

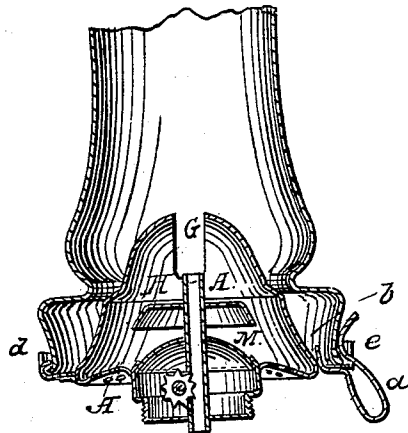
S. W. FOWLER.

Lamp Burner.

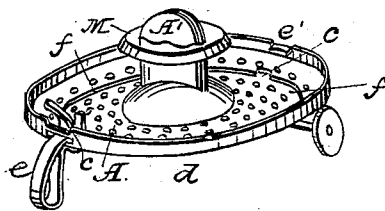
No. 102,674.

Patented May 3, 1870.

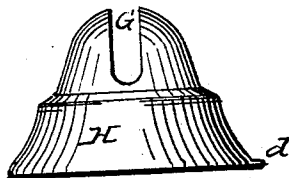
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



*Witnesses*

*A. E. Hodge*

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# UNITED STATES PATENT OFFICE.

SAMUEL W. FOWLER, OF BROOKLYN, NEW YORK, ASSIGNOR TO ALFRED C. HODGMAN.

## IMPROVEMENT IN LAMP-BURNERS.

Specification forming part of Letters Patent No. 102,674, dated May 3, 1870.

*To all whom it may concern:*

Be it known that I, SAMUEL W. FOWLER, of the city of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Lamp-Burners; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, which forms part of this specification.

My present invention consists, first, in the combination, in a lamp-burner, of a semicircular or curvilinear top wick-tube with a cone the slot in which is of a substantially uniform width throughout, and of a depth to present no obstacle to the free emergence of a batwing flame, whereby an intensely brilliant light is provided.

It consists, secondly, in the combination, with the cone, of a lock-piece which, when said cone is steadied on the one side by the ordinary tongue and slot, or an equivalent fastening, will serve as a lock to keep the cone securely in place.

It further consists in the combination, with a chimney-holding spring of the class which is operated by the thumb, of a stop-bar, whereby the back-play of the spring is controlled, and hence the liability of its being, through carelessness, bent out of operative condition is entirely precluded.

In the accompanying drawing, Figure 1 is a vertical central section of a lamp-burner containing my present improvements. Fig. 2 is a perspective view of the base-plate detached from the cone, and Fig. 3 is a side elevation of the cone detached from the base-plate.

A designates the base-plate of the burner, which is perforated in the usual or any suitable manner, for admitting air to the flame, and which is provided, in the present instance, with an upwardly-projecting rim, *d*. The base-plate is also provided at one side with a chimney-holding spring, *a*, of the style which, when it is designed to liberate the chimney, is pressed outward by the thumb, so as to withdraw it from contact with the chimney. These springs are almost universally made of brass, and it not unfrequently occurs that, in hastily operating them, they are thrown or bent

so far outward as to destroy them for efficient operation. To prevent this, I form a bar or stop, *e*, upon the rim *d* of the burner. This stop or bar *e* may be formed by stamping out or removing sufficient metal below it to permit of the end of the spring passing inside of it, so as to be in position to operate upon the chimney, as will be clearly understood by reference to Fig. 2; or a separate piece may be secured to the rim in the desired place to serve as a stop-piece. I, however, prefer the bar to be a continuous part of the rim, and its curve to project beyond the periphery of the rim. This stop-piece is a desirable feature, as it controls the back-play of the spring, and prevents it from being carelessly bent or thrown out of an operative position, and it strengthens the rim of the base-plate. This spring *a* is secured, by riveting or otherwise, to the bottom of the base-plate; and I have shown the spring as constructed with an extension or leg, *b*, which is passed up through a slot in the base-plate, in such manner as to act as a lock to hold the cone *H* in place, as will be presently described.

An annular groove, *F*, is formed in the base-plate for the lower edge of the cone to rest in, and the cone is provided with a tongue, *d'*, which, when said cone is to be put in its proper place, is thrust through a slot, *e*, and, this being done, the cone may be slipped down past the lock-piece *b*, its natural flexibility allowing this to be done, when its lower edge will rest in the groove *f*, and it will be securely held in place.

I will here remark that it is obvious that the lock-piece *b*, instead of being an extension of the spring *a*, may be a separate piece secured to or turned up from the base-plate, and a piece turned up from the opposite side of the base-plate would take the place of the tongue *d* and slot *e*; and I will also remark that the groove may be dispensed with, in which case the lower edge of the cone could rest upon the plain surface of the base-plate; but I prefer the construction as herein shown, as it combines features which render the cone perfectly secure against accidental displacement.

The chimney may be held in the usual way—that is to say, by the spring *a* and a lip, *e*, turned down from an opposite side of the rim *d*.

The ratchet-wheels, shaft, and body of the burner are of the usual construction, and are applied in the usual way.

The tube A' is provided with a semicircular or curvilinear top, and the cone to be used with such shaped tube should be cut down to a point upon, or nearly upon, a horizontal line drawn across the top of the tube—say through the points *o o*, Fig. 2; and I make the slot G in the cone of a uniform width.

A deflector, M, may be used upon the wick-tube, if desirable. The wick should, of course, be trimmed in accordance with the shape of the top of its tube.

The curvilinear-top wick-tube, used in combination with a cone substantially such as described, produces important results. The flame assumes a bat-wing shape, and, meeting with no obstacle from the cone by reason of the shape of its slot G, it gives out an intense light; and in an ordinary-sized burner, I am enabled to present, by reason of the shape of the top of the wick-tube, as much burning-area of wick with a five-eighths-inch tube as can at present be obtained by a one-inch tube in ordinary burners; and, besides all this, the flame, as I before stated, is spread out like a bat-wing, and hence more oxygen reaches it, and a better combustion is produced than were the flame thicker or more solid, and hence it

must necessarily follow that a more brilliant and steady light is produced.

I will here remark that I am aware that a rounding-top tube is not new, nor a cone the slot in which is of a uniform width, when these parts are separately considered.

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

1. In a lamp-burner, the combination, with a wick-tube provided with a semicircular or curvilinear top, of a cone provided with a slot of uniform width, and of such depth as to present no obstacle to the free expansion of the flame, in the manner and producing the results substantially as herein specified.

2. In a lamp-burner, the combination, with the cone, of the spring *a*, provided at one end with a lock-piece, *b*, arranged and operating substantially as and for the purpose herein specified.

3. The combination, in a lamp-burner, of a cone, H, constructed as described, a semicircular or curvilinear top wick-tube, A', a spring, *a*, stop *b*, lip *c'*, and groove *f*, substantially as and for the purpose herein specified.

S. W. FOWLER.

Witnesses:

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I. M. ROSS.