E. W. PERRY.

Lard Lamp.

No. 2,811. Patented Oct. 12, 1842.

Fig. 1.

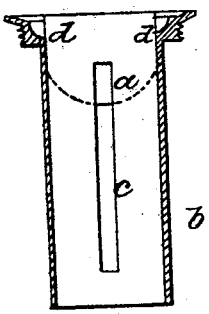


Fig. 2.

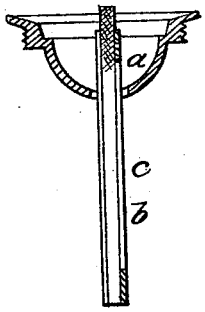
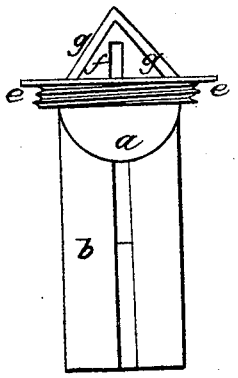


Fig. 3



UNITED STATES PATENT OFFICE.

ENOCH W. PERRY, OF BOSTON, MASSACHUSETTS.

WICK-TUBE FOR LAMPS.

Specification of Letters Patent No. 2,811, dated October 12, 1842.

To all whom it may concern:

Be it known that I, ENOCH WOOD PERRY, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Lamps for Burning Lard and other Concrete Fatty Substances, of which improvements the following description, taken in connection with the accompanying drawings, forms a full and exact specification.

In said description I have set forth the nature and principles of my improvements by which they may be distinguished from others of like character, together with such parts or combinations thereof as I claim and for which I solicit Letters Patent.

Figure 1, of the drawings above mentioned represents a vertical section of improved lamp cup, screw and wick holder or tube. Fig. 2, is a vertical section of the same taken at right angles to that of Fig. 1. Fig. 3, exhibits an elevation of the same containing an improvement in the tube or wick-holder, which will be hereinafter described.

In ordinary lamps for burning oil or concrete fatty matters, the wick tubes are supported in their position in the fountain, by means of a screw inserted in the aperture of the top of the fountain, the wick tubes passing through and being soldered into the screw. The screw is hollowed out so as to form a small cup around the tubes, for the reception of any oil which may flow from the wick while burning.

One part of my invention consists in appending to this screw a deep cup, *a*, which shall extend below the screw (and into the reservoir or lamp) as seen in the drawing. The wick tube *b*, Figs. 1 and 2, extends through the cup, its top terminating on or about the level with the top of the cup part, *a*, of the screw as seen in Figs. 1, 2, or so that the part of the wick extending above the tube *b*, shall be in part or nearly all within that part of the cup above the top of the tube as seen in Figs. 1, 2. The wick tube has one or more elongated slots *c* formed therein, through which the lard in the lamp obtains access to the wick. The auxiliary cup or fountain, *a*, is to be filled to the level or a little above the level of the top of the tube *b*. On lighting the wick the lard in contact with it is instantly fluidized, and supplies the wick with combustible matter, while the lard in the cup is melted, and flows into the wick, through the aperture in the side of the tube and also into the fountain or body of the lamp if required. The flame coming in contact at *d*, *d*, Fig. 1, with the auxiliary cup immediately heats the same to such a degree as to liquefy the lard therein, and this lard flowing down into the wick saturates the same or melts the concrete matter therein, and thus affords a proper supply to the wick until the heat is conducted in a sufficient degree, through the auxiliary cup and the wick-tube into the lard in the body of the lamp, to liquefy the same and cause it to ascend into the wick by capillary attraction.

By the above arrangement of the auxiliary cup and wick tube and process of lighting a lamp in which lard is used, I am enabled to produce immediately, on the lamp's being lighted a high flame upon the wick, whereas in an ordinary lamp, a considerable time would elapse, before a sufficient heat would be communicated to the lard in the wick and body of the lamp to create a supply necessary for the requisite elevation of flame for illuminating purposes, as it happens in most cases the combustion is so slow, that the flame sinks to such a degree as to go entirely out before the lard of the fountain is liquefied. The process of lighting the lamp by means of an auxiliary cup connected with the lamp screw, combined with the arrangement of the wick tube therein as described I believe to be new. Though the screw has been heretofore hollowed out or formed in the shape of a cup, yet this cup has never, to my knowledge been extended into the body of the lamp or below the screw so as to be of sufficient size to contain the requisite quantity of lard to supply the wick as set forth.

In order to elevate the flame to a sufficient height above the top of the screw, should such be desirable at any time the wick tube may be made movable in the cup or so as to be elevated or depressed by a rack and pinion or other suitable means, but that which I conceive will answer a better purpose, and what I have found by experience, as not only to elevate the plane, but at the same time to accomplish another highly important effect, viz: that of assisting combustion and thereby preventing, in a great degree, the formation of smoke, is to extend the wick tube above the top *e*, *e*, Fig. 3, or part *d d* Fig. 1, of the screw in the triangu-

lar shape represented at *f* in Fig. 3, the wick being trimmed or cut off above the same, parallel to the sides of the triangle and terminating in a point as seen in the drawing. From the above it will be seen that the heel or lower part of the flame is in contact with the top of the auxiliary cup or screw, while the remainder in contact with the wick is raised above the top *e*, *e*, of the lamp and thus prevents as much as in any other lamp, the formation of shadow. Besides, the increased extent of wick over which the flame acts, greatly assists combustion and prevents the formation of smoke, at the same time giving to the flame an angular form highly conducive to the dispersion of rays of light.

In conclusion I would here remark that I do not lay claim to a screw cup as ordinarily constructed and used; nor do I, at present, believe I can to the method hereinbefore mentioned of quickly producing sufficient flame for illumination when the lamp is first lighted and of sustaining the same until the concrete matter in the fountain is liquefied so as to ascend into the wick by capillary attraction, by means of the auxiliary cup containing lard, and extending below the screw or into the body of the lamp, in combination with the wick tubes arranged therein in the different modes above set forth; but

That which I do claim is—

Forming the upper part of the wick tube as hereinbefore described and represented in Fig. 3, of the drawings, whether the same is used in a lamp for burning concrete matters or animal or vegetable oils, or is combined with a screw cup or screw plate for sustaining the same in position.

In testimony that the foregoing is a true description of my said invention and improvement I have hereto set my signature this twenty seventh day of August in the year eighteen hundred and forty-two.

ENOCH W. PERRY.

Witnesses:

R. H. Eddy,

Ezra Lincoln, Jr.