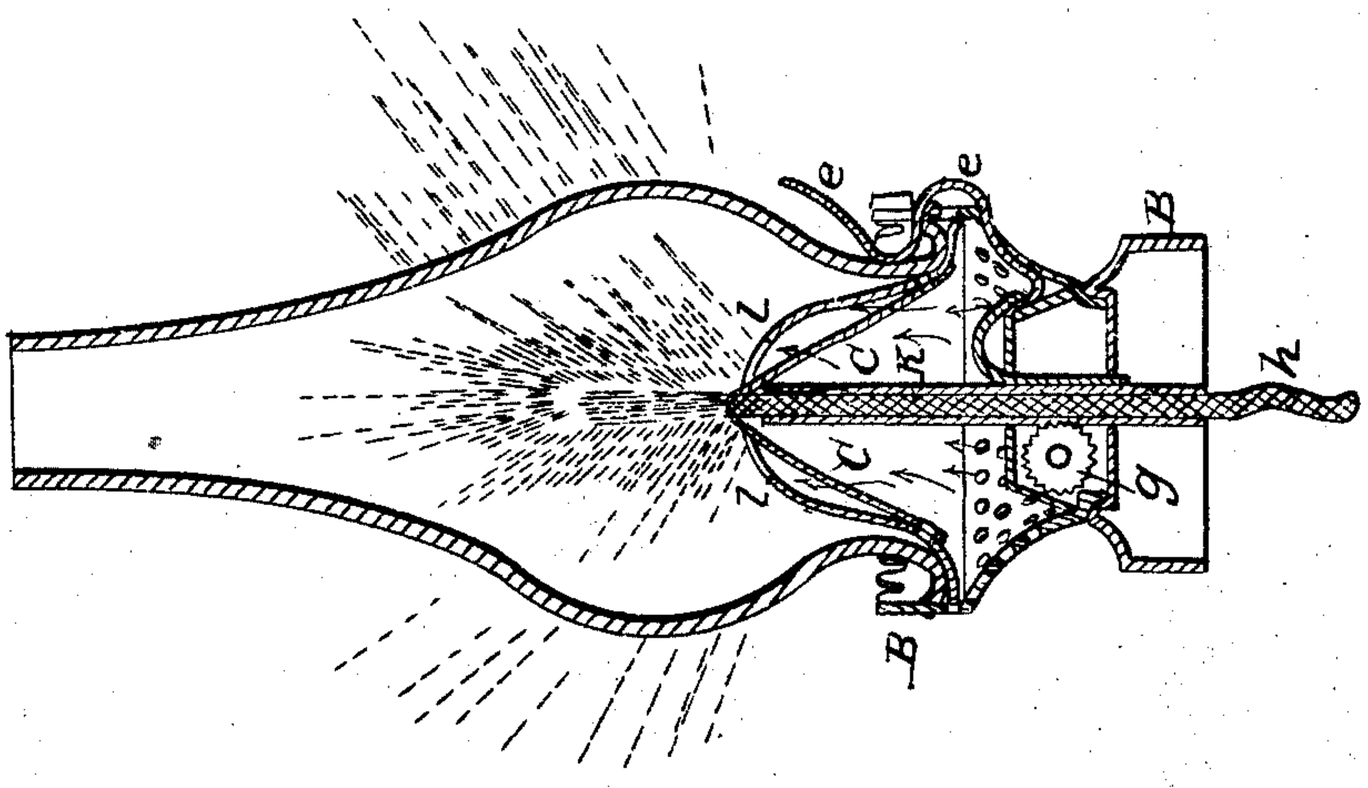


Fig. 3.

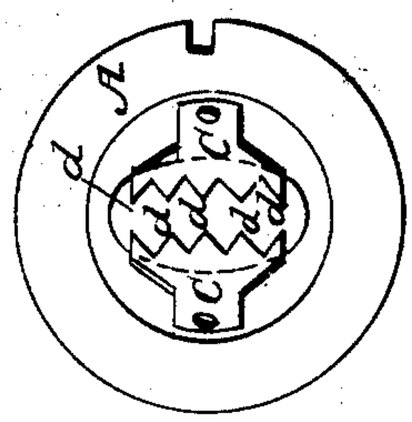
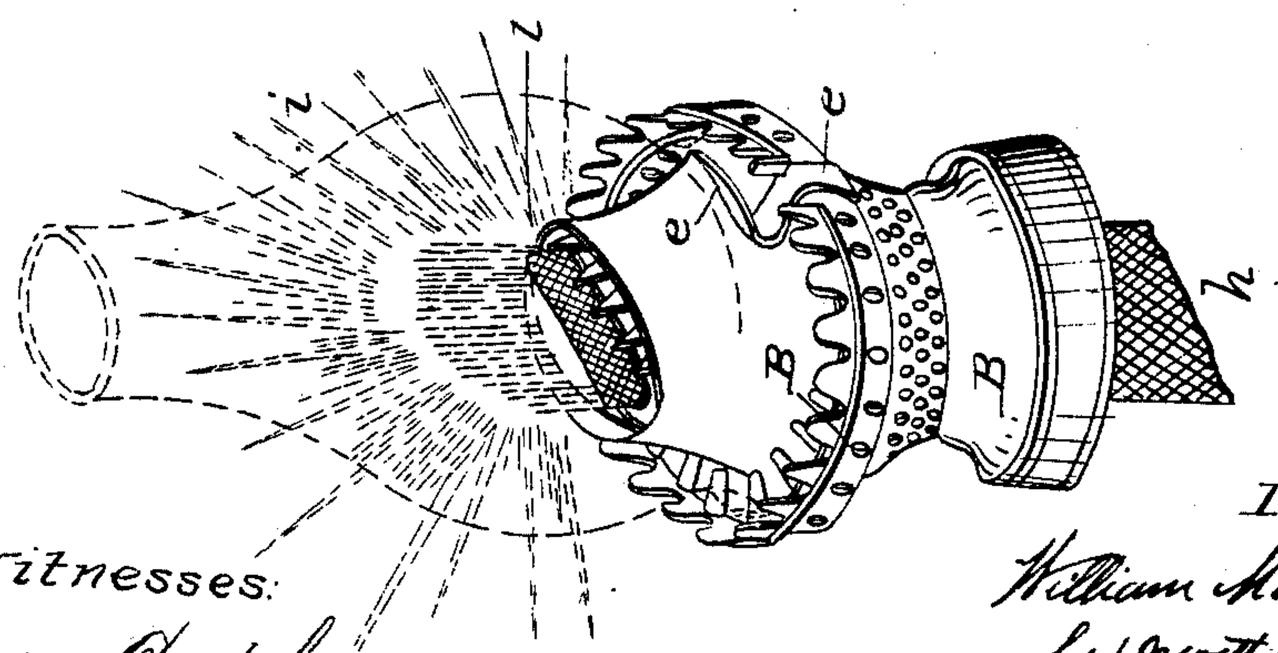


Fig. 1.



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UNITED STATES PATENT OFFICE.

WILLIAM MOREHOUSE, OF BUFFALO, NEW YORK.

IMPROVEMENT IN LAMPS FOR BURNING COAL-OIL.

Specification forming part of Letters Patent No. **34,841**, dated April 1, 1862.

To all whom it may concern:

Be it known that I, WILLIAM MOREHOUSE, of the city of Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Lamps for Burning Coal-Oil; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and the letters of reference marked thereon, like letters in the several figures indicating the same parts, and in which drawings—

Figure 1 is a perspective view of my improved lamp; Fig. 2, a vertical section, and Fig. 3 an inverted plan view of the cone, and showing the connection of pointed metal air-heaters therewith.

In the ordinary construction of kerosene-lamps, or lamps commonly used for the purpose of burning coal-oil, objections have existed, owing to the fact, first, that the burner by becoming overheated and imparting heat to the oil below develops the gases of the oil to such an extent as to incur a liability to explosion; second, that the location of a portion of the flame being within the cone not only darkens and inutilizes a portion of the light, but likewise burns the cone and covers its internal surface with soot; and, third, that the wick-tube by having its upper extremity below the orifice of the cone not only brings a portion of the flame within the cone, but in just so much as such extremity is nearer to the oil-reservior a proportionate greater amount of the oil is drawn up the tube to supply the flame, more than is necessary to produce a proper light, thus causing the flame to give off smoke, and also causing the oil to overflow the upper end of the wick-tube and run down its sides.

By my mode of construction these difficulties are overcome, and the advantage attained of avoiding to the greatest possible practical extent the formation of a bluish color at the base of the flame and in immediate contact and proximity with the wick. This is effected by causing the heater-plates to project above the extreme upper portion of the cone itself, and by bringing the upper extremity of the wick-tube above the lower portion of the orifice of the cone.

By the heater-plates being out of contact with the cone, except at their lower extremities, very little heat is imparted by them to the burner, and, in addition, by bringing the entire flame practically outside of the cone no overheating of the burner can occur. At the same time the full power of the flame is developed and utilized.

It will be observed that my heater-plates are so constructed as to present a series of points directly to the base of the flame and nearly surrounding the wick. The air in its ascent through the cone becoming rarefied by contact with the plates prevents the cooling or condensing of the gases of the oil at a point where they are converted into flame, and the extreme points of the heaters becoming red-hot, not only act as conductors into the flame of the electric and combustible qualities of the atmosphere, but give to the atmosphere so conducted a maximum of heat at the very instant of its commingling with the flame.

In the drawings, A is the cone, and B the burner, (shown in position in Figs. 1 and 2,) ready to be placed upon and secured to a lamp in the usual manner, and which together constitute a metallic case for supporting a small glass globe, as hereinafter described. The cone is cut away at its top, as at *l*, so as to form an oblong orifice or opening, through which the lamp-wick *h* projects, and above the lower portion of which orifice or opening the upper extremity of the wick-tube K also projects, as clearly shown in Fig. 2.

The copper heater-plates *c* are constructed in the form as represented in Fig. 3 and are situated opposite to each other, and, for the purpose of preventing the transmission of heat to the oil of the lamp and the consequent generation of explosive gas, are reduced in dimension, as shown in the figure, and are only secured to the cone, as seen in Figs. 2 and 3, and their upper portions are formed into a series of points *d*, which project above the top of the cone and so situated as to have the points *d* just come in contact with the flame of the burning oil.

To the portion B is attached a thumb-lever *e*, which engages with a spring *f*, attached to the wick-tube, as clearly represented in Fig

2, and by means of which the cone is held in position upon the burner B, as well as the small glass globe *i*.

I would here state that as heretofore constructed lamps for burning coal-oil have their wick-tubes within and below the top of the cone—usually about one-half of an inch—and thus the cone itself acts as an Argand protector to the flame; but this is objectionable, for the reasons heretofore stated, as well as from the fact that the full power of the flame for imparting light is not developed and utilized under such circumstances; but by bringing the wick to the top of the cone and extending the heater-plates also above the top thereof, as described, and using a glass globe, I am enabled to avail myself of all the advantages of the use of an Argand chimney, while at the same time I dispense with its use simply by combining with my burner and cone, as constructed, an ordinary small glass globe *i*.

In the drawings, Fig. 2 shows my lamp complete in section, so far as relates to my invention, and which, as a lamp for burning coal-oil, illustrates the full development of all the advantages peculiar to the Argand lamp having a chimney within the glass globe.

I have thus shown, as I believe, a lamp adapted to burn a particular class of oil, and one difficult to properly burn on account of its peculiar properties for generating smoke, as well as an offensive smell, the burners of which have not heretofore possessed the advantages of the Argand burner for giving light; and this I have shown, while at the same time I dispense with the chimney of the so-called "Argand lamp." In other words, I have shown an organization by means of which I am enabled to burn what may properly be called a "refractory oil," and which means for burning such oil possess all the advantages of the use of an Argand burner for burning whale-oil and without the use of the Argand chimney.

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

The arrangement and combination of the heater-plates *c c*, attached to and near the base of the cone A, with the tube K, cone A, burner B, and globe *i*, in the manner and for the purpose set forth.

WM. MOREHOUSE.

Witnesses:
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