

W. B. CURTIS.
WICK ADJUSTER FOR ARGAND LAMP BURNERS
No. 103,993.
Patented June 7, 1870.

Fig. 1.

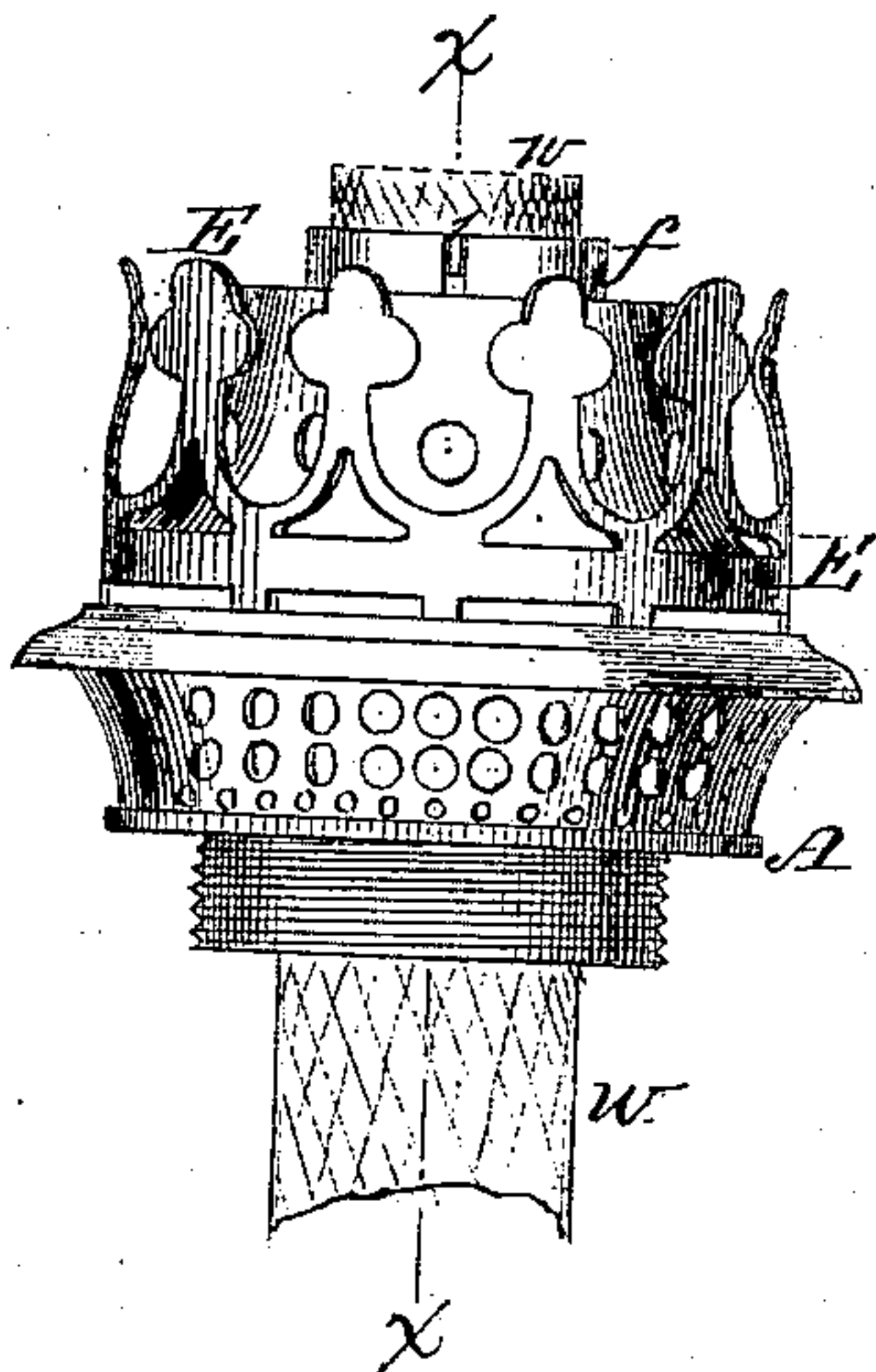


Fig. 2.

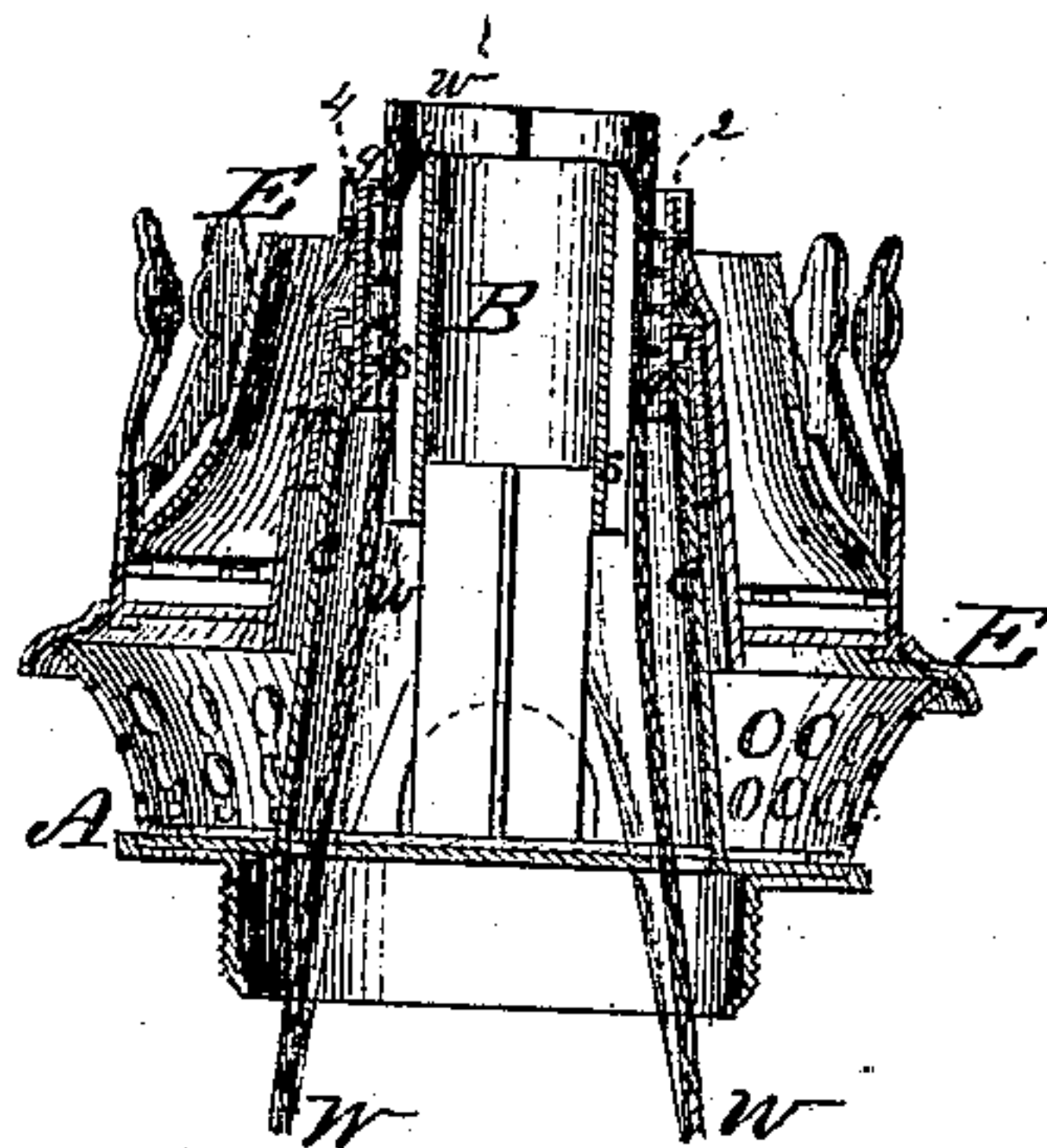


Fig. 3.

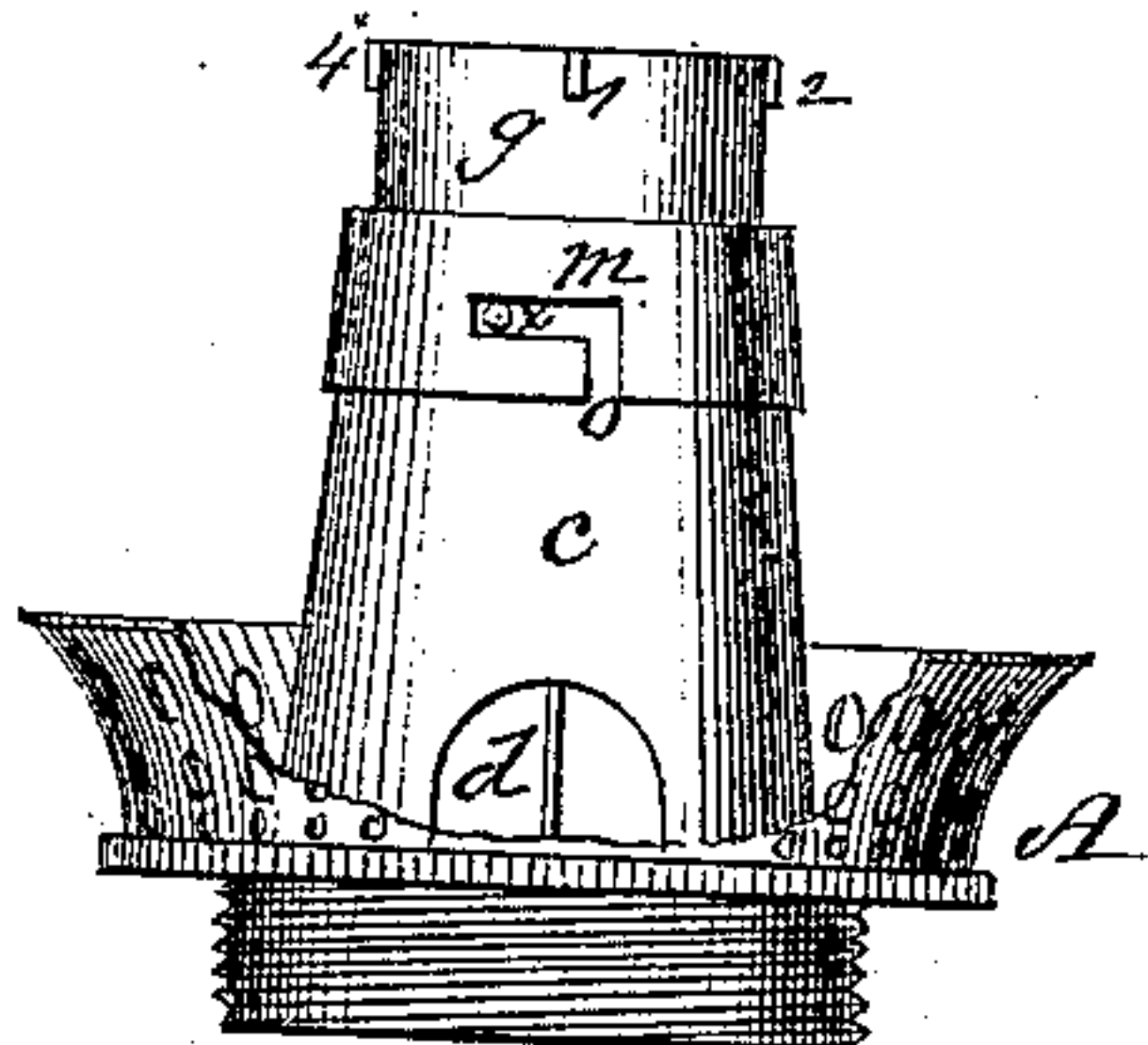


Fig. 4.

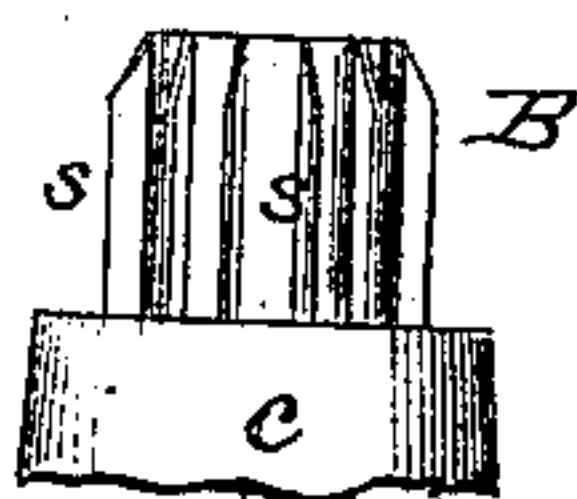


Fig. 5.

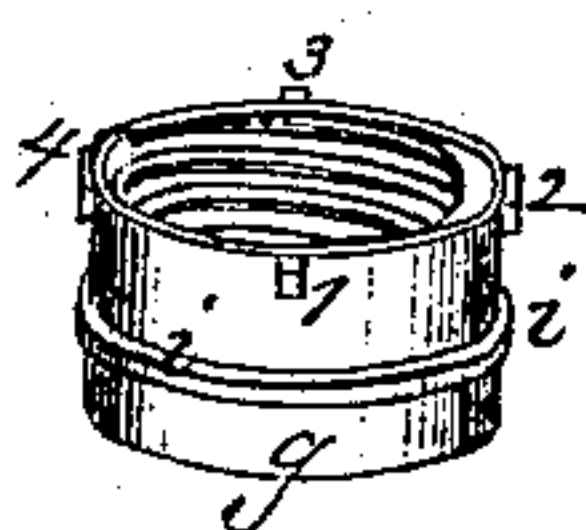
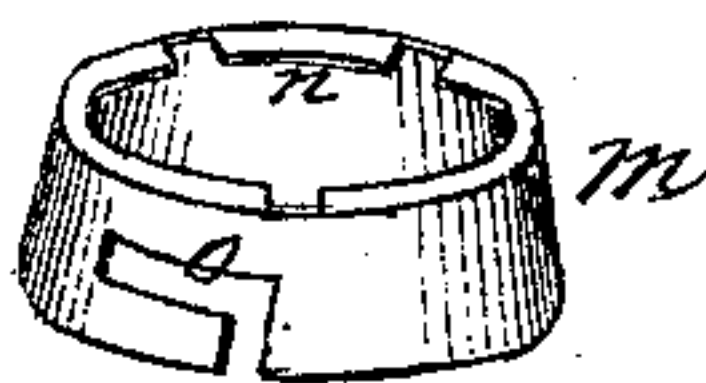


Fig. 6.



Witnesses:
E. M. Culley
J. Smith -

Inventor:
W. B. Curtis.
By attorney
J. H. McIntire.

United States Patent Office

WILLIAM B. CURTISS, OF BRIDGEPORT, CONNECTICUT.

Letters Patent No. 103,993, dated June 7, 1870.

IMPROVEMENT IN WICK-ADJUSTERS FOR ARGAND-LAMP BURNERS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, WILLIAM B. CURTISS, of Bridgeport, of Fairfield county, in the State of Connecticut, have invented certain new and useful Improvements in Lamps; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing, making part of this application.

My invention relates to that kind of lamp-burner with which it is intended a hollow or cylindrical flame shall be produced, after the fashion of that of an Argand burner, and has for its object a new method of lifting and adjusting the wick.

Previous to my invention various means have been devised and employed for raising and lowering the wick of the different kinds of lamp-burners, to all of which there are some serious objections.

In a mechanism or device for feeding up the wick of lamps such as are in common and extensive use, or a means for adjusting the wicks of such lamps, there are several important points to be considered. The mechanism must work perfectly, and at the same time it must be simple and economic of manufacture.

There are many cheap devices which do not completely answer the desired purpose, and there are other devices which work well, but render the cost of the article too great to come into general use and competition with the poorer but much cheaper devices.

My invention is designed particularly for use in connection with one or more flat wicks, which are bent around a cylindrical burner, provided with openings for the admission of air to the interior of the wick at a point above the level of the oil, and is designed to effect the adjustment, at pleasure, of the wick in a perfectly vertical direction, (either up or down,) and by means exceedingly simple and economic of manufacture.

My invention consists in the use of a tubular burner provided with vertical guiding-ribs, or other equivalent means for insuring the movement in vertical right lines of the wick, and

My invention further consists in the use, in combination with a wick-tube provided with a means for guiding the wick vertically, of a device for raising and lowering the wick at pleasure, as will be hereinafter more fully explained.

To enable those skilled in the art to make and use my invention, I will proceed to describe it more particularly, referring by letters to the accompanying drawing, in which—

Figure 1 is an elevation of an ordinary kerosene-lamp top, with my invention applied to it.

Figure 2 is a vertical section of the same, at the line *x x*, fig. 1.

Figure 3 is an elevation of the burner portion of the lamp.

Figure 4 is a detailed view of wick-tube.

Figure 5 is a perspective view of the lifter or wick-adjuster, and—

Figure 6 is a similar view of the ring for holding the wick-adjuster in place.

In the several figures the same part is designated by the same letter of reference.

A is the usual top piece, which screws into the mouth of the body or reservoir of the lamp, and which is provided with tube B, around which the wick is placed, and a tapering shell, *c*, which surrounds the wick and the lower portion of tube B, as clearly shown.

The shell *c* is formed with one or more openings, *d*, near its base, for the admission of air to the interior of tube B, for well understood purposes.

Over the base A is placed the usual reflector and chimney-holder, E, the internal cone *f* of which surrounds and is coupled, in a manner to be presently described, to the wick-lifter *g*. This lifter and adjuster *g* is made in the form of a short cylinder as illustrated (see figs. 2, 3, 5,) provided with a screw thread or helical rib on its internal surface, which is pressed into the material of the wick and serves to lift and depress it as the cylinder *g* is turned in one or the other direction. On the outer surface of *g* is a collar, *i*, by means of which the former is supported, by the shell *c*, the said collar *i* resting on the top edge of shell *c*, and near the top edge of *g*, is a series of lugs or projections, 1, 2, 3, 4, which match into slots or openings in the top of cone *f*, as clearly shown, so that, by turning the cap or outer portion E of the lamp-top, the adjuster *g* will be rotated.

m is a securing or locking-band, which is made in the shape shown, (see figs. 3 and 6,) with a flanch at *n* which retains or holds down the wick-adjuster *g*, and with slot or cut at *o*, into which passes a pin, *x*, that projects from shell *c*, to hold down the said band.

On the external surface of tube B is a series of vertical ribs or knife-edges *s*, which impress themselves into the material or stock of the wick, and serve to guide the latter, or induce it, when raised or lowered, to move always in right lines and in a vertical direction.

w are the wicks, two ordinary flat wicks, which are inserted from the base, in the usual manner, and placed around the tube B, so as to form a tubular or cylindrical wick, at the flame end, as clearly shown.

The general operation of the lamp is, of course, about the same as usual, the wicks being supplied with oil from the reservoir, and air being supplied to the flame in the usual manner, through the perforated base, to the outside and inside of the hollow flame.

Whenever it is desired to raise or lower the wicks, *w*, it is only necessary to turn the top piece *C*, in one direction or the other, when its cone *f*, being coupled to the lugs 1, 2, 3, 4, will turn the cylinder *g*, and it will, by means of its screw-thread, move the wick up or down. The wick being confined between the helical ribs of the lifter *g*, and the vertical ribs *s* of the tube *B*, will be not only raised and lowered by the turning of *g*, but will also be guided by the ribs *s*, and caused to travel in perfectly right lines and vertically.

It will be seen that, as the ribs *s* are crossed at nearly right angles by the thread of the lifter *g*, the wick, while it is confined between these two devices with sufficient certainty to insure the adjustment, is not so compressed as to in the least impair its functions as a conductor of the oil up to the flame, because the stock or material of the wick is wholly uncompressed where it lays between the vertical ribs *s*.

I have shown two common flat wicks in use with my improved lamp, but it will be understood that one flat wick bent around may be used in it, in which case only one opening for the admission of air would be necessary; and, its great utility in that kind of lamps shown, and adapted to the use of common flat wicks producing a hollow flame, will be apparent.

It will be seen that the relation between the top edges of both the tube which is inside of the wick, at the flame end, and that which surrounds it, are not changed in moving the wick up or down to any extent, and it will be seen that, although my new appa-

ratus or mechanism for controlling the wick is complete and certain in its operation, it is comparatively exceedingly cheap and simple.

Any inequalities of thickness or density of stock in the wick will not affect the perfect operation of the mechanism for raising and lowering the wick and keeping it in perfect shape around the wick-tube, and this desirable feature, it will be understood, is not dependent upon the precise construction of the parts shown, but is due to the use of some suitable device for guiding the wick in a vertical direction, in connection with a screw feeder or its equivalent for lifting and depressing the wick.

Having explained my invention so fully that one skilled in the art can make and use it,

What I claim as new, and desire to secure by Letters Patent, is—

1. Providing the tube or supporting device around which the wick is arranged with a suitable means for guiding the wick vertically.

2. The employment, in combination with the tube around which the wick is designed to pass, of an adjuster which moves the wick up and down by means of a screw-thread, substantially as set forth.

In testimony whereof I have hereunto set my hand and seal this 8th day of April, 1870.

WM. B. CURTISS, [L. s.]

Witnesses:

J. MCINTIRE,
GEORGE DOOLITTLE.