

F. RHIND.
Lamp-Extinguisher.
No. 210,878. Patented Dec. 17, 1878.

Fig. 1.

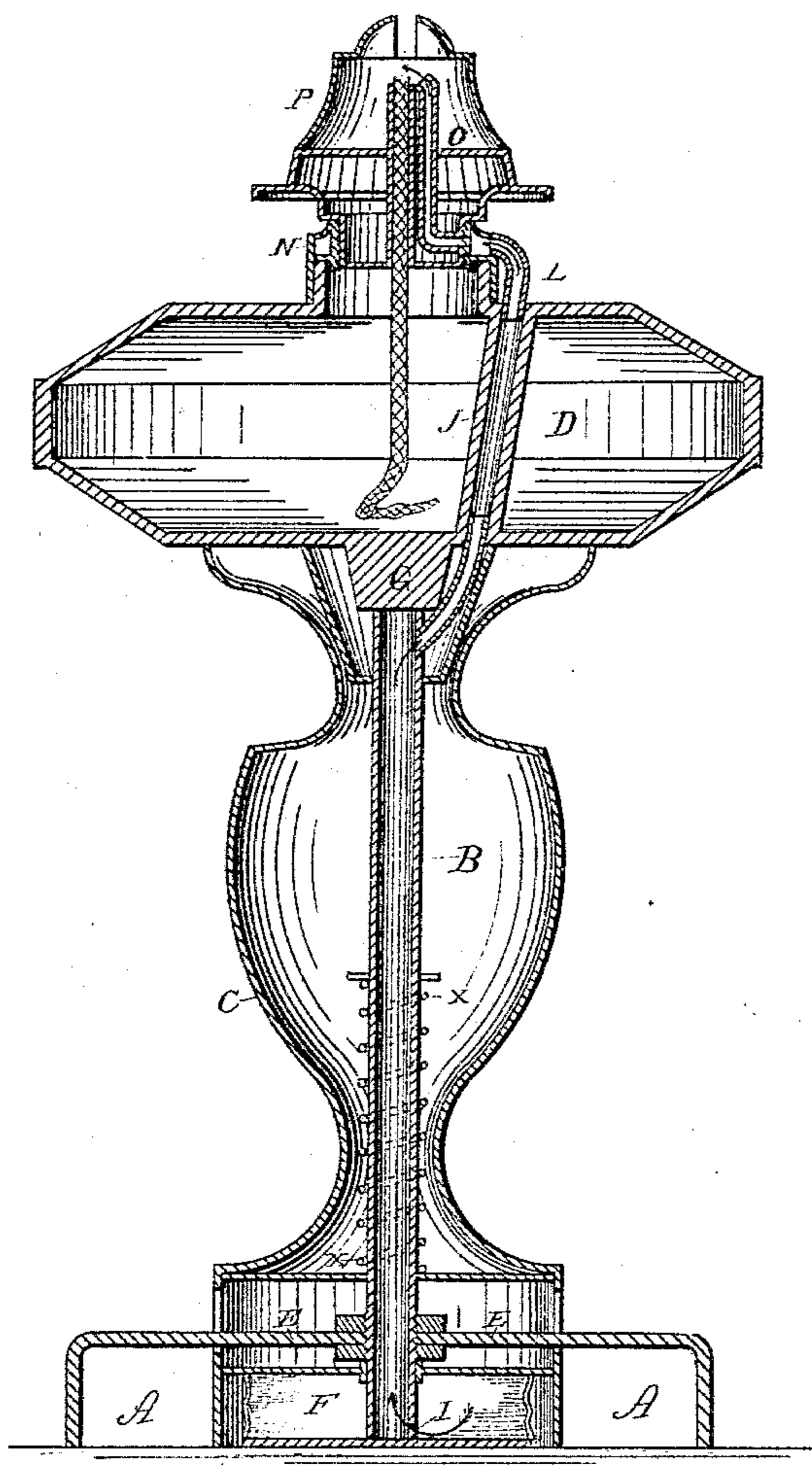


Fig. 2.

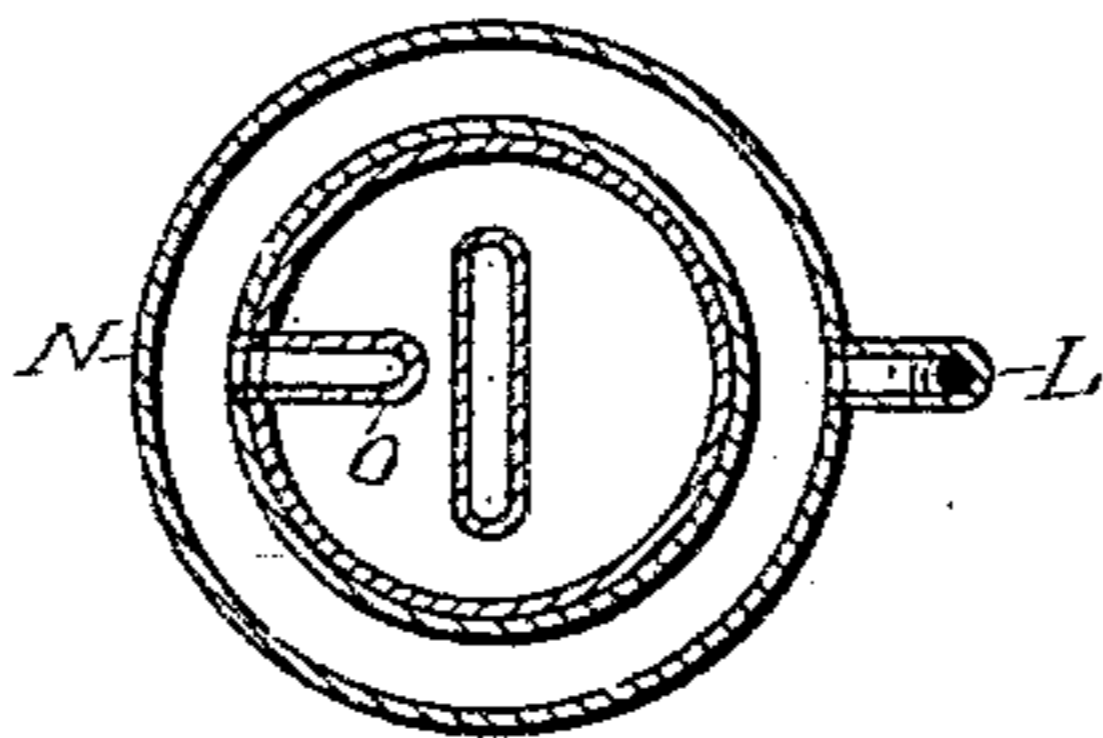
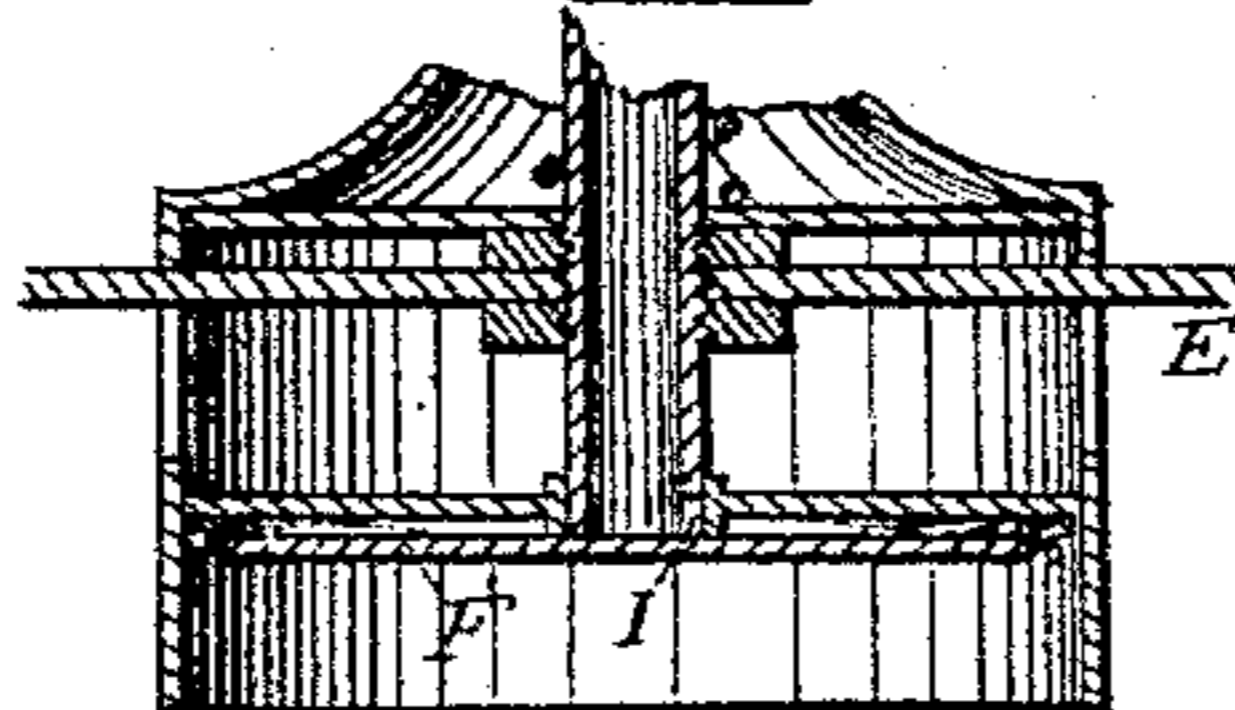


Fig. 3.



Witnesses:

J. W. Garner
W. S. D. Haines

Inventor:

Frank Rhind,
per
J. A. Lehmann,
Atty.

UNITED STATES PATENT OFFICE.

FRANK RHIND, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN LAMP-EXTINGUISHERS.

Specification forming part of Letters Patent No. **210,878**, dated December 17, 1878; application filed November 18, 1878.

To all whom it may concern:

Be it known that I, FRANK RHIND, of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Lamps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in self-extinguishing lamps; and it consists in combining with the lamp a sleeve which moves up and down upon the standard of the lamp, and a bellows or other air forcing or sucking device, by means of which the flame may be extinguished by a draft of air when the lamp is either accidentally upset or falls from the hand, as will be more fully described hereinafter.

Figure 1 is a vertical section of my invention. Fig. 2 is an enlarged detail of the same. Fig. 3 is a vertical section of the base, showing the bellows closed by the downward movement of the sleeve.

A represents the base of the lamp; B, the standard; C, the movable sleeve, and D the bowl of the lamp. The standard is secured by means of screws, or any other suitable device, to the socket G on the bottom of the bowl, and is here formed of a hollow pipe, which passes down through the cross-bar E of the base, and is fastened thereto by means of a nut above and below it. The lower end of this standard projects down into the bellows F, and is secured permanently to the bottom thereof.

In order to prevent any leakage of air from the bellows, the top part of the bellows is made to move air-tight upon the standard by means of any suitable packing.

The upper part of the bellows is secured permanently to the inside of the lower end of the sleeve, which projects down through the base, so as to rest upon the table or other support for the lamp, and which here forms a protection for the bellows.

Through the lower end of the standard is made an opening, I, for the air to pass from the bellows when it is compressed by the downward movement of the collar, so as to force a

current of air up through the standard and the tube J, formed through the bowl of the lamp, for the purpose of extinguishing the flame.

Connected to the tube through the bowl at its upper end is the short curved pipe L, the upper end of which is fastened to the top part of the collar N. This collar has an extension formed upon its top, above the female screw, for the reception of the lower end of the burner, so as to form a chamber all around the inside of the collar, and into which the air is first forced from the bellows or other air-forcing device that may be employed in connection with the standard. The burner P, which may be of any suitable construction, has either the male thread formed considerably longer than is usual or has a much longer neck, so as to project down to the female thread, as shown. In either case the top of the extension upon the collar and the under side of the burner and the joint formed by the union of the two threads should be made sufficiently tight, so that there will be no leakage of air through them.

Through the side of the burner, and extending up along the wick-tube, above or to its top, is made a tube, O, which serves to convey the air from the air-forcing device directly up to the flame.

It will readily be seen that, should the lamp be accidentally upset or dropped from the hand, the bellows will be instantly compressed and a current of air forced through the hollow standard, through the tube in the bowl of the lamp, and through the tubes above the bowl, so as to instantly extinguish the flame.

As there is an air-chamber formed above or in the collar of the lamp which extends entirely around, it is immaterial where the hole through the side of the burner stops, for the air, being forced into the chamber, instantly escapes up through the side of the burner and extinguishes the flame.

Although a bellows is here shown for the purpose of forcing a draft of air up through the standard, it is evident that a cylinder and piston may be substituted for them and used with equal facility; or, if desired, instead of an air-forcing device, the air may be suddenly sucked downward through the top of the cone and around the flame, so as to extinguish it in

as quick and efficient a manner as if forced up from below.

Although the present form of devices shown embody the spirit of my invention, yet many other forms may be substituted for them without departing from the principle, which is to extinguish the flame by means of a draft of air, whether forced upward from below or sucked in from above.

If the sleeve is made heavy enough to operate the bellows by itself, no spring is necessary; but if the sleeve is light, the coiled spring X should be used, so as to make the sleeve move quickly.

Instead of the tube passing through the bowl of the lamp, it may be passed up around the outside, if so preferred.

Having thus described my invention, I claim—

1. The combination of a lamp, an air-forcing mechanism, and a movable sleeve, substantially as shown.

2. The combination of a lamp, a fixed standard, a movable sleeve, and an air-forcing mechanism, substantially as described.

3. The combination of a movable sleeve, having the upper part of the bellows or other air-forcing mechanism secured to it, with the hollow standard, having the lower part of the air-

forcing mechanism secured to it, the said mechanism being operated by the movement of the sleeve, substantially as set forth.

4. A lamp-collar having an air-chamber formed in its upper part, substantially as specified.

5. A lamp-collar having a female thread for the reception of the male thread of the burner and an air-chamber formed above said thread and connected with an air-forcing mechanism, substantially as shown.

6. A lamp-burner having an opening through its side to connect with an air-chamber in the collar, and a tube to extend up to or near the flame, substantially as described.

7. The combination of the base A, standard B, movable sleeve C, bowl D, bellows E, a tube through the bowl of the lamp, an air-chamber in the collar, and a tube in the burner for conveying the air to the flame, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 11th day of November, 1878.

FRANK RHIND.

Witnesses:

JOHN L. LINDSAY,
DAVID E. TYRRELL.