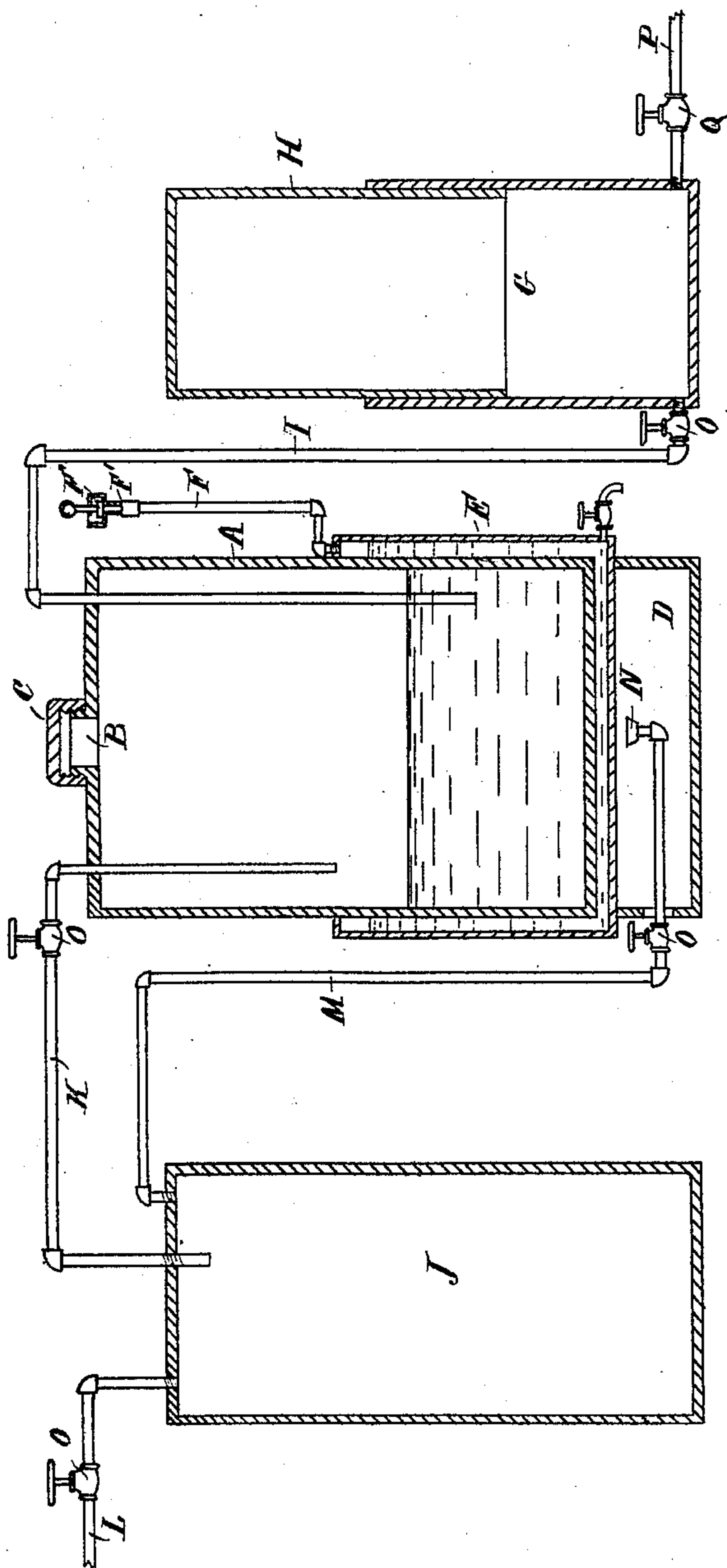


(No Model.)

J. W. & A. B. STROUSE.
CARBURETOR.

No. 422,322.

Patented Feb. 25, 1890.



WITNESSES

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UNITED STATES PATENT OFFICE.

JAMES W. STROUSE AND ALBERT B. STROUSE, OF FOSTORIA, OHIO.

CARBURETOR.

SPECIFICATION forming part of Letters Patent No. 422,322, dated February 25, 1890.

Application filed January 14, 1889. Serial No. 296,335. (No model.)

To all whom it may concern:

Be it known that we, JAMES W. STROUSE and ALBERT B. STROUSE, citizens of the United States, and a resident of Fostoria, in the county of Seneca and State of Ohio, have invented certain new and useful Improvements in Carburetors; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

Our invention relates to that class of carbureting apparatus in which the vapor is produced by the passage of currents of atmospheric air over and in contact with hydrocarbon oil, whereby the air becomes carbureted or surcharged with the volatile vapors thereof, and as thus enriched may be utilized for heating or illuminating purposes.

The object of the invention is to provide a compact, portable, and inexpensive apparatus for domestic use. A further object is to provide for an even supply of atmospheric air to the hydrocarbon-tank, whereby the vapor supplied therefrom may be evenly supplied to the burner.

A further object is to provide means whereby to liquefy the hydrocarbon oil when solidified by cold.

The invention consists in the parts and combination of parts hereinafter described, and pointed out in the claim.

We have illustrated our invention in a longitudinal vertical sectional view taken through the center of the apparatus.

A designates a tank, into which is placed a suitable quantity of liquid hydrocarbon—such as petroleum, benzine, and the like—the liquid being introduced through an opening B in the top, the said opening being closed by a screw-cap C. At the base of tank A is formed a furnace D, upon which rests a cylindrical water-jacket E, which surrounds the tank A for a portion of its height, as well as inclosing the bottom thereof, water being introduced to the annular space between the tank and jacket through a pipe F, provided with a removable screw-top F', having a safety-valve F'' arranged therein.

G designates an air-reservoir formed with a telescopic top portion H, adapted to force a volume of atmospheric air into the hydrocarbon fluid in tank A as the top descends, communication being established by means of a pipe I, tapped into the lower portion of the air-reservoir, and extending vertically to above the top of tank A, from whence it leads into said tank and is extended to near the bottom thereof, whereby the atmospheric air is caused to descend to nearly the bottom of the body of carbureting-liquid, from whence it rises thoroughly enriched and in condition to be led to the vapor-holder J through a pipe K, connecting the tank and vapor-receiver, the vapor being led to the place of combustion through pipe L, leading from the former.

In order to impart the right temperature to the carbureting-liquid by which to uniformly liquefy the same, we arrange a pipe M, tapped into the top of the vapor-holder J, and extending downwardly to the center of the furnace D, at which point is attached a vertical burner N, by which means a supply of vapor may be utilized to heat the water in the annular chamber E, surrounding the tank.

Pipes I, K, L, and M are supplied with cocks O, by which to open or close communication with the same, respectively.

In operation air is forced into the air-receptacle by means of any preferred form of pump, (not necessarily shown, as it forms no part of our invention,) the pump being connected with the air-receiver by means of pipe P, provided with a cock Q, the latter being closed when the telescopic top H is extended to its full limit of movement and the cocks in pipes I, K, and L are opened, whereupon the atmospheric air is forced into the carbureting-liquid, and rising from thence passes through pipe K into the holder, and from thence out of pipe L to the point of combustion.

It is a well-known fact that to insure a greater degree of volatility to the carbureting-liquid it should be heated to a certain temperature, thereby heating the air as it passes through the same and causing the air to rise in condition to deposit the condensable vapors and particles before entering the gas-holder to be distributed to the place or places of combustion. In order to effect this result, cock O of pipe M is opened and the gas

lighted at the burner N, the jet of flame quickly heating the water in chamber E, and as a consequence the carbureting-liquid in tank A, and should the water be brought to a boiling-point at any time the steam will escape through safety-valve F'', thereby entirely avoiding any danger from this source.

As our apparatus is particularly designed for domestic use, with especial reference to cheapness and portability, it will be readily understood that as described and illustrated it is easily managed, cheaply constructed, portable, and safe.

What we claim is—

15 An improved carbureting apparatus consisting of the fluid-tank A, the water-jacket E, surrounding the same, said water-jacket being closed at the top and provided with the pipe F, removable screw-top F', and safety-valve F'', and the draw-off plug, the heating-

chamber D, arranged on the bottom of the water-jacket and carrying the burner N, the air-holder G, having the telescopic top H arranged at one side of the fluid-tank, and pipe I, connecting the said tank and holder, the vapor-holder J, arranged upon the opposite side of the tank, and pipe K, connecting said holder with the tank, and the pipe M, leading from the vapor-holder and connecting with the burner N, substantially as and for the purpose set forth.

In testimony that we claim the foregoing as our own we hereby affix our signatures in presence of two witnesses.

JAMES W. STROUSE.
ALBERT B. STROUSE.

Witnesses:

J. V. JONES,
E. E. TOY.