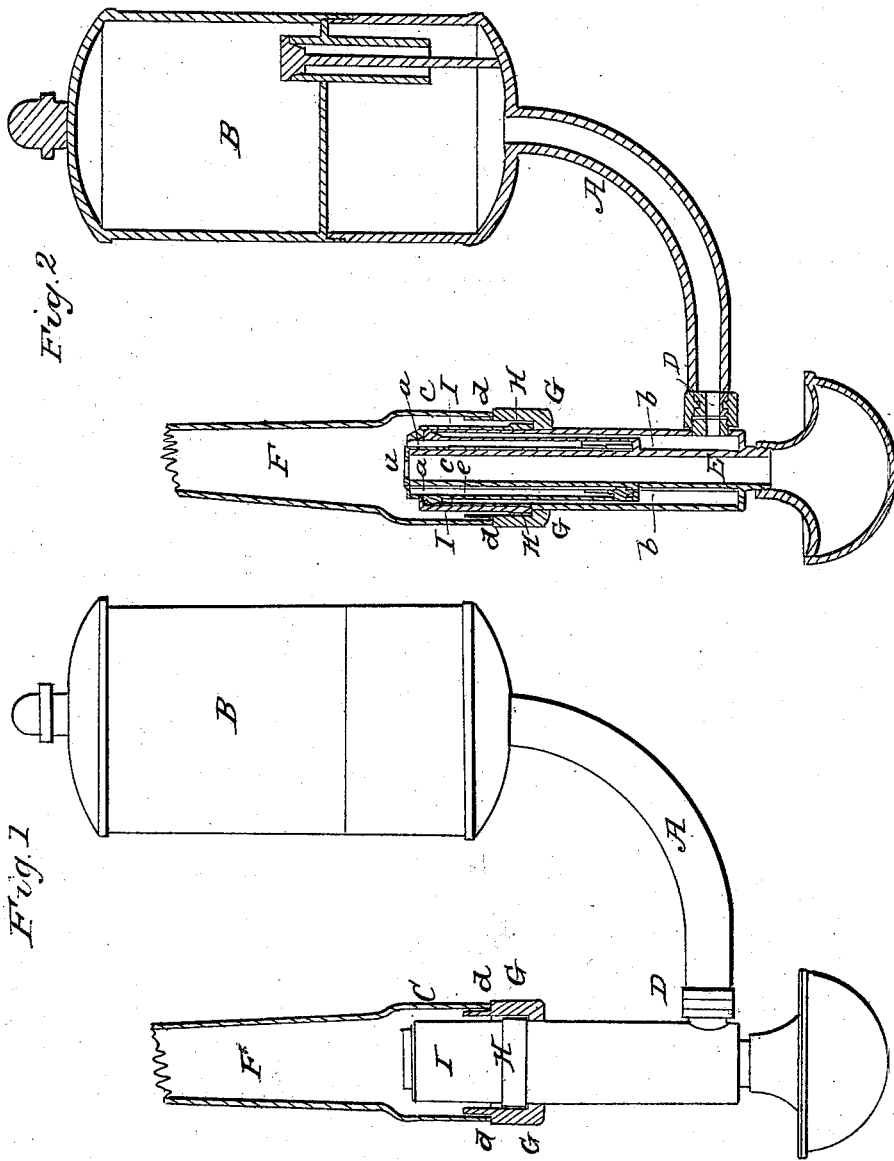


LEWIS, Sr. & HEMMENWAY.

Lamp for Light Houses, &c.

No. 3,692.

Patented Aug. 7, 1844.



# UNITED STATES PATENT OFFICE.

WINSLOW LEWIS, OF BOSTON, AND BENJN. HEMMENWAY, OF ROXBURY, MASSACHUSETTS.

## LIGHT-HOUSE LAMP.

Specification of Letters Patent No. 3,692, dated August 7, 1844.

*To all whom it may concern:*

Be it known that we, WINSLOW LEWIS, of Boston, in the county of Suffolk, and BENJAMIN HEMMENWAY, of Roxbury, in the county of Norfolk and State of Massachusetts, have invented a certain improvement in lamps to be used in light-houses, the same being more particularly valuable for them than for other purposes, and that the following description and accompanying drawings taken together constitute a full and exact specification of the construction and operation of our invention.

Figure 1, of the drawings above-mentioned, represents a side view of an Argand lamp, such as is now generally used in the lighthouses, on the coast of the United States. Fig. 1, is a longitudinal, central and vertical section thereof.

As these lamps have heretofore been constructed, the tube A, (Figs. 1, 2,) which proceeds from the oil fountain B, to the burner C, has been always soldered firmly to the burner, or so attached thereto that the burner could not be separated from it without rupturing the soldering, or sawing off the tube where it joins the burner. In our improved lamp, the burner is connected to the tube A, or the fountain by a double coupling screw or joint D, such as is generally used to connect gas tubes together. By this means all that will be necessary to remove the burner, is simply to sufficiently unscrew the coupling. We are thus enabled to separate the burner from the tube, and by so doing to more effectually clean it whenever the same may be required.

In the common Argand lamp, heretofore used in lighthouses, the inner air tube E, Fig. 2, on which the thimble carrying the wick traverses, is made of brass, or composition metal. The top of this tube, coming into contact as it does with the flame of the wick is so completely destroyed in about two years, as to require its condemnation, and the substitution of a new burner, or tube at an expense generally speaking of three dollars and upward. Experience has proved that every part of the lamp, except that which comes in contact with the flame as before mentioned, will wear when used constantly in a lighthouse, somewhere about sixteen years, without requiring any material repairs. Consequently it will be seen that any contrivance by which the destruc-

tion of the inner air tube of the burner, can be prevented, must be very useful and valuable. As a remedy for this, we make the tube in two parts viz, *a, b*, as seen in Fig. 2, the top part *a*, being a short tube or ferrule about an inch in length, and of the same external diameter as that of the lower part, and fitted upon the lower part, so as to be placed thereon, or removed therefrom (when placed thereon) at pleasure. The top of the lower part of the tube, is turned down for a short distance, so as to receive the upper part or ferrule, and permit it to rest upon a shoulder at *c, c*. It is this ferrule therefore against which the flame acts, and which, when injured or destroyed can be easily removed and a similar one substituted without requiring the removal of the whole burner as above set forth. Our burner is further constructed so that the ordinary rim, or shelf, of the glass holder, (which in some measure obstructs the light) is dispensed with, the wick being raised or lowered without turning the chimney or lamp glass as in most other lamps wherein the chimney is constantly liable to and often does come in contact with the blaze and thereby becomes smoked upon its interior surface. The chimney F, in our lamp, is supported upon three or more, small brackets, or projecting pieces of metal, (two of which are represented at G, G, Fig. 1) soldered to the exterior surface of the outer tube of the burner, and extending upward about three quarters of an inch above a milled head or rim H, formed upon the lower part of the movable tube I, which constitutes part of the apparatus for raising and depressing the wick. Each of the brackets G, has a right angled shoulder *d*, formed upon its outer edge just above the milled rim H, as seen in the drawings, the several shoulders constituting supports for the glass chimney to rest upon, as seen in Fig. 2. By applying the fingers to the milled rim of the tube I, the tube may be turned around, so as to cause the wick apparatus, to elevate, or depress the wick according to the direction in which the tube is moved.

The mode of arranging the lamp glass or chimney upon supports attached to the outer tube of a cylindrical burner, (instead of supporting the chimney upon a shelf or the milled rim of the tube I, as in ordinary Argand lamps,) and which (supports) so

extend above the milled rim H, as to sustain the chimney above the same, thereby permitting the fingers to have between the said supports or brackets, free access to the milled rim we believe has never before been effected. The advantage of this mode of sustaining the chimney, with respect to the tube I, consists in its maintaining its fixed position, whenever the tube is moved horizontally either in one direction or, in the opposite. As it does not turn with the tube I, when once regulated so that the flame and smoke will pass directly through its center, it always maintains its position, and thereby is not liable to become smoked, whenever the tube I, is turned by the fingers applied to its milled rim.

It is seldom that a lamp glass is constructed with its bottom edge in a plane perpendicular to its axis, and therefore when placed upon the burner its position generally requires adjustment in order to prevent it from being smoked. A derangement of such position which is very likely to occur whenever the fingers are applied to the burner to elevate or depress the wick, often so inclines the glass chimney as to bring the upper part of its interior surface in contact with the flame and smoke. Lamps are often constructed with stationary chimneys, but in such the wick has been raised and lowered by a contrivance different from the tube I.

Having thus described our invention,

what we claim and desire to secure by Letters Patent is, as follows, viz:

1. A movable cap, or ferrule applied to, or slipped upon the inner air tube of the burner for the flame to act upon, instead of against the top of the inner tube as heretofore arranged.

2. Also the above described mode of sustaining and arranging the supports of the glass chimney, with respect to the tube I, and milled rim thereof by which, in connection with the other mechanism the wick is elevated and depressed; the ordinary kind of glass holder being thereby dispensed with and the wick raised and lowered without turning the chimney, or lamp glass; thus preventing the chimney from being smoked on one side, or, its interior surface, as often takes place in lamps, where it is supported upon a glass holder as ordinarily constructed; the whole of the above being substantially as hereinbefore explained.

In testimony that the foregoing is a correct specification of our said invention, we have hereto set our signatures this twenty-seventh day of June in the year of our Lord, 1844.

WINSLOW LEWIS.  
BENJAMIN HEMMENWAY.

Witnesses:

R. H. EDDY,  
DAVID A. GRANGER.