Oct. 20, 1925. 1,557,618

G. F. RITTER

CARBURETOR

Filed July 22, 1920

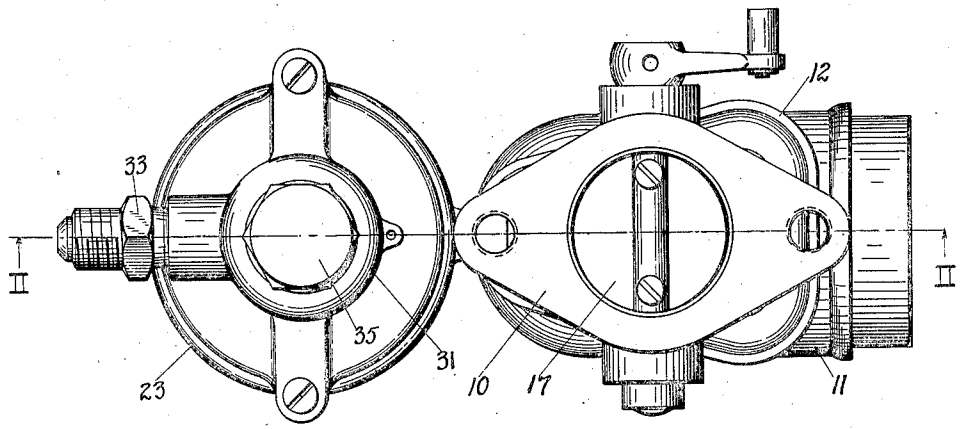


Fig. I.

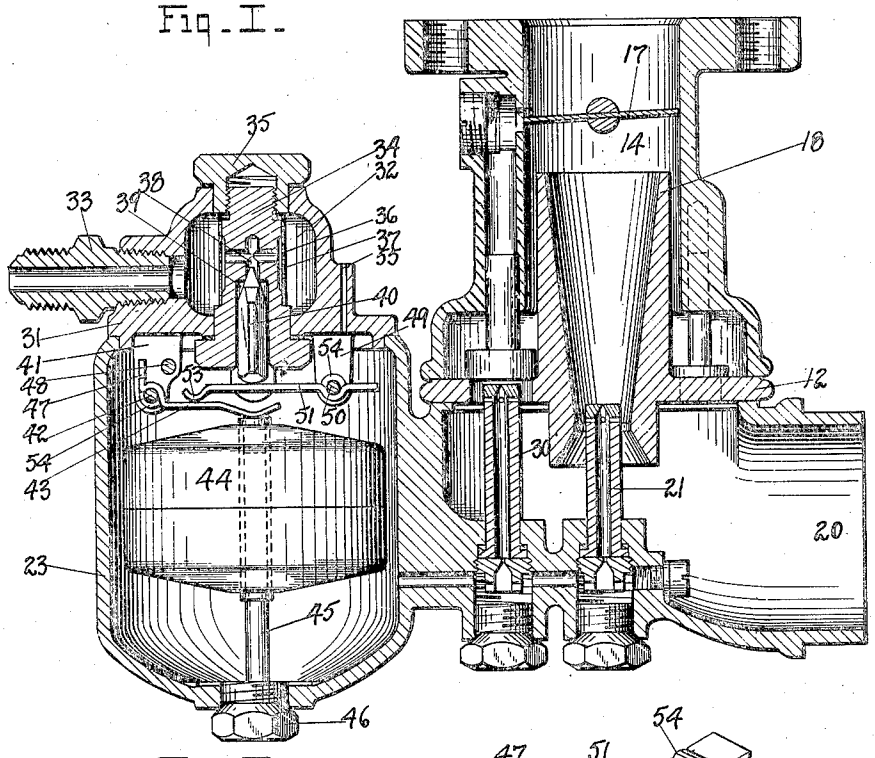


Fig. II.

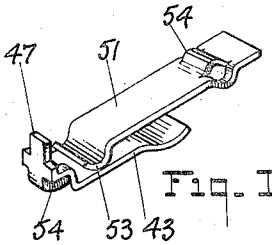


Fig. III.

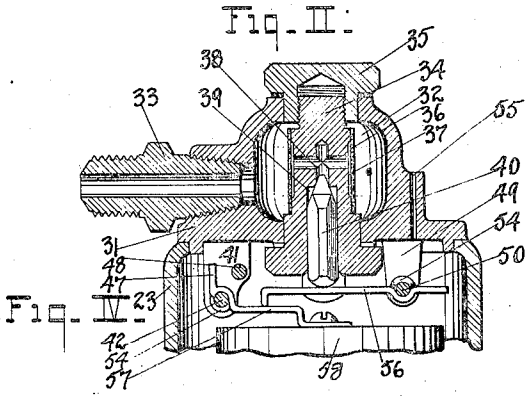


Fig. IV.

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UNITED STATES PATENT OFFICE.

GEORGE F. RITTER, OF TOLEDO, OHIO, ASSIGNOR TO TILLOTSON MANUFACTURING COMPANY, OF TOLEDO, OHIO, A CORPORATION OF OHIO.

CARBURETOR.

Application filed July 22, 1920. Serial No. 398,293.

To all whom it may concern:

Be it known that I, GEORGE F. RITTER, residing at Toledo, county of Lucas, State of Ohio, have invented certain new and useful Improvements in Carburetors, of which I declare the following to be a full, clear, and exact description:

The present invention relates to carburetors of the type shown in my co-pending application, Serial No. 382,008, filed May 17, 1920.

The invention has for its object to provide improved means for automatically cutting off the supply of fuel to the carburetor bowl when the fuel therein reaches a predetermined level.

Another object of the invention is to provide a carburetor bowl, having a cover, upon which the entire mechanism for controlling the fuel supply is mounted so that the cover and mechanism thereon may be removed as a unit.

Another object of the invention is to construct the mechanism mounted within the bowl for controlling the supply of fuel thereto in a manner to permit of a considerable reduction in the size of the bowl.

Another object of the invention is to provide an extremely simple fuel controlling mechanism for a carburetor of comparatively few parts, constructed in such a manner as to require a minimum amount of machine work and capable of being quickly assembled without adjustments whereby the cost of manufacture is reduced to the minimum.

To these and other ends the invention comprises certain novel features of construction and arrangement of parts which will be hereinafter more fully pointed out and claimed, it being understood that the structure is susceptible to various changes and modifications without departing from the scope of the invention as expressed in the claims.

Like reference characters throughout the several views of the drawings indicate corresponding parts.

In carrying out my invention one embodiment thereof is illustrated in the accompanying drawings in which:

Figure I is a plan view of a carburetor embodying the invention.

Figure II is a sectional elevation taken on line II—II of Figure I.

Figure III is a perspective view of the valve controlling levers shown in Figure II and

Figure IV is a fragmentary sectional elevation embodying a slightly modified form of valve controlling mechanism.

Referring to the numbered parts of the drawing, I have shown my invention in connection with a carbureting device consisting of an intake passage 20 communicating with a mixing chamber 14 through a series of openings in a partition 12. In this partition is fitted a Venturi 18 with the main jet or nozzle 21 discharging at a point slightly above the throat of the Venturi. There are a series of auxiliary air openings in the partition 12 which are closed by automatically operating valves. An auxiliary jet or nozzle 30 is shown as located in one of said auxiliary air openings and the carbureting device is also shown as provided with an idle jet arranged adjacent the throttle valve 17. Fuel for the main nozzle, the auxiliary and the idle jet are supplied from a constant level float chamber, and my invention relates to the means provided for maintaining a constant level in said chamber. My invention is not restricted to use with a carbureting device of the specific construction shown, but may be used with any form of carburetor employing a constant level supply chamber. The construction of the carbureting device which I have just described in general terms, is described and claimed in my copending application, Serial No. 382,008 filed May 17, 1920 and needs no further description here.

In the construction of the bowl, I have preferably shown the same as being integrally connected with the main body of the carburetor, but it will be understood that the bowl may be cast separately if desired and connected with the body by any suitable means. The head or cover 31 of the bowl is provided with a fuel receiving chamber 32 into which fuel is discharged through the connection 33. Extending upwardly through the lower wall of the cover and through the fuel chamber 32 is a post 34 which is threaded at its upper end into a removable cap 35 which in turn is threaded into the cover, whereby the post is clamped upon the cover. The post, at the point where it passes through the fuel chamber 32 is provided with a strainer 36 surrounding an annular recess 37 formed

in the post which communicates with the radial openings 38 in communication with the longitudinal opening 39 extending downwardly through the post and communicating with the fuel chamber of the bowl. The diameter of the strainer is less than the diameter of the largest portion of the post to permit the post to be withdrawn from the cover without first requiring the removal of the strainer. Positioned within the longitudinal opening 39 of the post is the fuel valve 40 which is adapted to close said opening when the fuel rises to a predetermined level within the bowl. Extending downwardly from the cover is a lug or projection 41 upon which is pivoted at 42 a lever 43 resting at its inner end upon a float 44 preferably disposed centrally within the bowl in sliding engagement with a post 45 carried by the removable drain plug 46 screwed into the bottom of the bowl as shown in Figure II. The lever is provided with an upturned portion 47 adapted to engage a stop 48 on the lug 41 to limit the downward movement of the lever. Extending downwardly from the cover is a lug 49 upon which is pivoted at 50 a lever 51 adapted to extend under the valve 40 to loosely engage the same, said lever having its free end bent downwardly as indicated at 53 to engage the lever 43 intermediate its ends as indicated in Figure II. The levers 43 and 51 are provided with outwardly struck tongues or projections 54 which are adapted to receive the pivot pins 42 and 50 respectively upon which said levers are mounted, the ends of the pins being anchored upon their respective lugs in any suitable manner. The head or cover 31 is provided with an aperture therethrough as indicated at 55 whereby the fuel in the bowl is at all times subjected to atmospheric pressure. The compound system of levers shown in Figure II is controlled by the float 44 and these parts form a very satisfactory means for actuating the fuel inlet valve 40 to move it into closed position when the fuel in the bowl rises to a predetermined level. By mounting the float to move vertically upon the post 45 instead of pivoting it within the bowl the diameter of the latter may be reduced to the minimum to effect a considerable saving in the amount of metal required to construct this member.

In Figure IV I have shown a modification which differs from that shown in Figure II only in that the inner ends of the upper and lower levers 56 and 57 respectively are slightly changed, the latter being connected directly to the float 58 whereby the float is pivoted within the bowl instead of being mounted to move upon a vertically disposed guide post as indicated in Figure II.

It will be apparent to those skilled in the art that the invention shown and described herein is susceptible of various modifications, embodiments and arrangements to suit special or varying conditions and I wish it to be understood that the terms which I have used are merely descriptive and not limiting and that it is my intention to include any and all modifications which come within the scope of the invention as defined in the appended claims.

Having thus described my invention, what I desire to secure by Letters Patent is:

1. In a carburetor, the combination of a carbureting device, a receptacle adapted to supply fuel thereto, a removable cover for said receptacle having a fuel inlet passageway therethrough, a lever pivoted upon said cover, a float associated with said lever, a second lever pivoted upon said cover with its free end engaging the first mentioned lever and a valve adapted to be actuated by said second mentioned lever to close said inlet passageway when the fuel reaches a predetermined level within the receptacle.

2. In a carburetor, the combination of a carbureting device, a receptacle for supplying fuel thereto provided with a fuel inlet opening, a valve for closing said opening when the fuel reaches a predetermined level within the receptacle, a float guided vertically within the receptacle, a pivoted member operatively associated with said float and a second pivoted member loosely engaging said valve and adapted to be actuated by the first mentioned pivoted member to effect the closing of the valve.

3. In a carburetor, the combination of a carbureting device, a receptacle for supplying fuel thereto provided with a fuel inlet opening, a valve for closing said opening when the fuel reaches a predetermined level within the receptacle, a float mounted in said receptacle, a pivoted member operatively associated with said float and a second pivoted member loosely engaging said valve and adapted to be actuated by the first mentioned pivoted member to effect the closing of the valve when the fuel reaches a predetermined level within said receptacle.

4. In a carburetor, the combination of a carbureting device, a receptacle for supplying fuel thereto provided with a fuel inlet opening, a valve for controlling said opening, a pair of pivoted members, one of which is adapted to overlie and be actuated by the other and to loosely engage said valve, and a float operatively associated with said members.

5. In a carburetor, the combination of a carbureting device, a receptacle for supplying fuel thereto provided with a fuel inlet

opening, a valve for controlling said opening, upper and lower pivotal members, the free end of one of which is adapted to rest upon the other, said members being operatively associated with said valve, and a float adapted to move said members upon their pivots.

6. In a carburetor, the combination of a carbureting device, a receptacle adapted to supply fuel thereto provided with a fuel inlet opening, a valve for controlling said opening, a compound system of disconnected levers operatively associated with said valve, a float slidably mounted in said receptacle and adapted to actuate said levers and means for limiting the movement of the levers in a direction away from the valve seat.

7. In a carburetor, the combination of a carbureting device, a receptacle adapted to supply fuel thereto provided with a fuel inlet opening, a valve for controlling said opening, a compound system of disconnected levers operatively associated with said valve, a float mounted in said receptacle and adapted to actuate said levers and a stop in the path of one of said levers for limiting the movement of the same when moving in a direction away from the valve seat.

8. In a carburetor, the combination of a carbureting device, a receptacle adapted to supply fuel thereto provided with a fuel inlet opening, a valve for controlling said opening, a pivoted member having an upturned portion thereon, a stop in the path of said upturned portion for limiting the movement of said pivoted member, a second pivoted member interposed between said valve and the first mentioned pivoted member and a float adapted to actuate the first mentioned pivoted member.

9. In a device of the class described, the combination of a carburetor bowl, a removable cover upon the bowl having an inlet passageway therethrough, a valve for controlling said passageway, a lever pivoted upon said cover, a second lever pivoted upon the cover adapted to support said valve and having its free end engaging the first mentioned lever intermediate its ends and a float within the bowl for actuating said second mentioned lever.

10. In a device of the class described, the combination of a carburetor bowl, a removable cover upon the bowl having a fuel receiving chamber therein, a post projecting into said chamber and having a recess therein communicating with said chamber and bowl, means for securing said post within the chamber, a valve positioned within the recess formed within said post, a float within said bowl and a lever operatively associated with said valve and adapted to be actuated by said float to move the valve in position to close said recess when the fuel in the bowl reaches a predetermined level.

11. In a carburetor, the combination of a fuel receptacle, a cover therefor having an inlet opening and a valve controlling the same, a lever pivoted to said cover and supporting said valve at a point intermedite its ends, a second lever pivoted to said cover and directly engaging the free end of said first lever, a float supporting the free end of said second lever, and a stop on said cover for engaging a portion of said second lever to limit the downward movement of said levers and said valve.

In testimony whereof, I affix my signature.

GEORGE F. RITTER.