(No Model.)

J. ORMEROD.

CARBURETER.

No. 589,094. Patented Aug. 31, 1897.

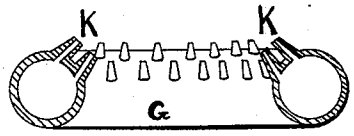


FIG. 4

FIG. 1

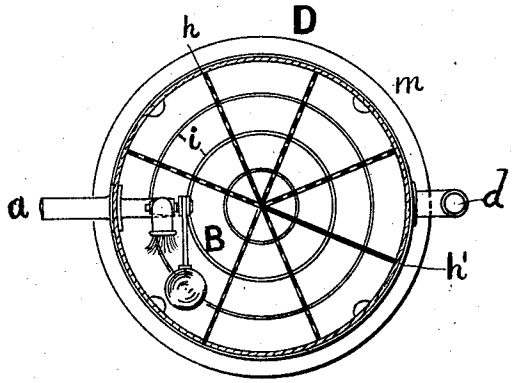


FIG. 2

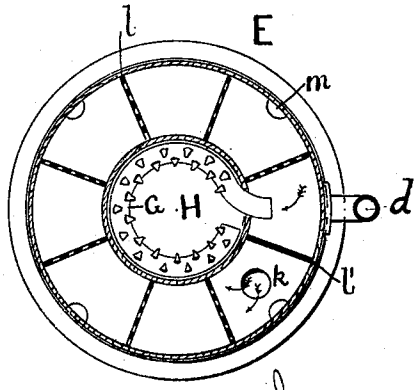


FIG. 3

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UNITED STATES PATENT OFFICE.

JACOB ORMEROD, OF LONDON, ENGLAND.

CARBURETER.

SPECIFICATION forming part of Letters Patent No. 589,094, dated August 31, 1897.

Application filed June 25, 1896. Serial No. 596,906. (No model.) Patented in England June 11, 1894, No. 11,256.

To all whom it may concern:

Be it known that I, JACOB ORMEROD, residing at London, England, have invented Improved Means for Gas-Carbureting, (which has been patented to me in Great Britain under No. 11,256, dated June 11, 1894,) of which the following is a specification.

This invention relates to the carbureting of gas for illuminating or heating purposes, according to the character of the gas treated and the liquid hydrocarbon employed for carbureting the same; and it consists of apparatus and means whereby a complete saturation of the gas is obtained from a hydrocarbon liquid of considerable density, and whereby also the treated gas is deprived of any mechanically-admixed portion of the liquid hydrocarbon to prevent condensation of the carbureted gas in the service-pipes in use.

Figure 1 is a sectional elevation of my complete apparatus and means. Fig. 2 is a transverse section through the carbureter on the lines 2 2. Fig. 3 is a transverse section through the same on the lines 3 3. Fig. 4 is an enlarged section through the distributing-tube and nipples affixed therein.

A is a tank or vessel containing a supply of a liquid hydrocarbon which is allowed to pass by the pipe *a* as required to the carbureter C, in which the liquid hydrocarbon is maintained automatically at a uniform level by the ball-tap B. The carbureter C is divided into three compartments D E F by diaphragms *f* and *g*.

The lower part D is subdivided by radial partitions *h*, all of which except one, *h'*, are perforated with fine holes. In the upper part of this compartment circular wires *i* are provided for the suspension of wicks or the like thereon, the lower ends of which dip into the liquid hydrocarbon, and thus keep themselves constantly moist with the liquid hydrocarbon by capillary attraction and offer a large wetted surface to the gas.

The gas to be carbureted enters this lower compartment D by the pipe *d* close to the non-perforated partition *h'* and is thus obliged to pass through all the remaining perforated partitions *h* and through the suspended cotton wicks hanging from the wires *i* to reach the outlet-orifice *k*, Fig. 3, into the next compartment E. This compartment consists of an inner cylindrical compartment H with a solid wall and an outer annular part which is divided also by radial partitions *l*, of which all except one, *l'*, are perforated with fine holes.

The spaces between the partitions are lightly packed with cotton-wool or other similar liquid-absorbent substances, and from some or all of the compartments gutters or pipes *m* run down into and under the liquid at the bottom of the compartment D, by which gutters any surcharge of or condensed liquid hydrocarbon in the saturated gas is drained back into the liquid at the bottom of the compartment D.

The communicating orifice *k* from the compartment D to the compartment E is placed close to the solid partition *l'*, so that the gas highly charged and saturated with liquid hydrocarbon in the lower compartment is forced to pass in succession through the whole of the perforated partitions *l*, and the intermediate packing of wool or similar absorbent substances removes the surcharge of or the condensed part of the liquid hydrocarbon in great degree from the saturated gas.

To still further insure the thorough mixing of the carbureted gas and its final permanency without condensation, the gas is caused to pass from the last compartment of the annular chamber E by the pipe G into the lower part of the central chamber H. The said pipe G is closed at the end and is curved about the bottom of the chamber H and is perforated with holes provided with short nozzles K, which causes the issuing carbureted gas to impinge upon adjacent streams of gas and also to be directed to the center of the compartment H, which is lightly packed with charcoal or similar material, and the gas is there finally diffused, purified, and relieved from any free globules of the carbureting liquid, and a permanent and enriched gas is obtained.

The carbureted gas may pass directly from the charcoal to the service-pipes; but conveniently the diaphragm *g* is solid above the annular part of E and perforated above the circular part H, by which perforations the carbureted gas can pass to the receiving-chamber F and thence to the service-pipes by the pipe *e*.

For the purpose of cutting out the carbureter for repairs or other purposes a by-pass pipe *n* may be provided with a cock therein.

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

A carbureter comprising the chamber D having the oil and gas inlets, the chamber E superimposed upon the chamber D with a port connecting the chambers, both chambers being divided by a series of radially-extending perforated plates and a single vertical imperforate plate, the wicks depending from the top of the lower chamber into the liquid hydrocarbon, the said upper chamber having a central vertical chamber H with a gas-outlet, the jet-pipe at the bottom of the chamber H having its inlet end opening into one of the divisions of the chamber E and the filling within the chambers E and H, substantially as described.

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

JACOB ORMEROD.

Witnesses:

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