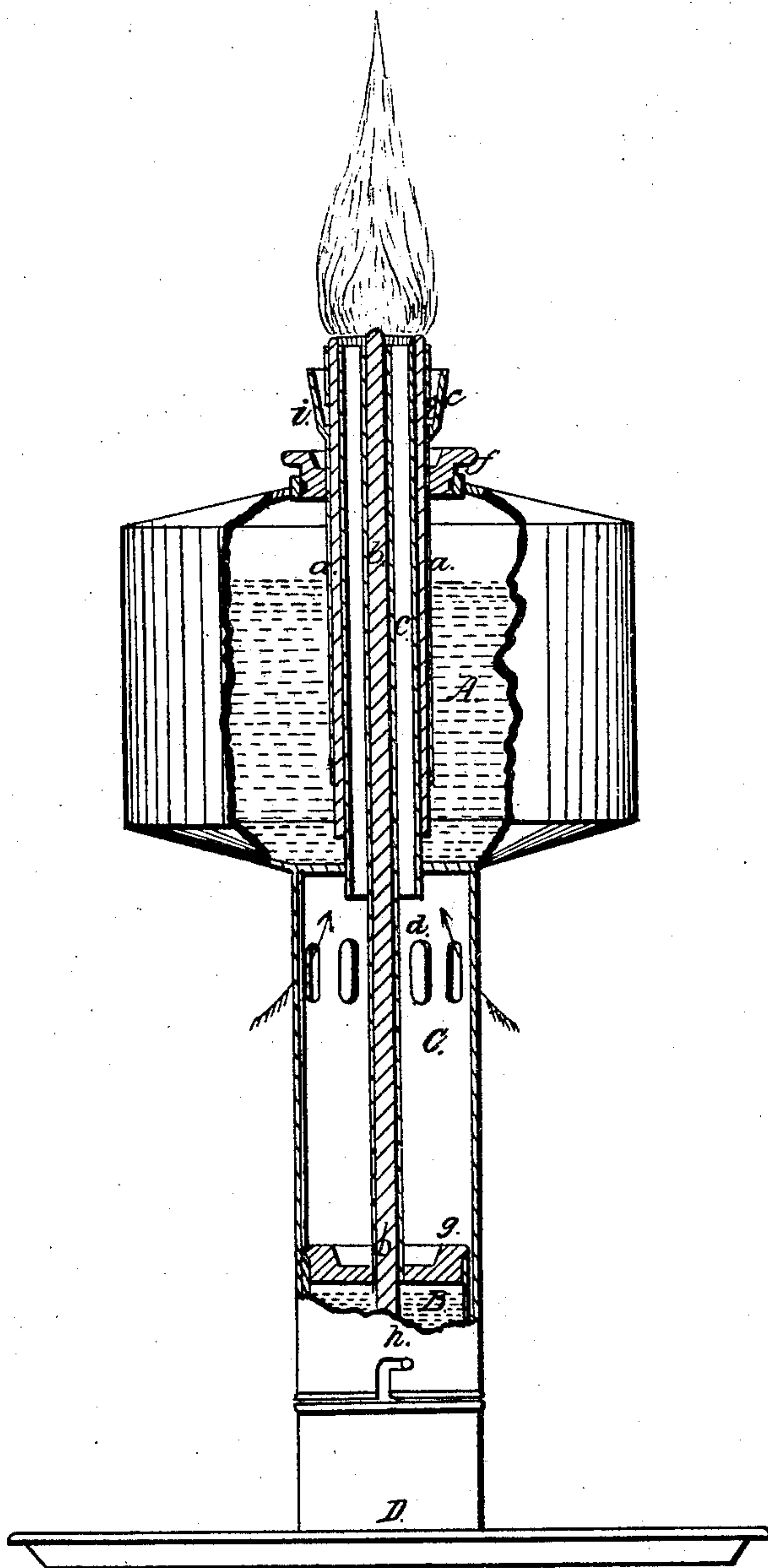


J. RUSSELL.  
LAMP.

No. 32,721.

Patented July 2, 1861.



Witnesses:

J. J. Farage.

John C. Smith

Inventor:

John Russell

# UNITED STATES PATENT OFFICE.

JOHN RUSSELL, OF TROY, NEW YORK.

## LAMP.

Specification of Letters Patent No. 32,721, dated July 2, 1861.

*To all whom it may concern:*

Be it known that I, JOHN RUSSELL, of Troy, in the county of Rensselaer and State of New York, have invented certain new and useful Improvements in Lamps; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, and letters of reference marked thereon, forming part of this specification.

In burning hydro-carbon oils in lamps as ordinarily constructed without chimneys; and especially when a large flame or much light is desired, great inconvenience is experienced from the smoking of the lamp, in consequence of much of the carbon liberated from the oils in the act of combustion, passing off imperfectly consumed, or in the form of smoke. A partial remedy for this defect in ordinary lamps, is found in the use of chimneys; but, this is attended by two objections, viz. making an inconvenient hand lamp, and also liability of breaking the chimney by heat, or otherwise.

To remedy these serious defects; without the aid of chimneys, or deflectors, is the object of my invention, the nature of which is as follows: I produce, and secure a better combustion of the minute particles of carbon as soon as set free by the vaporization of the oils consumed, and thereby prevent great tendency toward smoking; by introducing in, or, in contact with the lamp flame, in the manner substantially, as hereinafter fully described; the vapor of water, or of any similar fluid, producing vapor that will mix with, and aid in perfectly consuming the particles of carbon in the lamp flame.

The description of my invention is as follows:

D is the bottom of the lamp constructed with the reservoir or chamber B for holding water or fluid for producing vapor.

A, is the oil chamber, attached at pleasure to the bottom D, by means of the standard C, which has at its bottom an angular slot catching upon a pin (*h*) on the bottom of the lamp; (*f*) is the cap of the oil chamber, through which the annular or circular tube and wick (*a a*) passes, and which has the device for raising the wick, and lowering the same, in the manner in common use, and well known to persons skilled in the art of constructing lamps.

(*e*), is a cup combined with tube (*a a*), the tube having holes, or passages (*i i*), through it, so that oil overflowing at the outside top of the wick tube, is caught by the cup, reabsorbed by the wick, and not permitted to run down on the cap of the lamp.

(*c*) is the interior of the wick tube allowing a passage upward for air, entering through holes (*d*) in standard C, for the purpose of admitting air in the interior of the lamp flame, in the manner well known to persons, skilled in the art of constructing lamps.

(*g*), is the cap to water reservoir B, affixed to said cap is the small wick tube (*b*), passing up through the center of the annular or hollow wick tube (*a a*), until it is even with, or slightly above the top edge of the hollow wick (*a a*).

It is evident that the location of the water reservoir may be changed if necessary, and one, or more tubes and wicks, employed, so as to bring the vapor in external and internal, contact with the lamp flame, if desired; or it may be arranged so as to bring the vapor, only in contact externally with the lamp flame; but, undoubtedly the most advantageous and economical method, is, to introduce the vapor in internal contact with the lamp flame, as shown in the annexed drawing.

The wicks of the oil and water chambers of the lamp being properly adjusted, and the respective chambers filled with oil, and with water, and attached in the manner as shown, the oil wick is then lighted, the heat from which, acting upon the water wick, produces vapor, which mixing with the minute particles of carbon in the flame, retains them within the flame, and aids in the combustion of the same. For, if you detach the oil chamber, without lowering the wick, from the water chamber and wick, the oil wick commences directly to smoke, but, upon attaching the water chamber and wick, to the oil chamber again, the smoke ceases.

In the description of my improved lamp, I lay no claim to the annular wick tube, for introducing air in the interior of the flame, such being in common use. Nor do I lay any claim to introducing oxygen gas in the interior or shell of the flame, by means of a tube, for the purpose of producing more perfect combustion of carbon, contained in the lamp flame.



Having fully described my invention, what I claim as new therein, and desire to secure by Letters Patent, is:

In combination with the wick tubes and wick of lamps, the water reservoir B, tube and wick (b); or its equivalent device; for producing, and introducing the vapor of water, or, of any similar fluid, in, or in con-

tact with the lamp flame, substantially in the manner, and for the purposes, as herein described and shown.

JOHN RUSSELL.

Witnesses:

J. J. SAVAGE,  
JOHN C. SMITH.