D. SANFORD.

LAMP.

No. 184,434. Patented Nov. 14, 1876.

Fig. 1

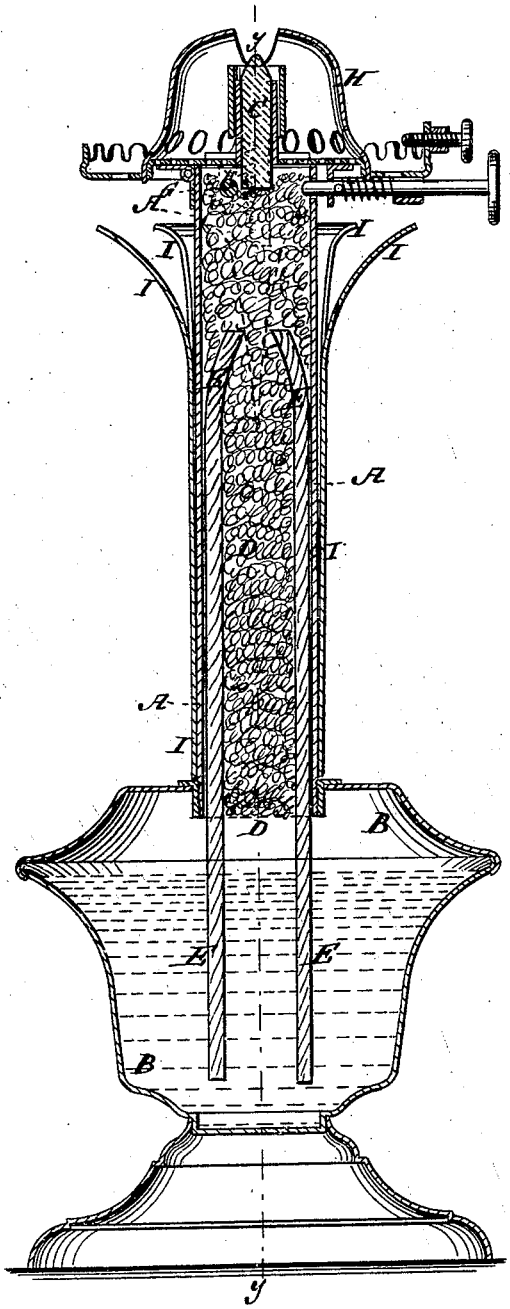
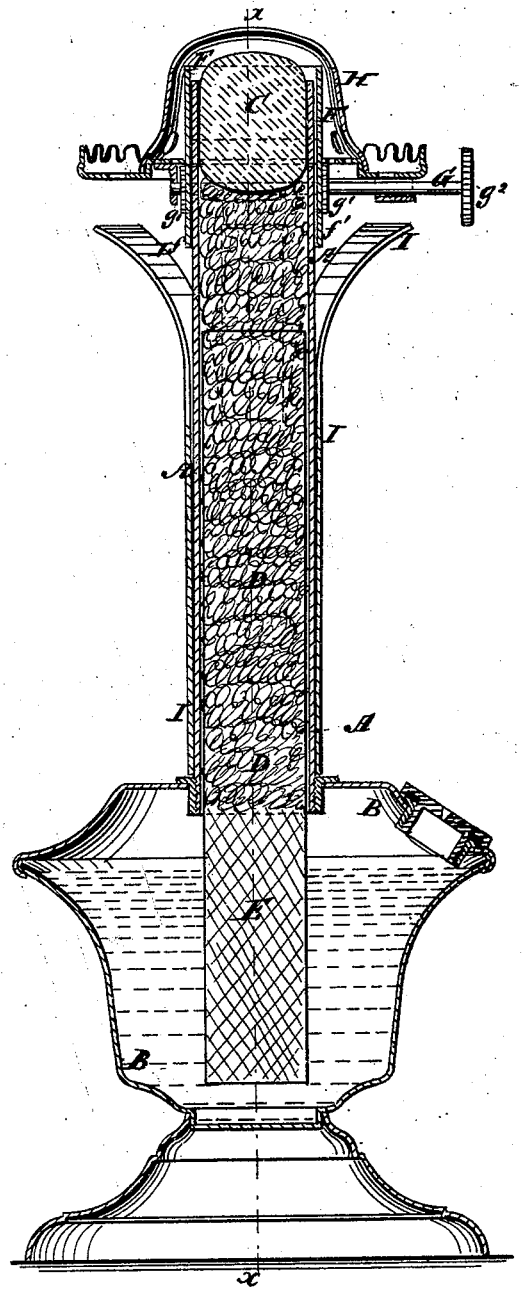


Fig. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

DAVID SANFORD, OF ASHTON, ILLINOIS.

IMPROVEMENT IN LAMPS.

Specification forming part of Letters Patent No. **184,434**, dated November 14, 1876; application filed October 7, 1876.

To all whom it may concern:

Be it known that I, DAVID SANFORD, of Ashton, in the county of Lee and State of Illinois, have invented a new and useful Improvement in Lamps, of which the following is a specification:

Figure 1 is a vertical longitudinal section of my improvement, taken through the line *x x*, Fig. 2. Fig. 2 is a vertical section of the same, taken through the line *y y*, Fig. 1.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish lamps provided with wicks that shall be incombustible; that will not require to be frequently renewed; that will not require to be trimmed, so that when a flame of the proper shape has been obtained it will always remain the same; that will be stationary, so that the flame can be arranged at such a distance above the oil-reservoir that the oil cannot be heated; that will not allow burning vapor to pass down to the oil; and that will enable the light to be regulated as desired.

The invention consists in the tube provided with a hard and porous solid incombustible wick at its upper end, the cotton packing, and the ordinary wick, to adapt it to be attached to the collar of an ordinary lamp to make it non-explosive; in the combination of the adjustable tube with the tube provided with the hard and porous solid incombustible wick, the cotton packing, and the ordinary wick, and in the tube having its upper part slitted, and the upper ends of the strip thus formed curved outward, in combination with the tube that contains the incombustible wick, the cotton packing, and the ordinary wick, as hereinafter fully described.

A represents a tube, which may be made of any desired length, and the lower end of which is designed to be screwed into the collar of a lamp, B. In the upper end of the tube A, or in a separate tube attached to the upper end of said tube A, is secured an incombustible wick, C, which may be round or flat, and with a conical or wedge-shaped upper end. The wick C may be made of any suitable hard and porous substance, such as natural stone, Bristol-brick, baked or burned clay or other earthenware, or composition. The tube A is then packed closely with cotton D, an ordinary lamp-wick, E, being also inserted, with its ends projecting downward far enough to reach to the bottom of the oil-reservoir.

A convenient way to insert the packing is to double the wick E, insert its doubled part in the tube A, and then insert the cotton D. Care must be taken to bring the cotton D into close contact with the lower end of the solid wick C. In this way the wick E will conduct the oil to the cotton D and saturate it, and the cotton D will conduct the oil to the solid porous wick C and saturate it, so that a flame will be supported at the upper end of said wick C, the oil all the time passing up, by capillary attraction, until it has all been consumed.

For torches for processions, and for similar uses, the tube A may be made long, and the cotton saturated with oil by pouring the oil into the lower end of the said tube, a reservoir not being needed.

F is a tube fitted upon the upper part of the tube A, that contains the wick C, and so arranged that it may be slid up and down, to regulate and control the flame. The tube F should be provided with downwardly-projecting arms e', which have teeth formed upon one edge, into which mesh the teeth of the small gear-wheels g^1, attached to the rod G'. The rod G works in bearings attached to the burner H, and has a button, g^2, attached to its outer end, for convenience in operating it. The tube F should be so arranged that it cannot be pushed down below the point at which all the vapor will be consumed, so that the lamp will never smoke. The lamp is designed to be supplied with a burner, H, and with a chimney so formed as to admit air to the flame to support combustion in the usual way.

By this construction an absolutely non-explosive lamp will be produced.

Upon the tube A is secured a tube, I, which is made a little shorter than the said tube A, and has its upper part slitted longitudinally. The ends of the strip thus formed are curved outward, as shown in Figs. 1 and 2. The tube I is designed to serve as a guard to protect the hand from the heat when carrying the lamp.

Having thus described my invention, I

claim as new and desire to secure by Letters Patent—

1. The tube A, provided with a hard and porous solid incombustible wick, C, at its upper end, the cotton packing D, and the wick E, to adapt it to be attached to the collar of an ordinary lamp, to make it non-explosive, substantially as herein shown and described.

2. The combination of the adjustable tube F with the tube A, provided with the hard and porous solid incombustible wick C, the cotton packing D, and the wick E, substantially as herein shown and described.

3. The tube I, having its upper part slitted, and the upper ends of the strips thus formed curved outward, in combination with the tube that contains the incombustible wick, the cotton packing, and the ordinary wick, substantially as herein shown and described.

DAVID SANFORD.

Witnesses:
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