F. B. SQUIRE & C. G. LITTLE.

Lamp.

No. 198,425. Patented Dec. 18, 1877.

FIG. I.

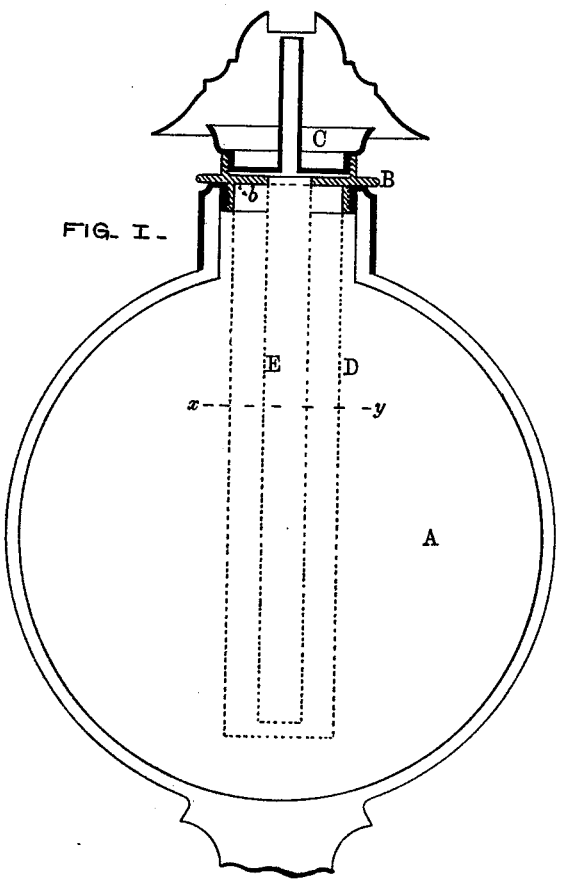
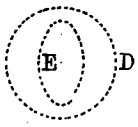


FIG. II.



WITNESSES.

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Georgus B. Squire,
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UNITED STATES PATENT OFFICE.

FEARGUS B. SQUIRE AND CHARLES G. LITTLE, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN LAMPS.

Specification forming part of Letters Patent No. **198,425**, dated December 18, 1877; application filed November 16, 1877.

To all whom it may concern:

Be it known that we, FEARGUS B. SQUIRE and CHARLES G. LITTLE, both of the city of Baltimore and State of Maryland, have invented certain Improvements in Lamps, of which the following is a specification; and we do hereby declare that in the same is contained a full, clear, and exact description of our said invention, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

This invention relates to a device to be applied to lamps wherein hydrocarbon fluid is used as the illuminating agent, to prevent explosion within the lamp of the vapor or gas generated or arising from the surface of the said fluid.

This invention depends for its effective action upon the heat-conducting properties of metals, and involves the principle, first discovered by Sir Humphrey Davy, that ignited gases cannot pass through the interstices of woven wire or wire-gauze, the gases being cooled to a temperature below that necessary to their continued ignition, or to the production of flame.

The present invention consists in combining, with the screw-connection between the lamp and burner, an outer cylindrical perforated casing and a perforated inner casing or wick-tube, flattened to receive and embrace the wick, the said casing and wick-tube being attached to said connection, thus enabling the improved device to be applied to lamps in ordinary use, and removed from the lamp when desired.

In the drawing forming a part of this specification, Figure 1 is a vertical section of a part of a lamp to which our improvement is applied. Fig. 2 is a cross-section of the invention on the dotted line *x y*.

Similar letters of reference indicate similar parts in both figures.

A is the lamp, and B the screw-connection between the lamp and the burner C. D and E are, respectively, an outer and an inner woven-wire, wire-gauze, or perforated sheet-metal casing, attached to and extending downward from the screw-connection B.

The inner casing or wick-tube E, which immediately surrounds the wick, is secured to the plate *b* of the screw-connection, and has, preferably, an oval cross-section, to conform somewhat to the shape of the wick. The outer casing D is cylindrical in form, to allow of its attachment to the lower end of the screw-connection.

The wick-tube E is of such shape and size as to be almost entirely occupied by the wick, which is thereby held off some distance from the outer cylindrical casing D, an important addition to the safety of the lamp being thus secured.

By means of this invention flame forced by a downward current of air to the inner casing around the wick cannot communicate with the interior of the lamp around the exterior casing, as the gas has to pass through the interstices in two thicknesses of wire-gauze, and during its passage is further cooled by being mixed with a body of gas at a reduced temperature contained between the said casings.

It will be understood that the gauze casings are attached only to the screw-connection between the lamp and the burner; consequently the invention may be applied to any of the lamps commonly in use.

Having thus described our invention, what we claim as new, and wish to secure by Letters Patent of the United States, is—

The screw-connection B, combined with the outer cylindrical perforated casing D and the flattened perforated wick-tube E, substantially as described, whereby is produced a safety attachment applicable to lamps in ordinary use.

In testimony whereof we have hereunto subscribed our names this 3d day of November, in the year of our Lord 1877.

FEARGUS B. SQUIRE.
CHARLES G. LITTLE.

Witnesses:
WM. T. HOWARD,
W. W. WHARTON.