T. CONNELLY.

BURNER FOR VAPOR LAMPS.

No. 26,888. Patented Jan. 24, 1860.

Fig. 1.

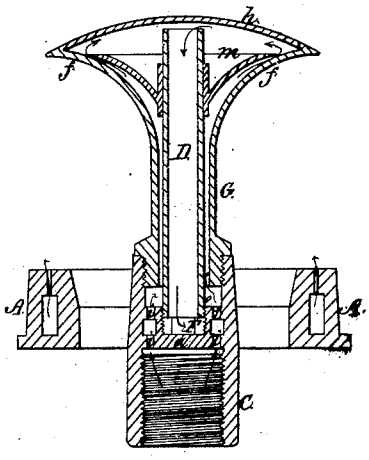


Fig. 2.

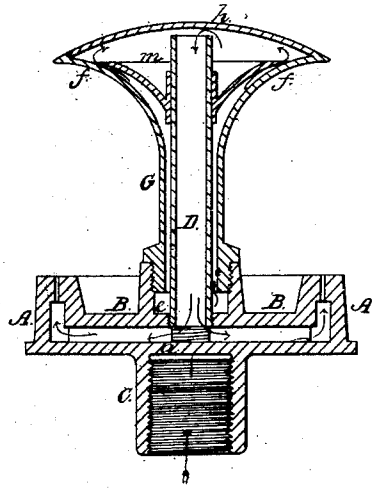


Fig. 3.

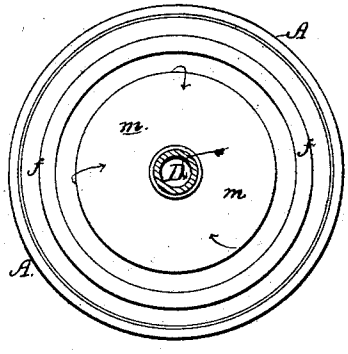
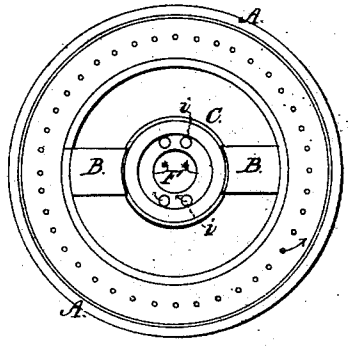


Fig. 4.



Witnesses,
Henry Houston
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UNITED STATES PATENT OFFICE.

THOMAS CONNELLY, OF PHILADELPHIA, PENNSYLVANIA.

BURNER FOR VAPOR-LAMPS.

Specification of Letters Patent No. 26,888, dated January 24, 1860.

To all whom it may concern:

Be it known that I, THOMAS CONNELLY, of the city and county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Burners for Vapor-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 consists in combining an annular perforated tube such as used in ordinary Argand burners, with a tube terminating at the top in a flaring chamber exposed to the flame, and containing an inner tube, the whole being arranged substantially as described hereafter in order that the vapor may have to traverse the heated passages formed by the tubes and thus be deprived of much of its impurity before it reaches the annular chamber.

My invention further consists of a plate so arranged within the above mentioned flaring chamber as to form with the latter a narrow annular space through which the vapor must pass in a thin stream exposed to the hottest part of the said chamber thus imparting additional heat to the vapor and tending to reduce it to the best condition for illuminating purposes.

In order to enable others to make and use my invention I will now proceed to describe its construction and operation.

On reference to the accompanying drawing which forms a part of this specification, Figure 1, is a vertical section of my improved burner for vapor lamps. Fig. 2, the same viewed in another direction. Fig. 3, a plan view, Fig. 4, the same as Fig. 3 with the upper portion of the burner removed.

Similar letters refer to similar parts throughout the several views.

A is an annular tube perforated with holes on the top and connected by hollow arms B to a central tube C after the manner of an ordinary Argand burner. The tube C screws onto the wick-tube of a fluid lamp, the wick of which reaches to within a short distance from the partition *a* in the tube *c*, above which and in the same tube is another partition *e*. Between these two partitions is a chamber F which communicates with the hollow arms B B and also with the inner vapor tube D. The space in the central tube C below the partition *a* communicates directly with the wick tube through orifices *i i* (see Figs. 1 and 4) with the space between the inner vapor tube D, and the outer vapor tube G, the former being screwed to the partition *e* and the latter to the top of the central tube C. The outer tube is flared outward at the top so as to form the trumpet shaped chamber F, which is covered by the convex plate *h*. The inner vapor tube D extends to within a short distance from the cover *h* and has an annular trumpet shaped plate *m* the edge of which is in close contiguity to, but not in actual contact with, the sides of the chamber F. The vapor generated in the wick tube passes from the latter, thence through the orifices *i i* into the space between the inner and outer vapor tubes D and G, between the edge of the plate *m* and the side of the chamber F, thence down the inner vapor tube D and thence through the interior of the hollow arms B B to the annular tube A from whence the vapor escapes through the perforations where it is ignited. The heat imparted to the chamber F by the flame is conducted to the wick tube in which a uniform generation of vapor is effected as long as the flame remains. As the vapor has to traverse the space between the heated tubes G and D, and in a thin stream between the plate *m* and the chamber F, and thence through the heated tube D, it is deprived by this contact with the heating surface of much of its impurities and reduced to a better condition for illuminating purposes before it reaches the interior of the annular chamber.

Although I have described my improved burner as applied to a self generating vapor lamp, it may be used with advantage as a burner for ordinary coal gas, the heated passages through which the gas has to traverse tending to render it free from impurities, and consequently in the best condition for illuminating purposes.

I claim as my invention and desire to secure by Letters Patent—

1. The combination of the annular perforated tube A with the outer vapor tube G, its flared chamber F, and inner vapor tube

D, when the said tubes are arranged in respect to each other and to the annular tube A, substantially as and for the purpose herein set forth.

2. The plate *m* attached to the inner tube D, and arranged within the chamber F of the tube G, as specified.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

THOS. CONNELLY.

Witnesses:

HENRY HOWSON,

CHARLES D. FREEMAN.