(No Model.)

L. J. ATWOOD & F. W. TOBEY.

ARGAND LAMP.

No. 454,247. Patented June 16, 1891.

Fig. 1.

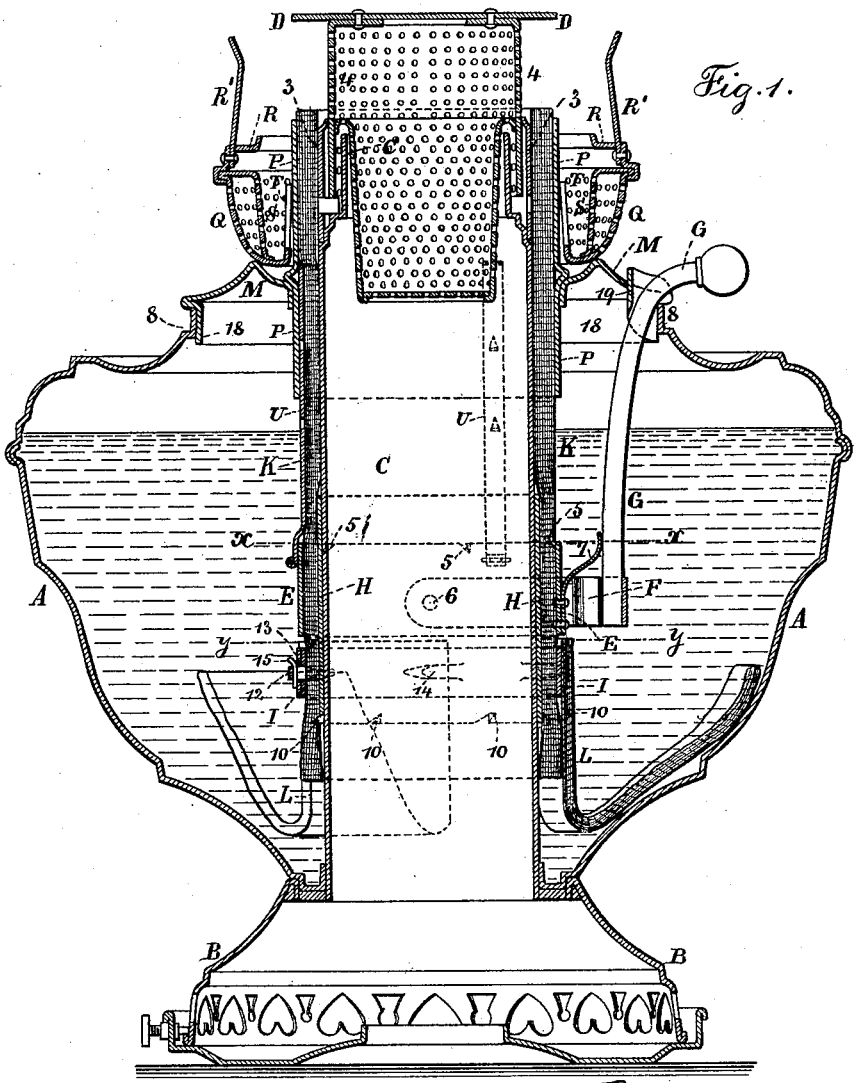


Fig. 2.

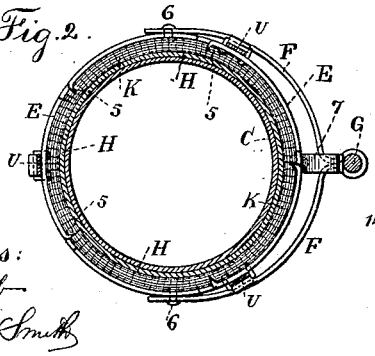
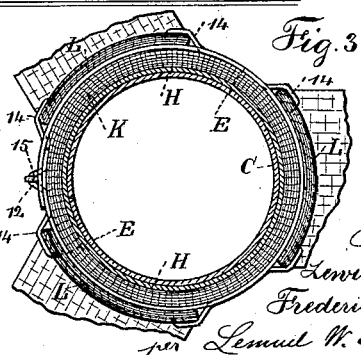


Fig. 3.



Witnesses:
J. Stait
Chas. H. Smith

Inventors:
Lewis J. Atwood
Frederick W. Tobey
per Lemuel W. Serrell
att'y

UNITED STATES PATENT OFFICE.

LEWIS J. ATWOOD AND FREDERICK W. TOBEY, OF WATERBURY, CONNECTICUT, ASSIGNORS TO THE PLUME & ATWOOD MANUFACTURING COMPANY, OF SAME PLACE.

ARGAND LAMP.

SPECIFICATION forming part of Letters Patent No. 454,247, dated June 16, 1891.

Application filed January 13, 1890. Serial No. 336,788. (No model.)

To all whom it may concern:

Be it known that we, LEWIS J. ATWOOD and FREDERICK W. TOBEY, citizens of the United States, residing at Waterbury, in the county of New Haven and State of Connecticut, have invented an Improvement in Argand Lamps, of which the following is a specification.

The present improvement relates to that class of Argand lamps in which the Argand wick is of a large diameter, and hence any inequality in the upper end thereof is very noticeable in the unequal burning of the flame.

In our present improvements the wick-raising devices are made as hereinafter described, so as to insure great uniformity in the raising and lowering of the wick.

In the drawings, Figure 1 is a vertical section of our improved lamp. Fig. 2 is a sectional plan at the line *x x*, and Fig. 3 is a similar view at the line *y y*.

The reservoir A is supported upon any suitable base or standard B, and the central air-tube C passes through the reservoir and is firmly fastened at the lower end, and at the upper end the air-tube is contracted and surrounded by a short cylinder 3, similar to that represented in application, Serial No. 305,941, filed April 4, 1889, by Lewis J. Atwood, and the deflector D, with the foraminous skirt 4, are also similar to those shown in the said application.

In order to raise and lower the wick-tube we make use of the band E of sheet metal adapted to surround the wick and having inwardly-projecting points 5 cut at the top edge of such band, so as to penetrate and hold the wick firmly in raising and lowering the same, and at opposite sides of this band are pivots 6, connecting with such band, the lifter F being in the form of a half circle or yoke, and this lifter receives at its outer part the rod G, that passes up above the top of the reservoir A and terminates, preferably, in a knob. A spring 7, between the lifter-rod G and the band E, tends to force the lifter-rod G outwardly against the rim 8 of the reservoir, thereby producing sufficient friction between this lifter-rod and the reservoir to prevent the wick falling by any concussion or movement to which the lamp may be exposed. As an additional guide to the wick, we prefer to make use of the sliding guide H in the form of a tube surrounding the air-tube C, but moving freely thereon, and of a sufficient length to allow the band E to surround such guide and also the clamping-band I to surround such guide H. It is preferable to make use of projecting points 10 at the lower end of the sliding guide H to connect with the bottom portion of the wick K in order that the wick may be placed within the band E and drawn through the same to the proper point, and then the wick be drawn over the sliding guide H until its lower end projects below sufficiently for the points 10 to enter the wick, after which the band I is wrapped around the wick and the ends thereof are interlocked, preferably, by having a projecting eye 12 on one end passing through a mortise 13 near the other end, after which a pin is inserted through the eye. In the clamping-band I there are projecting clamps 14 at a distance apart corresponding to the width of the flat wicks L, that become permanent or capillary feeders for the main wick K, these flat wicks L being placed between the clamps 14, and such clamps folded over, stuck into, and pressed down upon the flat wicks to hold them firmly to the band. When the wick K requires to be changed, the pin 15 can be withdrawn from the eye 12 and the clamping-band I and capillary wicks L removed and the lifter F and sliding guide H separated from the wick, and another wick introduced, as before described, and the clamping-band I, placed around the same. The wick K can be raised or lowered easily, and it is guided so reliably that the flame will not be made to burn unevenly by the raising and lowering operation, and when a fresh wick K is introduced the capillary wicks L, being separate and flat, are free to fold or turn outwardly in the lower part of the reservoir and not interfere with the wick K being carried down to its lowest point, and during the consumption of the wick the flat wicks L serve as capillary feeders to the wick K until the latter is consumed sufficiently to require replacing.

The upper end of the reservoir is closed by an annular collar M, having a rim or flange 18 passing down within the rim 8, and the rim and collar are notched for the passage of the lifter-rod G. In order to strengthen the parts at this point it is preferable to introduce a trough-shaped piece of sheet metal 19 at the notch and of a size adapted to receive the rod G, which trough-shaped strip is to be secured in place. Around the wick and connected to the collar M is the wick-tube P, that rises above the reservoir to the same level, or nearly so, as the top of the air-tube C, and around such wick-tube is the foraminous air-distributer Q, that rises sufficiently high to form or be connected with the chimney-rest R, having around it the vertical chimney-springs R'.

There is a secondary air-distributer S within the air-distributer Q to lessen the risk of the flame being interfered with by external currents of air, and these air-distributers and chimney-rest are removable from the wick-tube P, the lower ends of the air-distributers resting upon the collar M. There is also a tubular spring-guide T surrounding the wick-tube P and connected at its lower end with the base of the air-distributers, so that these parts may be easily removed from the wick-tube or replaced upon the same, as required from time to time. The glass chimney for this lamp is of ordinary character.

We find that in some instances the parts become bent so that the wick-tube P is not parallel with the air-tube C, the annular space being wider at one side than the other, and the wick, being of spongy or yielding material, is exposed to unequal friction as it is raised and lowered, and sometimes it springs or bulges outwardly between the lower end of the wick-tube P and the upper edge of the wick-raiser band E. We prevent this by the guide-strips U, hinged at their lower ends to the upper part of the band E and having claws upon their upper ends that penetrate the wick, and the length of these guide-strips is such that their upper ends cannot pass out from below the lower end of the wick-tube when the band E is at its extreme downward movement. Hence these guide-strips lift the wick at the portion that is within the wick-tube, and there is no possibility of lateral bulging or inequality of movement as the wick is raised and lowered.

We do not herein claim any of the separate parts, as our improvements relate to the combination of devices, as hereinafter set forth, and we do not herein claim lifting-claws outside the wick and passing within the wick-tube when these are made use of in connection with a screw-thimble for raising and lowering the wick, as these are set forth in our application No. 316,661, filed July 6, 1889.

We claim as our invention—

1. The combination, with the stationary wick-tube surrounding the cylindrical wick, and the air-tube within such wick, of a lifter, a band around the wick connected with the lifter, and guide-strips connected at their lower end to the band and extending up within the wick-tube and provided with projections entering the wick, substantially as specified.

2. The combination, in an Argand lamp, of the band E, surrounding the wick and having points or teeth to pass into the same, the forked lifter F, passing half around the band E, and the pivots connecting the band and the lifter, the rod G, connected to the lifter and passing up above the top of the reservoir, and a spring applied to the rod for insuring a frictional contact thereof with the reservoir for holding the parts of the wick in position, substantially as set forth.

Signed by us this 7th day of January, 1890.

LEWIS J. ATWOOD.
FRED W. TOBEY.

Witnesses:
R. T. LATHIN,
JOHN H. HURLBUT.