MERRILL & CARLETON.

Lamp Burner.

No. 90,863. Patented June 1, 1869.

Fig. 1

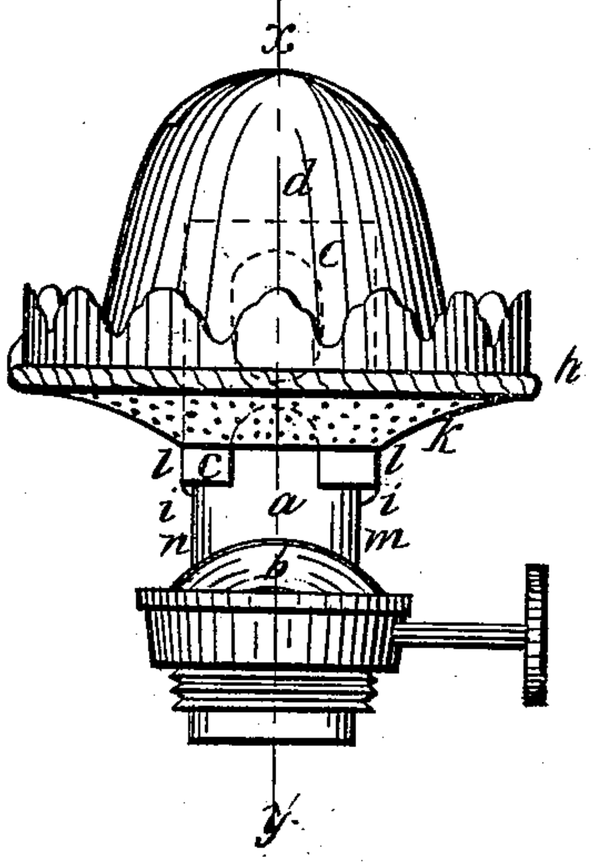


Fig. 2

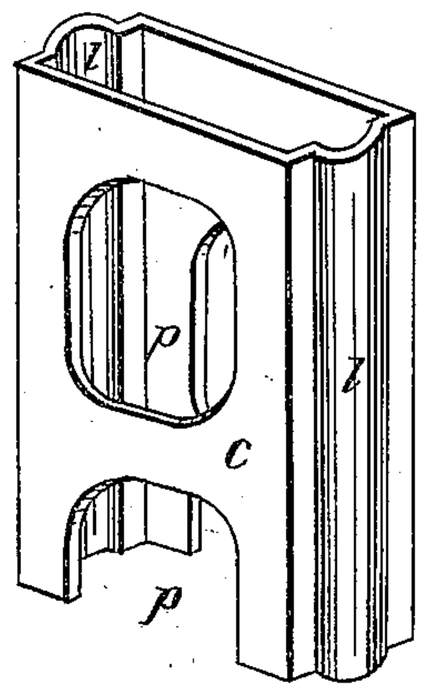
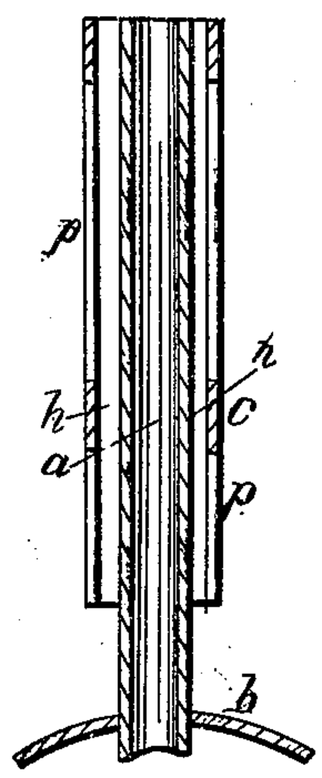


Fig. 3



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RUFUS S. MERRILL AND WILLIAM CARLETON, OF BOSTON, MASSACHUSETTS.

Letters Patent No. 90,863, *dated June* 1, 1869.

IMPROVEMENT IN LAMP-BURNERS.

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

To whom it may concern:

Be it known that we, RUFUS S. MERRILL and WILLIAM CARLETON, of Boston, in the county of Suffolk, and State of Massachusetts, have invented certain new and useful Improvements in Lamp-Burners; and we hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of a hydrocarbon-fluid burner with our improvements applied.

Figure 2 is a perspective view, on an enlarged scale, of the sleeve upon which the cone and other portions of the burner contiguous to the flame are mounted.

Figure 3 is a vertical section through the sleeve and wick-tube, on which it is mounted, on the line *x y*, fig. 1.

Our invention relates to burners whose general construction is similar to that described in our applications for Letters Patent now pending in the Patent Office; that is to say, burners in which the deflector or cone and chimney-seat, and other parts in the immediate neighborhood of the flame, are mounted upon a sleeve fitting the upper portion of the wick-tube, and capable of being readily adjusted upon or removed from said tube.

The object of such an arrangement is, not only to isolate the upper portion of the burner from the base, so as to prevent the latter from becoming highly heated, but to allow the sleeve, together with the parts which it carries, to be slipped off from the wick-tube, whenever it is desired to trim the wick.

Our object is to so construct the burner as to avoid the necessity of detaching the chimney from its holder in order to light the lamp, and to admit of the sleeve, and the parts which it carries, to be slipped over or adjusted upon the wick-tube, after the wick is lighted, without extinguishing the flame. This has been heretofore impracticable in burners of this class, as the sleeve, when slipping down upon the tube, prevents the requisite quantity of air from being fed to the flame, and thus acts as an extinguisher.

Our invention consists in forming the sleeve with a series of apertures or slots in its sides, so that the flame, instead of being enclosed and extinguished by the sleeve, when the latter is fitted upon the tube, will be kept alive by the air, which is allowed to pass to it through the apertures in the side of the sleeve. The sleeve is thus, in effect, a skeleton-frame, adapted to fit the wick-tube, but sufficiently open to prevent all danger of its acting as an extinguisher, when slipped up or down on the tube.

Our invention further consists of a sleeve, which is struck up or formed from a continuous sheet of metal.

The ordinary method of making the sleeves, is to take a flat piece of metal, and, after first bending it into a tubular or other desired shape, to hold it in such shape, by soldering or otherwise uniting together the contiguous edges of the piece.

A sleeve thus formed, however, is not only more troublesome to manufacture, but, as the soldered joint is comparatively weak, the edges which are thus held together are constantly becoming disunited, thus destroying, in a great measure, the utility of the sleeves.

In order to avoid these defects, we strike up the sleeve from a flat piece of sheet-metal, so that it shall be seamless, or formed of one continuous piece All parts of the sleeve are thus rendered equally strong. There is no necessity, as in the other case, of first giving it the desired conformation, and then holding it in such shape by soldering, but the sleeve is struck up or formed at one operation, and without the delay attending the ordinary method.

To enable others skilled in the art to use and understand our invention, we will now proceed to describe the manner in which the same is or may be carried into effect, by reference to the accompanying drawings.

The wick-tube *a* extends up above the covered base, *b*, of the burner, and the sleeve *c*, which carries the deflector *d* and chimney-holder *h*, as well as the diaphragm *k*, fits upon, and is capable of being moved up and down on the said tube, as described in the above-named pending applications for Letters Patent.

The base of the sleeve rests upon lugs or ears *i*, formed on the wick-tube, or it may rest directly upon the base, *b*, or any other suitable means can be employed for assuring it in proper position.

The ends of the sleeve are the only portions which are brought in contact with the wick-tube, the grooves *l*, formed in such ends, fitting upon the rounded or curved portion, *m*, of the wick-tube.

The sides of the sleeve are not in contact with the sides of the tube, a space, *n*, being left on each side, between the sleeve and the burner.

In the sides of the burner slots or apertures *p* are formed, by cutting away the metal, or in any other suitable manner. The size and shape of these openings, as well as their number, may of course vary. It is preferable, however, to cut away the sides to as great an extent as possible without weakening the sleeve, so that when the sleeve is slid down over the tube, it may not interfere, to any appreciable extent, with the flame of the wick.

This sleeve, shown on an enlarged scale in fig. 2, is struck up from a sheet or a flat piece of metal, and is without seams or joints. It thus forms a continuous piece of metal, and there is no soldering required, as is ordinarily the case.

The advantages resulting from this method of forming the sleeve are apparent. Not only is the number of processes required to produce the sleeve reduced, the sleeve being struck up in the ultimate form required by one operation, but, as there are no joints or seams, the sleeve is much stronger and more durable than those manufactured in the ordinary way.

In order to light the lamp, it is only necessary to remove from the wick-tube the sleeve, which carries with it the deflector, chimney-holder, and chimney, thus uncovering the wick. As soon as the wick is lighted, the sleeve is again fitted to the wick-tube, and while it slides down upon the tube to its proper position, the air has free access to the flame through the slots or apertures *p*, which thus allow the flame, although enclosed within the sleeve, to be kept alive until the sleeve has reached its place.

If the ordinary sleeve were employed, it could not, for the reasons above stated, be thus applied to the tube after the wick had been lighted, without extinguishing the flame, and in such case it would, therefore, be necessary, in order to light the lamp, to remove the chimney from the chimney-holder, and to light the wick in the usual way; but under our invention the sleeve may be slipped on or off the wick-tube, while the wick is burning, without any danger of extinguishing the flame.

Having now described our invention, and the manner in which the same is or may be carried into effect,

What we claim, and desire to secure by Letters Patent, is as follows:

In a lamp-burner, such as described, the combination, with the cone and chimney-holder, of a sleeve fitting the wick-tube, and provided with apertures or air-passages, as herein shown and set forth, so as to admit air to the flame when the said sleeve, together with its cone and chimney-holder, is being applied to or removed from the wick-tube, substantially in the manner shown and specified.

In testimony whereof, we have signed our names to this specification, before two subscribing witnesses.

RUFUS S. MERRILL.
WILLIAM CARLETON.

Witnesses:
W. H. HALL,
A. W. ADAMS.