

No. 727,972.

PATENTED MAY 12, 1903.

G. KINGSTON.

CARBURETER FOR GASOLINE ENGINES

APPLICATION FILED OCT 3 1902

NO MODEL.

Fig. 1.

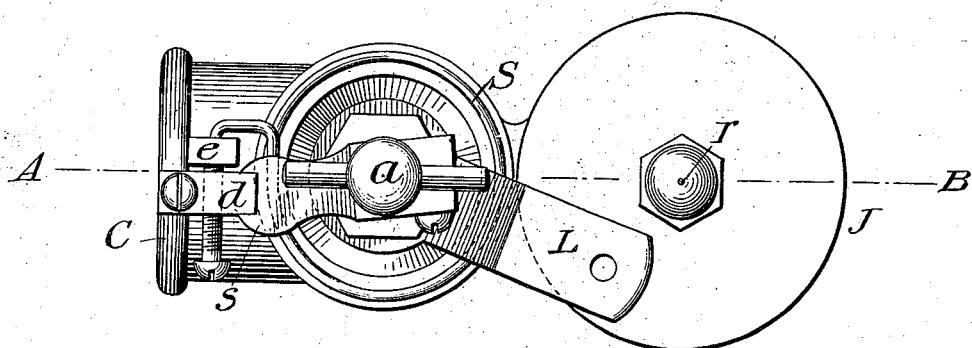
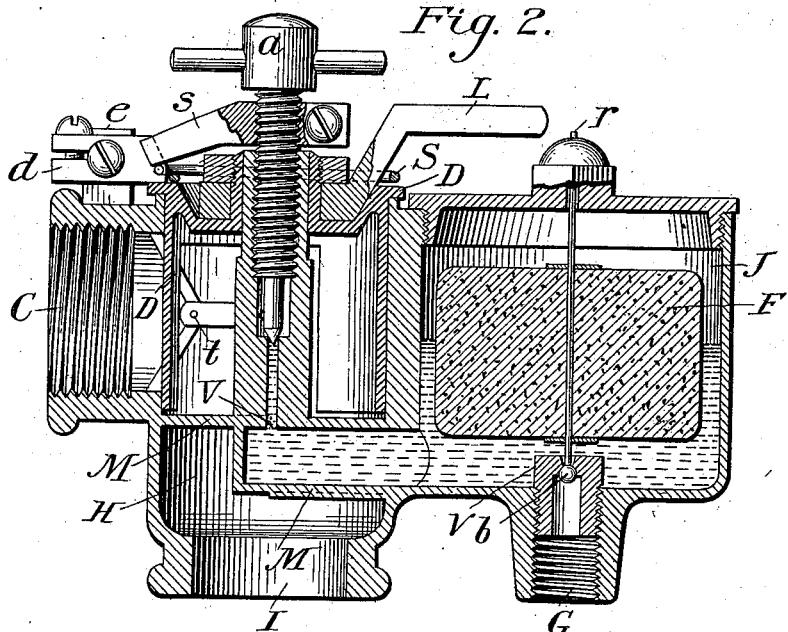


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

GEORGE KINGSTON, OF KOKOMO, INDIANA.

CARBURETER FOR GASOLENE-ENGINES.

SPECIFICATION forming part of Letters Patent No. 727,972, dated May 12, 1903.

Application filed October 3, 1902. Serial No. 125,722. (No model.)

To all whom it may concern:

Be it known that I, GEORGE KINGSTON, a citizen of the United States, residing at Kokomo, in the county of Howard and State of Indiana, have invented new and useful Improvements in Carbureters for Gasolene-Engines, of which the following is a specification.

My invention relates to improvements in float-feed carbureters for gasolene-engines, and has for its object the provision of a carbureter of new and novel construction, neat and attractive in appearance, strong and durable in its parts, performing its work accurately, and perfectly noiseless in its action. Another object is to provide a carbureter that will give perfect control over an automobile-engine, that can be adjusted to deliver a perfect mixture at extremely low speeds—this accomplished the engine will start easy, it not being necessary to flush the carbureter as is customary with float-feed carbureters—then by opening throttle, consisting of air-valve and fuel-valve, by a movement of lever attached to air-valve to attain any required speed with a perfectly uniform mixture.

Another object is to provide a carbureter not materially affected by changes in atmospheric conditions.

The invention consists in a carbureter embodying certain novel features and details of construction and relative disposition of parts, as hereinafter particularly set forth, illustrated in the drawings, and incorporated in the claims hereunto appended.

With the above-enumerated objects in view I will now refer to the accompanying drawings, in which—

Figure 1 is a plan or top view of carbureter constructed in accordance with my invention. Fig. 2 shows a vertical cross-section on line A B, in which the combinations of principal parts of my invention are clearly shown.

Similar letters of reference denote and refer to similar parts throughout the different views.

J represents the float-chamber.

F represents the float, which at present I prefer to be made of cork well coated with shellac.

b represents the metal ball-valve seating in v with fuel connection at G.

r represents the valve-stem, to which the ball and float are rigidly connected, as shown.

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H represents the air-chamber.

a represents the fuel needle-valve.

D represents the air-regulating valve.

d is a lug cast on air-valve and used as an adjustable stop, it being provided with a screw and clamp to hold screw firmly after adjustment is made.

e represents a lug cast on the main casting and remains stationary, forming a stop for d, this screw adjustment at d to be used for the purpose of adjusting throttle for low speed.

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s represents a clamp, having a fork on one end for making a loose connection with d, the other end forming a clamp with screw-tension for locking same to a after the required adjustment is made.

7c

L represents the lever rigidly connected to D for operating a and D, together forming the throttle.

t represents the fuel-spraying nozzle, which is a small opening in tube projecting from cavity shown around needle-point of a. This opening in tube is placed in the apex of V-shaped orifice leading to the engine. This orifice is shown in drawings partly closed by air-valve, as in low-speed position.

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C represents the delivery or outlet leading from V-shaped orifice to the engine.

I represents air-inlet to air-chamber of carbureter.

M M represent baffle-plates, which are thin semidisks or bridges cast integral with H and closing one-half the opening in each case from opposite sides and doing service as baffle-plates, keeping the mixture from being forced back out I by reaction or backlash of engine-valves, also as a silencer for I, as they muffle the inrush of air at I.

90

S represents a spring for retaining throttle in low-speed position upon release of L.

V represents a conduit leading from float-chamber J and terminating at t at the apex of V-shaped orifice leading to engine, the flow of fuel through V being controlled by needle-valve a.

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In operation connect C to inlet-port on engine as close as possible, as the engine will respond more quickly to throttle if connected close to intake-valve. Connect fuel at G with head enough to work the float. When

100

chamber is filled so that float shuts off fuel, adjust throttle for low speed, screw *a* down to seat, and then open slightly and try the engine. When engine starts, adjust *a* until the desired mixture is obtained. Then clamp *s* to *a*, open *L*, and the engine will speed up under the proper mixture. Releasing *L* it will return to low-speed position and may be stopped and started again at any time without making any further adjustment.

It is apparent that to make an engine start easy *t* must be placed at a point where the velocity of air rushing through the carbureter is greatest. Hence my method of placing it in throttle-opening. It is also apparent that the pitch of the screw and taper of needle-point on *a* must correspond with the shape of air-opening to make delivery perfect at all speeds.

Having now fully shown and described my invention and the best design to me known at this time, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a carbureter, the combination with an air-chamber, of a pipe communicating therewith by a V-shaped orifice and leading to the engine, a float-chamber containing liquid fuel, a conduit leading from said chamber and terminating at the apex of the V-shaped orifice, a valve constructed to vary the area of said orifice and control the flow of air therethrough, a lug carried by said valve, a needle-valve in the fuel-conduit to control the flow of fuel, a clamp carried by said needle-valve having a loose connection with said lug, whereby the opening or closing of the air-valve will open or close the needle-valve, two baffle-plates to prevent mixture from being forced back through and out of air-chamber by reaction or backlash of engine-valves, the float-chamber containing float, valve-stem and ball-valve rigidly connected together, the ball-valve seating on lower side of seat in the bottom or top of float-chamber by rising of float attached to stem, as means for con-

trolling the required fuel-level, substantially as described.

2. In a carbureter, the combination with the air-chamber, of a pipe communicating therewith by a V-shaped orifice and leading to the engine, a float-chamber containing liquid fuel, a conduit leading from said chamber and terminating at the apex of the V-shaped orifice, a valve constructed to vary the area of said orifice and control the flow of air therethrough, a lug carried by said valve, a needle-valve in the fuel-conduit to control the flow of fuel, a clamp carried by said needle-valve making a loose connection with said lug, whereby the opening and closing of air-valve will open or close the needle-valve, the float-chamber containing float, valve-stem and ball-valve rigidly connected together, the ball-valve seating on lower side of seat in the bottom or top of float-chamber by the rising of float attached to stem, as means for controlling the required fuel-level, substantially as described.

3. In a carbureter, the combination with an air-chamber, of a pipe communicating therewith by a V-shaped orifice and leading to the engine, a float-chamber containing liquid fuel, a conduit leading from said chamber and terminating at the apex of the V-shaped orifice, a valve constructed to vary the area of said orifice and control the flow of air therethrough, a lug carried by said valve, a needle-valve in the fuel-conduit to control the flow of fuel, a clamp carried by said needle-valve having a loose connection with said lug, whereby the opening or closing of the air-valve will open or close the needle-valve, substantially as described.

In witness whereof I have hereunto set my name in presence of two subscribing witnesses.

GEO. KINGSTON.

Witnesses:

F. L. KINGSTON,
R. J. CRANE.