

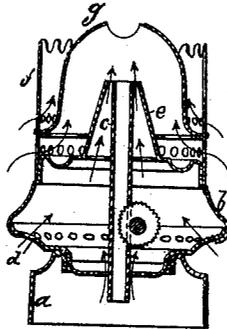
R. S. MERRILL.

Lamp.

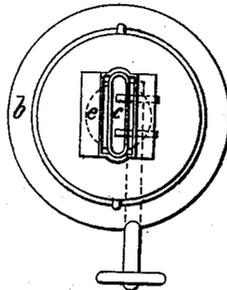
No. 24,397.

Patented June 14, 1859.

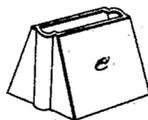
*Fig: 1.*



*Fig: 2.*



*Fig: 3.*



*Witnesses:*

*J. B. Crosby*  
*W. B. Gleason.*

*Inventor:*

*Rufus S. Merrill*

# UNITED STATES PATENT OFFICE.

RUFUS S. MERRILL, OF LYNN, MASSACHUSETTS.

## LAMP.

Specification forming part of Letters Patent No. 24,397, dated June 14, 1859; Reissued March 2, 1869, No. 3,315.

*To all whom it may concern:*

Be it known that I, RUFUS S. MERRILL, of Lynn, in the county of Essex, in the State of Massachusetts, have invented a new and useful Improvement in Burners for Coal-Oil; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description thereof so full and exact as to enable those skilled in the art to practice my invention.

Figure 1 is a sectional elevation, and Fig. 2 a plan illustrating my invention. Fig. 3 is a perspective view of the part I add to burners now in common use which increases their efficiency and in which my invention is embodied.

The nature of my invention consists, first, in the means I employ, or the equivalents thereof, by which the vapors arising from the fluid burners in the lamp are mingled with atmospheric air and the mixture directed so as to impinge upon the flame, being heated in its passage thereunto by conduction from the metallic walls of the directing passage; second in the means described for securing the director to the wick tube.

(*a*) is a metallic cap which may be fixed upon a lamp body, the part (*b*) which is screwed into (*a*) supports the wick tube (*c*) in such a manner that openings are left by the sides of (*c*) where it passes through the top and bottom of (*b*) through which any vapor formed in the body of the lamp can ascend. Holes are formed in (*b*), at (*d*), which admit the air within (*b*) to mingle with the vapor from the lamp, and the openings at the sides of (*c*) in top of (*b*) are larger than they are in the bottom, to permit the free passage of the mingled air and vapor into the director (*e*) which is made of thin sheet metal with inclined sides and vertical ends, the latter being grooved or channeled to fit the semicylindrical ends

of the wick tube (*c*). The sides of (*e*) expand sufficiently to cover the openings formed in the top of (*b*) and taper upward toward the end of the wick tube, leaving between the upper edges of it and the director (*e*) two long and narrow apertures or slits, through which the mingled air and vapor are projected upon the flame to urge and support combustion. This mingled current, in its passage, is heated by contact with (*e*) and (*c*), which gives the upward movement and renders it fitter to support combustion, while the inclined sides of (*e*) cause it to impinge directly upon the flame. The object in view in constructing the sides of the director to fit and slide on the cylindrical edges of the tube (*c*), is to afford a ready means for detaching (*e*) from the rest of the burner, so as to free it and the wick tube from incrustations, and to insure upon replacement an equal opening on each side between (*e*) and (*c*). The part (*f*), which rests upon (*b*) and supports the chimney and the deflector (*g*), is constructed in a manner fully shown in the drawings and which is well known.

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

In coal oil burners, of otherwise ordinary construction, I claim the combination with a flat wick tube—of the removable director constructed as described with inclined side walls and vertical ends, the latter being corrugated or ground to fit the ends of the wick tube as a means of securing the director to the wick tube and for directing or conveying the heated vapors mixed with atmospheric air to the sides of the flame substantially in the manner and for the purposes set forth.

RUFUS S. MERRILL.

Witnesses:

J. B. CROSBY,  
W. B. GLEASON.