F. B. SQUIRE.
Lamp.

No. 201,565. Patented March 19, 1878.

— FIG. I. —

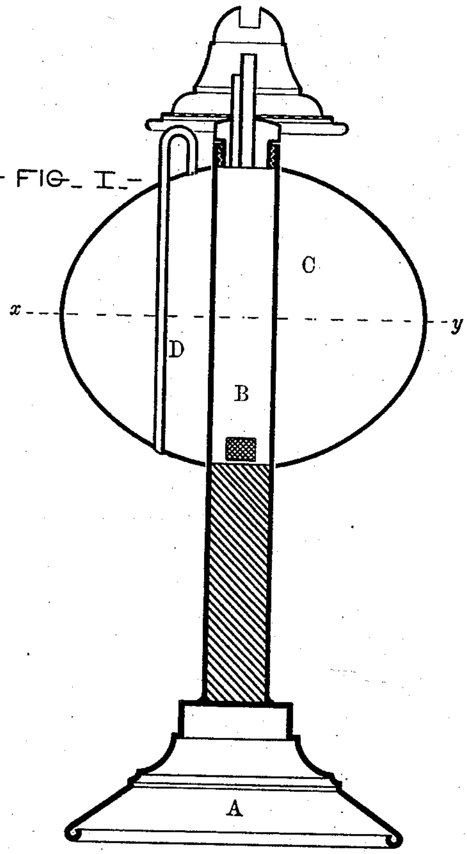
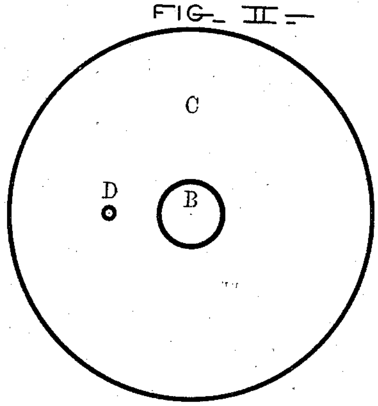


FIG. II.



— WITNESSES —

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— INVENTOR —

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UNITED STATES PATENT OFFICE.

FEARGUS B. SQUIRE, OF CLEVELAND, OHIO.

IMPROVEMENT IN LAMPS.

Specification forming part of Letters Patent No. **201,565**, dated March 19, 1878; application filed December 24, 1877.

To all whom it may concern:

Be it known that I, FEARGUS B. SQUIRE, of the city of Cleveland and State of Ohio, have invented certain Improvements in Lamps, of which the following is a specification; and I do hereby declare that in the same is contained a full, clear, and exact description of my said invention, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

This invention relates to certain improvements in that class of lamps wherein the reservoir for the illuminating-fluid is elevated upon a base, to which it is indirectly connected by means of a stem, forming a handle to be used in moving the lamp from place to place; and the said invention consists, first, in extending the said stem entirely through the fluid-holding reservoir, and in strengthening the said stem by a suitable filling, so that the point of connection between the stem and reservoir is rendered strong, and not liable to fracture by accidents to which lamps are ordinarily exposed, and whereby, also, greater weight and solidity are given to the use of the lamp.

The invention consists, secondly, in providing the fluid-holding reservoir with a pressure-equalizing tube, or a tube whereby an equilibrium of pressure is at all times maintained between the vapors in the lamp and the exterior air, and in covering the ends of the said tube with wire-gauze or perforated sheet metal, to prevent the passage of flame to the interior of the lamp.

The object of the second part of the invention is to prevent explosion of the fluid-holding reservoir, either from gas or vapor pressure generated therein, or from the introduction of flame to the reservoir, in consequence of the establishment of a partial vacuum in the same, which partial vacuum may be caused by the contraction of the gas or vapor by the sudden chilling or cooling of the lamp, as will hereinafter fully appear.

In the further description of the said invention, which follows, reference is made to the accompanying drawings, in which—

Figure 1 is a sectional elevation of the improved lamp, and Fig. 2 a cross-section of the same on the dotted line *x y*.

Similar letters of reference indicate similar parts in both figures.

A is the base of the lamp, to which is secured the stem B. This stem is formed of a pipe or tube, which passes entirely through the reservoir C, having its upper end adapted or attachment to the burner. The portion of the stem B within or inclosed by the reservoir is hollow, and its interior is in communication with the reservoir by means of one or more apertures covered by wire-gauze or perforated sheet metal, or by an aggregate of small holes. The part of the stem below the reservoir is filled with cement or other material, to prevent the admission of the illuminating-fluid thereto, and to give weight and solidity to the lamp.

The pressure-equalizing tube, before alluded to, is represented by D, and is in the form of a siphon, with its upper end in communication with the interior of the reservoir, and its lower end with the air outside of the lamp. Both ends of the tube D are provided with wire-gauze or perforated sheet metal, to prevent the accidental passage of flame to the interior of the lamp.

From the foregoing description it will be understood that the lamp, as far as the burner and wick-supporting devices are concerned, is complete without the reservoir, the said reservoir having but one office—viz., that of holding the illuminating-fluid.

It will be seen that the equalizing-tube D furnishes at all times a safety-vent, through which an over-pressure of gas in the lamp may be relieved, and also an inlet through which air may be forced in by exterior atmospheric pressure, to fill a partial vacuum caused in the lamp by the contraction of the oil, gas, or vapor. This contraction is a common occurrence when lamps are conveyed from a warm to a cold room; and as a flame may be drawn into lamps not properly provided with such a safety appliance as is found in my invention, explosions by the igniting of the gases are liable to occur.

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

1. The hollow stem B, extending from the

base of the lamp to the burner, and strengthened by a suitable filling at and below the point of connection of the said stem and reservoir, substantially as and for the purposes specified.

2. In combination with the fluid-reservoir C, the pressure-equalizing pipe or siphon D, placed within the same, and communicating with the upper portion of its interior, and with the outer air near the bottom of said reservoir, substantially as specified.

3. Combined with the fluid-reservoir C, the siphon D, having its ends covered by wire-gauze or its equivalent, substantially as set forth.

In testimony whereof I have hereunto subscribed my name this 12th day of December, A. D. 1877.

FEARGUS B. SQUIRE.

Witnesses:
W. W. WHARTON,
JNO. T. MADDOX.