

(No Model.)

R. McALLISTER.

HYDROCARBON BURNER FOR ILLUMINATING PURPOSES.

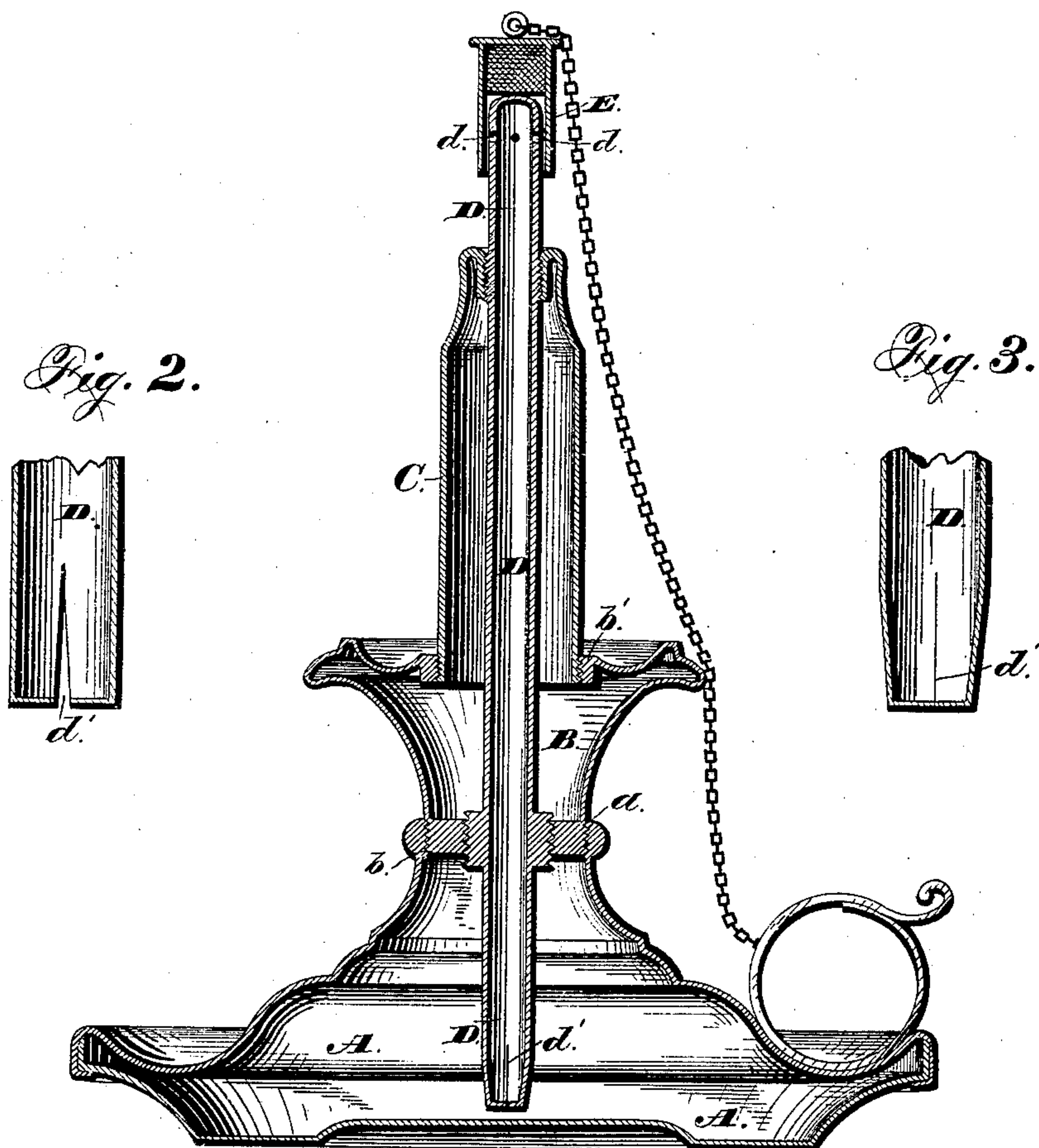
No. 265,928.

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Fig. 1.

Fig. 2.

Fig. 3.



Witnesses:

*Jas. E. Hutchinson,
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 By his Attorney,
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UNITED STATES PATENT OFFICE.

RICHARD McALLISTER, OF WASHINGTON, DISTRICT OF COLUMBIA.

HYDROCARBON-BURNER FOR ILLUMINATING PURPOSES.

SPECIFICATION forming part of Letters Patent No. 265,928, dated October 10, 1882.

Application filed August 21, 1882. (No model.)

To all whom it may concern:

Be it known that I, RICHARD McALLISTER, a citizen of the United States, residing at Washington, in the District of Columbia, have invented new and useful Improvements in Hydrocarbon-Burners for Illuminating Purposes, of which the following is a specification.

My invention relates to that class of burners which are adapted to volatilize any of the hydrocarbon oils and consume the gases evolved by the heat produced by the light-giving flame; and it consists in certain features hereinafter described, and specifically pointed out in the claims.

Referring to the drawings, Figure 1 is a central vertical section of a lamp provided with a burner constructed in accordance with my invention, and Figs. 2 and 3 are details.

Like letters refer to like parts in all the figures.

A indicates the body or oil-chamber of the lamp, which, connected with the shields or jackets B C, resembles in general outline and appearance an ordinary candlestick and candle. These parts may be constructed of spun or cast metal, of glass, porcelain, or any suitable material. The collar *a* of the body is screw-threaded for the reception of the exterior screw-thread, *b*, of the shield B, which at its upper end is screw-threaded at *b'* for the reception of the jacket C, the upper end of which, as also the lower end of the shield, is interiorly screw-threaded for the reception and support of the tube D. The upper end of the tube D is closed, and its wall is at a short distance therefrom circumferentially perforated, as at *d*, while the lower end is slitted, as at *d'*. The slit or supply-duct *d'* is formed by sawing or otherwise forming the slit in the closed lower end and subsequently laterally compressing the edges thus formed together, resulting in a very closely fitting joint, which, although admitting a sufficient supply of any of the usual hydrocarbons, prevents the entrance of any sediment or foreign substances, so that the tube is not liable to become clogged thereby.

A cap, E, is provided for extinguishing the light by placing it over the upper end of the tube in the usual manner.

If desired, the shield and jacket may be

formed in one piece, and a simple flange may be formed on the tube D and permanently soldered to the lower end of the shield, the upper end of the tube merely passing loosely through the jacket at its upper end.

Although the shape of the body, shield, and jacket is designed with a purpose of imitation, as above stated, I do not limit myself thereto so long as the functions of the parts are executed by them. Nor do I confine myself to a portable lamp, as the burner is as well adapted to fixed lighting devices, and is especially applicable to swinging lamps and the like.

The operation is as follows: A sufficient quantity of any of the hydrocarbons being supplied in the body of the lamp, it is held in a horizontal inclined position, or by any other suitable means or method a slight portion of the oil is caused to flow into the tube and toward its upper end and out of the perforations *d*, or about the upper perforated end wall of the tube, and a burning match or flame is applied to said end of the tube until sufficient heat is produced to volatilize the oil therein or thereon, when the lamp is returned to its normal position, and the supply of gas or vapor will be automatically produced as in lamps of this character, the heated tube serving to vaporize the oil therein.

It is apparent that the oil entering the tube through the slits *d* will rise therein to a level with the main body of oil in the reservoir, and that the vapor of the oil thus entering the tube will naturally rise therein and be consumed, as hereinafter described.

The function of the shield is to prevent the heat of the burner from falling directly on the oil-reservoir, and, in connection with the jacket C, to hold a confined body of air about the tube D to in a measure prevent the conduction of heat by the tube into the reservoir or body A, whereby the supply of oil is kept comparatively cool. The proper receptacle of the gas is limited practically to the upper portion of the tube, which, being hot, produces the gas from the vapor naturally rising in the tube from the oil entering the slits *d'* in the bottom thereof.

Having thus described my invention, what I claim is—

1. In a lamp of the class described, the com-

bination of a tube, perforated at its upper and slitted at its lower end, with a shield adapted to support the same and a jacket, substantially as described.

5 2. In a hydrocarbon-burner, a tube the lower end of which is slitted and laterally compressed to form a supply-duct, substantially as shown and described.

10 3. The combination of the body, the exteriorly and interiorly screw-threaded shield, and

the exteriorly screw-threaded perforated and slitted tube, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

RICHARD McALLISTER.

Witnesses:

ALBERT H. NORRIS,
J. A. RUTHERFORD.