

H. J. HARWOOD.

Coal Oil Lamp.

No. 44,800.

Patented Oct. 25, 1864.

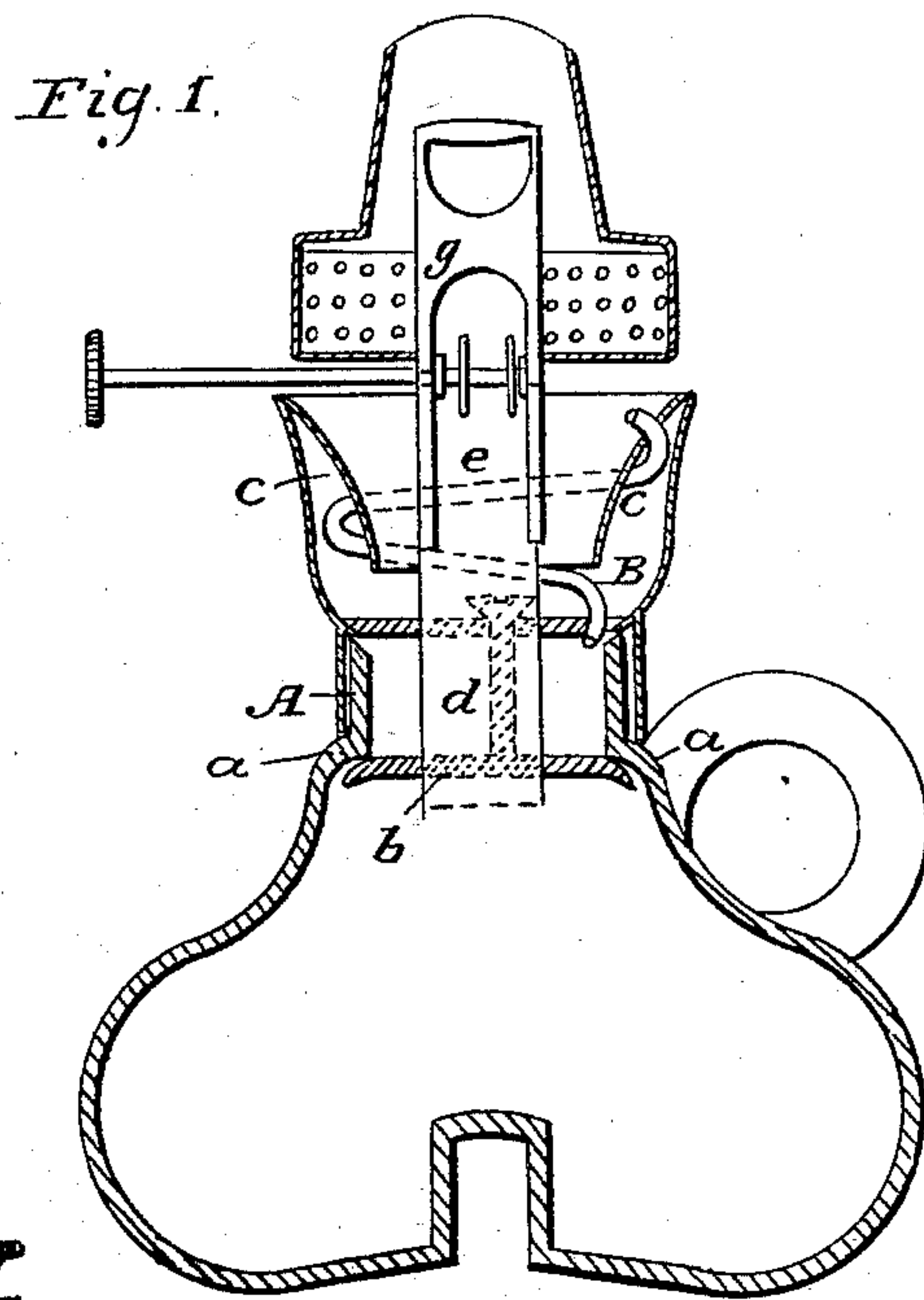


Fig. 2.

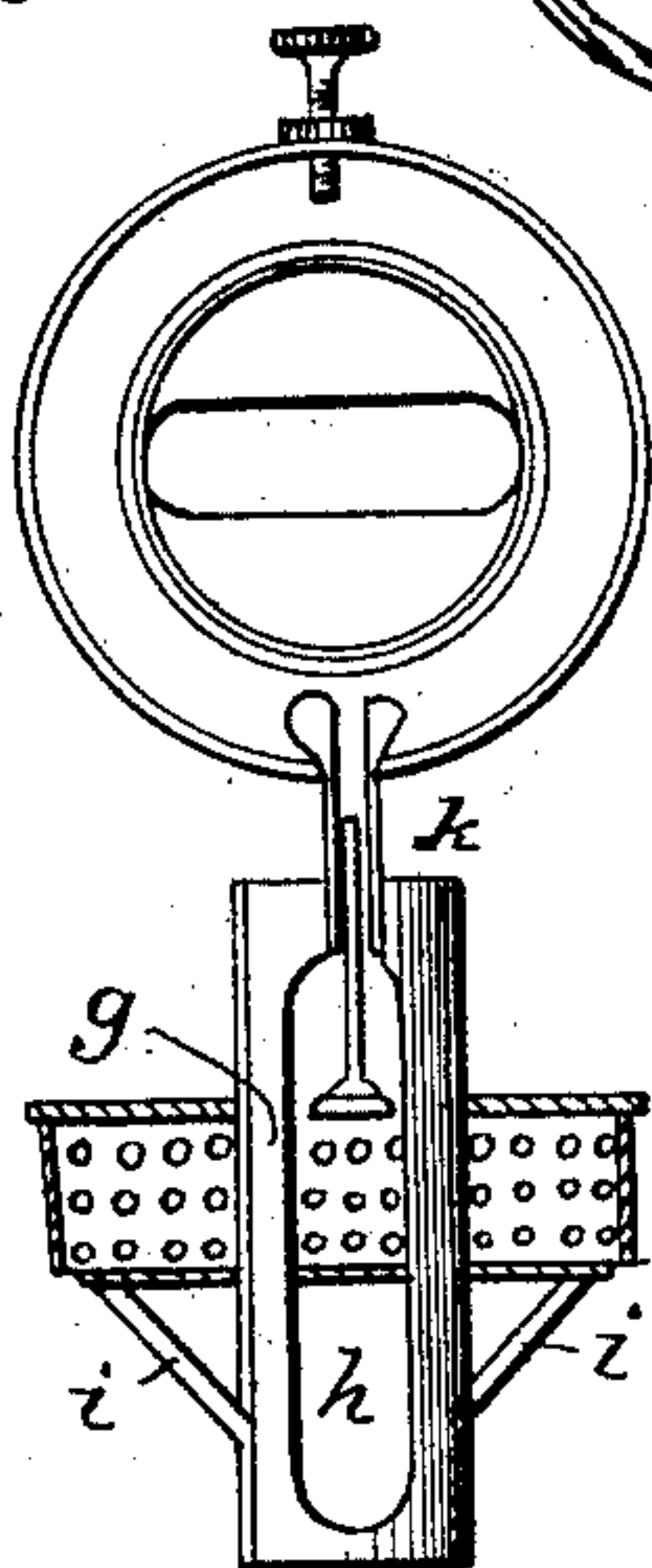


Fig. 3.

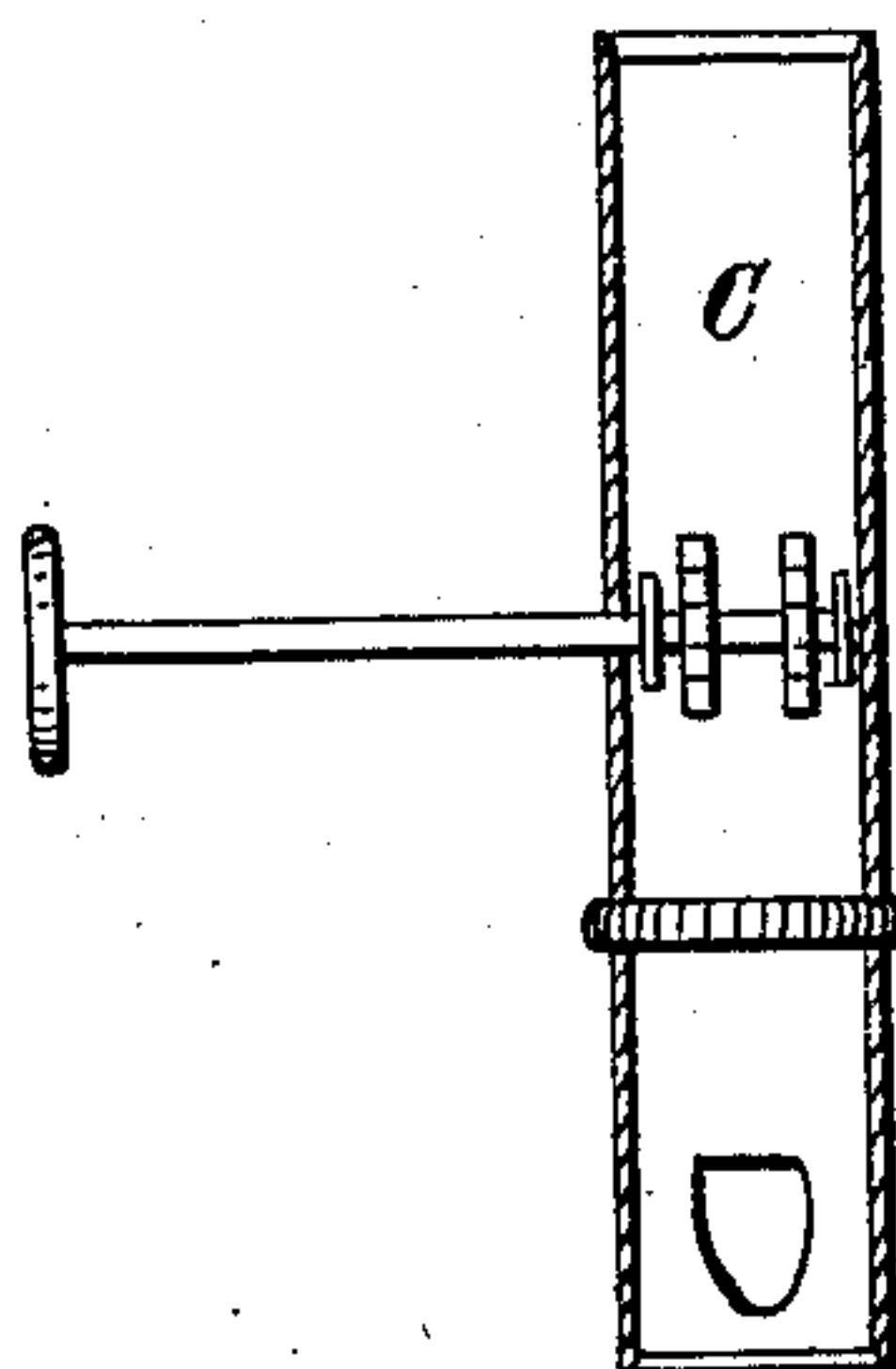
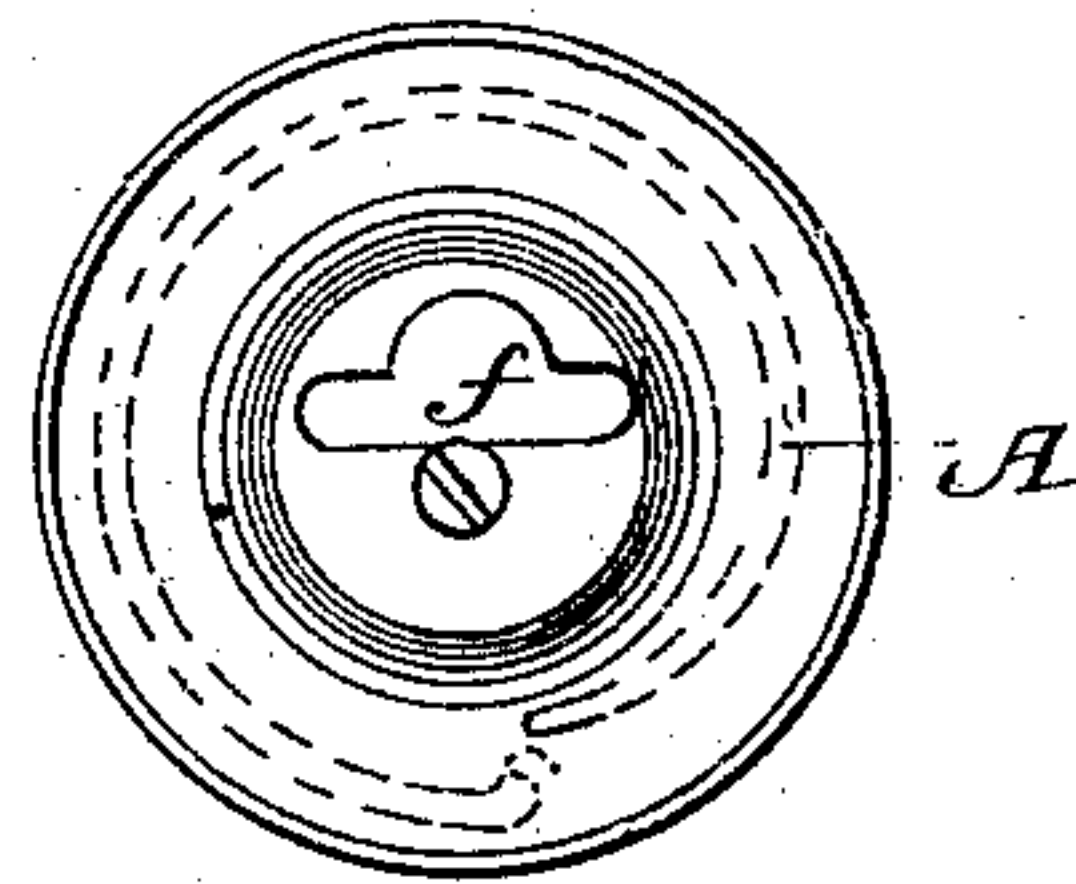


Fig. 4.



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UNITED STATES PATENT OFFICE.

HARVEY J. HARWOOD, OF UTICA, NEW YORK.

IMPROVEMENT IN COAL-OIL LAMPS.

Specification forming part of Letters Patent No. 44,800, dated October 25, 1861.

To all whom it may concern :

Be it known that I, HARVEY J. HARWOOD, of the city of Utica, in Oneida county, State of New York, have made new and useful Improvements in Coal Oil Lamps; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters marked thereon.

The nature of my invention consists in making a lamp for burning coal-oil that can be used with or without a chimney, in such manner that the chimney and cone can be removed and put on while burning, without extinguishing the flame, and thereby adapting the lamp for lanterns or hand use, or when used in the hand prevent the extinguishment of its flame when moving in a current of air, and also preventing the leakage or bubbling over of the oil while filling the lamp or when turned partially over in use.

To enable others skilled in the art to make and use my invention, I will proceed to more fully describe its construction and operation.

Figure 1 shows a section of a full-mounted lamp. Fig. 2 shows the slide, clasp, and cone to be attached to the wick-tube and hold the chimney to the lamp. Fig. 3 shows the lamp-tube for the wick detached. Fig. 4 is a vertical or top view of the receiving chamber and shows the ventilating-tube in dotted lines.

In practice it has been ascertained that while filling oil-lamps, owing to a want of proper ventilation, that the oil will bubble over from the effect of escaping air from the oil-chamber, and besmear the outside of the lamp and hands, and frequently objects near by, which, to say the least, is very unpleasant, and if it be coal-oil then it is far more objectionable on account of the odor, which to many is very offensive.

It is also a well-known fact that when persons wish to carry a coal lamp lighted, that in passing up or down staircases rapidly, or from one room to another, where sudden currents of air meet, the lamp is easily extinguished.

It is also an unpleasant operation to remove the chimney while the lamp is burning, or while hot with the flame extinguished, as lamps are now constructed.

It is desirable to obviate these difficulties, and I believe that by my improvement I have fully overcome these defects in lamps.

I construct my lamp in any desirable form, with a flat top cap, A, Fig. 1, the lamp having a ledge, *a*, Fig. 1. I also have a clamp-plate, *b*, Fig. 1, fitting under the ledge *a*, the object being to secure the mountings of the lamp firmly. I also use a receiving chamber, B, Fig. 1, with a flat bottom that fits to the surface of the cap A. This receiving-chamber has a curtain or drop-flange, *c*, Fig. 1, whereby I form a chamber to hold the oil that may run out of the oil-hole when the lamp is turned on its side. The receiving-chamber is secured to the cap A by means of the screw *d*, Fig. 1, and the clamp plate *b*. In order to secure a tight joint between the cap and chamber, I use tinfoil or other soft-metal packing, and draw the parts firmly down by means of the clamp and screw.

Inside the receiving-chamber I insert a spiral tube, *e*, one end passing down through the bottom of the chamber and cap connecting with the upper part of the lamp, the other coming through the curtain of the receiving-chamber, its end turned to the center above the curtain. This tube is to ventilate the lamp and allow the free egress of air when the lamp is being filled. I use it in spiral form to prevent the oil from escaping when the lamp is turned down, and turn the upper end in toward the center so as to catch any particles of oil that may be forced out with the air or gas when the lamp is being filled.

Through the bottom of the receiving-chamber and cap I make a hole, *f*, Fig. 4, for the wick-tube C, Fig. 3, and also for a feed-hole for the oil to pass into the lamp. The wick-tube is made to fit in this hole and retained at its proper height by a stop, and can be taken out with facility for any purpose desired. If at any time it is desirable to clean the lamp, the whole mounting can be taken off the lamp by turning out the screw that holds them to the lamp and easily replaced.

Fig. 2 represents the cone turned over, and hinge by which it is connected to the base, and the slide-tube I use to hold the cam and chimney on the lamp.

The slide-tube *g*, Fig. 2, I make with an open face, *h*, Fig. 2. The opening or slot should extend above and below the closed part of the back of the tube so that when it is put on over the wick-tube while burning, or taken off, there will be a space for the flame

to come in contact with the air. It is by this means I prevent the lamp from being extinguished in removing the cone and chimney. A further advantage of this arrangement is the ease by which I can remove the chimney from a hand-lamp and use it in a lantern, or, if it is desirable to run round from one room to another or in the open air. If we do either of the last with a chimney on, or even with the cone alone, the lamp is easily blown out, but by taking off the cone and chimney the wick may be raised quite high, if necessary, and the lamp can be carried with as much certainty as a torch, and at any moment the cone and chimney can be replaced by sliding on the false tube over the wick-tube, and all is secure in a moment.

The slide or false tube *g* is secured to the base of the cone by means of braces *i i*, Fig. 2, and to the cone by means of the hinge *k*, Fig. 1. By conjoining the cone, chimney, and base

to the slide or false tube, and having it fitted to slip on the wick-tube, I hold it secure, and at the same time it is as easily detached as to pick it off a table.

Having thus fully described my invention, what I claim as my invention, and desire to secure by Letters Patent, is—

1. The spiral ventilator, as constructed and described.

2. The arrangement of the additional sliding tube, as described, so as to be detached readily to change the lamp by the removal of the outer tube, as set forth.

3. The arrangement of the curtain-chamber in combination with the spiral ventilator, to secure the lamp against dripping oil when turned upon the side

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Witnesses:

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