F. ROSENGREN.

VAPOR BURNER.

APPLICATION FILED FEB. 10, 1909.

924,689. **Patented June 15, 1909.**

Fig. 1.

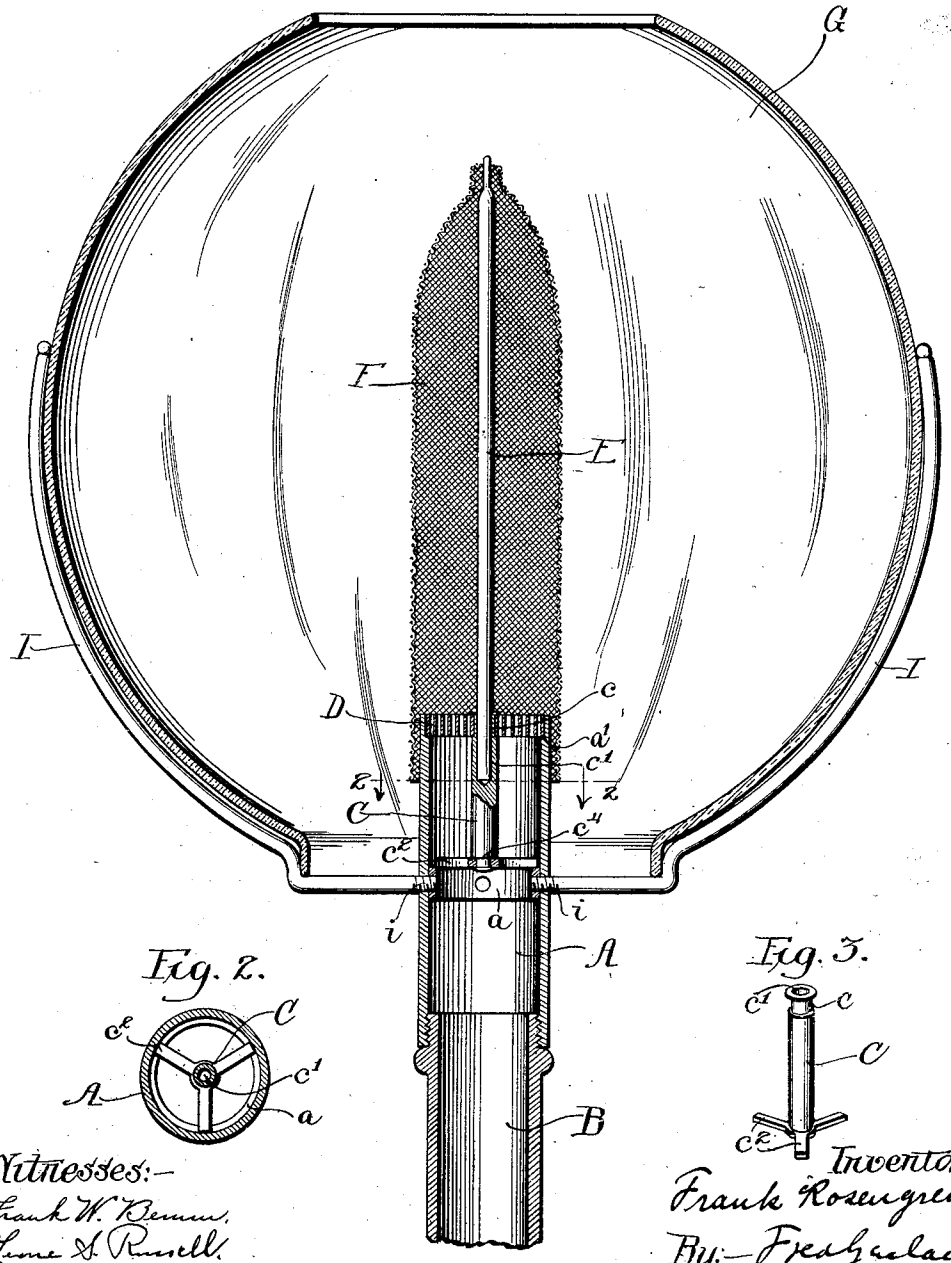


Fig. 2.

Fig. 3.

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UNITED STATES PATENT OFFICE.

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VAPOR-BURNER.

No. 924,689. Specification of Letters Patent. Patented June 15, 1909.

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To all whom it may concern:

Be it known that I, FRANK ROSENGREN, a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Vapor-Burners, of which the following is a full, clear, and exact description.

The invention relates to vapor-burners of the type used for hydro-carbon or alcohol vapor. These burners usually comprise a burner-tube, an incandescent mantle, and a chimney, or a shade, and it is desirable that all of these elements should be connected or supported by the burner-tube, so that when the tube is connected to a supply-pipe the supporting-elements for the several parts of the burner will all be supported in proper relative position.

The present invention relates more particularly to the means for supporting the mantle, chimney and shade in proper relation on the burner-tube. In practice it has been found desirable to support the incandescent mantle by a post centrally disposed therein and which is removably held in a socket in a support mounted in the burner-tube, and a screen is usually disposed at the upper end of the burner-tube. It has also been found that in practice this screen sometimes melts and that the mantle-supporting post becomes stuck in the socket. To facilitate replacement and removal of a defective screen or a mantle supporting-post, the invention provides a support which is removably held within the tube, and has a socket therein for the mantle-supporting post, so that whenever the screen becomes defective or the mantle-post becomes stuck in the socket, the internal support can be readily removed for convenience in cutting away the molten screen or removing the mantle-post or in the replacement of such parts.

The invention also designs to provide improved means for connecting the chimney or shade-supporting wires or rods to the burner-tube; this means being exemplified by an internal ring in the tube through which the terminals of said supporting-wires are extended to furnish a firm connection therefor.

The invention consists in the several novel features hereinafter set forth and more particularly defined by claims at the conclusion hereof.

In the drawings: Figure 1 is a vertical section of a burner embodying the preferred form of the invention. Fig. 2 is a section on line 2—2 of Fig. 1. Fig. 3 is a detail perspective of the internal support, the screen being removed therefrom.

A denotes a burner-tube adapted to be connected to the usual supply-pipe B, and for conducting the vapor to the incandescent mantle. Within the burner-tube is fitted a ring *a* being usually of such a size that it can be forced into the tube and frictionally held in place therein. This ring serves to carry a support C, which is centrally disposed in the tube and extends through the usual screen D. This screen D may be of usual or any suitable construction, being usually formed of coiled or corrugated flat strips of metal, as well understood in the art. The upper edge of the burner-tube is formed with an internal groove *a'* to provide an annular shoulder or seat in the tube and for removably sustaining the outer edge of the screen. The upper end of the support C is also provided with a groove *c* in which the screen fits so that it will be connected to the support and be removable therewith. The support is provided with a socket *c'* in its upper end, adapted to receive a mantle-supporting post E, from the upper end of which the incandescent mantle F is suspended as usual in the art. The support C has secured to its lower end a spider c^2 which provides radial feet or legs which rest on the ring *a* in the burner-tube so that the support will be removably held in the burner-tube, and positioned centrally therein. The lower end of the post is rigidly secured to the spider by riveting the lower end of the post against the lower face of the spider, a shoulder being formed on the lower end of the post as at c^4. As a result of this construction, whenever the screen becomes defective or the mantle-supporting post becomes stuck in the support C, the post-support and screen can be readily lifted out of the burner-tube, the screen can then be replaced or the post can be conveniently withdrawn from the supporting-post C. The invention thus provides an improved device in which the screen is supported centrally by a support centrally disposed in the tube and which is provided with means at its lower end adapted to be removably supported by and in the tube. A still further important advantage of this construction is that if, for any reason, it should be desired to mount the mantle-post in the support C before the latter is placed

in the burner-tube, this can be done because the screen and support can be readily dropped into place in the burner-tube through the upper end of the tube. The construction also is one whereby the post will be centrally positioned and truly held in the tube without the necessity of attaching or securing the internal support permanently or rigidly in the tube.

The burner usually comprises a shade G of suitable form which serves also as a chimney. These elements are preferably held by a plurality of supporting wires or rods I which are secured to and supported by the burner-tube A. The outer ends of these wires serve to support the shade H. The inner ends of these supporting-wires are provided with screw-threads *i* which fit into correspondingly threaded openings in the burner-tube, and in the ring *a*, thus providing a firm connection between the tube and the supporting-wires. In practice it is desirable to avoid the use of a comparatively thick burner-tube and by providing the ring *a* in the tube and screw-threading the supporting-wires to the ring, the latter will be rigidly secured against longitudinal movement in the tube and will also provide an additional screw-threaded surface for a firmer connection between the wires and the tube than a thin tube alone would provide. Thus this ring serves to removably support or sustain the mantle and screen support G and to provide a firm connection between the supporting-wires and the tube.

The invention is not to be understood as restricted to the details set forth, since these may be modified within the scope of the appended claims without departing from the spirit and scope of the invention.

Having thus described the invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In a burner, the combination of a burner-tube having an internal groove at its upper edge, a screen having its outer edge resting in said groove and removably held therein, a support within the tube having a plurality of feet, said screen being secured to the upper end of said support so it will be removable therewith, a ring within the tube on which the feet rest to removably hold the support in the tube, the support having a socket therein, and a mantle post held in said socket.

2. In a burner, the combination of a burner-tube, a screen supported at the upper end of said tube, a support within the tube, a ring within the tube on which the support is removably held, and means extending through said tube and into said ring for securing it in the tube.

3. In a burner, the combination of a burner-tube, a screen supported at the upper end of said tube, a support disposed within the tube, a ring within the tube whereby said support is held, and supporting-wires extending through said tube and into said ring.

4. In a burner, the combination of a burner-tube, a screen at the upper end of said tube, a support disposed centrally within the tube and having a plurality of feet, a ring within the tube on which the feet rest to removably hold the support in the tube, said support having a socket therein for a mantle-post, and supporting-wires extending through the tube and into said ring.

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