W. G. STERLING.

Lamp.

No. 37,928. Patented March 17, 1863.

FIG. 1.

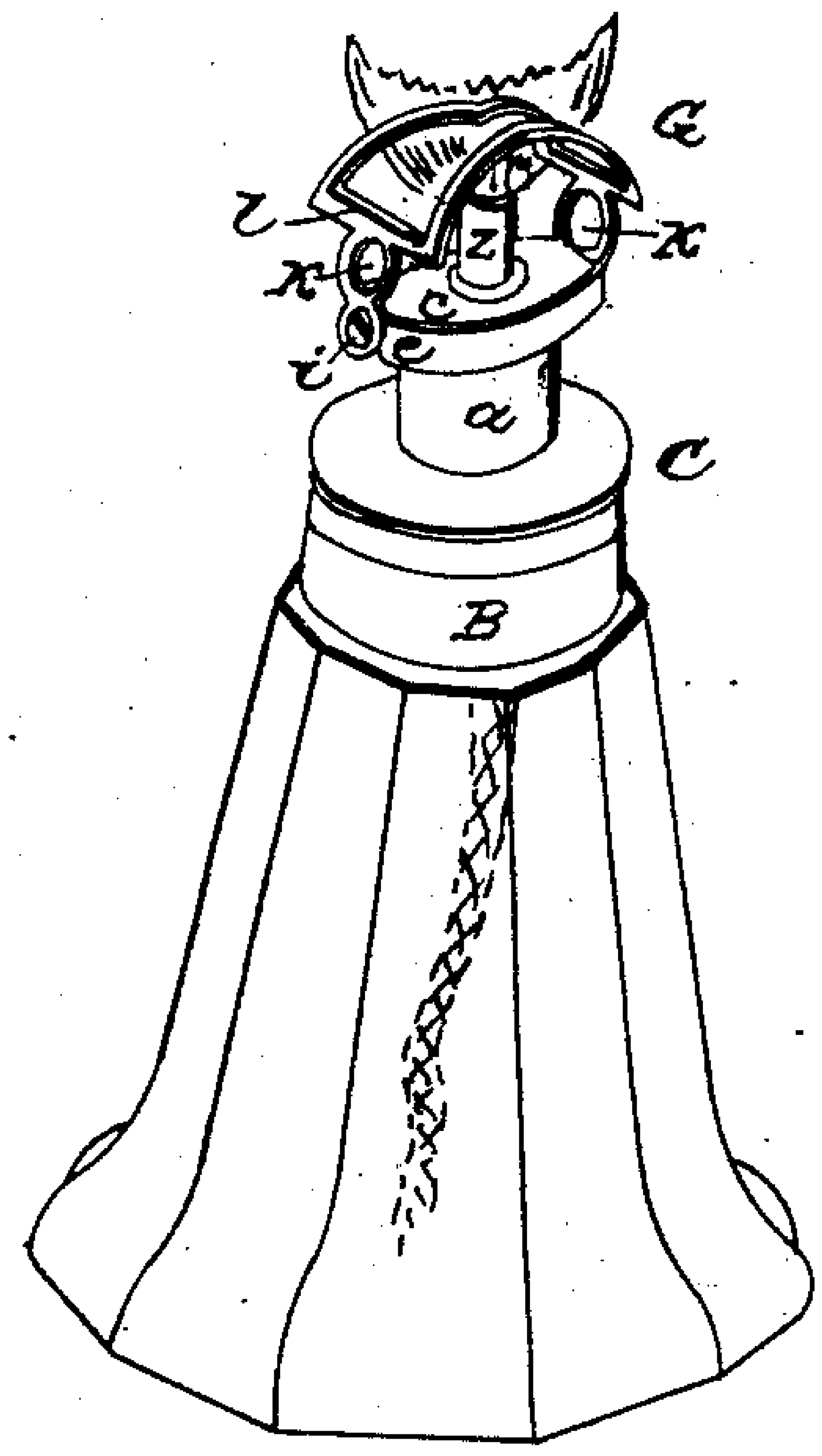


FIG. 2.

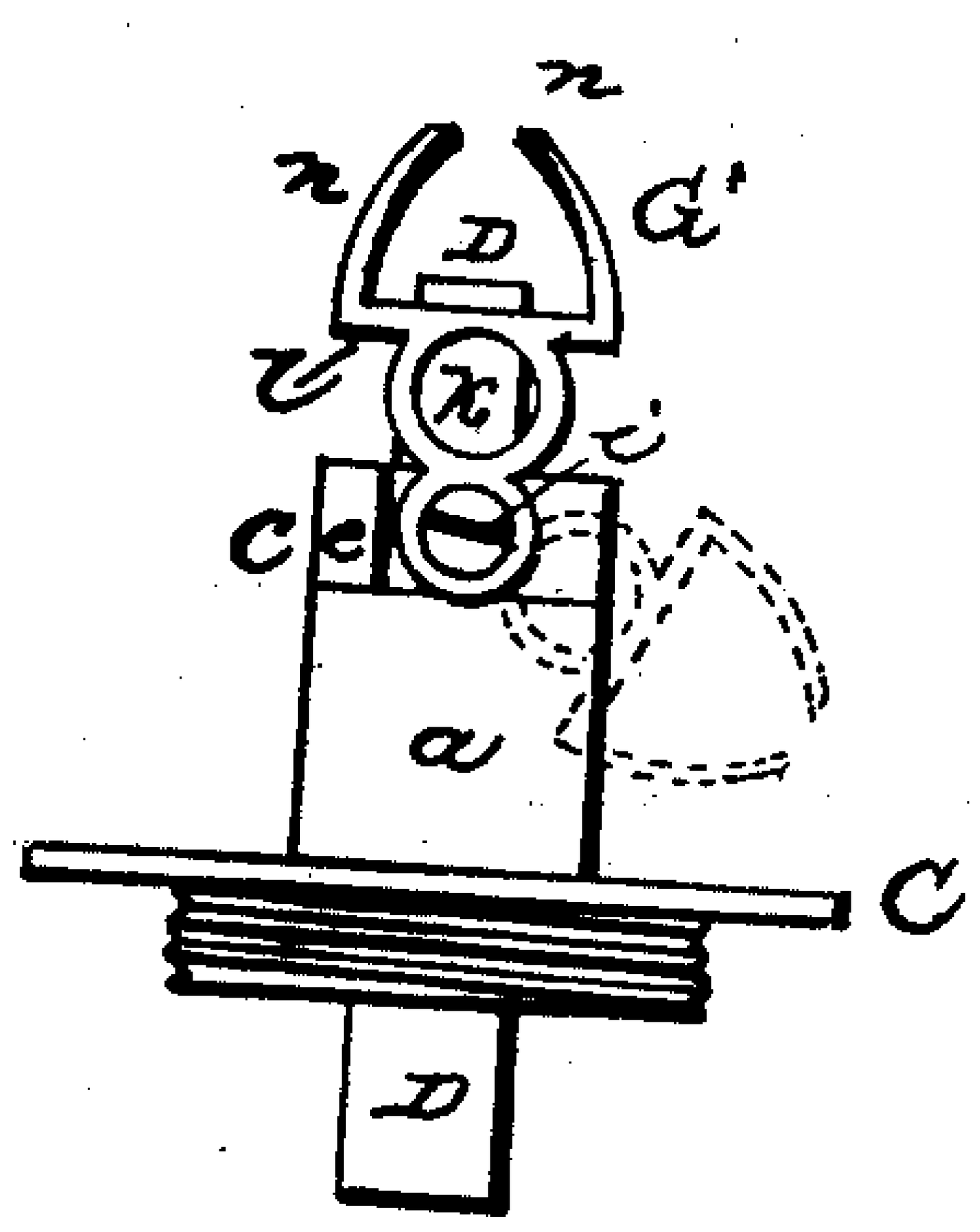


FIG. 4.

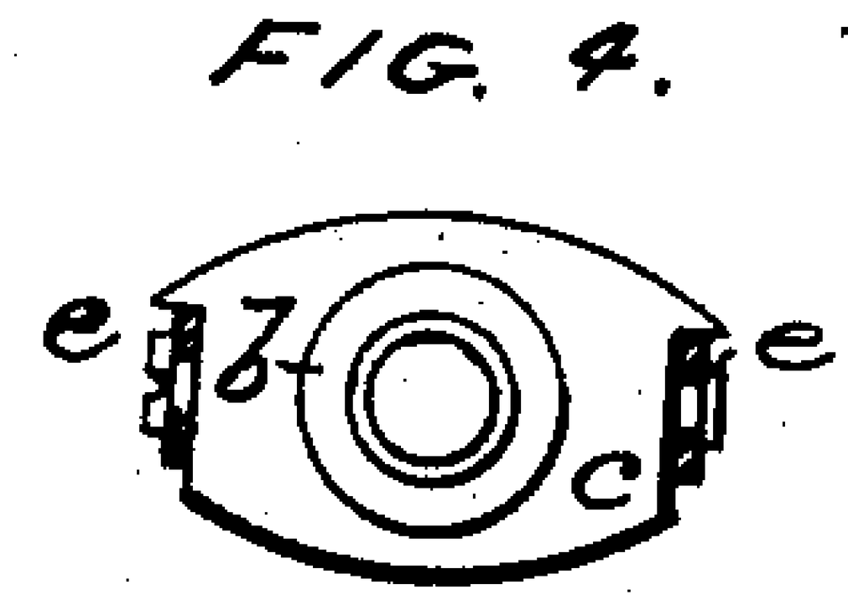
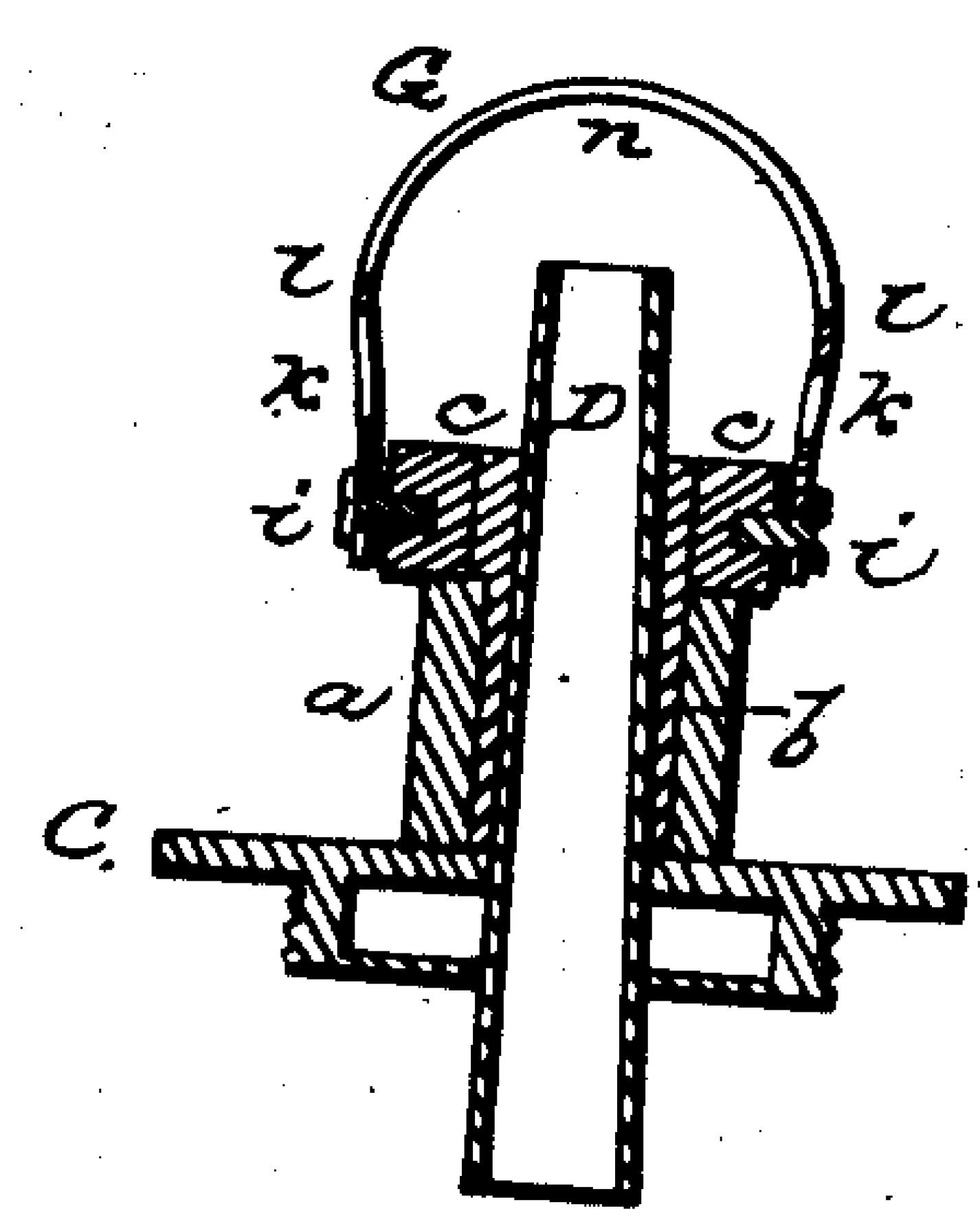


FIG. 3



WITNESSES:

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UNITED STATES PATENT OFFICE.

W. G. STERLING, OF BRIDGEPORT, CONNECTICUT.

IMPROVEMENT IN LAMPS.

Specification forming part of Letters Patent No. **37,928**, dated March 17, 1863.

To all whom it may concern:

Be it known that I, W. G. STERLING, of Bridgeport, in the county of Fairfield and State of Connecticut, have invented an Improvement in Lamps; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, in which—

Figure 1 is a perspective view of my improved lamp. Fig. 2 is a side view of the lamp-cap having my improvement applied to it. Fig. 3 is a vertical diametrical section through Fig. 2. Fig. 4 is a top view of the bridge-holding cap.

Similar letters of reference indicate corresponding parts in the several figures.

This invention is an improvement in lamps for burning coal-oil or other similar hydrocarbons, without a chimney, wherein the edges of a metallic plate are arranged on each side of the flame, so as to impinge upon the flame and assist in the combustion of the free carbon, and to spread the flame over a greater surface.

The nature of my invention consists in the employment of a skeleton bridge or flame-spreader, which is pivoted to a metallic cap in such a manner that the top of the bridge may be pushed to one side, and thus allow the lamp to be trimmed or lighted, as will be hereinafter described.

It also consists in interposing between the bridge-holding cap and the wick-tube, and between this cap and the lamp-cap, a substance which shall be a good non-conductor of heat, for the purpose of preventing the heat from the skeleton-bridge from being conducted to the wick-tube or cap of the lamp and causing a too rapid volatilization of the oil in the wick-tube and in the lamp, as will be hereinafter described.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

In the accompanying drawings, A represents the body of the lamp; B, that portion of the lamp-cap which is secured to the neck of A; C, the lamp-cap, which is screwed to B, so that it is removable, and D the wick-tube. These several parts combined form the common round-wick lamp, and they do not differ from lamps which are in common use. I surround the wick-tube D with a short cylinder, *a*, of glass or other suitable non-conductor of heat, and fill in between this cylinder or tube *a* plaster-of-paris, or any other suitable non-conducting cement, *b*. The glass tube *a* rests down on the top of cap C, and is secured by means of the cement *b* firmly in its place, as shown in Fig. 3 of the drawings. On top of the glass tube *a*, and surrounding the wick-tube, is an oblong metallic cap, *c*, which, having a large hole through its center, fits over the tube D, and is secured to this tube by means of the non-conducting cement *b* in the same manner that the glass tube is secured to the wick-tube. This metallic cap *c* is in this manner secured around the wick-tube, so that no injurious amount of heat will be conducted from it to the wick-tube, nor to the lamp-cap C. The lips or jogs *e e*, Fig. 4, which project from the ends of the metallic cap *c*, are used as stops for the metallic skeleton bridge G, as will be hereinafter described. This metallic bridge is made of one piece of thin sheet metal, stamped out by suitable machinery, and then bent in the semicircular form shown in Figs. 1 and 3 of the drawings. The extreme ends of bridge G are perforated to receive the screws *i i*, which pivot the bridge to the ends of the cap *c*. Above the screw-holes are the holes *k k*, and above these holes are tranverse bars *l l*, from the ends of which the bridge-pieces *n n* project, as shown clearly in Fig. 1. These bridges are bent so as to approach each other at their highest points, and this compresses and spreads the flame in a direction with the length of the bridge-bars. This bridge projects above the round-wick tube D a sufficient distance to allow its contracted portions to impinge upon the flame, become highly heated, and thus assist in the combustion, while at the same time the flame-spreader is made open or of a skeleton form, so that air can freely impinge upon the flame and keep up a free supply of oxygen.

When it is desired to light the lamp or to trim the wick, the bridge, being pivoted to the metallic cap *c*, can be turned down to one side, as shown in Fig. 2 in red lines, and thus expose the wick for this purpose. In pushing the bridge G back again to its place it comes in contact with the stops *e e*, and it is thus held in its proper relation with the flame for spreading the same without any further

adjustment. The metallic bridge-holding cap *c* is isolated from the wick-tube D in such a manner that while this cap is held rigidly in its place on the lamp-cap its heat will not be conducted to the wick-tube, neither will any heat be conducted to the cap C, as the tube *a* is the non-conducting medium between these two caps.

I do not claim, broadly, a flame-spreader, nor isolating the same from the wick-tube of lamps, as these features are to be found in the patents of C. W. Richter, February 22, 1859; J. S. Bradford, July 1, 1862; Alfred Bliss, ordered March 28, 1862; B. R. Alden, October 21, 1862; Thos. J. Barron, February 11, 1862, and Chas. F. Martine and Rufus H. Emerson, May 20, 1862, and others; but

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

1. The skeleton-bridge spreader G, constructed as herein described, when the same is combined with the wick-tube and isolated from this tube and the lamp-cap by means of a non-conducting medium, substantially as described.

2. Securing the bridge-holding cap *c* to the wick-tube by means of a non-conducting cement, substantially as herein described.

3. Pivoting the skeleton bridge G, or its equivalent, to an isolated cap, *c*, as and for the purposes herein described.

4. The stops *e e* on cap *c*, in combination with the pivoted bridge G, substantially as described.

5. Constructing the open or skeleton bridge G of one piece of metal stamped out so as to form the pivot-holes, openings *k k*, portions *l l*, and arched bridges *n n*, as described.

W. G. STERLING.

Witnesses:

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E. C. STERLING.