R. W. PARK.

HYDROCARBON GAS LAMP.

No. 189,780. Patented April 17, 1877.

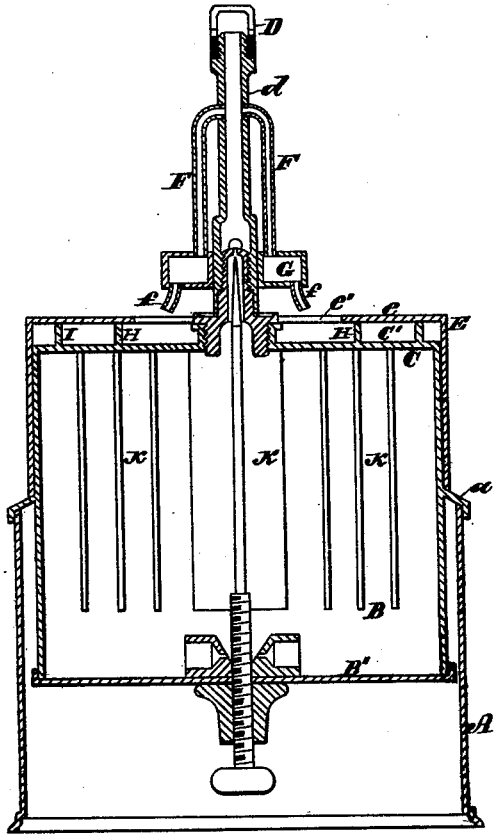

Fig. 2

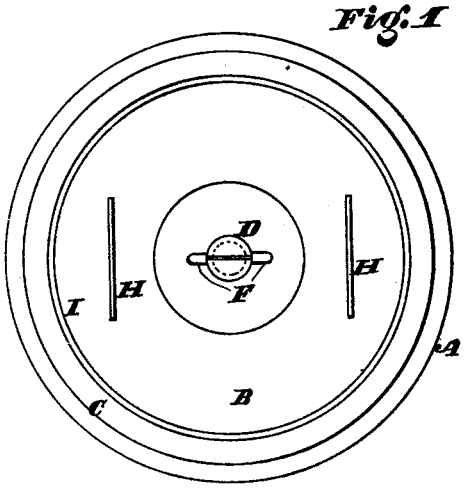

Fig. 1

Witnesses

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UNITED STATES PATENT OFFICE.

ROBERT W. PARK, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN HYDROCARBON-GAS LAMPS.

Specification forming part of Letters Patent No. **189,780**, dated April 17, 1877; application filed September 19, 1876.

To all whom it may concern:

Be it known that I, ROBT. W. PARK, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Hydrocarbon-Gas 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification, in which—

Figure 1 is a plan, and Fig. 2 a transverse vertical section, of my invention.

The primary object of my invention is to provide means for the more speedy and effectual generation of gas within the fount or reservoir of a hydrocarbon-gas lamp than has been heretofore attained.

My improvements consist in the peculiar construction and combination of parts hereinafter fully set forth, having special reference, first, to the employment of tubes or conduits, which lead downwardly from an elevated location on the burner-stem, terminating a short distance above the top of the reservoir, the object of said tubes or conduits being to conduct currents of gas from the burner downwardly, and issue the same in the form of jets, which strike the top of the reservoir, thus heating the latter, and causing its contents to be converted into gas; secondly, to the employment of an expansion-chamber in connection with the aforementioned jet-heating tubes; thirdly, to the provision of pendent or stalactite heaters, which hang from the top or roof of the reservoir; and, fourth, to constructing the top of the reservoir so as to adapt it for the reception of liquids used in starting the lamp.

Referring to the accompanying drawing, A designates the shell or casing, which also forms a stand for the lamp; and B, the fount or reservoir located within said shell, and having the top C. B′ is the removable bottom of the fount, and D the burner, having a stem, *d*. E is a detachable cap, which surrounds the fount B, and rests, when in position, on the upper edge of the stand A or flange *a*, which forms the connection between said fount and stand. *e* is the head of the cap E, which is elevated somewhat above the top C of the fount, so as to leave a chamber, C′, between them, said head having a central opening, *e′*, for the passage of the burner. F F are tubes projecting downwardly from the burner-stem, terminating, at *f*, a short distance above the top C, an expansion-chamber, G, being, if desired, provided at or about the location shown. H H are ribs or flanges on the upper surface of the top C, and I is an annular flange outside of the ribs H, and serving to convert the top C into a trough or pan for the reception of liquid, as hereinafter more fully set forth. K K are pendants or stalactites, which hang from the under side of the fount-top C; or they may be made to pass clear through the said top and form the ribs H H.

The operation is substantially as follows: The burner-stem being unscrewed from its seat in the top C, the fount B is packed with wick, or equivalent material, and said packing saturated with hydrocarbon liquid. The burner-stem is then restored to place, and a small quantity of alcohol, or other light inflammable liquid, poured on the top C, being prevented from flowing off the same by the flange I. A light being applied to this liquid, it ignites and produces sufficient heat to generate gas in the fount B. Said gas passes up through the stem *d*, part of it going to the burner D, and the remainder being conducted down the tubes F F into the expansion-chamber G, and thence through the openings *f f*. The gas issuing from the burner is duly lighted, giving the flame required for illuminating purposes, while the jets issuing at *f f* strike the top C, their heat being thence conducted into the fount B and generating gas therein. The heat thus applied to the top C is radiated directly from the under surface of the latter upon the fluid contents of the fount, and also conducted by the pendants down into the body of said contents. If desired, the jets issuing at *f f* may be made to impinge against the ribs H H, or to play upon the cap E. The said cap E serves to prevent, in great measure, the loss of heat by upward radiation from the top C, and also serves to conduct heat to the walls of the fount B, and thus assist in generating gas in the latter.

What I claim as my invention is—

1. The tubes F F, proceeding downwardly from the burner-stem, and serving to conduct gas to form jets for heating the top of the fount or reservoir, in combination with the fount located below said burner, substantially as set forth.

2. In combination with the downwardly-extending gas-tubes F F, the expansion-chamber G, having the exits *f f* for the issuance of jets for heating the top C, substantially as shown and described.

3. In combination with the tubes F F and the fount B, having the top C, the ribs H H, for receiving the impingement of the gas heating-jets, substantially as shown and described.

4. The hydrocarbon-gas-lamp fount, having a top, C, constructed substantially as described, to form a trough or pan for the reception of liquid, as and for the purpose set forth.

5. In combination with the fount B and heating-tubes F F, the cap E, forming a chamber, C′, substantially as and for the purpose specified.

6. In combination with the fount B, the heating-pendants K K, hanging from the top C, or passing through the latter, substantially as shown and described.

7. A hydrocarbon-vapor apparatus, having a burner provided with jet-apertures, and a reservoir arranged in relation thereto, substantially as shown and described, so that the jets shall heat the top thereof either directly or through the ribs H H or cap C′, as and for the purpose specified.

In testimony that I claim the foregoing I have hereunto set my hand this 10th day of September, 1876.

ROBERT W. PARK.

Witnesses:

W. W. DOUGHERTY,

CHAS. H. DOUGHERTY.