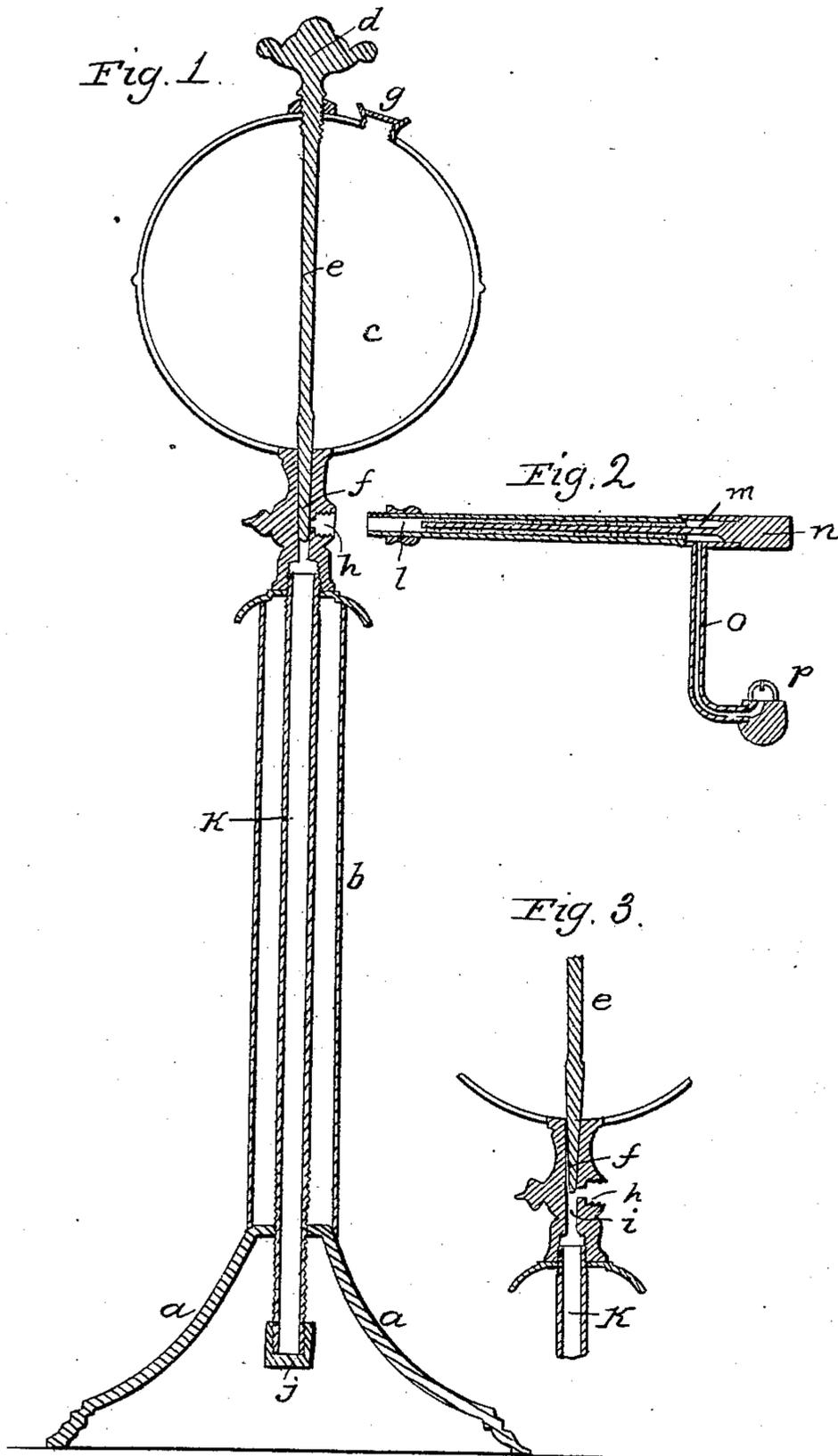


L. T. CONOVER.

Vapor Lamp.

No. 27,272.

Patented Feb. 28, 1860.



Witnesses:
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C. M. Hammond.

Inventor:
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UNITED STATES PATENT OFFICE

LEWIS T. CONOVER, OF PHILADELPHIA, PENNSYLVANIA.

VAPOR-LAMP.

Specification of Letters Patent No. 27,272, dated February 28, 1860.

To all whom it may concern:

Be it known that I, LEWIS T. CONOVER, of the city of Philadelphia, in the State of Pennsylvania, have invented certain new and useful Improvements in Vapor-Lamps; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters and marks thereon.

In that class of lamps ordinarily called "vapor lamps" as distinguished from the old and well known oil or fluid lamp, the fluid is vaporized by the heat generated by the combustion of the vapor of the exit of the tube or "burner," and accidents have frequently occurred from the explosion of the lamp arising from the too rapid generation, or too great accumulation of the vapor and its exposure to the flame of the burner, or the excessive heat produced thereby. Various efforts have been made to prevent the evils here named in the construction of these lamps.

My invention is designed to make the vapor lamp as useful and valuable as "gas light," as portable and convenient as any standing, or table, or hand lamp, and as safe as a common oil or lard lamp.

Of the drawings forming part of this specification Figure 1, is a vertical section of the reservoir or liquid chamber and standard of the lamp, showing other parts connected therewith; Fig. 2, a longitudinal sectional view of the conducting tube, vaporizing chamber, vapor tube, and burner; and Fig. 3, of a part of what is shown by Fig. 1, with the valve for controlling the orifices of the tubes in a different position from that of Fig. 1.

In each of these figures where like parts are marked or lettered like marks and letters are used.

(*a*) indicates the base of the lamp, (*b*) its standard, (*c*) the reservoir or fluid chamber, (*d*) the thumb piece of the valve's stem, (*e*) the stem of the valve, (*f*) the valve proper, (*g*) the supply mouth or tube of the reservoir, (*h*) the mouth of the conducting tube, (*i*) the mouth of the sediment tube, (*j*) the sediment cup, (*k*) the sediment tube, (*l*) the conducting tube, (*m*) the vaporizing chamber (*n*) being the solid or heating part thereof, (*o*) the vapor tube, and (*p*) the burner.

It will be perceived that when the stem

of the valve passes through the top of the reservoir there is a thickening similar to a nut having a screw thread within it, and that there is also a screw thread upon this part of the stem, so that while the stem can, by being turned, readily be raised and lowered yet a tight joint here exists. The lower end of the stem is tapering as is also the tube in which it plays, its point is the valve to the mouth (*i*) of the sediment tube and its side the valve to the mouth (*h*) of the conducting tube, and when the stem is tight down both of these mouths are completely closed as is shown by Fig. 1. The raising of the stem to a greater or less degree regulates the escape of the fluid into the conducting tube and thus the supply can be governed by the demand. By having the sediment tube directly in continuation and below the delivery mouth of the reservoir any sediment or impurities in the liquid will settle down into the cup (*j*) at its bottom and from there can easily be removed, it only being necessary to screw down the valve and cut off the supply of the liquid and to unscrew the cup. This sediment tube also affords free access to the reservoir by a wire or any other means for cleaning it, and when the stem is entirely removed from the reservoir twine or any like material may be drawn entirely through the tube and reservoir.

The solid part (*n*) of the vaporizing chamber which, by Fig. 2 is shown of cylindrical form, but which may be coiled or flattened or any other form, is extended inwardly and through the chamber (*m*) and nearly through the tube (*l*) its diameter being however considerably less than where it forms the end of the chamber. Around that portion of this extension which lies in the tube (*l*) is placed, as is represented in red coloring in Fig. 2, cotton wick which is the ordinary round wick with the center or core removed. The wick and the rod extension sufficiently occupy the tube (*l*) to prevent any full flow of the liquid toward the vaporizing chamber but yet to allow ample draining or feeding of the liquid to supply the vapor. From the chamber (*m*) the tube (*o*) conducts the vapor to the burner.

The various parts of the lamp are shown as fitted together by screws but, as is obvious, other convenient means may be employed in place of screw threads if deemed desirable.

This lamp may be constructed of any material used for making vapor lamps and of such size and capacity as may be preferred, the proportion and relation of the several parts to each other being made according to circumstances.

Coal oil, camphene, or any of the liquids which can be used in any vapor lamp can be used in this.

10 By having a horizontal tube for conducting the liquid in connection with a reservoir having a vertical standard I am enabled to lessen the expense of making this kind of lamp.

15 I avoid the use of curved tubes which are more costly and more liable to be imperfect than straight tubes.

By having my heating surface diminished as it extends inwardly, and surrounding that part of it which lies in the conducting tube with wick, I make ample provision for generating the vapor, supplying the fluid and give perfect protection against explosions.

25 The position of the vaporizing chamber and its relation to the conducting tube and

reservoir is such that the vapor can not communicate flame through the conducting tube; and the heating surface exposed to the flame of the burner while it is ample to the generating of vapor in the chamber is not sufficient to heat the conducting tube and its contents, hence the wick will not be burned or charred which is of common occurrence in all vapor lamps known to me.

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

1. The vertical sediment tube and its cup as arranged in relation to the conducting tube and reservoir and valve as herein set forth.

2. I claim the vaporizing chamber in the horizontal conducting tube as it is connected with the heating head (*n*) having its wicked extension in the conducting tube and as it is arranged in relation to the feeding tube and burner, as described.

LEWIS T. CONOVER.

Witnesses:

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