Dec. 14, 1926. 1,610,825

J. THOMAS

CARBURETOR FOR INTERNAL COMBUSTION ENGINES

Filed Jan. 19, 1925

Fig. 1.

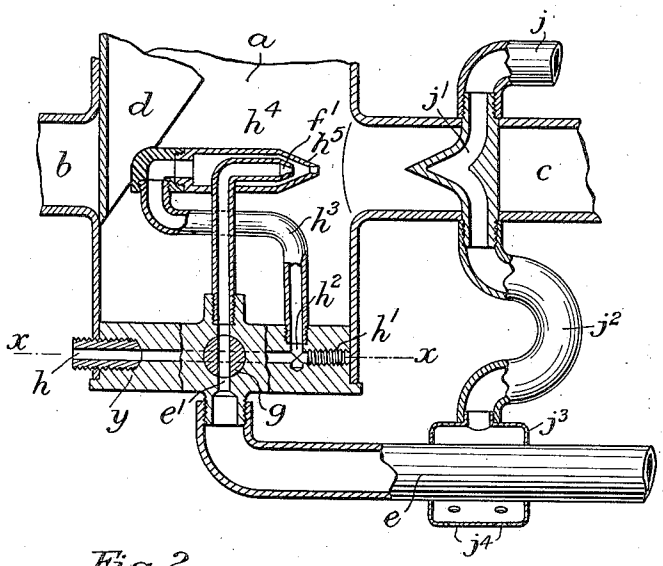


Fig. 2.

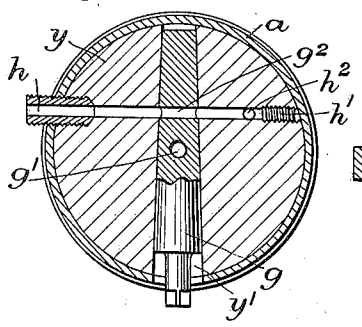
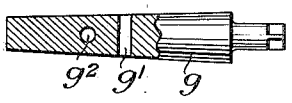


Fig. 3.



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UNITED STATES PATENT OFFICE.

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CARBURETOR FOR INTERNAL-COMBUSTION ENGINES.

Application filed January 19, 1925, Serial No. 3,423, and in Great Britain January 24, 1924.

This invention relates to carbureting apparatus and vaporizers, for internal combustion engines of all types, and it has for its objects to impart a greater velocity to the fuel jet, and a quicker and more thorough vaporization to the fuel issuing from the jet, the said apparatus preventing flooding and being thus rendered efficient at any altitude.

According to the invention the said apparatus is provided with a hand operated tapered cock inserted in the base thereof and provided with two passages controlling respectively the admission of liquid fuel and air, or gas, under pressure whether hot or cold, to a common nozzle for the purpose of imparting a greater velocity to the fuel jet, and also for giving a quicker and a more thorough vaporization of the fuel issuing from the jet.

I am aware that a carburetor has been proposed in which fuel and air under pressure are supplied to a common nozzle under the control of a single suction-actuated valve.

And in order that the invention may be readily understood, I will now describe it fully with reference to the accompanying drawings, wherein:

Fig. 1 is a longitudinal section of so much of the improved carburetor as is necessary to show its construction.

Fig. 2 is a transverse section of the same taken on the line x—x of Fig. 1, and showing clearly the relationship between the entrance for the fuel and the air, or gas, under pressure.

Fig. 3 is a detached view, partly in section, of the tapered cock for controlling both the fuel and the air, or gas, under pressure, these being arranged to work together or in unison.

In these drawings a is the carburetor casing; b the main air inlet; c the connection to the engine on the induction side; and d the conventional throttle or butterfly valve; e is the petrol or other fuel supply pipe, and e^1 the passage leading therefrom into the jet pipe; f is the main fuel jet pipe which terminates in the fuel-jet nozzle f^1; the air reaching the extremity of the latter by way of an annular passage which surrounds the said nozzle.

In carrying out the invention, the base piece y of the carburetor is provided with a horizontal conical passage y^1 in which there is arranged a hand-operated tapered cock g provided with two passages adapted to control respectively the fuel and the air, or gas, under pressure, the passage g^1 being that for the fuel supply and g^2 that for the supply of the air, or gas, under pressure.

The different relative positions of the fuel supply g^1 and the air, or gas, under pressure supply g^2, are clearly shown in Fig. 2 as is also the vertical passage h^2, leading from the air, or gas, under pressure supply-pipe hereinafter referred to.

Extending across the base y, and at right angles to the conical passage y^1, is the inlet h leading from any external source of air, or gas, under pressure; the unwanted length of said passage being plugged by a screw h^1, or other suitable means.

h^2 is the aforesaid vertical entrance from the inlet h in the base piece y with which also connects the air-pipe h^3.

j is the inlet pipe through which the hot gases pass into and through the usual conical hot-plate j^1 and which diffuser is arranged within the connection to the engine. j^2 is a subsidiary pipe leading from the diffuser to a jacket j^3, arranged around the fuel supply pipe e, for the purpose of warming said pipe, when desired, and j^4 are perforations in said jacket to allow of the escape of gas. It is to be understood that the conical diffuser, or atomizer-vaporizer, j^1, intercepts and atomizes any jet, spray, or other injection of liquid fuel.

In operation, the air or gas, under pressure may be either compressed air or other gas, such as oxygen, or a mixture of both, and either hot or cold; the usual regulating valve being provided when a mixture is desired.

I claim:—

A carbureting apparatus or vaporizer, comprising a tapered cock, two conduits respectively for the admission of liquid fuel and air or gas under pressure and a nozzle common to both conduits; the said tapered cock serving to control both conduits.

JOHN THOMAS.