

J. Christison.

Lamp Burner.

N<sup>o</sup> 42,328.

Patented Apr. 12, 1864.

Fig. 2.



Fig. 1.

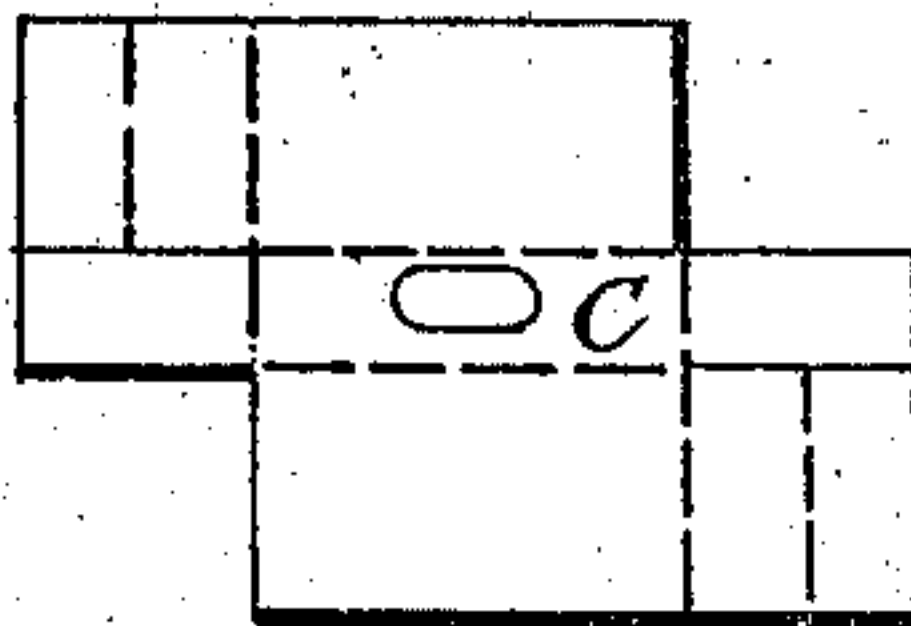


Fig. 3.



Fig. 4.



Fig. 5.



Fig. 6.

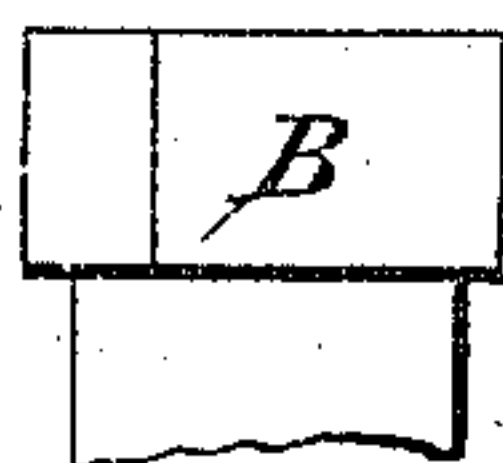


Fig. 7.



Fig. 8.

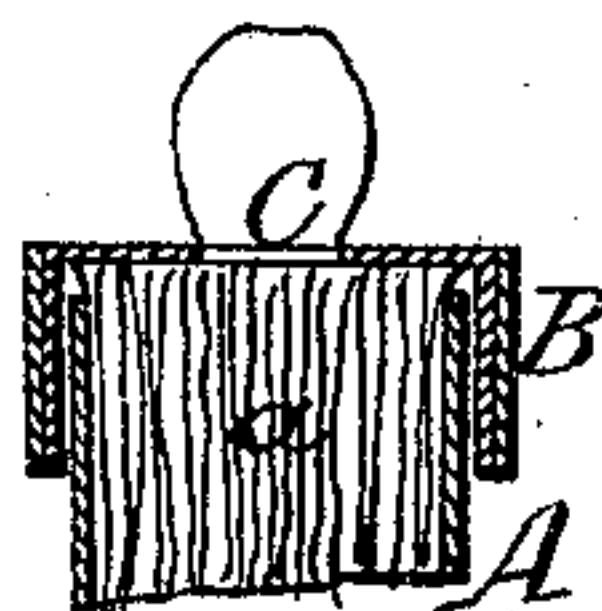


Fig. 9.



Witnesses.

Wm. B. Collier  
D. W. Stetson.

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# UNITED STATES PATENT OFFICE.

JAMES CHRISTISON, OF NEW YORK, N. Y., ASSIGNOR TO ALFRED W. CRAVEN, TRUSTEE FOR THE METROPOLITAN FAIR AND FOR THE UNITED STATES SANITARY COMMISSION.

## CAP TO CONTRACT THE FLAME FOR NIGHT-LAMPS.

Specification forming part of Letters Patent No. 42,328, dated April 12, 1864.

*To all whom it may concern:*

Be it known that I, JAMES CHRISTISON, of New York, in the county and State of New York, have invented a certain new and Improved Cap for the Wick-Tubes of Lamps; and I do hereby declare that the following is a full and exact description thereof.

The accompanying drawings form a part of this specification.

Figure 1 represents the shape in which the material is cut and the lines along which it is bent to form my cap. Fig. 2 represents a top view of my cap. Fig. 3 represents a side view of my cap. Fig. 4 represents an end view of my cap. Fig. 5 represents a bottom view of my cap. Fig. 6 is a side view of the cap applied to a wick-tube. Fig. 7 is a view at right angles to the last. Fig. 8 is a vertical section through the cap and through the wick-tube and wick. Fig. 9 is a section on the line S S in Fig. 8.

Similar letters of reference indicate like parts in all the figures.

The object of my invention is to adapt ordinary lamps to burn with a very small flame when required. In sick rooms and in attending very young children it is frequently desirable to do this, but until my invention it was difficult to effect it. Ordinary lamps for burning kerosene are adapted to allow the flat wick to be raised and lowered; but if it is lowered beyond a certain limit an offensive smell is observed, so that it is impracticable to accomplish the end secured by my invention, which is to expose but a very small area of wick, and yet cause the flame to endure with a steadiness and certainty and with a perfection of the combustion which is nearly equal to that which obtains on a larger scale when the lamp is burning with its full power.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation by the aid of the drawings and of the letters of reference marked thereon.

I cut a sheet of tinned iron in the form represented by the black outlines in Fig. 1. I then fold it along the lines indicated in red and produce a cap, B, having a hole, C, in the center of the top, and adapted to fit snugly

over the top of a common flat wick-tube, A, in the manner indicated in the figures. When this cap is thus slipped on over A, it excludes the air from all parts of the wick *a*, except that immediately adjacent to the hole C, so that on fire being applied to ignite the wick in this condition only that part of the wick which is thus exposed will be allowed to burn, and this may be sufficiently high to burn clearly and freely, and consequently without appreciable smell, and yet, by reason of the limited area of the hole C, the flame will be small, and the consumption of material will be very insignificant. On removing the cap at any moment the light at once increases to the full usual power of the lamp.

I can provide my cap with a handle or with various complex means of operating it, but I do not generally deem it necessary to do so. My usual mode of applying it is to extinguish the light, after removing the chimney or other obstruction, if there be such, and slip on the cap B, with the fingers applied directly, and then relight the flame. In removing it I can reverse the operation, or remove the cap at once by a direct application of the fingers without first extinguishing the flame. The smallness of the flame which burns when the cap is on prevents the cap from becoming much heated. On removing the cap while the small flame is on the necessity for relighting the flame will frequently be obviated by the retention of the flame on the wick during the entire proceeding. I have mentioned tinned iron. This is the material which I have used with success and prefer on account of its low cost and other qualities; but any other suitable material may be employed at pleasure.

I propose to attach the cap B to the wick-tube A, or to some other portion of the lamp, (not represented,) by a chain, or by a system of levers or the like, to prevent its getting lost, and to facilitate its application and removal.

I have observed, so far as my experiments have extended, that the lamp with the cap on succeeds best with the free access of the air, or without a chimney.

I propose to use my cap B, as described, on all kinds of lamps, with all kinds of burners and with all kinds of chimneys, or without a



chimney, at pleasure; but I prefer to leave off the chimney, if there be one, while the cap B is in use.

It will be observed that my cap is adapted to fit upon the form of tube which is in common use—to wit, the flat wick-tube, and that different sizes may be made to adapt the invention to different sizes of wick-tubes.

I propose to make the caps either at the same time with the lamp, so as to be sold with it, or at a different time and in different work, to be sold separately as a distinct article of manufacture, as may be most convenient.

I attach particular importance to the fact that my cap is adapted to fit very closely, quite around the entire top of the wick-tube, as otherwise much vapor might escape. I also attach importance to the fact that it is so formed by the cutting and bending of the metal, as described, that it will possess a considerable elasticity, so as to yield and slip over and cling tightly upon tubes, having con-

siderable difference in size, each from the other. My construction admits this, and also by the overlapping of the parts at the joints keeps the joints so nearly tight that little vapor will escape, even when the cap is considerably distended by being forced on a large tube.

Having now fully described my invention, what I claim as new therein, and desire to secure by Letters Patent, is as follows:

As a new article of manufacture, the within-described perforated cap B C, for the wick-tubes of lamps, the same being adapted to fit snugly around and upon the ordinary flat wick-tubes and to cling thereon, substantially in the manner and for the purposes herein set forth.

JAMES CHRISTISON.

Witnesses:

D. W. STETSON,

THOMAS D. STETSON.