J. J. MILLER.

Lamp.

No. 37,887. Patented March 10, 1863.

FIG. 3.

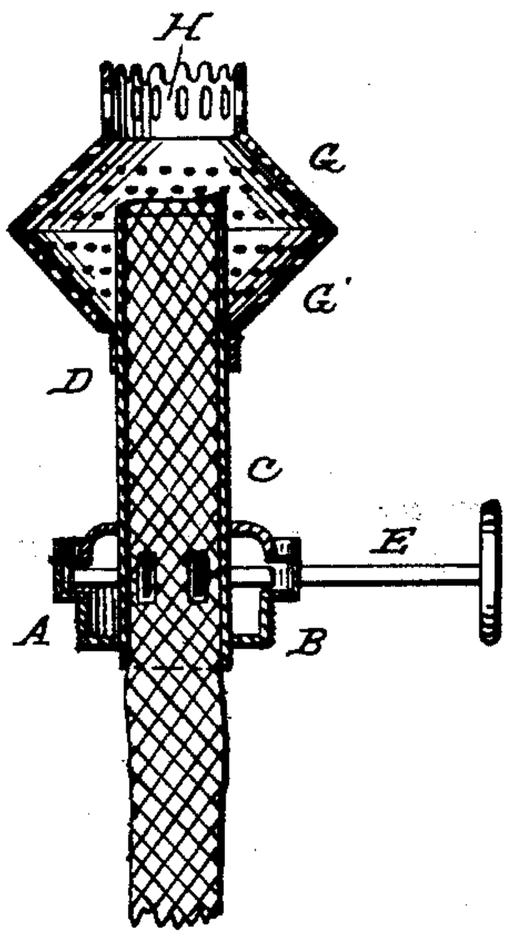


FIG. 4.

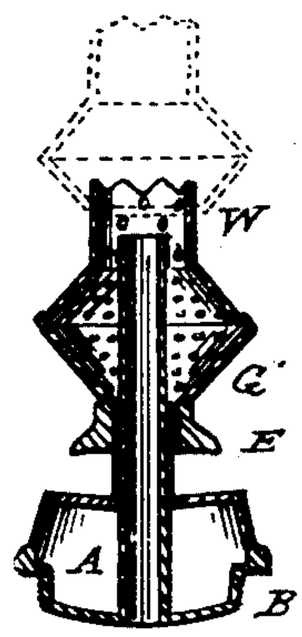


FIG. 1.

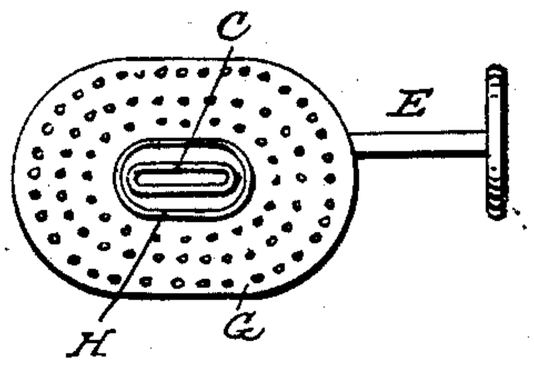
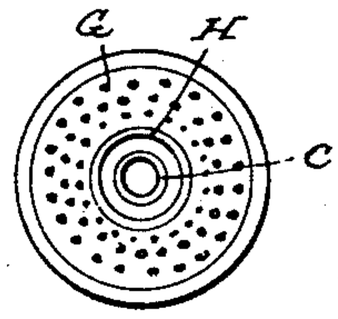


FIG. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN JACOB MILLER, OF CHICAGO, ILLINOIS, ASSIGNOR TO HIMSELF AND ERNST PRUSSING, OF SAME PLACE.

IMPROVEMENT IN LAMPS.

Specification forming part of Letters Patent No. **37,887**, dated March 10, 1863.

To all whom it may concern:

Be it known that I, JOHN JACOB MILLER, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Lamps; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a plan of the burner of a flat-wick lamp with my invention applied. Fig. 2 is a plan of the burner of a round-wick lamp, illustrating the application of the invention to this form. Fig. 3 is a vertical longitudinal section of the lamp represented in Fig. 1. Fig. 4 is a vertical section of that shown in Fig. 2, which shows, also, the form of Fig. 1 in its transverse section.

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

The object of this improvement is to produce a lamp capable of burning hydrocarbon oils successfully without the use of a chimney.

The prominent feature of novelty in the invention is a perforated cap of peculiar form, constituting a deflector and heater and inclosing a combustion-chamber in which the volatile gases and atmospheric air are so heated, mingled, and discharged as to produce a powerful and clear flame.

In order to enable others skilled in the art to which my invention appertains to fully understand and use the same, I will proceed to describe its construction and operation.

The reservoir A, screw-neck B, wick-tube C, wick D, and elevator E may be of common construction. F, in Fig. 4, is a slotted socket clasping the wick-tube so that it may be adapted to slide thereon, and supporting a perforated cap, G G′, the form of which is clearly represented in the drawings. For use with a round wick it has the form of two conic frusta converging at an angle of about ninety degrees and united at their bases. For use with a flat wick it is elongated horizontally to such an extent as may be needful to make it parallel with the wick-tube in its horizontal section. The cap G G′ may be fixed in suitable position upon the wick-tube, as shown in Fig. 3, or may be adapted to slide thereon, so that it may be set in any desired position in relation to the wick-tube and wick. The former mode is suitable for lamps provided with convenient means of elevating the wick, but in the absence of this the cap should be made adjustable.

H is a perforated annular flange or tube projecting upward from the top of the deflecting-cap G, and serving to protect and impart an upward direction to the flame, as well as heating the air which passes to the flame on the exterior of the cap. The upper member, G, of the cap, constituting the deflector, should converge upward in straight lines at an angle of about forty-five degrees with the perpendicular, as before stated. The lower member or supporting-cone, G′, may, however, be of any desired form which will serve to effect the purposes herein set forth. The entire cap G G′ constitutes a retort within which the gases are generated and after being duly mingled with air are deflected upward through the perforated tube H, through and above which is supplied such additional quantity of external air as may be needful to support combustion. The cap serves also as a reservoir which, being kept constantly filled with inflammable gas, will supply and preserve the flame, even when a sudden draft carries off a portion of the gas, which is a frequent cause of extinction in this class of lamps. Under ordinary circumstances a sufficiency of air is supplied through the perforations in the supporting-cone G′, but, in the event of an external draft forcing the flame downward or sidewise into the cap, it will be preserved from extinction by air entering through the apertures in the deflector G.

Having thus described my invention, what I claim as new therein, and desire to secure by Letters Patent, is—

The combination of the perforated supporting cone G′, with the perforated conical deflector G, the latter converging upward in straight lines at an angle of forty five degrees or thereabout with the perpendicular, and this either with or without the coronal flange H and the spring clasp or socket F, by which the cap may be adjusted vertically upon the wick-ube.

JOHN JACOB MILLER.

Witnesses:

ERNST PRUSSING,

CHARLES BROS.