

RICHARDSON & WARD.

Lamp Extinguisher.

No. 53,679.

Patented April 3, 1866.

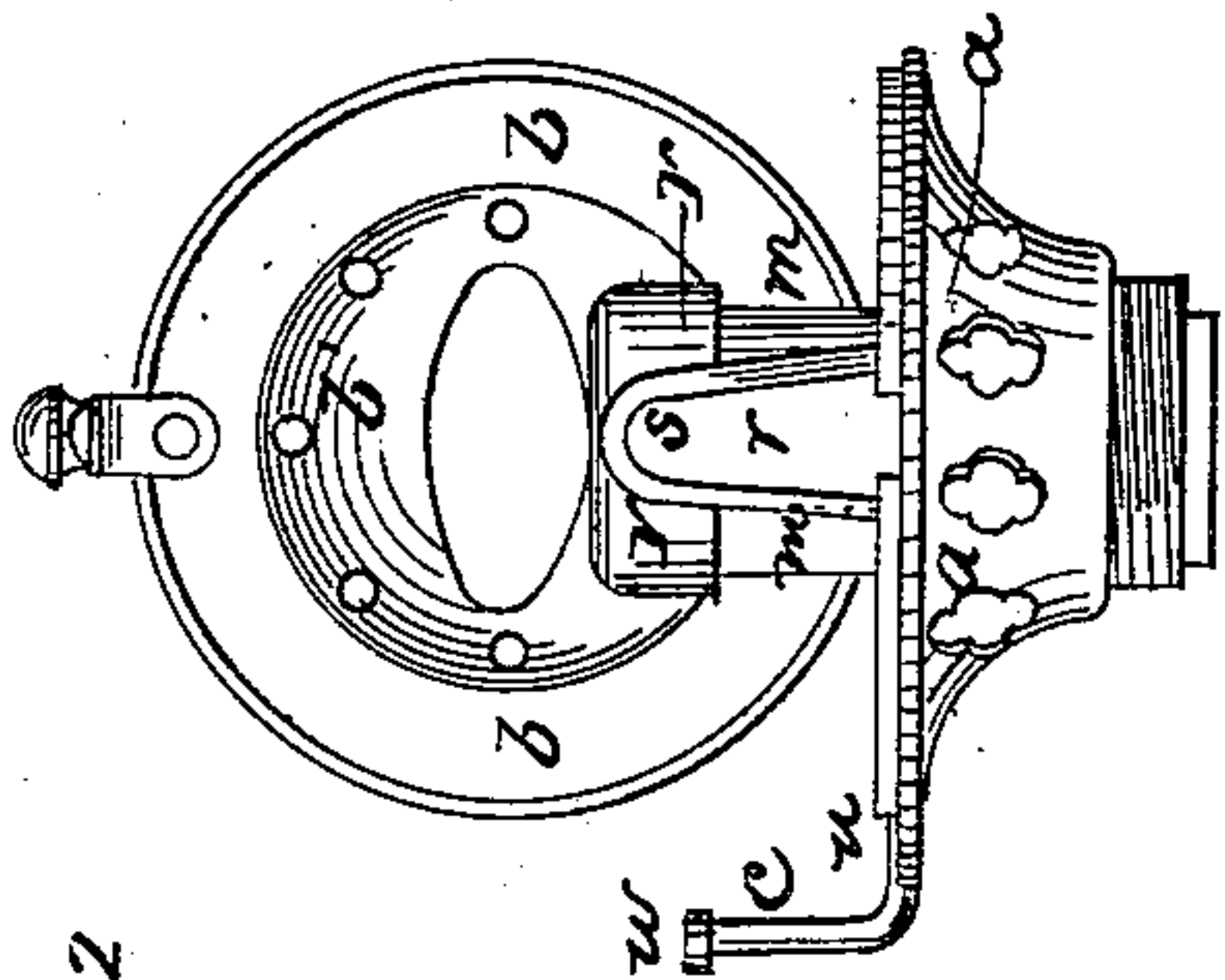


FIG. 2

Fig. 2

Fig. 4

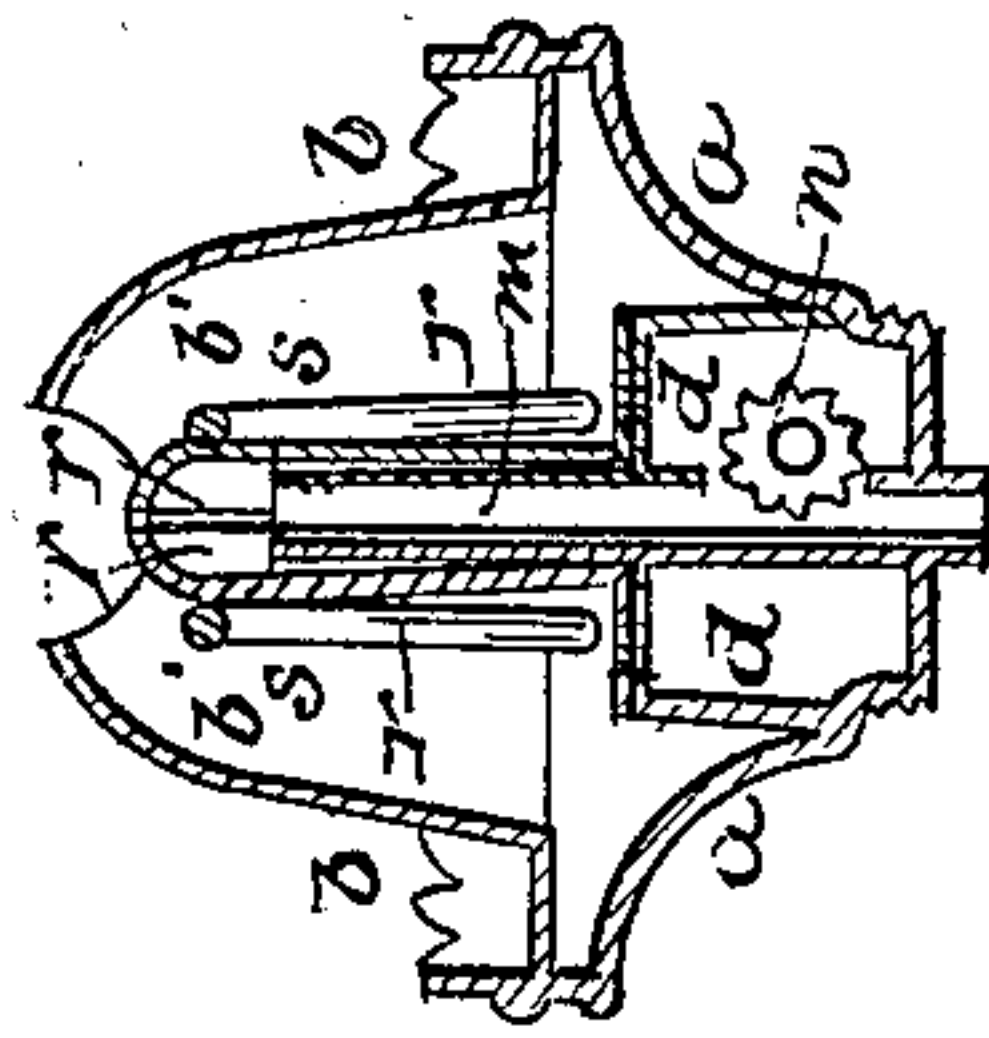


Fig. 6

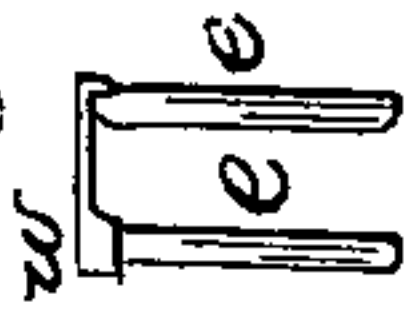


Fig. 5

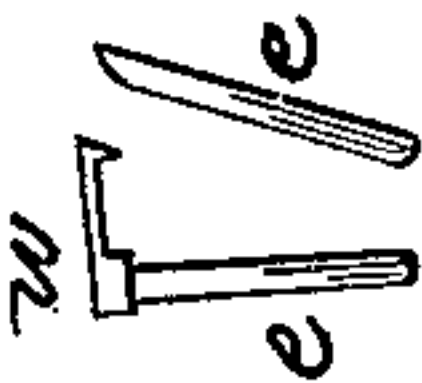


Fig. 1

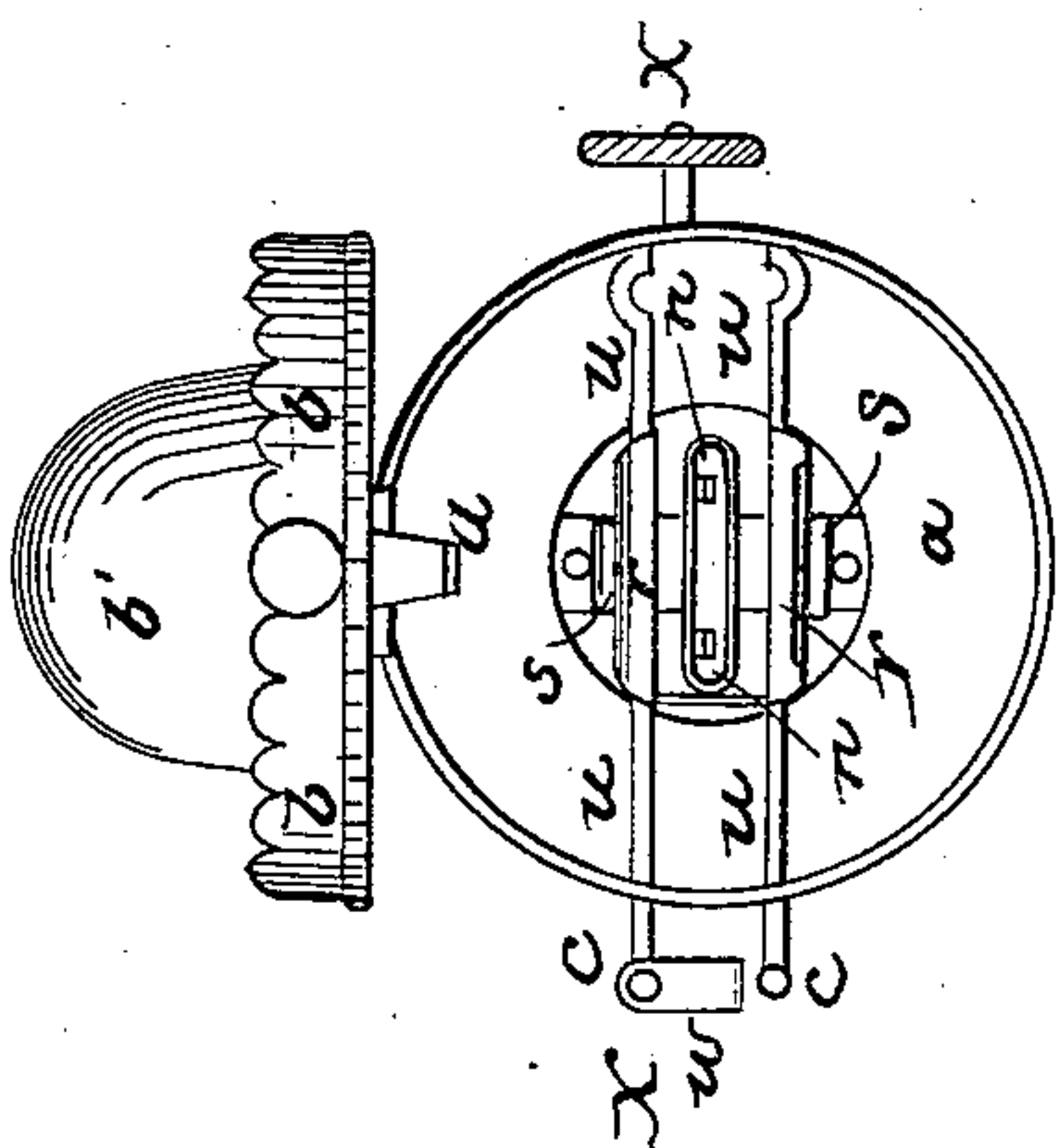
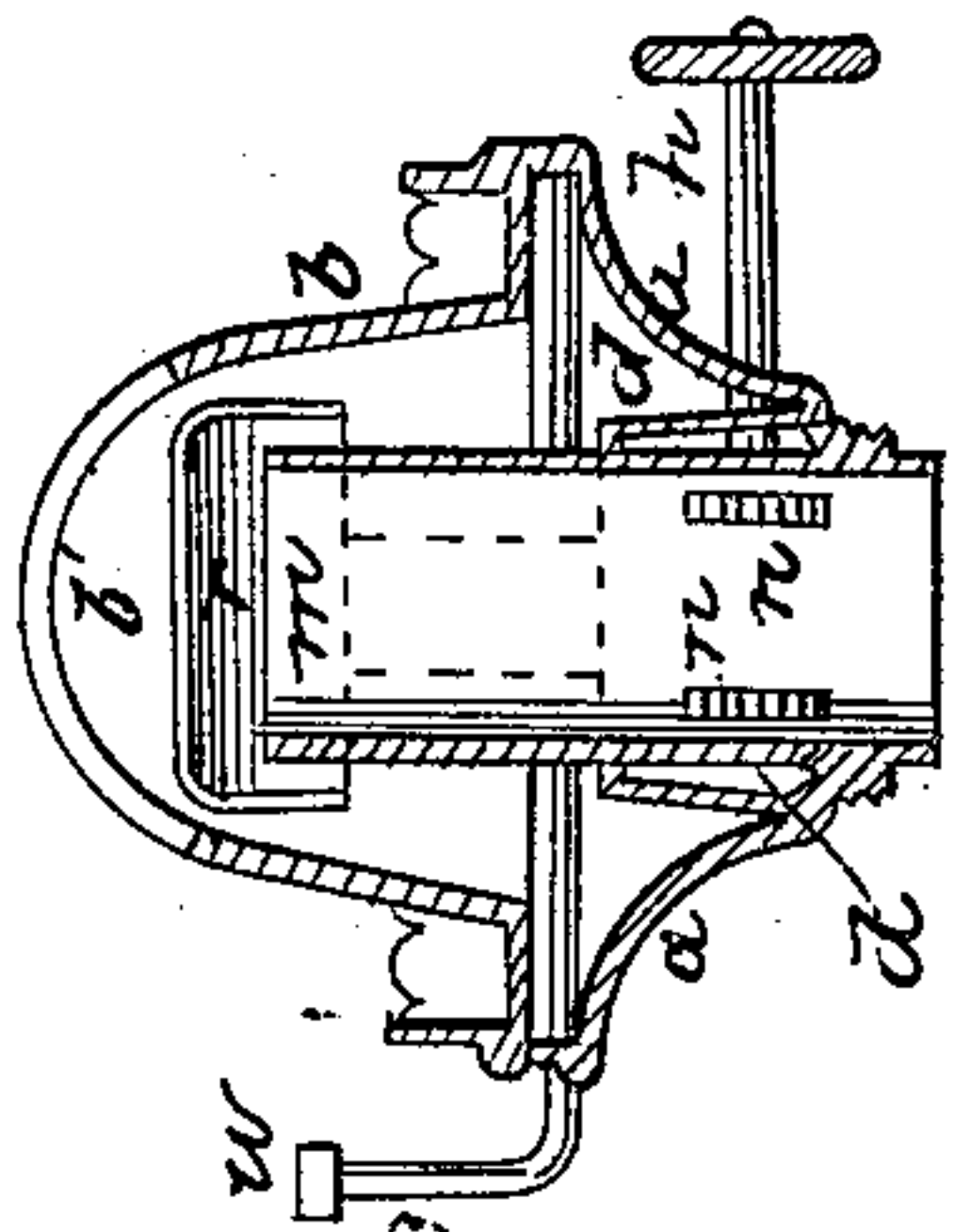


Fig. 3



WITNESSES

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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN LAMP-EXTINGUISHERS.

Specification forming part of Letters Patent No. 53,679, dated April 3, 1866.

*To all whom it may concern:*

Be it known that we, WILLIAM A. RICHARDSON and HENRY D. WARD, of Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Extinguishers for Lamps; and we do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a plan or top view of an extinguisher applied to the burner of a common kerosene-lamp, that portion of the burner which holds the chimney being represented as turned over to one side in order to more fully expose the extinguisher to view. Fig. 2 is a side elevation, the part that sustains the chimney being in the same position as in Fig. 1. Fig. 3 is a vertical section in the line *x x* of Fig. 1, representing the upper part of the burner and chimney-base in their operative position. Fig. 4 is a vertical section in the line *y y* of Fig. 1. Figs. 5 and 6 are detached views of portions of the appliances used to operate the extinguisher and keep it in proper position.

Similar letters of reference indicate similar parts in both drawings.

This invention is designed to be attached to the burners of kerosene and other lamps of similar construction for the purpose of extinguishing the flame thereof, when desired, without the liability to explosion which often occurs when the flame is extinguished by a current of air; and to obviate the escape of gas or smoke from the burner when the flame is extinguished, and also to render the lamp capable of being moved or carried about with much greater safety than the chimney-lamps heretofore in use, and to promote the brilliancy and steadiness of the flame by producing an equal and regular draft of air to both sides thereof.

The invention consists in two concave wings, applied one at each side of the wick-tube, in such a manner as to inclose and cover the top of the wick when the flame is extinguished, and to spread apart, not only to permit the flame to burn, but also to produce a regular draft of air to each side thereof.

It also consists in certain appliances by which the said wings are operated and retained in proper position, either when the flame is burning or extinguished.

To enable those skilled in the art to understand the construction and operation of my invention, I will proceed to describe it with reference to the drawings.

The burner represented is of ordinary construction, *a* being the perforated lower portion or frame thereof, and *b* the upper part, which supports the chimney and is provided with the cone *b'*.

*m* is the wick-tube, through which passes the wick, which is raised and lowered by the small notched wheels *n* on the shaft *h*; and *d* is the base, which supports the parts just mentioned, and has its lower end screwed into the body of the lamp.

The extinguisher, which is applicable to any kind of burner, is constructed and applied as follows: Secured at their lower ends, one upon each side of the wick-tube *m*, and just above the base *d*, are two wings, *r*, which may be made of sheet metal, and the upper ends of which are wider than their main length, and have their edges curved inward so as to form a concave surface on the side of each next to the wick-tube *m*. These concave upper ends of the wings *r* extend a short distance above the upper end of the wick-tube, so that when they are brought in contact with each other they will cover the top of the said tube, forming a little chamber or space above the same, as shown in Fig. 4. That portion of the wings *r* below their concave upper ends may be made flat and are somewhat elastic.

The wings *r* are set at a slight angle to each other, so that when the said concave ends are not pressed together they will spring apart, as shown in Fig. 1, and uncover the top of the wick-tube, and be held in proper position to promote the draft of air to the flame equally upon each side thereof, thus increasing the brilliancy and steadiness of the same.

Extending across the lower part or frame, *a*, of the burner, and passing through suitable holes in the vertical edges thereof, are two small shafts or rods, *v*, one at each side of the wick-tube, and parallel with the said sides. The central portion of each of these shafts *u* is bent into a bow, *s*. These bows *s* project upward on the outer sides of the wings *r*, and serve to press them together, as will be presently explained.

The ends of the shafts *u* project out at one side of the burner, and are turned up into a



vertical position, thus forming upright arms *c* and *c'*.

The arm *c* has upon it a small catch, *w*, provided with a notch on its under side, which catches upon the top of the other arm, *c'*, when the two arms are made to approach each other, and holds them together, as represented in Fig. 6. By thus pressing the arms *c* and *c'* together the bows *s* press inward upon the wings *r* and cause them to come in contact with each other, covering the top of the wick-tube *m* and inclosing the upper end of the wick between them, thus extinguishing the flame. By releasing the arm *c'* from the hold of the catch the elasticity of the main length of the wings *r* causes them to separate and uncover the wick, which may then be ignited and allowed to burn, the arms *c* and *c'* occupying the position shown in Fig. 5.

As the wings *r*, when the flame is burning, are situated but a little distance from the lower portion of the same, they, from their curved or concave inner surface, serve to some extent to deflect the air inward, thus increasing the draft, and, in a corresponding degree, the brilliance of the flame. They also serve,

in a measure, to protect the flame from the action of sudden currents of air passing through the sides of the burner, and thus render the lamp much safer when moved or carried about than ordinary lamps.

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

1. The two wings *r*, combined and arranged in relation with each other and with the wick-tube of the lamp substantially as herein set forth, for the purpose specified.

2. The elastic construction of the lower parts of the said wings *r*, for the purpose of holding them apart, substantially as described, until the flame is to be extinguished.

3. The combination of the shafts *u*, arms *c* and *c'*, and elastic wings *r*, substantially as herein set forth, for the purpose specified.

4. The catch *w*, in combination with the arms *c* and *c'* and wings *r*, substantially as herein set forth, for the purpose specified.

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