

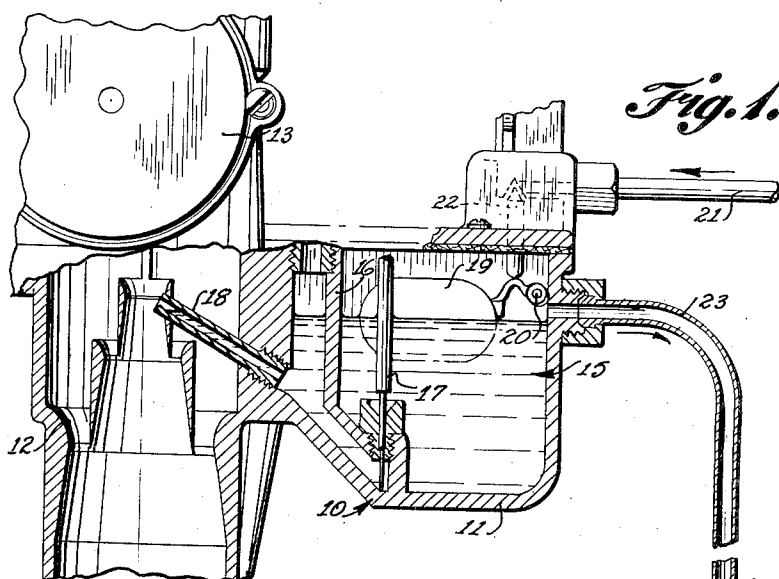
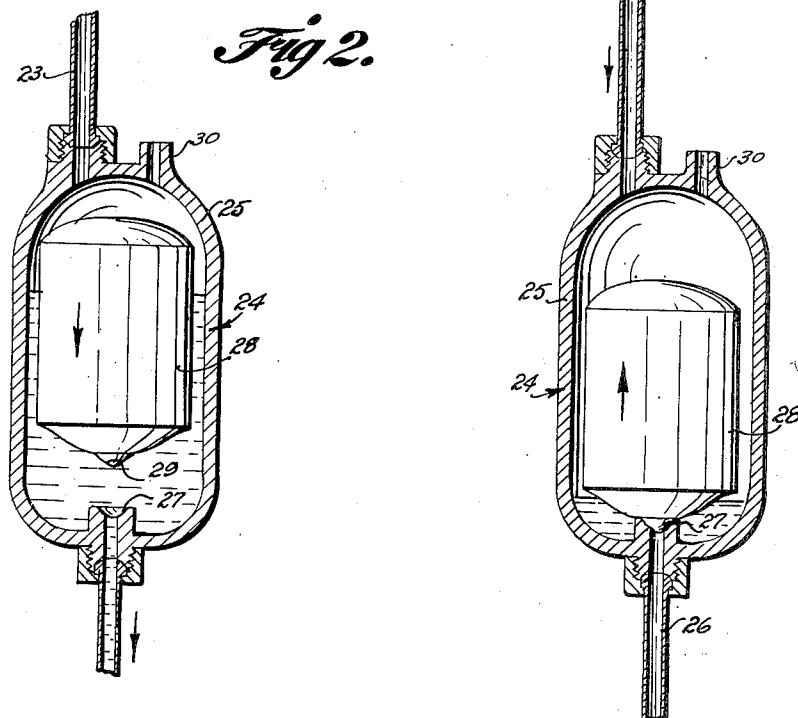
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FUEL LEVEL STABILIZING MEANS

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FUEL LEVEL STABILIZING MEANS

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1 Claim. (Cl. 137—397)

This invention relates to a carburetor for an internal combustion engine, and more particularly to a means for maintaining the fuel in the carburetor at a constant level.

The object of the invention is to provide a mechanism for stabilizing the level of fuel in a carburetor whereby malfunctioning of the engine will be prevented.

Another object of the invention is to provide a carburetor for a vehicle such as an automobile, truck, tractor and the like wherein means is provided for maintaining the fuel level constant even though dirt may be present, or even though the vehicle may tilt or shake.

A further object of the invention is to provide a fuel level stabilizing means which is extremely simple and inexpensive to manufacture.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawings, forming a part of this application, and in which like numerals are used to designate like parts throughout the same:

Figure 1 is a vertical sectional view taken through the carburetor, and showing the present invention attached thereto.

Figure 2 is a vertical sectional view taken through the restrictor assembly, and showing the float member in raised position.

Referring in detail to the drawings, the numeral 10 designates a carburetor of an internal combustion engine such as an automobile or truck, and the carburetor 10 includes a housing 11 that may be fabricated of any suitable material. The housing 11 includes a compartment 12 having a venturi arranged therein.

Arranged in the carburetor is a second compartment or fuel holding chamber 15 which has a partition 16 therein, there being a valve 17 arranged therein. An inclined jet tube 18 leads from the fuel compartment 15 to the venturi 14, Figure 1. Movable mounted within the fuel compartment 15 is a float 19, the float 19 being hingedly connected to the housing by a hinge or pin 20. A conduit 21 is provided for conveying fuel such as gasoline from a suitable source of supply such as the fuel tank to the interior of the compartment 15, and a shut-off valve 22 is provided for controlling the flow of fuel from the conduit 21 to the compartment 15.

Arranged in communication with the interior of the compartment 15 is a conduit 23, and the conduit 23 has its lower end communicating with a tank or casing 25 which forms part of a restrictor assembly 24. A pipe 26 leads from the lower end of the tank 25, and the pipe 26 may be used for conveying the excess fuel from the tank 25 back to the fuel tank. A valve seat 27 is provided adjacent the inner end of the pipe 26, Figure 2, and a float member 28 is movably mounted within the tank 25, the float member 28 carrying a valve 29 on its lower end for movement into and out of bridging engagement with the valve seat 27. A vent opening 30 may be provided in the upper end of the tank 25.

From the foregoing it is apparent that a mechanism has been provided for stabilizing the level of fuel in the carburetor. Thus, in use the fuel is fed into the carburetor 10 through the conduit 21 which may be connected to the fuel tank, and normally the fuel from the compartment 15 passes through the jet tube 18 into the venturi 14. However, when the level of fuel in the com-

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partment 15 exceeds a predetermined level, this excess fuel will pass into the upper end of the conduit 23 and will drain into the tank 25. When sufficient fuel has entered the tank 25 to lift the float member 28, the fuel from the tank 25 can pass out through the pipe 26 and the pipe 26 may be connected back to the fuel tank (not shown).

By means of the present invention a constant fuel level will be maintained within the carburetor even though there may be dirt present or even though the vehicle may tilt or shake. All carburetors for engines are provided with float and needle valve types of controls and normally these members function as indicated or as intended but the normal function is sometimes disrupted by certain uncontrollable mal-functions. For example, dirt or other foreign matter may get into the fuel stream and lodge under the float valve to hold it off its seat so that the fuel level can attain too high a level and disrupt the intended fuel and air ratios at all engine speeds.

Another mal-function results from high fuel pump pressures which have the force to lift the float valve off its seat and also raise the float valve so that the float level will be accidentally moved as though dirt or other foreign matter had entered the needle valve. The present invention corrects these mal-functions since the tube 23 is connected to the carburetor at a point in line with the established fuel level and the opposite or lower end of the tube 23 serves to carry the excess fuel to the tank 25 or it may lead to the original source of supply of fuel so that such fuel will not overflow into the manifold.

In the normal use of a vehicle there is so much bumping and jarring of the vehicle that the dirt is constantly stirred up so that such foreign particles lodge under the needle so that there heretofore has been no certainty that the engine would receive the correct mixture as intended by the car manufacturer. Such mal-functions cause excessive fuel consumption, carbon knockings, poor idling performance and the like. The tube 23 may be connected at any side or part of the carburetor as desired and the tube 23 carries the excess fuel back to the original source of fuel supply, either directly into the gasoline tank, or at any point in the fuel line between the gasoline tank and the fuel pump. With the present invention even though foreign matter may lodge under the needle valve, no harm will be done since the excess fuel will be drained away and the fuel level will be maintained constant nevertheless. Also, such foreign matter will be washed away by the flushing action and costly repairs to the engine or motor will be eliminated. The restrictor 25 serves to prevent any air from entering the fuel pump suction line when no excess fuel condition exists in the carburetor since such air entering the suction line would disrupt the suction action of the regular supply source to thereby cause pump failure or fuel deficiency leading to the carburetor. In Figure 2 the float member 28 is shown raised off its seat to permit the fuel to be discharged into the original fuel stream or back into the tank, and in Figure 1 the float member 28 is shown at the bottom of the tank 25 thus shutting off the supply of liquid or air to the pipe 26.

Further, the tank assembly may be connected directly to the carburetor body as one unit and the conduit 23 eliminated entirely. Thus, the whole carburetor and tank unit can be constructed as one structure.

It will be understood that modifications may be made in the design and arrangement of the parts without departing from the spirit of the invention.

I claim:

In combination, a carburetor for an internal combustion engine embodying a housing comprising a first compartment having a venturi therein, a fuel holding compartment arranged adjacent said first compartment, conduit means for conveying fuel from a source of supply to said fuel compartment, transfer means leading from said fuel holding compartment for conveying away excess fuel, said transfer means communicating with said fuel holding compartment at a point contiguous to the estab-

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lished fuel level for the compartment, a tank connected to said fuel holding compartment, a pipe leading from the lower end of said tank, there being a valve seat in said tank adjacent the top of said pipe, a float member movably mounted in said tank and provided with a valve on its lower end adapted to close said valve seat, there being a vent opening communicating with the top of said tank.

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