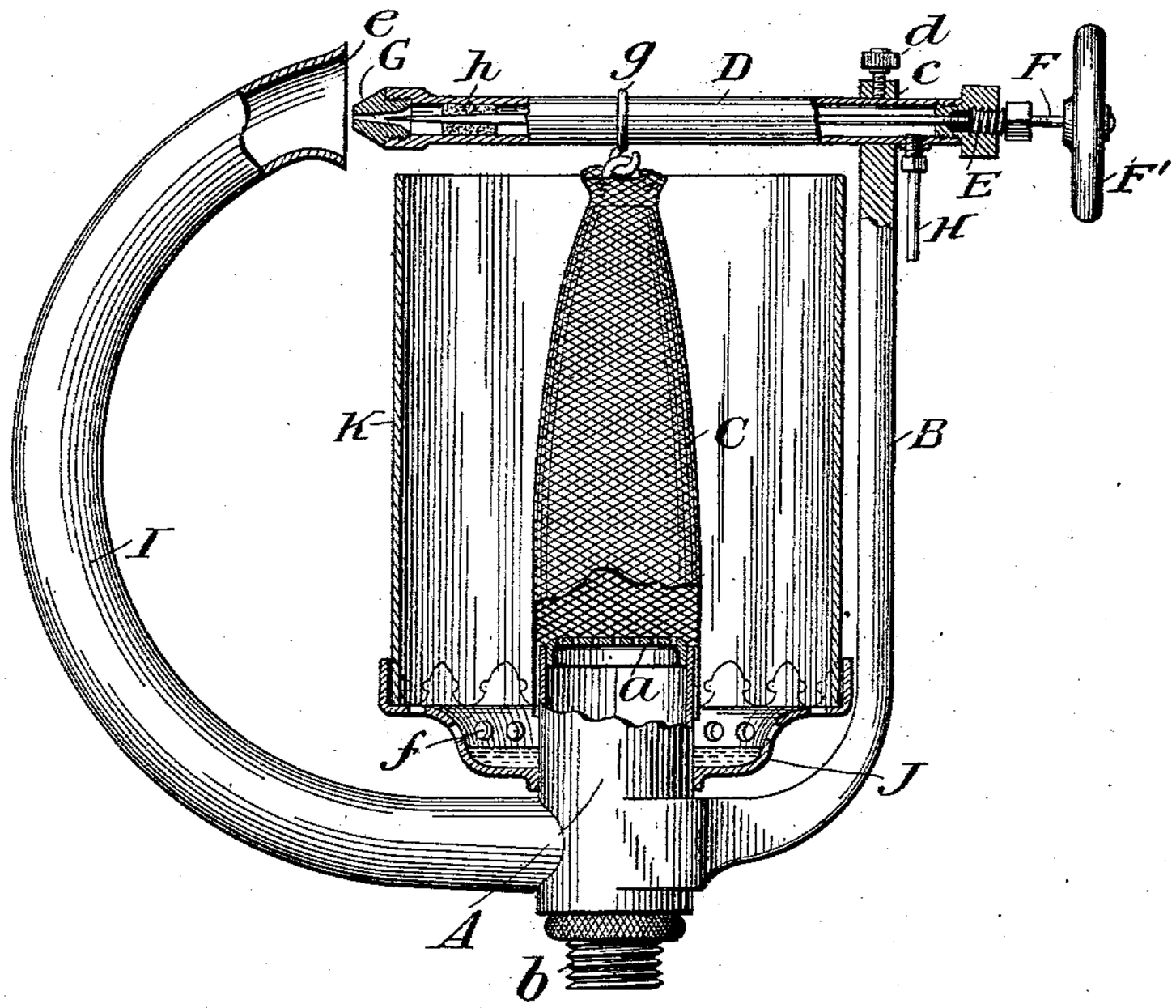
No. 745,698. PATENTED DEC. 1, 1903.

G. WASHINGTON.

LAMP.

APPLICATION FILED NOV. 12, 1897.

NO MODEL.



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No. 745,698. Patented December 1, 1903.

UNITED STATES PATENT OFFICE.

GEORGE WASHINGTON, OF BROOKLYN, NEW YORK, ASSIGNOR, BY MESNE ASSIGNMENTS, TO WILLIAM E. WATKINS, TRUSTEE, OF MONTCLAIR, NEW JERSEY.

LAMP.

SPECIFICATION forming part of Letters Patent No. 745,698, dated December 1, 1903.

Application filed November 12, 1897. Serial No. 658,338. (No model.)

To all whom it may concern:

Be it known that I, GEORGE WASHINGTON, a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in 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 lamps, and more particularly to petroleum incandescent lamps; and it consists in an incandescent burner, a vaporizing-tube located in proximity to the mantle, and a mixing-chamber located to receive air and the vaporized oil and convey same to the burner.

My invention further consists in an incandescent burner, a vaporizing-tube located over and in proximity to the top of the mantle, and a mixing-chamber leading from the burner up to and in proximity with the discharge end of the vaporizer.

My invention further consists in an incandescent burner, a horizontal vaporizing-tube located over the burner, means for supporting the vaporizing-tube, and a mixing-chamber leading from the discharge end of the vaporizing-tube to the burner.

My invention further consists in the parts and combinations of parts and in the details of construction, as will be more fully described, and pointed out in the claims.

The accompanying drawing represents my invention in elevation, partly in section.

A represents a burner, which may be of any approved form, but which in the present instance comprises simply a tube having a perforated cap *a*, through which the commingled air and vapor pass and over and around which it burns. This burner, the commingling-tube 1, and post B are all connected at the bottom to a base or body, and this base or body may be mounted on a suitable portable base, but in the present instance is provided with a screw-threaded boss *b* for its attachment to a wall-bracket or other fixed support. Secured to or formed integral with the base of the burner A is the laterally and upwardly projecting post B. This post extends up to a point above the mantle C and is provided at or near its upper end with a seat or socket *c* for the insertion or reception of the vaporizing-tube D. This tube rests in a horizontal position over and in proximity to the mantle, and hence directly over the burner, and is provided at its outer end with a removable stuffing-box E, through which passes the regulating needle-valve F, carrying the hand-wheel F'. This needle-valve extends throughout the length of the vaporizing-tube, and its free end rests within the cone-shaped discharge-opening in the nipple G. With this construction it will be seen that by removing the stuffing-box E all deposits of carbon on the interior of the vaporizing-tube can be readily removed without removing the vaporizing-tube; but, if desired, the vaporizing-tube can be removed by first disconnecting the oil-supply pipe H and loosening up set-screw *d*, which latter locks the vaporizing-tube to the post.

The oil-supply pipe H leads from any suitable source of supply, and the oil may be fed by gravity or atmospheric or other pressure, and as it enters the vaporizing-tube D it diffuses itself over the surface of the tube and is immediately vaporized by the heat from the burner. The vapor passes through the discharge-nipple G, the flow being regulated by the needle-valve F, and is discharged into the flaring mouth *e* of the commingling or mixing chamber I. The discharge-nipple G is so located with relation to the mouth *e* of the commingling or mixing chamber that the vapor is discharged directly into the latter and operates to draw in air from close proximity to the top of the lamp. This air, which is necessarily somewhat heated, commingles with the vapor and by the time it reaches the burner A is thoroughly mixed, and as the mixing-chamber I is located in close proximity to the burner the mixed air and vapor are more or less heated before being discharged into the burner.

I have shown the mixing-chamber curved, but, if desired, it might be made vertical, with right-angle branches at its upper and lower ends, as either form operates to deflect the combined air and vapor and cause a thorough commingling of same.

J is a starting-cup for holding oil or alco-

hol. This cup is secured to the base of the burner and is enlarged at its upper end to support a chimney or globe K and is preferably provided with perforations *f* for the passage of air.

The mantle C is suspended from the vaporizing-tube D by a suitable hook or other device *g* and rests with its lower larger end well down over the burner A.

To start the lamp, oil or alcohol is poured into the cup J and ignited. Oil is then admitted to the vaporizing-tube D, and as the latter becomes heated the oil therein vaporizes and passes into the mixing-chamber I, and the mixed air and vapor pass from thence into the burner A. As the mixed air and gas issues from the burner it is ignited by the flame of the burning oil or alcohol and heats the mantle to incandescence. The intense heat from the burning gas and heated mantle being largely confined by the chimney or globe passes upwardly and keeps the vaporizing-tube sufficiently heated, so that the oil is vaporized immediately upon its entrance into the tube.

In order to prevent carbon or other matter from reaching and closing up the discharge-orifice of the vaporizing-tube D, I have provided the latter with an asbestos filter *h*. This filter is sufficiently open or porous for the free passage of the vapor, but operates to effectually prevent the passage of any carbon or coke.

I have shown and described the vaporizing-tube supported by a post fixed to the burner, but, if desired, this tube can be supported or carried by an arm or bracket secured to the mixing-chamber.

I would have it understood that I do not confine myself to the details of construction herein shown for actuating the needle-valve, nor do I confine myself to the other details herein shown, as it is evident that numerous changes might be resorted to without departing from the spirit of my invention.

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

1. In a petroleum incandescent burner, the combination with a base carrying a burner and an upright support, of a horizontal vaporizing-tube carried by the support and a mantle suspended from said vaporizing-tube over the burner.

2. In a petroleum incandescent burner, the combination with a base and a burner thereon, of a support carried by the base and a horizontal vaporizing-tube removably secured to the support in a position above the burner.

3. In a petroleum incandescent lamp the combination with a base having means for its attachment to a bracket or other support, a burner and a post carried by said base, and a commingling-chamber also carried by the base and communicating with the interior thereof, of a horizontal vaporizing-tube carried by the post and adapted to discharge the vapor into the open end of the commingling-chamber.

4. In a petroleum incandescent lamp, the combination with a base adapted to be secured to a bracket or other support and carrying a burner, a commingling-chamber and a post, the commingling-chamber communicating with the base, of a vaporizing-tube removably secured to said post and discharging into said chamber, substantially as set forth.

5. In a petroleum incandescent lamp, the combination with a base carrying a burner, a commingling-chamber and a post, of a horizontally vaporizing-tube removably secured to the post and located over the burner, an oil-supply pipe leading to the vaporizing-tube, and a valve carried by the tube.

6. In a petroleum incandescent lamp, the combination with a base, and a burner, and commingling-chamber carried by said base, a starting-cup adjacent to the burner, and a globe or shade surrounding the burner, of a vaporizing-tube located horizontally over the upper end of the globe or shade and adapted to discharge the vapor into the commingling-chamber.

7. In a petroleum incandescent lamp, the combination with a base, and a burner, and commingling-chamber carried by said base, and a combined starting-cup and globe-holder surrounding the burner, of a vaporizing-tube located above the burner and discharging into the commingling-chamber.

8. In a petroleum incandescent burner, the combination with a burner, a mantle, a starting-cup surrounding the mantle and provided with a flange and a chimney or globe resting on said flange, of a removable vaporizing-tube located over the chimney or globe, and a commingling-chamber leading to the burner.

9. In a petroleum incandescent burner, the combination with a base, a burner projecting upwardly therefrom, a support projecting up from the base on one side of the burner and an upwardly-projecting commingling-chamber on the other side of said burner the said commingling-chamber communicating at its lower end with said base, of a removable horizontal vaporizing-tube carried by the support with its discharge-nozzle opposite the open end of the commingling-chamber.

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

GEORGE WASHINGTON.

Witnesses:
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