(No Model.)

L. J. ATWOOD.

WICK RAISER FOR LAMPS.

No. 538,476. Patented Apr. 30, 1895.

Fig. 2.

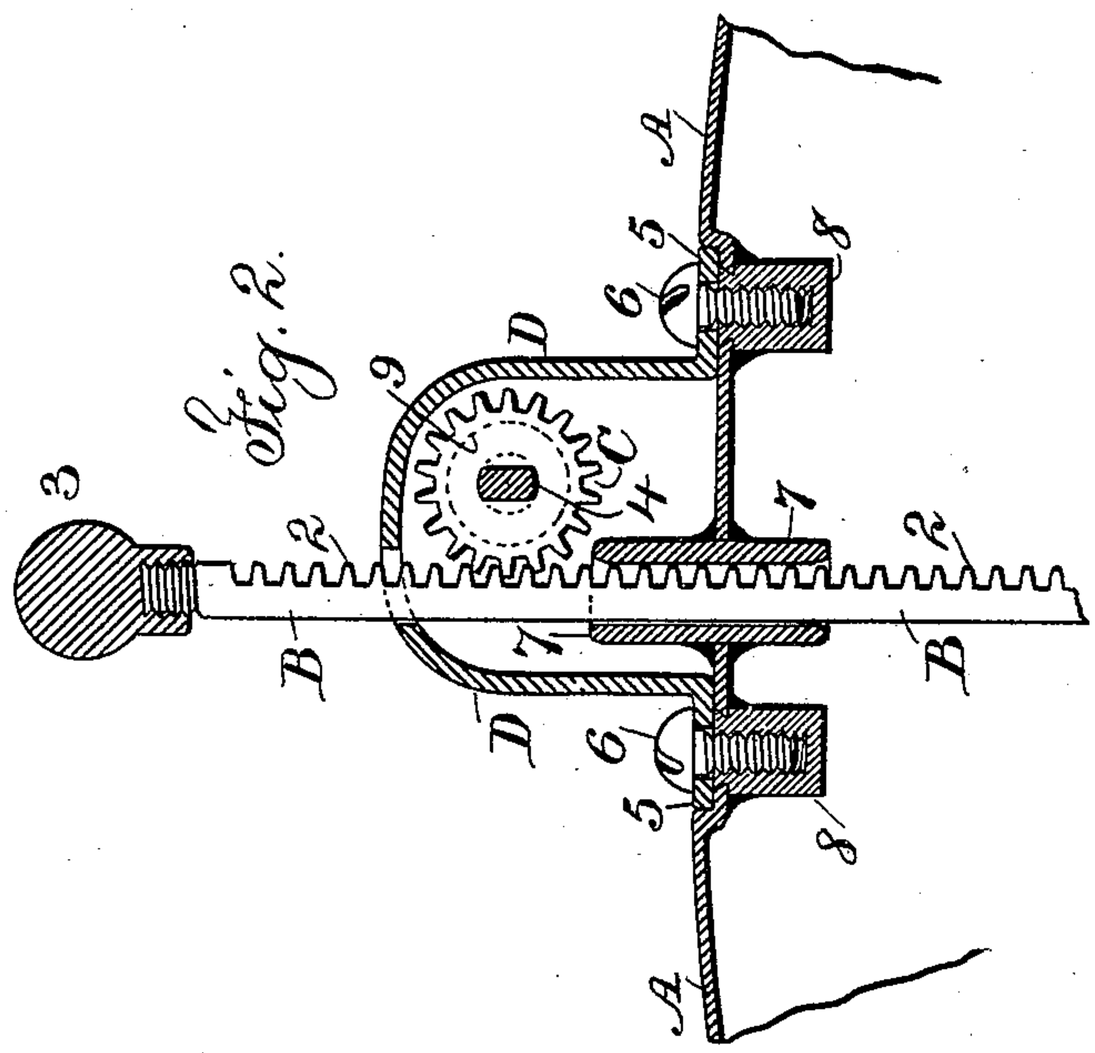


Fig. 3.

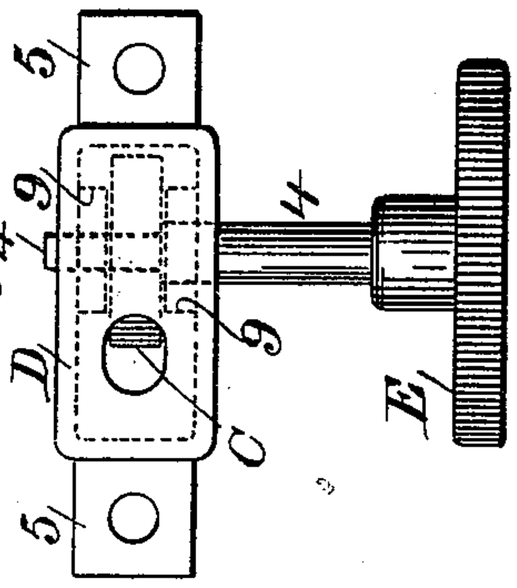
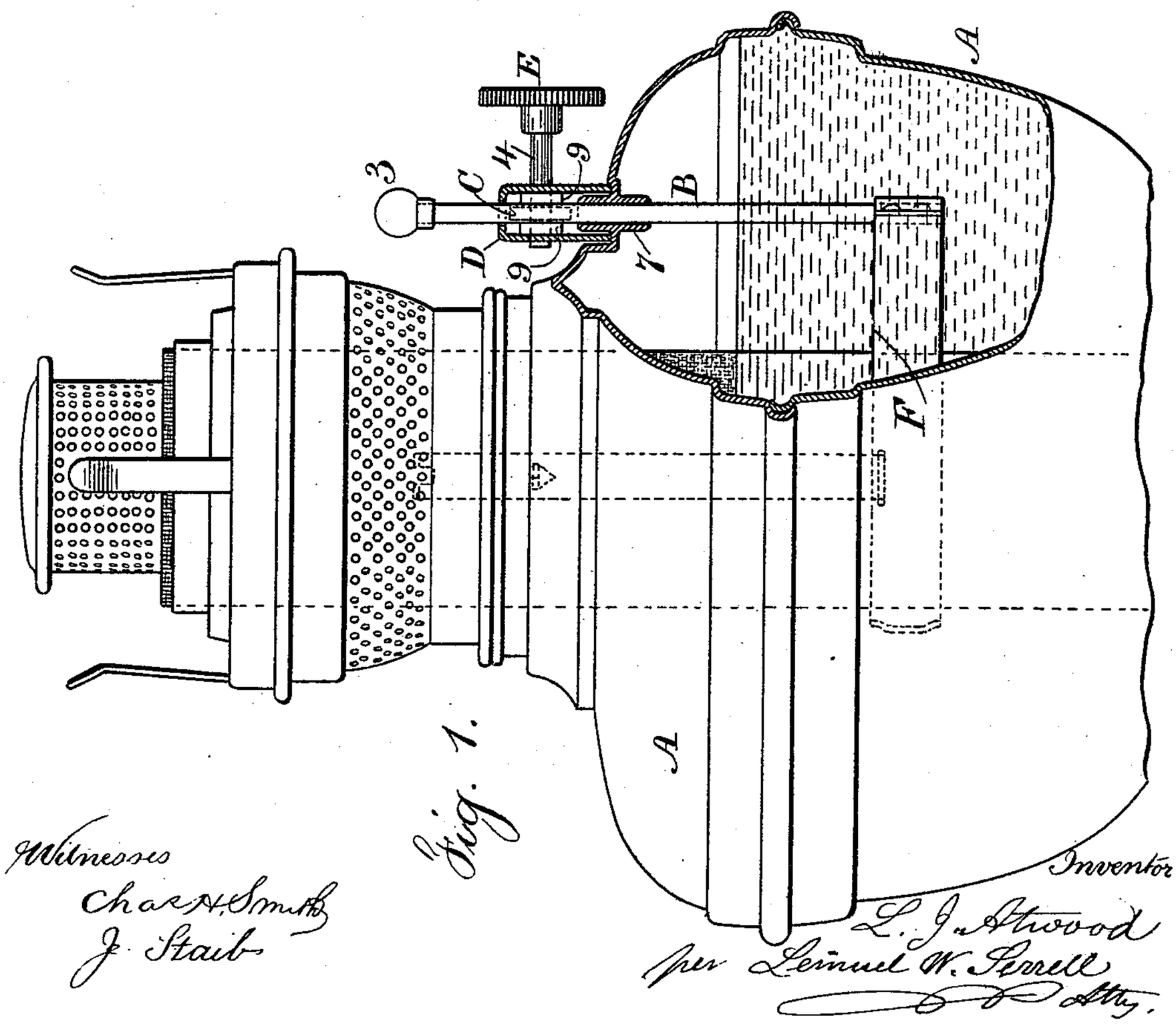


Fig. 1.



Witnesses
Chas. A. Smith
J. Staib

Inventor
L. J. Atwood
per Lemuel W. Serrell
Atty.

UNITED STATES PATENT OFFICE.

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

WICK-RAISER FOR LAMPS.

SPECIFICATION forming part of Letters Patent No. 538,476, dated April 30, 1895.

Application filed November 13, 1893. Serial No. 490,738. (No model.)

To all whom it may concern:

Be it known that I, LEWIS J. ATWOOD, a citizen of the United States, residing at Waterbury, in the county of New Haven and State of Connecticut, have invented an Improvement in Wick-Raisers for Lamps, of which the following is a specification.

In Letters Patent No. 400,819, granted to me April 2, 1889, a lamp is represented in which the wick raising device is formed of a wire bent at the lower end and connected with the wick holding band and passing vertically at the other end through the lamp reservoir and provided with rack teeth, and there is a pinion held between jaws and acting upon the rack teeth to raise or lower the wick.

The present invention is a modification of and improvement upon my aforesaid device and relates to the combination of devices hereinafter set forth and claimed.

In lamps that have heretofore been made in which the wick raising rack extends up through the top of the reservoir and is acted upon by a pinion, difficulty has been experienced in consequence of the projecting parts that carry the pinion interfering with the proper polishing of the top surface of the reservoir, and the jaws or projecting arms that carry the axis of the pinion are liable to be bent and injured by contact with the buffing wheel, and should these arms be soldered on or otherwise secured after the reservoir has been polished, the surface of the metal would be injured and its appearance marred. In my present invention these difficulties are overcome and I am enabled to polish the separate parts and put them together after they have been polished, and my devices are much stronger and more durable than those heretofore made use of.

In the drawings, Figure 1 is a partial section of the reservoir representing the present improvement. Fig. 2 is a section through the pinion-case on an enlarged scale. Fig. 3 is a detached plan of the pinion-case, showing the pinion in its position, the parts being detached from the rack.

The reservoir A is to be of any desired size and character and the present improvement is especially available with a cylindrical or Argand lamp.

B is the wick raising rod that is connected at its lower end with a band F or other device for holding the cylindrical wick, and upon the upper portion of the wick raising rod, teeth are cut forming a rack 2 and this rack passes up through a hole in the top portion of the lamp reservoir A and it is provided with a removable head or button 3 preferably screwed on.

The pinion C engages the rack teeth 2 and it is upon a shaft 4 that passes through the pinion case D which is provided with flanges 5 receiving through them the connecting screws 6.

If the before mentioned parts only were made use of there would be a risk of leakage through the top of the reservoir and also difficulty would be experienced in connecting the flanges 5 by the screws 6 to the thin sheet metal of the reservoir. These difficulties are obviated as follows: The guide tube 7 is adapted to fit closely around the rack 2 and it passes through the top of the reservoir and is soldered permanently in place, and the upper end of this guide tube is adjacent to the lower side of the pinion C, and this guide tube lessens the risk of leakage around the rack 2 because it fits such rack 2 closely but without unnecessary friction, and in order to prevent leakage around the screws 6 and at the same time to prevent the parts becoming detached should the lamp become hot, I make use of the nut sockets 8, the screw-threaded holes in which do not extend all through the nut and hence oil is excluded from entering the lower end of the screw-threaded hole in either socket, and the upper ends of the nut sockets are reduced in diameter so as to pass through holes in the sheet metal of the reservoir, and the upper ends of the nut sockets are spread outwardly in a manner similar to a rivet or an eyelet, so that the nut sockets are firmly connected with the sheet metal of the reservoir, and it is also advantageous to employ solder around the nut sockets and between the same and the sheet metal of the reservoir to more firmly connect such sockets

to the reservoir at their upper ends, but in consequence of the construction before described the nut sockets will be reliably held in place even in cases where the solder may have become melted by excessive heat.

A thumb wheel E is provided at the outer end of the shaft 4 so that such shaft can be rotated together with the pinion in raising and lowering the wick in the most reliable manner, and it is advantageous to punch in the pinion a square or elongated hole and to flatten the shaft 4 at the place where it passes through the pinion, so that the pinion can be put into the case D and then the shaft 4 driven through the case and through the pinion and hold the same reliably but by the frictional contact of the surfaces; and it is advantageous to make use of washers 9 between the ends of the pinion and the interior surfaces of the case D, and by soldering these washers 9 in position they form reliable bearings for the shaft 4 of the pinion and the parts are not liable to wear out with rapidity.

It is usually advantageous to flatten the surface of the reservoir adjacent to the nut sockets 8 so that the flanges 5 of the pinion case D will bear properly upon the reservoir when the parts are screwed together, and the pinion case and rack can be entirely disconnected from the lamp while the polishing operation is in progress and there is nothing that will be injured by such polishing operation and the parts can be put together after the lamp has been polished and lacquered.

I claim as my invention—

1. The combination with the lamp reservoir and the wick raising rack, of a guide through which the rack passes, a removable pinion case and screws for fastening the same to the reservoir, a pinion within the pinion case, a thumb wheel and shaft passing through the pinion case and pinion whereby the pinion case and pinion and the rack can be removed for allowing the surface of the reservoir to be polished and finished and then the parts applied in position for use, substantially as set forth.

2. The combination with the wick raiser rack and the lamp reservoir, of a pinion case having projecting flanges, a pinion, and its shaft passing through the case and through the pinion, nut sockets with screw-threaded holes closed at their lower ends and reduced at the upper ends and fastened to the sheet metal of the reservoir by the upper ends being spread outwardly, and screws passing through the end flanges of the case and into the nut sockets, substantially as set forth.

3. The combination with the lamp reservoir and the wick raising rack, of a guide tube on the reservoir through which the rack passes, a removable pinion case and screws for fastening the same to the reservoir, a pinion within the pinion case, a thumb wheel, and a shaft passing through the pinion case and pinion, and a removable head to the rack, whereby the pinion case and pinion and the rack can be removed for allowing the surface of the reservoir to be polished and finished and then the parts applied in position for use, substantially as set forth.

Signed by me this 9th day of November, 1893.

LEWIS J. ATWOOD.

Witnesses:
J. H. HURLBUT,
I. L. ATWOOD.