

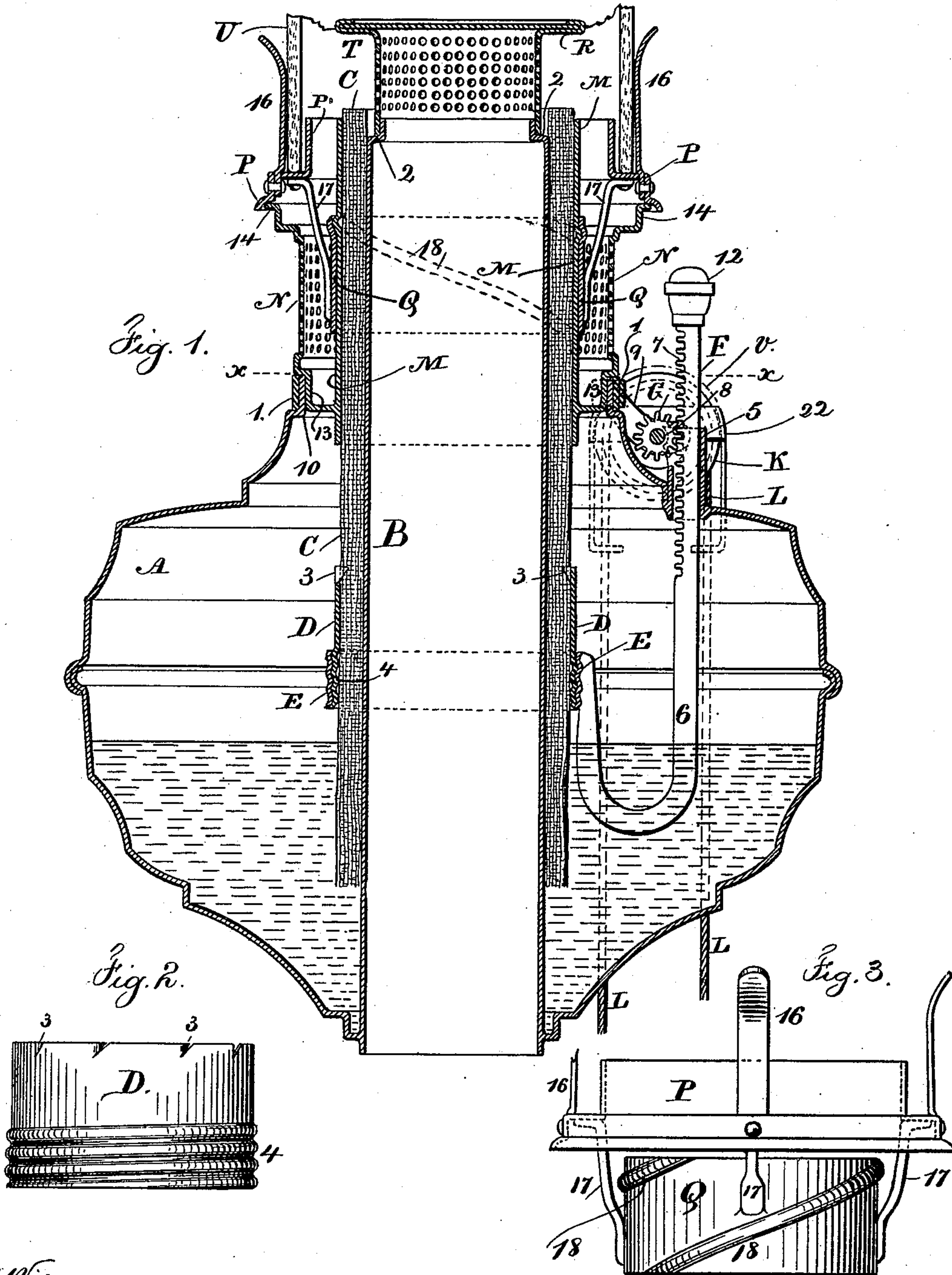
(No Model.)

2 Sheets—Sheet 1.

L. J. ATWOOD.
ARGAND LAMP.

No. 400,819.

Patented Apr. 2, 1889.



Witnesses,

Chas H. Smith
J. Staib

Inventor

Lewis J. Atwood
per Lemuel W. Ferrell atty

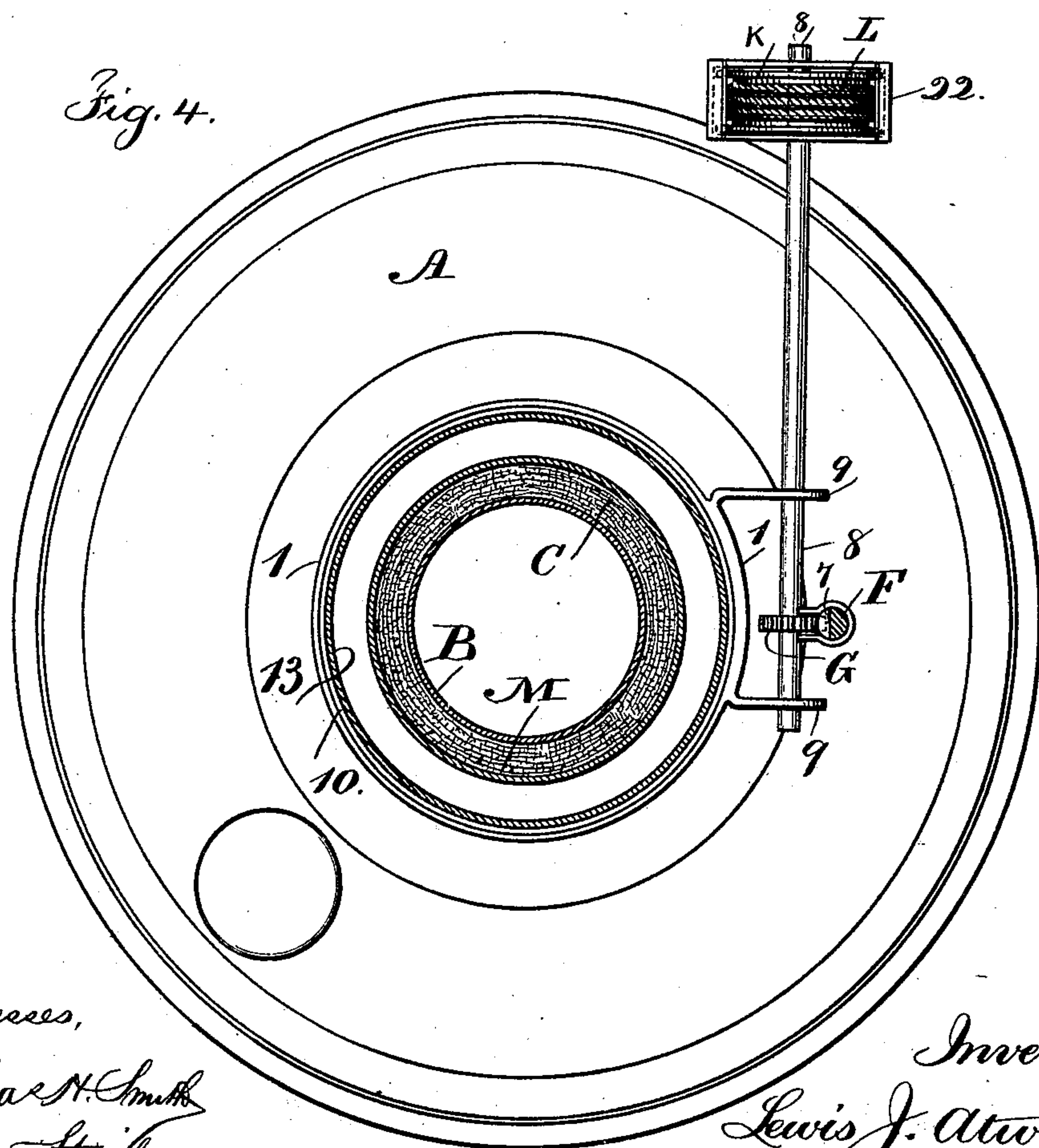
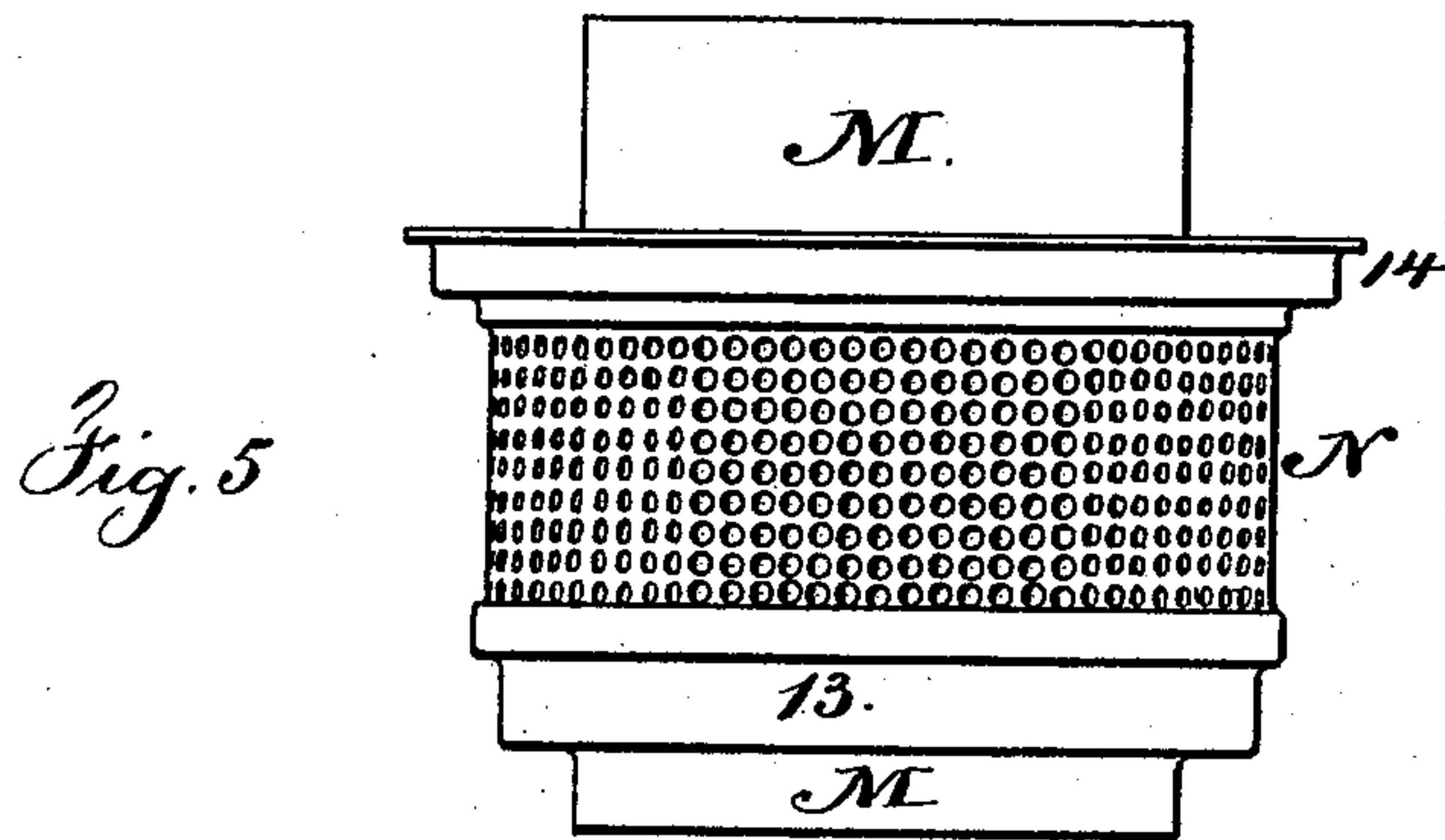
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UNITED STATES PATENT OFFICE.

LEWIS J. ATWOOD, OF WATERBURY, CONNECTICUT, ASSIGNOR TO THE
PLUME & ATWOOD MANUFACTURING COMPANY, OF SAME PLACE.

ARGAND LAMP.

SPECIFICATION forming part of Letters Patent No. 400,819, dated April 2, 1889.

Application filed January 6, 1888. Serial No. 259,990. (No model.)

To all whom it may concern:

Be it known that I, LEWIS J. ATWOOD, of 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.

My present invention is especially adapted to Argand lamps in which the air-tube passes entirely through the fount or reservoir, the cylindrical wick being of large dimensions. Lamps of this character are very frequently made use of in chandeliers or in public audience-rooms, where there is difficulty in lighting and in regulating the height of the flame.

My improvement relates to the combinations of devices, as hereinafter set forth, for giving access to the wick for lighting the same and for easily raising or lowering the wick, especially from below the lamp.

In the drawings, Figure 1 is a vertical section of my improvement. Fig. 2 is a detached view of the wick-holding collar and ring. Fig. 3 is an elevation of the sleeve at the upper end of the wick-tube and of the chimney-holder. Fig. 4 is a sectional plan below the line $x x$, Fig. 1; and Fig. 5 is an elevation of the foraminous air-distributor and wick-tube.

The reservoir or fount A is of usual construction, and the central air-tube, B, passes vertically through the same, and it is tightly united at the lower end with the said reservoir. This air-tube is of thin sheet metal.

To prevent the oil running down the interior of the air-tube by capillary action, I contract the upper end of the air-tube B to form an annular offset or shoulder, 2, just below the upper end of the wick, so that the upper edge of the sheet metal is at a little distance away from the wick itself, and any oil that may remain in the annular offset will return into the reservoir by the wick and not overflow into the air-tube. The wick C is cylindrical, and around the same, near the lower end thereof, is a sheet-metal wick-holder, D, having prongs or teeth 3, that penetrate and hold the wick, and also a screw-thread, 4, formed in the sheet metal of the wick-holder. The wick-raiser F is a rod passing through a guide-tube, 5, in the upper part of the reservoir A, and having at the lower end a leg, 6, that extends to the screw-ring E, and to which it is firmly fastened, and this screw-ring E is of a size to receive the screw portion

4 of the wick-holder D. By this construction I am able to unscrew the wick-holder D and remove the same, together with the wick, from the lamp with facility, and then to enter a new wick into the holder D and pass the same over the central air-tube and down within the screw-ring E, and then connect such ring E and the wick-holder by screwing the latter into the former. This makes a reliable connection and one that supports the wick with uniformity all around its periphery.

Upon the wick-raiser F there are rack-teeth 7, and the pinion G gears into such rack-teeth for raising and lowering the wick-raiser and wick, and there is a shaft, 8, for such wick-raising pinion G, and 9 are bearings for supporting such shaft. These bearings are in the form of arms that extend out from the ring 1, that surrounds the upper edge or rim, 10, of the reservoir A. By making this ring removable from the rim 10, I am able to facilitate the construction of the parts and the cleaning of the lamp, and besides this, where the lamp is supported by a stand upon a table, the ring I may be lifted off the rim 10 and the pinion G removed, so that the wick will be raised or lowered to regulate the flame by the thumb and finger applied directly to the head 12 of the wick-raiser F.

As before mentioned, this lamp is especially adapted to chandeliers and brackets where the lamp is in an elevated position, and to allow for turning the pinion G and shaft 8 when too high to be reached with convenience I place upon the shaft 8 a spool, K, around which a cord, L, is wound in opposite directions and attached at a convenient place upon such spool, so that the ends of such cord, hanging down at opposite sides, can be pulled upon to rotate the shaft 8 and pinion G in one direction or the other and raise or lower the wick-raiser F and wick. This cord L is to be of any suitable length.

Around the outside of the wick C is the wick-tube M, having a base, 13, that passes within the rim 10 of the reservoir A, so that this wick-tube and the parts connected therewith can be lifted out from the reservoir to give access to the parts in introducing or removing the wick. Above the ring 13 is the foraminous air-distributor N, preferably of sheet metal, and upon its flanged upper end, 14, a chimney-holder, P, rests, which chimney-

holder is usually provided with springs 16. In order, however, to support this chimney-holder and provide for raising and lowering the same, together with the chimney, I make use of arms 17, that extend from the chimney-holder to the sleeve Q around the wick-tube, and there are inclines 18 for raising or lowering the chimney-holder and chimney by a partial rotation of the same. These inclines 18, I prefer to make in the form of screw-threads upon the wick-tube and sleeve, respectively, the screw-threads upon the wick-tube being pressed outwardly in the form of hollow ribs and the screw-threads upon the sleeve Q fitting the same, and it is preferable to make two, three, or four of these inclines around the wick-tube and sleeve, respectively, so that the lifting action will be uniform as the chimney-holder is rotated. A match can be introduced and applied to the top of the wick when the chimney-holder is thus raised.

Slots in the sleeve might take the place of the inclined ribs bent up in the sheet metal; but I prefer the sheet-metal screw-threads.

Instead of the screw-threads being in the wick-tube M, they may be in a ring secured to said wick-tube.

The deflector R is in the form of a disk having a perforated skirt, T, below said deflector R, and the lower end of this skirt rests upon the offset 2 of the air-tube. This skirt is smaller than the exterior diameter of the air-tube, so that there is an annular space between the exterior of the skirt and the interior of the wick to prevent contact of the wick therewith, and the air passes through the perforations in the skirt against the interior surface of the flame, and thereby the perforated skirt becomes an air-regulator.

The chimney U is of ordinary character, and is usually made with a bulb.

In order to prevent the cord L slipping off the spool K, it is preferable to introduce a guide, 22, having hanging eyes through which the cord L passes, the central portion of such guide being made with eyes through which the shaft 8 passes, and said guide may be in the form of a strap open at the top, as shown by full lines in Figs. 1 and 4, or it may be a shell with the top closed, as illustrated by the dotted line v, Fig. 1.

It is preferable to employ the strap-guide shown by full lines, as it does not interfere with the fingers and thumb being used to rotate the spool and wick-raiser, when more convenient to do so, instead of pulling on the cord.

I claim as my invention—

1. The combination, with an Argand wick-tube and central air-tube and reservoir, of a wick-holder having a screw-thread upon the same, a screw-ring into which the wick-holder screws, and a rod connected with the screw-ring and passing up through the upper part of the reservoir, substantially as set forth.

2. The combination, with the wick-holder

and reservoir, and wick-raiser having rack-teeth upon it, of the shaft and pinion gearing into the wick-raiser, a ring, 1, surrounding the rim 10 of the reservoir, and bearing-arms 9, extending out from the ring to receive the wick-raiser shaft 8, substantially as set forth.

3. The combination, with an Argand wick-tube, of a reservoir and a central sheet-metal air-tube, said air-tube at its upper end being contracted circumferentially and formed with a two-part right-angle bend of greater width than the thickness of the metal of the air-tube, thereby forming an annular offset or shoulder, 2, and a cavity between the end of the wick and the air-tube, also of greater width than the thickness of the metal of the air-tube to receive overflowing oil and prevent it passing down inside the air-tube, substantially as specified.

4. The combination, with the reservoir, air-tube, and Argand wick, of the wick-tube around the wick, having screw-threads in the upper portion thereof, a chimney-holder, a sleeve around the wick-tube adapted to fit upon the screw-threads thereof, and connections from the sleeve to the chimney-holder, substantially as set forth.

5. The combination, with the Argand wick-tube and chimney-holder, of a base, 13, resting upon the upper end of the reservoir, and an air-distributor above the same, the chimney-holder resting upon the upper end of the air-distributor when the lamp is in use, a sleeve around the wick-tube having inclines for lifting the chimney-holder by a rotary movement, and connections from the sleeve to the chimney-holder, substantially as set forth.

6. The combination, with the air-tube B and an offset, 2, of greater width than the thickness of the metal of the air-tube and forming an annular shoulder at the upper edge of the same, of a foraminous skirt closed at the upper end and forming an air-regulator, and adapted to rest upon the annular shoulder, a space consequent upon the offset and of greater width than the thickness of the walls of the foraminous skirt being formed between the said skirt and the wick, substantially as set forth.

7. The combination, with the wick raiser or holder, the rack and pinion, and pinion-shaft, of a spool upon the pinion-shaft and a cord passing around the same, a guide or strap, 22, surrounding the spool and serving to prevent the cord slipping off, and hanging-eyes connected to said guide or strap and through which the cord passes, the ends of said cord hanging down, so that the wick-raiser can be actuated by pulling upon the cord, substantially as specified.

Signed by me this 29th day of December, 1887.

Witnesses: LEWIS J. ATWOOD.
GEO. T. PINCKNEY,
WILLIAM G. MOTT.