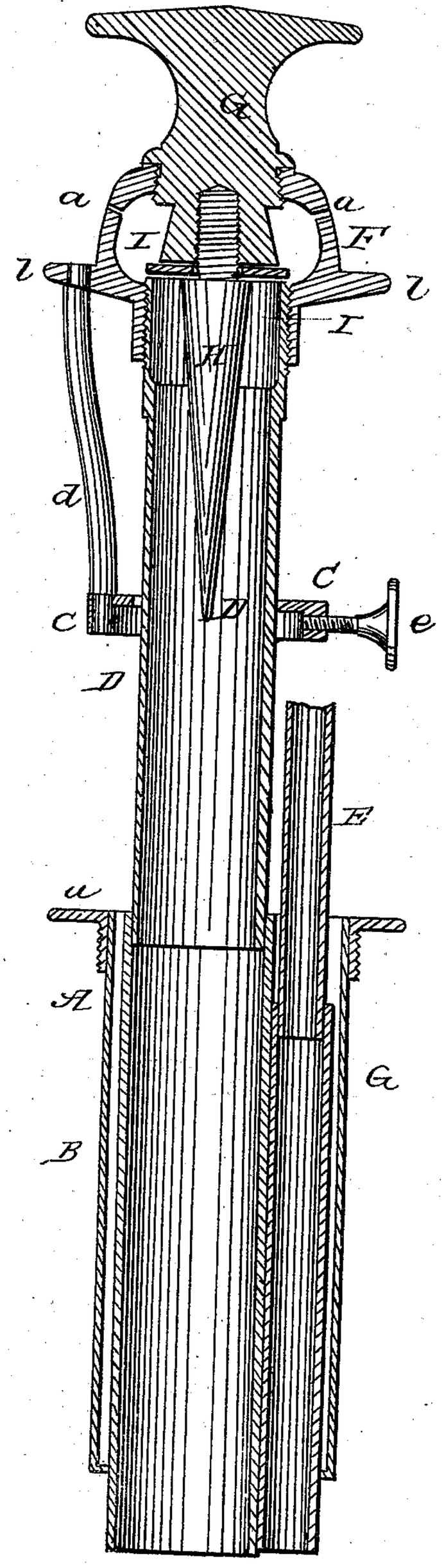
F. HEIDRICK.

Fluid Lamp.

No. 21,166. Patented Aug. 10, 1858.



UNITED STATES PATENT OFFICE.

F. HEIDRICK, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO C. F. CLOTHIER, OF SAME PLACE.

BURNER FOR VAPOR-LAMPS.

Specification of Letters Patent No. 21,166, dated August 10, 1858.

To all whom it may concern:

Be it known that I, FREDERICK HEIDRICK, of the city of Philadelphia and State of Pennsylvania, have invented a certain new and useful Improvement in Fluid-Lamps; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing and to the letters of reference marked thereon.

My invention relates to an improvement in fluid lamps, in which an inflammable vapor is generated from a spirit, generally composed of alcohol and turpentine, by heat, produced from the flame of the lamp; and my improvement consists in the employment of a loose washer, acting in conjunction with the usual wick-tube, hollow burner and button of this class of lamps, in the manner fully set forth hereafter, in order that the escape of vapor may be regulated with exactitude and facility, and in order that its escape may be entirely cut off, when the flame is extinguished, thus preventing the waste of fluid.

In order to enable others skilled in the art to make and use my improvement, I will now proceed to describe its construction and operation.

The figure in the accompanying drawing, which forms a part of this specification, represents a sectional view of the tube, burner, and their appurtenances of a vapor-generating lamp with my improvement.

A is the tube, which is inserted into the reservoir containing the fluid, and which has a flanched ferrule *a*, which screws into a socket attached to the top of the reservoir. In the interior of this tube A are a second tube B and a third tube G, the two latter being connected together, and both being maintained free from contact with the exterior tube by an intervening body of gypsum or other non-conducting material.

To the tube B is attached the upper tube D for the main wick, which extends nearly to the top, and to the tube G is attached the upper tube E for the smaller, supplementary wick.

F is the hollow burner, perforated with any required number of holes *a*, and adapted to screw to the top of the tube D. A flanch *b* on the burner is connected to a metal ring *c*, by any convenient number of small rods *d*, the ring being furnished with a thumb screw *e*, which serves the purpose of a handle to turn the ring, and with it the burner.

Into an orifice in the top of the hollow burner is screwed the head or button G, and into the latter the metal spur H, which penetrates the wick contained in the tube D. This spur has a shoulder, between which and the under surface of the button intervenes a washer I, which I prefer to make of platina, or other metal or alloy not easily affected by heat. The washer is allowed to have a slight vertical movement between the shoulder of the spur and the button, and the orifice in the washer is large enough to allow it to have a trifling, lateral movement. Thus, although the washer is retained in its proper position, it has an independent movement, sufficient to render it self-adjustable. The washer is sufficiently large to cover the opening of the tube D, which, together with the washer and underside of the button, should be turned perfectly true. The preliminary generation of the ignitable vapor from the fluid in the lamp, by the heat of the flame from the wick in the supplementary tube E, imparted to the ring *c*, rods *d*, burner F, button G and spur H, is too well known in lamps of this class to need explanation.

More or less vapor from the wick in the tube D may be allowed to pass through the annular space between the top of the tube and the washer, by screwing down or unscrewing the burner F, and, consequently, the size of the flame at the orifices *a* may be increased or diminished at pleasure, and, by screwing down the burner so that the washer may bear tightly on the top of the tube, the further escape of vapor from the latter is prevented, and the light consequently extinguished.

I am aware that the regulation of the escape of vapor from the wick-tubes of this class of lamps has been heretofore accomplished by screwing down the burner, but without the intervention of a washer, the portion intended to cover the tube having been heretofore attached rigidly to the burner. By this arrangement, when the lamp was extinguished and the burner screwed down onto the top of the tube, the heat would cause the two to adhere together, so as to render it difficult to unscrew it, and the joint by this screwing and unscrewing

becomes gradually so worn, that no dependence could be placed upon its tightness. Consequently the vapor, after the light was extinguished, would pass off to the air, and the fluid be wasted.

The introduction of the washer I obviates this difficulty, being self-accommodating to a limited extent. A perfectly tight joint may be made by screwing down the burner, and the escape of any vapor prevented. The burner too can be unscrewed with ease, when the lamp has to be used. In fact, the washer I serves precisely the same useful and well known purpose, as the washer used in connection with an ordinary nut and bolt.

I lay no exclusive claim to the hollow burner F, the spur H or to the introduction of the non-conducting material between the tubes A and B, but

I claim and desire to secure by Letters Patent,

The employment of the self-adjusting washer I, in connection with the burner F, button G and wick tube D, in the manner, and for the purpose, herein set forth.

In testimony whereof, I have signed my name to this specification before two subscribing witnesses.

FRED. HEIDRICK.

Witnesses:

HENRY HOWSON,

HENRY ODIORNE.