J. BENSON.

VAPOR LAMP.

No. 186,102. Patented Jan. 9, 1877.

Fig. 3.

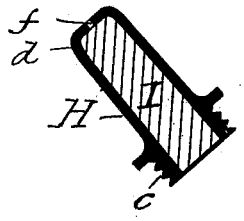


Fig. 1.

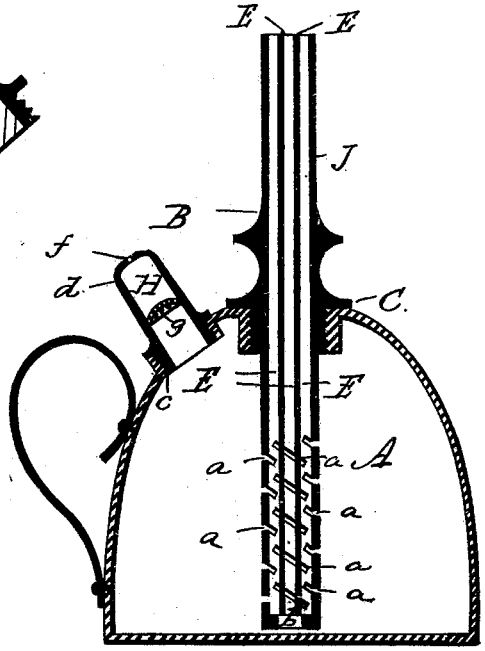


Fig. 2.

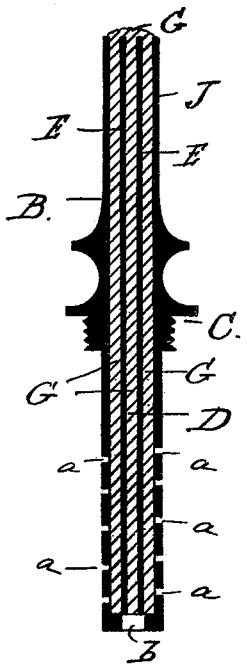


Fig. 4.

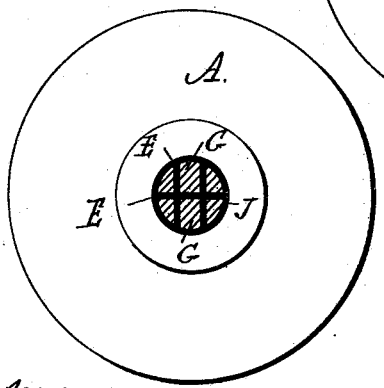


Fig. 5.

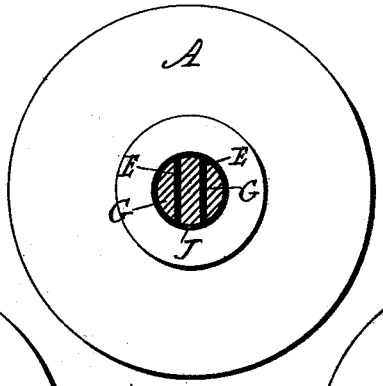
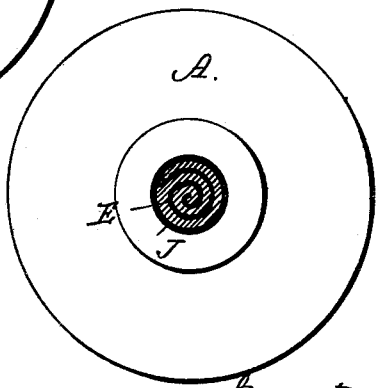


Fig. 6.



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UNITED STATES PATENT OFFICE.

JOSEPH BENSON, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN VAPOR-LAMPS.

Specification forming part of Letters Patent No. **186,102**, dated January 9, 1877; application filed July 1, 1876.

To all whom it may concern:

Be it known that I, JOSEPH BENSON, of South Boston, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Vapor-Lamps, of which the following is a specification:

This invention consists in a vapor-lamp, constructed with a wick-tube, provided with a wick composed of a sheet or sheets of mica, dividing the interior of the tube into two or more partitions, which are filled with asbestus or other absorbent substance, as hereinafter more fully set forth.

In the accompanying plate of drawings my invention is illustrated, Figures 1 and 2 being central vertical sections of a lamp and its wick-tube, with the wick constructed according to this invention; Fig. 5, a horizontal cross-section on line *x x*, Fig. 1 and Fig. 2; Figs. 3, 4, and 6, views in detail and modification.

A in the drawings represents the body of a vapor lamp, and B the wick-tube, adapted with a cap-plate, C, to be attached and removed as ordinarily. This wick-tube B is constructed of metal J, and projects into the body A of the lamp, and is provided with perforations *a* in its sides, in that part of the wick-tube which is in the lamp-body A, and also in the bottom of the same, as at *b*. D is the wick, extending the entire length of the wick-tube B. This wick D is composed of mica and asbestus, arranged in the wick-tube substantially as follows: The mica E is in thin sheets or plates, one or more of which are inserted in the wick-tube, as shown in the drawings, forming partitions, which divide the interior of the wick-tube vertically into two or more spaces or chambers, F, which spaces or chambers are filled and packed with granulated or pulverized particles of asbestus G. H, a safety-tube adapted to be screwed on or into the body of the lamp, as at *c*. This tube communicates with the interior of lamp-body A, and is closed at its upper or outer end *d*, except as to a small aperture or vent, *f*, for the escape of gas from the lamp when there is considerable pressure from the formation and expansion of the gas by the heat from the burner-flame. The tube H, with its vent *f*, is also useful for the supply of air to the lamp.

To prevent a too rapid escape of the gas through the vent *f*, with consequent liability to ignition from the burner-flame, a wire-gauze, *g*, is inserted in the tube H, as shown.

In lieu of using wire-gauze, as above described, the tube G can be packed with wicking or other similar fibrous material, as shown in Fig. 3, I representing the wicking.

Figs. 4 and 6 are views representing the wick and wick-tube in horizontal cross-section, but showing modifications as to the arrangement of the sheets of mica E in the wick-tube.

A vapor-lamp having a wick constructed substantially as herein described possesses many advantages. First, the wick is indestructible; second, the wick conducts the heat from the burning flame to the oil in a most efficient manner, the mica being in plates or sheets, as described and shown, insuring and increasing the conducting power of the wick.

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

In combination with the wick-tube B, the wick D, composed of a sheet or sheets of mica, E, dividing the interior of the wick-tube vertically into two or more partitions, which are filled with asbestus or other absorbent mineral substance, substantially as described.

JOSEPH BENSON.

Witnesses:

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