

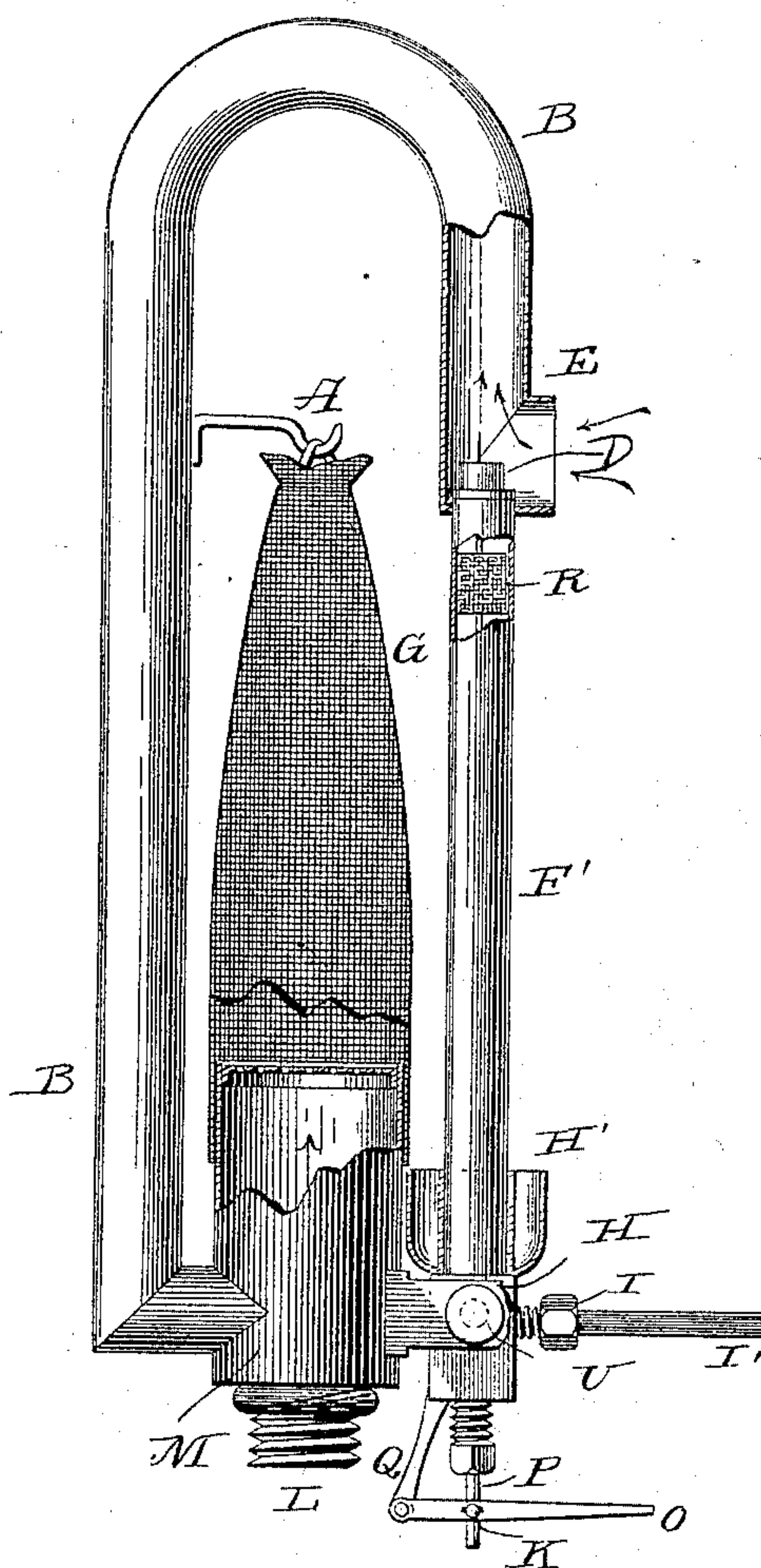
No. 607,974.

Patented July 26, 1898.

G. WASHINGTON.
HYDROCARBON INCANDESCENCE LAMP.

(Application filed Dec. 17, 1897.)

(No Model.)



WITNESSES
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HYDROCARBON INCANDESCENCE LAMP.

SPECIFICATION forming part of Letters Patent No. 607,974, dated July 26, 1898.

Application filed December 17, 1897. Serial No. 662,320. (No model.)

To all whom it may concern:

Be it known that I, GEORGE WASHINGTON, of New York, (Brooklyn,) in the county of Kings and State of New York, have invented certain new and useful Improvements in Hydrocarbon Incandescence Lamps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in hydrocarbon incandescence lamps; and it consists in the parts and combinations of parts and in details of construction, as will be more fully described, and pointed out in the claims.

The accompanying drawing is a view in elevation, partly in section, of my improved lamp.

M represents the burner, provided with the screw-threaded boss L for its attachment to a fixed bracket or other support or for its attachment to a portable lamp. This burner is in open communication with the upwardly-projecting commingling-tube B, the upper portion of which is curved laterally and downwardly, with its extreme end E bent at right angles outwardly or away from the burner. With this construction it will be seen that the commingling-chamber is parallel to the burner and is then bent laterally, so as to cross over the top of the mantle, and then bent downwardly parallel with the mantle, thus bringing all portions of the chamber directly within the influence of the heat from the burner and mantle.

F is the vaporizing-tube, cylindrical throughout its entire length and extending from the stud H, in which it is removably secured by set-screw U up and into the lower end of the commingling-tube B. This tube F is straight throughout its entire length and is provided at its upper end with a screw-nozzle D, having a tapering or conical vapor-escape orifice therein, and is provided near its lower end with a screw-threaded gland or stuffing-box I, through which passes the oil-supply pipe I'.

Located within and passing throughout the length of the vaporizing-tube F is the needle-valve P. This valve is provided with a con-

ical or tapered end adapted to rest within the conical or tapering escape-orifice in the nozzle D, and is actuated in the present instance by a lever O, pivoted at K to the needle P and fulcrumed on the bracket Q. By moving this lever up the conical jet-orifice in the nozzle D is more or less closed, and by moving the free end of the lever downwardly the orifice is opened more or less. This tube F, as before stated, enters the free end of the commingling-chamber B, and its jet-orifice is directly opposite the open end of said chamber. Hence when vapor is issuing from said jet-orifice it creates a suction through the open end E and draws in air. The air and vapor thus brought together are commingled and heated in their passage over and down alongside of the mantle and are discharged into the burner in a thoroughly heated and commingled condition.

The mantle G is supported over the burner and between the commingling-chamber and vaporizing-tube by the bracket A, which latter is secured to the commingling-tube.

Resting on the stud H and surrounding the vaporizing-tube F is the starting-cup H'. This cup is provided with a central sleeve for the passage of the vaporizing-tube, and is designed to contain sufficient alcohol or oil to start the vaporization of oil within the vaporizing-tube. The vapor as it is generated rises in the tube F and is discharged into the depending end of the commingling-chamber B, and acting on the principle of an injector draws in air through the open end E of the commingling-chamber. The vapor and oil thus brought together pass through the commingling-chamber into the burner, and as it issues from the burner is ignited by the flame from the starting-cup. The burner now being started the heat therefrom rapidly vaporizes the oil in the vaporizing-tube and heats the commingling-chamber, so that after the lamp has been fairly started the vapor and air are delivered to the burner in a condition for perfect combustion, thus producing a strong, steady, and safe light which can be maintained as long as the oil-supply is contained.

The intensity of the light can be regulated by increasing or diminishing the supply of

vapor to the commingling-chamber B, and the light can be extinguished by shutting off the supply of oil or by closing the discharge-orifice in the nozzle D.

5 To prevent foreign substances, like carbon, from getting into and clogging nozzle D, I provide the tube F with an asbestos filter R, through which the vapor passes in order to reach the escape-orifice.

10 It is evident that many slight changes might be resorted to in the relative arrangement of parts herein shown and described without departing from the spirit and scope of my invention. Hence I would have it understood that I do not wish to restrict myself to the exact construction herein shown and described; but,

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

1. In a hydrocarbon incandescence lamp, the combination with a burner and a commingling-chamber consisting of a continuous tube communicating with and leading upwardly above and over the burner, with its
25 free end projecting downwardly, of a straight vaporizing - tube located adjacent to the

burner and discharging into the free end of the commingling-chamber and a needle-valve passing longitudinally through the vaporizing-tube for opening and closing the vapor-escape orifice in the end of said tube. 30

2. In a hydrocarbon incandescence lamp, the combination with a burner and a commingling-chamber consisting of an inverted- 35 U-shaped tube one member of which is longer than the other, the longer member of said chamber communicating directly with the burner, of a vaporizing-tube secured to the burner and terminating adjacent to the free 40 end of the shorter member of the commingling-chamber so as to discharge the vapor therein, a needle-valve extending lengthwise throughout the vaporizing-chamber and a mantle located between the commingling- 45 chamber and vaporizer and over the burner.

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

G. WASHINGTON.

Witnesses:

A. W. BRIGHT,
WILLIAM H. BURROUGHS.