T. MOORE & J. O'DONALD.

VAPOR BURNER.

No. 111,666. Patented Feb. 7, 1871.

Fig. 1.

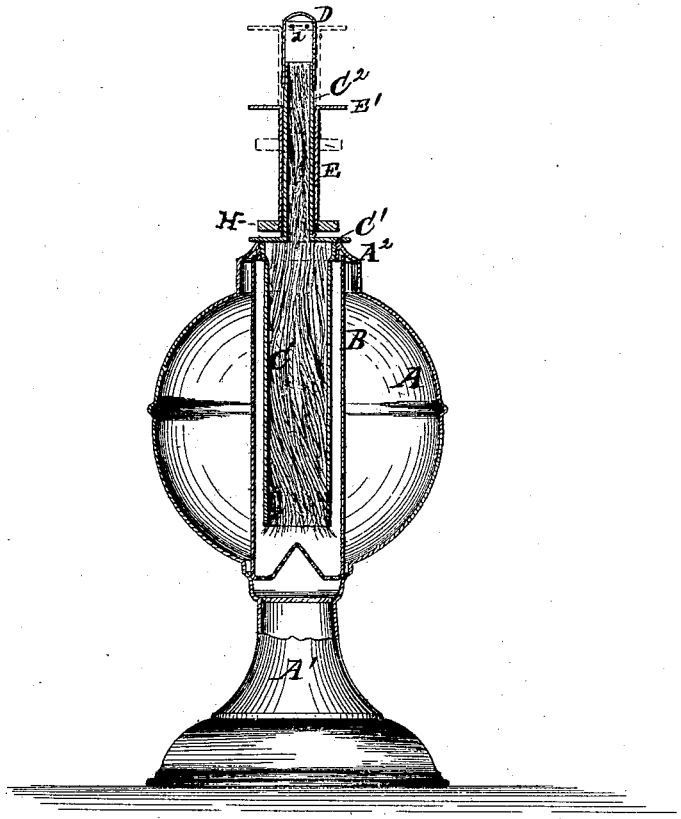


Fig. 2.

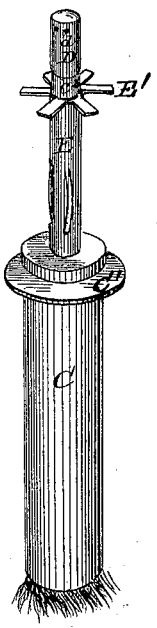
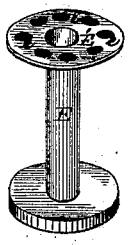


Fig. 3.



Witnesses.

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THOMAS MOORE, OF BLOOMINGTON, AND JAMES O'DONALD, OF CLINTON, ILLINOIS.

Letters Patent No. 111,666, dated February 7, 1871.

IMPROVEMENT IN VAPOR-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 we, THOMAS MOORE, of Bloomington, in the county of McLean and in the State of Illinois, and JAMES O'DONALD, of Clinton, in the county of De Witt and in the same State, have invented a new and useful Improvement in Lamps; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawing making part of this specification, in which—

Figure 1 is an axial section, part of the base being shown in elevation.

Figure 2 is a perspective view of the wick-tube, burner, and regulator, detached from the lamp.

Figure 3 illustrates a variation in the construction of the regulator.

The same letters are used in all the figures in the designation of identical parts.

This invention relates to lamps for burning the vapor of volatile fluids; and

My improvement consists in the employment of a sliding sleeve on the burner, which, by adjusting it thereon with reference to the jets, serves to regulate the generation of vapor.

To enable those skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

The reservoir or bowl A of the lamp, which is provided with a suitable foot or base, A^1, terminates at the upper end in the ordinary neck A^2, in which a female screw-thread is cut adapted to receive the plug of the wick-tube.

Centrally in this bowl is a vertical tube, B, made of tin, by preference, and reaching from the bottom of the bowl to near the top of the collar, only leaving a small space between its upper edge and the under side of such collar to form a vent for the escape of air in filling the bowl.

The bottom of this tube is arched or $\wedge$-shaped, to permit the oil to pass from the surrounding bowl under the end of the tube, and into it through a number of fine perforations in its arched bottom.

The wick-tube C is also made of tin, that is, the portion which extends into the lamp, and furnished with the ordinary plug C^1 for securing it in the neck of the bowl.

The part C^2 above the plug is made of brass or other good conducting metal, and of much smaller bore than the part C, which hangs down into the tube B to near its bottom, but being of less diameter does not come in contact with such tube B, from which it is thus separated by an air-space.

The contracted part C^2 of the wick-tube is surmounted by a cap, D, fitting over its upper end, which constitutes a chamber, in which the vapor is heated and thus made to produce a whiter light in consequence of more rapid and thorough combustion, said cap being perforated at *d d* for the escape of the vapor to be burned on the outside.

The sleeve E is a cylinder of brass or copper, constructed to tightly hug the tube C^2, and provided with a button of wood or other non-conducting material, which prevents the heating of the lamp-bowl, hence lessening the danger of breaking glass lamps from being overheated, and furnishing a handle by which it may be operated.

Its upper end terminates in a series of horizontal wings, E', as shown in figs. 1 and 2, or in a disk, as shown in fig. 3, in which case a series of perforations, *e*, is formed therein, to form passages for the air to feed the jets of flame.

By adjusting this sleeve in such a manner that its upper end is in close proximity to the flames its wings or disk will be highly heated; and the material of which it is made being a ready conductor of heat it will soon be so heated its entire length, communicating its heat to the wick-tube, and thus increasing the generation of vapor. If, on the contrary, it be pushed down on the wick-tube away from the jets, the generation of vapor will be diminished.

By adjusting the wings or perforations in different positions with reference to the flame-apertures the character of the flame can also be somewhat modified, and it may also serve as an extinguisher by pushing it up until it covers said flame apertures.

What we claim, and desire to secure by Letters Patent, is—

1. The flame regulator, consisting of the sleeve E, wings E', and non-conducting button H, as and for the purpose set forth.

2. In combination with the above, the burner D and wick-tube C C^2, as shown and described.

THOMAS MOORE.
JAMES O'DONALD.

Witnesses to signature of THOMAS MOORE:
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