

J. O. HEINZE, JR.,
CARBURETER.
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1,150,115.

Patented Aug. 17, 1915.

Fig. 1.

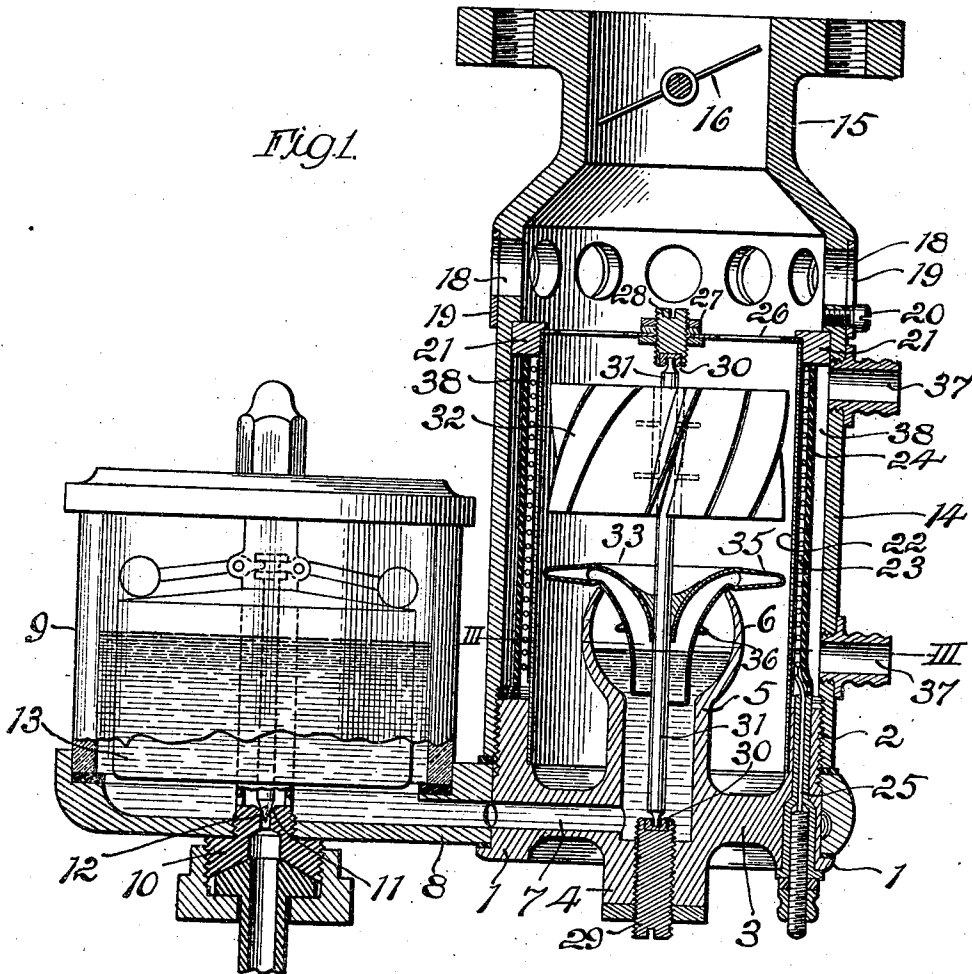


Fig. 2.

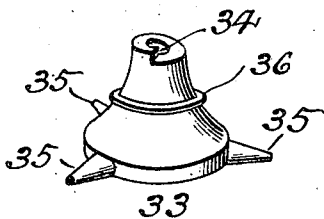
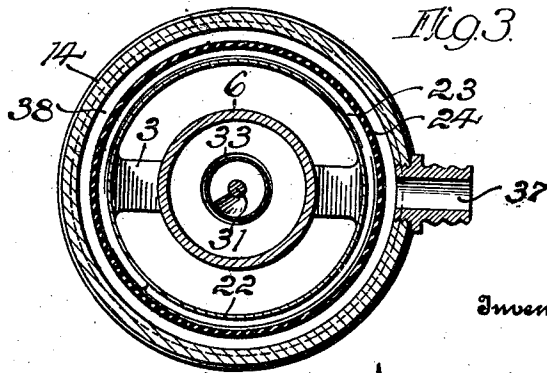


Fig. 3.



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UNITED STATES PATENT OFFICE.

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CARBURETER.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN O. HEINZE, JR., a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Carbureters, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to improvements in carbureters and an object of the invention is to obviate the necessity for choking the air passage of the carbureter to increase the suction therein for the purpose of feeding fuel, and further to insure the vaporization of the fuel and its thorough admixture with the ingoing air.

It is also an object of the invention to provide a construction and arrangement of parts having certain new and useful features.

To these ends the invention consists in utilizing the flow of ingoing air to impart the necessary motion for feeding the fuel in the form of spray into the path of the air and securing by reason of the position and movement of the parts, a thorough admixture of the fuel and air.

The invention further consists in an arrangement of heating means whereby two sources of heat may be employed to heat a surface over which the fuel is sprayed, and also consists in other new and useful features in the construction and arrangement of parts, all as hereinafter more fully described.

Reference will now be had to the drawing, wherein—

Figure 1 is a vertical sectional view of the carbureter; Fig. 2 is a perspective view of a detached centrifugal fuel ejector or nozzle, and Fig. 3 is a horizontal sectional view of the carbureter taken on the line III—III of Fig. 1.

The carbureter comprises a base 1 having the annular wall thereof exteriorly screw threaded, as at 2, and the bridge 3 thereof provided with a concentric depending boss 4 and a vertical tube 5 terminating in a substantially spherical hollow cup 6. The bridge 3 has a radially disposed port 7 in communication with the tube 5 and communicating with the outer end of the port 7 is the ported base 8 of a float receptacle 9. The base 8 has a depending connection 10

provided with a valve seat 11 for a valve 12, said valve having connection with a float 13 within the receptacle 9, whereby said float and the valve thereof control the level of gasoline within the receptacle 9 and the stand pipe or tube 5 connected thereto. It will, of course, be understood that the connection 10 is in communication through a suitable tube with a suitable supply of fuel and that the float receptacle 9 and the contents thereof constitute a conventional form of means for controlling the supply of fuel to a carbureter.

Connected to the exteriorly screw threaded wall of the carbureter base 1 is a cylindrical shell 14 having the upper end thereof reduced, as at 15 and formed integral with a flanged connection which houses an ordinary butterfly or throttle valve 16 employed for controlling the supply of an explosive mixture to a manifold tube and the cylinders of an internal combustion engine.

The shell 14, adjacent to the reduced end thereof is provided with a plurality of circumferentially arranged air inlet openings 18 and the passage of air into the shell 14 through said openings is controlled by an annular shutter 19 having openings adapted to register with the openings 18 of said shell. The shutter 19 can be adjusted and fixed relatively to the shell by a set screw 20 or other fastening means.

Within the shell 14, adjacent to the openings 18, is a collar 21, said collar cooperating with the base 1 in holding an electric heater, comprising an inner thin metallic lining 22, an outer lining 24 of insulating material, as porcelain, and a coil 23 within the outer lining and out of contact with the lining 22. The electric heater is spaced from the shell 14 and is provided with suitable leading-in wires or connections, one of which is designated 25. The collar 21 also supports a spider 26 having a central bearing 27 for a screw 28.

The screw 28 vertically aligns with a screw 29 in the boss 4 of the base 1 and the confronting ends of said screws are provided with agate bearings 30 for the reduced ends of a vertically disposed shaft 31. The shaft 31, adjacent to the upper end thereof, has a fan or spirally bladed wheel 32, which is operated by ingoing air to impart a rotary movement to the shaft 31, said wheel also assisting, by reason of its position and move-

ment, in the thorough admixture of the fuel and air.

Mounted on the shaft 31 within the cage 6 of the tube 5 is an inverted conical shaped ejector or nozzle member 33, which has the lower end thereof stepped and provided with an inlet opening 34 at the upper end of the tube 5. The upper marginal edges of the member 33 extends over the upper edges of the cage 6 and are provided with radially disposed nozzles 35 primarily designed for ejecting fuel against the inner lining of the electric heater. The member 33 intermediate the ends thereof, has an annular baffle 36 located directly above the level of gasoline or fuel within the cage 6.

The shell 14 of the carbureter is provided with nipples or connections 37 whereby hot water from the water jacket of an engine or the circulating system thereof can be circulated in the annular space 38 between the shell 14 and the outer lining of the electric heater. It is also possible to connect the nipples 37 to the exhaust of an engine whereby the exhaust can be used for heating purposes. In other words, provision is made for heating the fuel within the carbureter to assist in a thorough combustion of the same and thereby increase the efficiency of the engine.

A body of fuel is maintained in the cage 6 and lower inlet end of the member 33 by the float and the rotation of said member operates to draw fuel into the member and eject it against the inner lining or wall of the heater in the form of a fine spray where it is vaporized by the heat and the vapor thoroughly mixed with the ingoing air by the whirling motion of the nozzles and propeller wheel 32.

It is thought that the operation and utility of the carbureter will be apparent without further description, while in the drawing there is illustrated a preferred embodiment of my invention, it is to be understood that the structural elements are susceptible to such variations and modifica-

tions as fall within the scope of the appended claims.

What I claim is:

1. A carbureter comprising a shell, a cup in said shell adapted to receive gasoline, and an inverted conical shaped ejector extending into said cup and having the lower end thereof shaped to gather the gasoline in said cup.

2. A carbureter comprising a shell, a cup in said shell adapted to receive gasoline, an inverted conical shaped revoluble ejector extending into said cup and having the lower end thereof shaped to gather the gasoline in said cup, radiating nozzles at the upper end of said ejector adapted to discharge the gasoline from said cup against said shell, and means adapted to revolve said ejector.

3. A carbureter comprising a shell, a cup in said shell adapted to receive gasoline, an inverted conical shape revoluble ejector extending into said cup and having the lower end thereof shaped to gather the gasoline in said cup, radiating nozzles at the upper end of said ejector adapted to discharge the gasoline from said cup against said shell, an annular baffle on said ejector within said cup cooperating with the walls thereof in preventing splashing of gasoline from said cup, and means adapted to revolve said ejector.

4. A carbureter comprising a shell, means in connection with said shell for maintaining a body of fuel therein, a heater within said shell and spaced from a wall thereof, a centrifugal ejector revolubly supported in said heater and having a stepped end immersed in the fuel within said shell, and means actuated by air passing through said carbureter for imparting movement to said centrifugal ejector.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN O. HEINZE, Jr.

Witnesses:

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