# R. S. MERRILL.

## Lamp.

No. 104,481. Patented June 21, 1870.

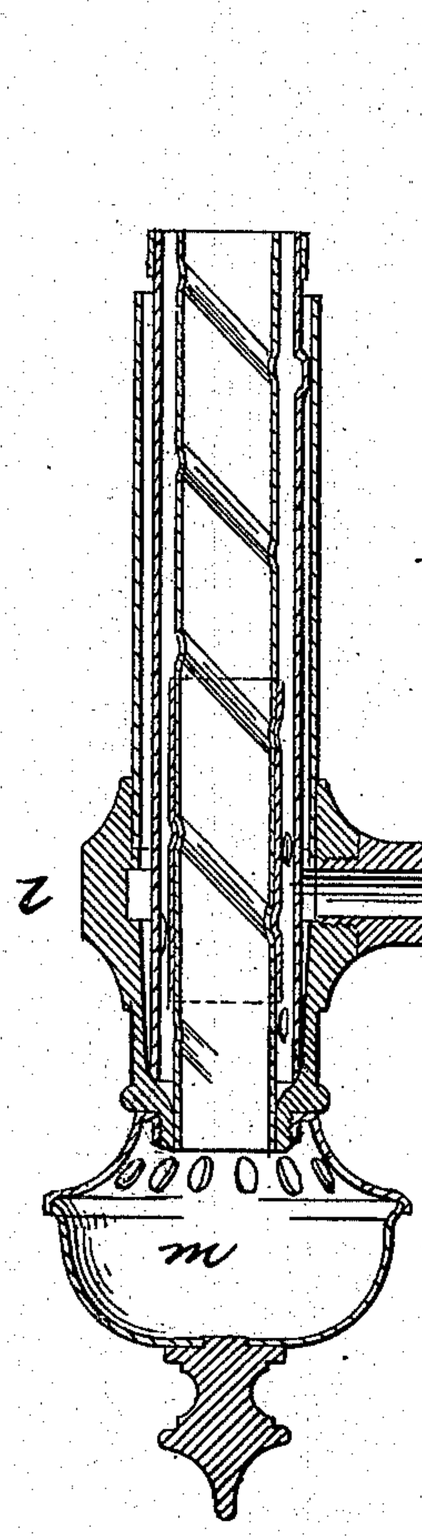


Fig. 1.

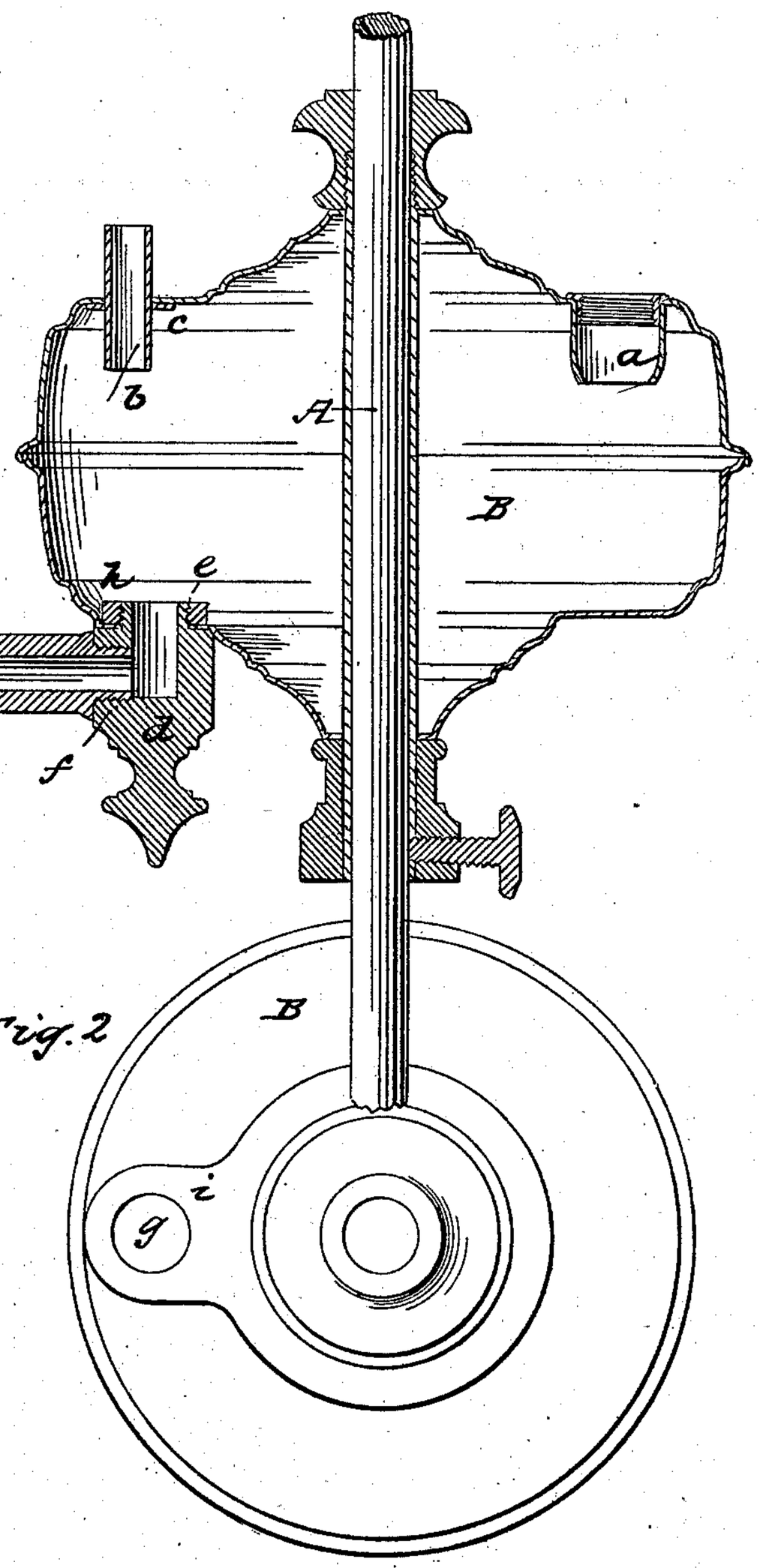


Fig. 2.

Witnesses
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Wm. H. McCabe

Inventor
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by Poller
his atty.

# UNITED STATES PATENT OFFICE.

RUFUS S. MERRILL, OF HYDE PARK, ASSIGNOR TO HIMSELF, W. B. MERRILL, AND JOSHUA MERRILL, OF BOSTON, MASSACHUSETTS.

## IMPROVEMENT IN LAMPS.

Specification forming part of Letters Patent No. **101,481**, dated June 21, 1870.

*To all whom it may concern:*

Be it known that I, RUFUS SPAULDING MERRILL, of Hyde Park, in the county of Norfolk and State of Massachusetts, have invented certain new and useful Improvements in Lamps, of which the following is a specification.

My invention relates to student-lamps in which the burner is placed by the side of and at a distance from the oil-reservoir, and is connected with the same by a supply-pipe, through which the oil from the reservoir passes to the burner; and my invention consists, first, in the combination, with the oil foundation or reservoir, of a tubular socket which is secured to and opens into the top of the fountain, and serves both to receive and hold the stem of the shade-rest and to ventilate the lamp and allow the oil to pass readily from the fountain to the burner; second, in the employment for the purpose of attaching the burner supply-pipe to the fountain of a cast-metal socket-piece constructed and held to the under side of the fountain in the manner hereinafter described; third, in the combination, with the cast-metal socket, of a cast-metal connection and supply-pipe and a cast-metal socket-piece to which the said pipe, the burner, and drip-cup are attached, as hereinafter stated.

The nature of my invention will be readily understood by reference to the accompanying drawings, in which—

Figure 1 is a vertical central section through the oil-reservoir, burner, and connecting-pipe. Fig. 2 is a plan view of the bottom of the reservoir.

The lamp is adapted to slide up and down upon a supporting-spindle, A, which is arranged to pass axially through the oil reservoir or fountain B, as shown in Fig. 1.

The filling nozzle or opening, closed by a screw or other suitable cap, as shown, is provided with a thimble or tube, *a*, which is soldered or otherwise suitably fixed to the top of the reservoir, and extends down a short distance, so that in filling the reservoir the rising of the oil into the tube will give warning that enough has been poured in.

To the top of the reservoir I also secure the shade-socket *b*, which opens into the reservoir, and not only serves to support the stem of the lamp-shade ring or holder, but also allows sufficient air to enter the reservoir to take the place of the oil as the latter passes to the burner, so that the feed may take place easily and without interruption. The socket is secured to the fountain by means of a plate, *c*, which fits around that portion of the socket which projects into the fountain and is pressed up closely against the under side of the top, where it is soldered to the socket and to the top. This flange or holding-plate stiffens the thin sheet metal of which the top is composed and gives it strength to properly uphold the shade-rest and affords a secure means for fastening the socket in place.

To the under side of the fountain I attach a metallic socket, *d*, having a male screw at *e* and a female screw at *f*. The end *e* is inserted in an opening, *g*, cut for it in the fountain, and is then held by a nut, *h*, which is screwed down upon it on the inside of the reservoir. Solder is then applied to make the joint perfectly tight. At the point where the socket is attached to the bottom of the reservoir I prefer to form a depression, *i*, in which the nut *h* is held, and which also serves materially to stiffen transversely the bottom of the reservoir, to enable it to resist without buckling or bending the strain to which it is subjected in supporting the weight of the projecting burner and connecting-pipe. Into the part *f* of the socket the cast-metal connecting-pipe *k* is screwed and then soldered, and at its outer end it is screwed and soldered into the burner socket-piece *l*, which is also made of cast metal, and carries on its lower end the drip-cup *m* and on its upper end the wick-tube and exterior burner-supporting tube, the latter fitting in a seat formed for it near the top of the socket-piece and the former secured in the socket lower down and so as to communicate with the supply-pipe in the usual manner.

By making the parts *d k l* of cast metal and constructing and uniting them in the manner described this portion of the lamp is made most solid and durable and much more ornamental than would otherwise be practicable, while it can be produced at little expense.

Having now described my invention and the manner in which the same is or may be carried into effect, what I claim, and desire to secure by Letters Patent, is—

1. The combination, with the oil-reservoir, of a tubular socket fixed to the top of and opening into the same, so as to hold the shade-rest and allow air to enter the reservoir, as set forth.

2. Securing the shade-rest socket to the top of the oil-reservoir by means of a holding plate or disk fitting the inner end of the socket and applied and fixed to the under side of the top of the reservoir, as and for the purposes set forth.

3. The combination, with the fountain, of a cast-metal socket constructed to receive the end of the supply-pipe and secured to the bottom of the fountain by means of a screw-nut and solder, substantially as shown and set forth.

4. The combination, with the fountain and cast-metal socket attached to the bottom of the same, of the cast-metal connection or supply-pipe and the cast-metal socket-piece for holding the drip-cup and the various parts of the burner, the said cast-metal parts being united with one another by a screw-joint and solder, as shown and set forth.

5. The formation of the recess or depression in the bottom of the fountain for receiving the end of the socket and the screw-nut which holds the same, and for stiffening transversely the bottom of the fountain, as shown and set forth.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

RUFUS S. MERRILL.

Witnesses:
W. BAILEY,
EDM. F. BROWN.