R. S. MERRILL.

Lamp Burner.

No. 56,245. Patented July 10, 1866.

Fig. 1.

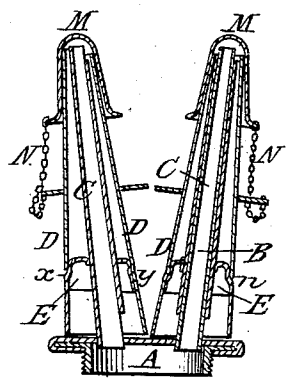
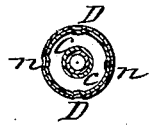


Fig. 2.



Witnesses:
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Inventor:
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by A. Pollock
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N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

RUFUS S. MERRILL, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN LAMP-BURNERS.

Specification forming part of Letters Patent No. **56,245**, dated July 10, 1866.

To all whom it may concern:

Be it known that I, RUFUS SPAULDING MERRILL, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Burners for Fluid-Lamps, or lamps in which the highly-volatile products of distillation of petroleum or coal-oil are burned; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a sectional elevation of a burner constructed in accordance with this my invention, and Fig. 2 is a horizontal section on line *x y* in Fig. 1.

This invention relates to that class of burners for which Letters Patent of the United States were issued to me on the 18th day of July, 1865, its object being the facilitating and cheapening of the manufacture of burners made and operating in accordance with the said invention; also, the saving of a considerable amount of fluid, which, in burners of this class as heretofore constructed, was lost by evaporation.

To enable others to make and use this invention, I shall now proceed to describe the construction and operation of my improved burner.

A is the cap of the fluid-vessel, in which are secured, by means of solder or otherwise, one, two, or more wick-tubes, B. In the present instance two diverging wick-tubes are shown, held by means of solder in the cover or cap A. Onto each wick-tube is fitted an adjustable friction sleeve or tube, C, which carries a cone or jacket, D. The jacket is held concentrically with and upon the friction sleeve or tube by means of an annular cup-shaped partition, E, which divides the annular space between the said sleeve and the jacket in two parts. The upper part performs the functions of the collecting-chamber, as described in my patent before referred to. The lower part has for its object to concentrate the heat radiated from the wick-tube, (when the burner is ignited,) in order to accelerate the evaporation of the condensed fluid in the collecting-chambers for the better supply of the flame.

The partition-plate, after it is snugly and tightly fitted, is permanently and immovably secured in position by forming indentations or nicks *n* through and into both the jacket and the flange of the partition.

Each cone or friction-sleeve is provided with a flange, F, whereby it may be easily handled for adjustment without danger of burning the fingers.

This method of constructing the collecting-chamber is more expeditious and cheaper than either method described in my previous patents, while the additional advantage of concentrating the heat under the collecting-chamber is attained.

It has been found that when the burner is not in use a considerable quantity of fluid is evaporated through the wick-tube.

In ordinary fluid-lamps an extinguisher or cap is used directly upon the wick-tube. This is impracticable in cases where collecting chambers or jackets are used around the tip of the burner. I have, however, combined with the jacket or collecting-chamber an extinguisher, which, instead of fitting the wick-tube, is made to fit the jacket. In the accompanying drawings I have shown the manner in which the same is carried into effect.

M are the extinguishers, fitting the jackets D in such manner that the vapors of the fluid are carried down the collecting-chambers, where they are allowed to condense. The caps or extinguishers M are permanently connected with the burner by means of small chains N.

Having now described my said invention, I claim—

1. The combination, in a fluid-burner and with a collecting-chamber surrounding the wick-tube, of an extinguisher or cap, under the arrangement and for operation substantially as hereinbefore set forth.

2. Forming the collecting-chambers of a conical jacket secured to a concentric sleeve adjustable by friction upon the wick-tube by means of an annular partition-plate, substantially as and for the purposes herein set forth.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

RUFUS S. MERRILL.

Witnesses:

WILLIAM LINCOLN,
GEO. B. MERRILL.