

E. M. WILLIAMS.

Vapor Burner.

No. 22,270.

Patented Dec. 7, 1858.

Fig. 1

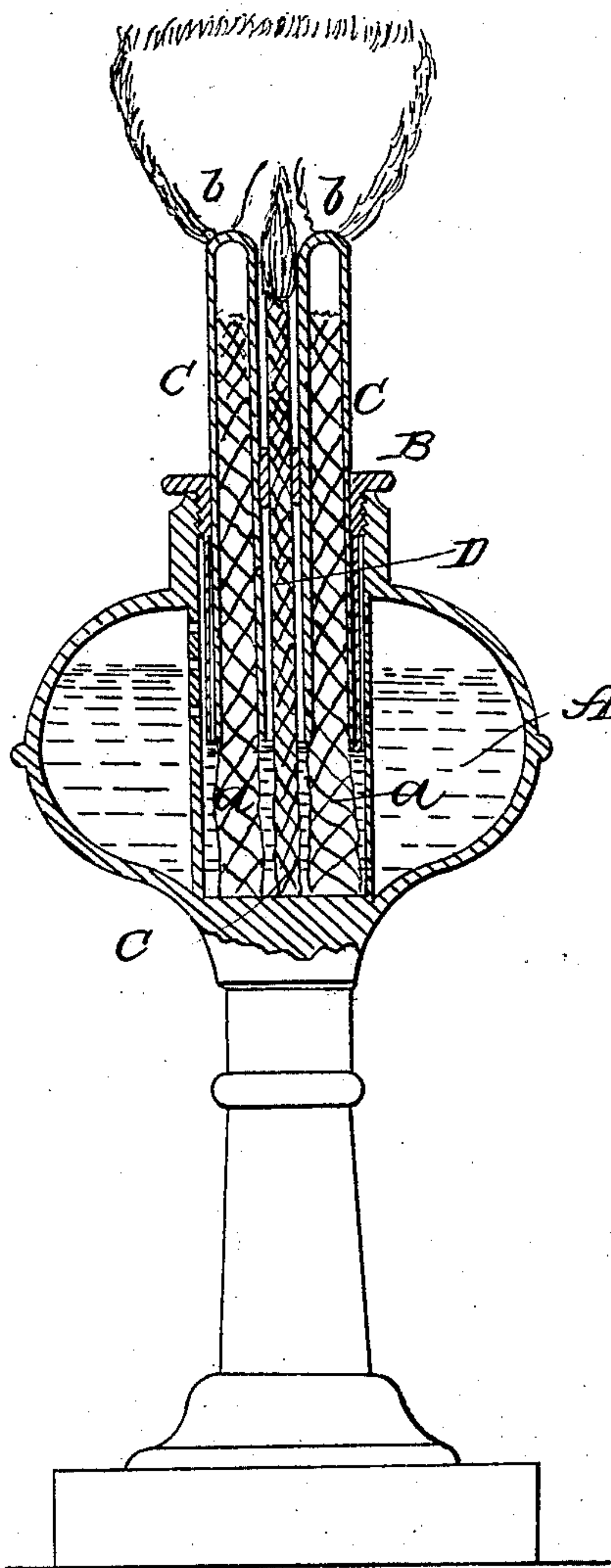


Fig. 2

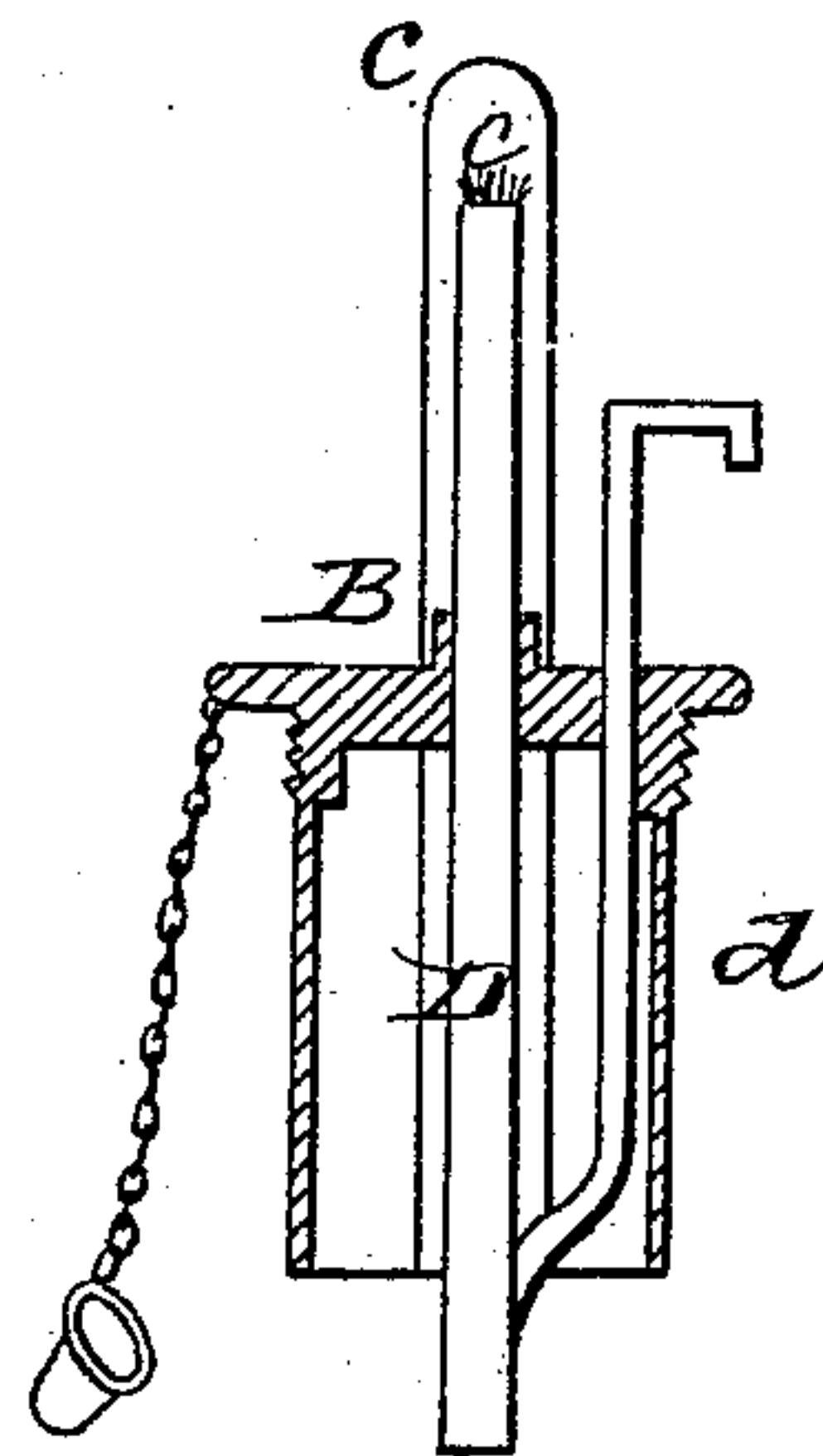
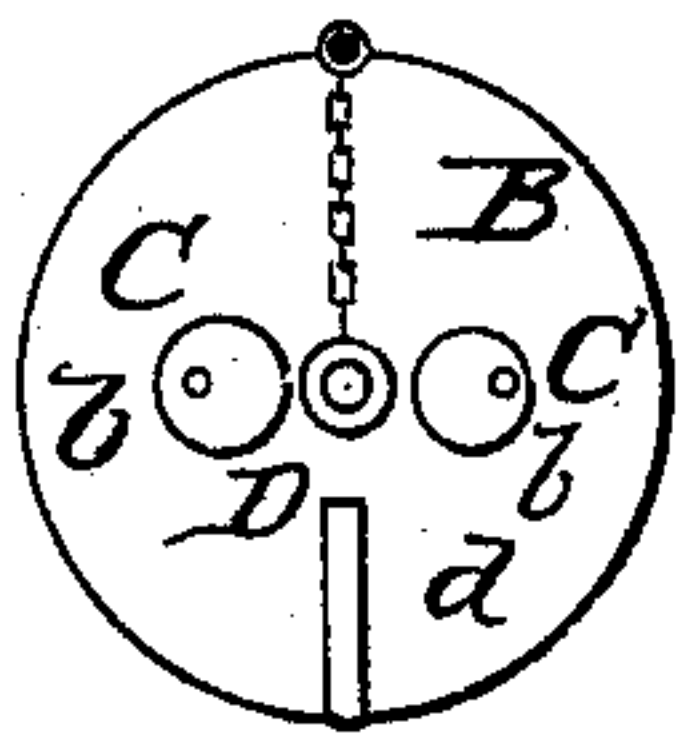


Fig. 3



Witnesses
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Stephen Williams

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UNITED STATES PATENT OFFICE.

E. M. WILLIAMS, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO HIMSELF AND JOHN GABEL, OF SAME PLACE.

BURNER FOR VAPOR-LAMPS.

Specification of Letters Patent No. 22,270, dated December 7, 1858.

To all whom it may concern:

Be it known that I, E. M. WILLIAMS, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and Improved Lamp for Burning Volatile Hydrocarbons; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a vertical central section of my invention fitted in a lamp. Fig. 2, is a detached vertical central section of do, the plane of section being at right angles to that of Fig. 1. Fig. 3, is a plan or top view of do.

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

This invention relates to an improvement in that class of lamps in which the fluid or burning material is volatilized and the vapor burned as it is generated.

The invention consists in the employment or use of a sliding wick tube fitted in the cap of the lamp and placed in close relation with one or more vapor tubes, whereby the latter by the adjustment of the former may be heated to a greater or less degree and an illuminating flame of greater or less brilliancy obtained as may be desired.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

A, represents the body of a lamp of ordinary construction and B, is a cap screwed into the top thereof.

C, C, are two tubes which pass vertically through the cap B, and are each supplied with a wick *a*. The upper ends of the tubes C, C, are perforated with one or more fine holes *b*. The tubes C, C, extend a suitable distance down into the body of the lamp and extend a suitable distance above the cap B.

D, is a wick tube which is considerably smaller in diameter than the tubes C, C. The tube D, is fully open at the top provided with a wick *c*, and is fitted between the two tubes C, C. The tube D, is allowed to slide freely up and down between the two tubes C, C, and a wire or rod *d*, is attached to the lower end of the tube D, said wire or rod passing up through the cap B, and serv-

ing as a handle to move the tube D. This will be understood by referring to Fig. 2. The tube D, may be somewhat longer than the tubes C, C, so as to admit of the former being raised a certain distance and still have its lower end a proper depth in the body A, of the lamp.

The operation is as follows: The body A, of the lamp is supplied with a requisite quantity of fluid and the wick *c*, of the tube D, is lighted, the flame of the wick *c*, is fed or supplied directly from the fluid, the wick *c*, conducting the fluid to the flame. This flame heats the tubes C, C, and the fluid is volatilized thereby, the vapor being ignited as it issues from the perforations *b*, and it will be seen that as the volatilizing of the fluid in the tubes C, C, is done by the flame of the tube D, that the size of the illuminating flame may be increased or diminished by adjusting the tube D. If a large illuminating flame is desired the tube D, must be depressed so that the flame will be quite near the tubes C, and the latter heated sufficiently to volatilize rapidly the fluid within the lamp. If an illuminating flame of less power is required the tube D, is raised so that the flame of the wick *c*, will be farther off from the tubes C.

I am aware that vapor lamps have been constructed in which a supplemental flame has been employed for volatilizing the fluid, but I am not aware that a sliding supplemental wick tube arranged as herein shown and described has been employed for the purpose of graduating the heat employed for volatilizing the fluid within the lamp and thereby regulating the power of the illuminating flame as may be desired. I do not claim therefore broadly the employment or use of a supplemental flame for volatilizing the fluid within the lamp; but,

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

The supplemental sliding wick tube D, arranged relatively with one or more vapor tubes C, to operate substantially as and for the purpose set forth.

E. M. WILLIAMS.

Witnesses:

STUART FIELD,
STEPHEN WILLIAMS.