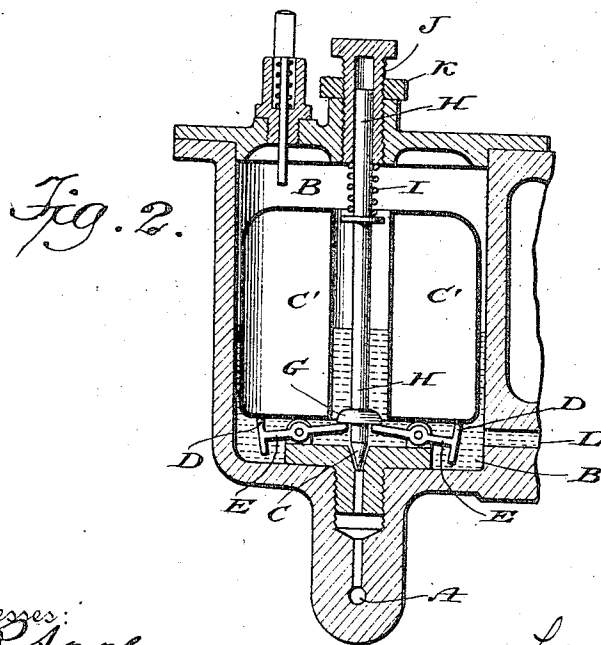
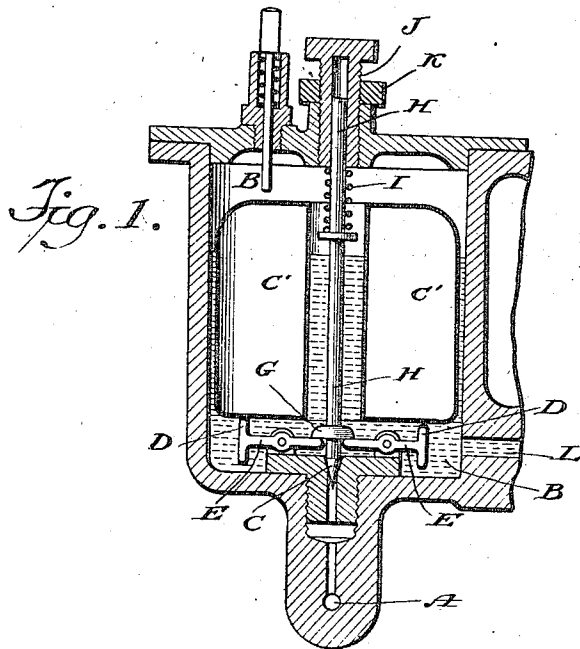


No. 855,764.

PATENTED JUNE 4, 1907.

L. B. GAYLOR.
CARBURETER.

APPLICATION FILED JAN. 17, 1907.



Witnesses:
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UNITED STATES PATENT OFFICE.

LEONARD B. GAYLOR, OF BOSTON, MASSACHUSETTS.

CARBURETER.

No. 855,764.

Specification of Letters Patent.

Patented June 4, 1907.

Application filed January 17, 1907. Serial No. 352,679.

To all whom it may concern:

Be it known that I, LEONARD B. GAYLOR, a citizen of the United States, and a resident in the city of Boston, county of Suffolk, State of Massachusetts, have invented a new and useful Improvement in Carbureters, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 illustrates a vertical sectional view of one form in which the invention may be embodied, certain parts being shown in elevation and in the position they occupy when the needle valve which controls the entrance of liquid fuel to the float chamber, is closed. Fig. 2 illustrates a view similar to that of Fig. 1, the parts being in the position they occupy when the needle valve is open, permitting the entrance of the fuel to the float chamber.

In certain forms of carbureter heretofore used, the supply of fuel is controlled by a needle valve which is in turn controlled by a float in the float chamber and in order to secure the proper seating of the needle valve at the appropriate time, thus cutting off the supply of fuel, it has been customary to make the needle valve of a relatively large and heavy piece of metal, one end being turned down to form the valve proper, the other end being usually turned down also to afford a suitable spindle for the guidance of the upper end of the valve. In such constructions the weight of the valve is relied upon to secure its proper and efficient engagement with its seat. Sometimes also a smaller and lighter needle valve has been used, having weights applied to it, in such manner as to cause it by the action of gravity to properly attain and retain its seat. Both these forms are satisfactory under many circumstances, but not so where the incidents of use are such that the carbureter is subjected to excessive although not necessarily violent vibration, because under such circumstances, the inertia of the valve, heavy or weighted, as it receives the impulses due to the vibrations and to the continuous vertical movements of the float, is such that it works up and down after the fashion of a miniature rock drill wearing its point away very rapidly and also wearing the valve seat and allowing the fuel to unduly enter the chamber, and as a result, to overflow the standpipe, sometimes even running out at the top of the float chamber.

After extensive experimentation, I have

discovered that if the needle valve be made of thin wire, exceedingly light and provided with a weak spring to aid in its seating and retaining its seat, then the valve itself having less inertia than the spring is controlled thereby, there will be no movement of the valve consequent to the vibrations and that if the vertical movements of the float acting through the devices connecting it with the valve should occasionally give it an impulse, nevertheless having but little weight and consequently little inertia, the lift of the valve from its seat under the impacts will be very slight and instantly recovered.

Not only does my invention accomplish the above stated advantages, but also by a very simple device I am enabled to regulate the pressure of the spring on the valve and thus the fuel level can be set at any desired height, thus avoiding the weighting of the float or reducing the weight of the needle, as formerly necessary.

The foregoing so fully sets forth the invention that a brief description only of the drawings will be necessary.

The drawings show a form of carbureter in which my invention may conveniently be employed. The gasoline is admitted at A, from whence it enters the float chamber B by the needle valve C. When the gasoline in the chamber is not up to its full level, as shown in Fig. 2, then the float C' occupying lower position, rests upon lugs D on the outer ends of two small pivoted levers, E, E, depressing these outer ends, thus raising the needle valve C out from its valve seat by reason of the contact of the inner ends of the levers against a collar G on wire stem H of the needle valve. As the gasoline rises in the float chamber, reaching its normal level, as shown in Fig. 1, the float rises with it, relieving the pressure upon the outer ends of the levers E, E, whereupon the needle valve is pressed downwardly into the valve seat by a weak spring I near its upper end, which is capable of adjustment so that it will exert more or less pressure upon the stem of the needle valve by the screw block J which is provided with a set nut K. The gasoline passes from the float chamber through an opening L into a suitable stand pipe (not shown) located in the mixing chamber of the carbureter, in which it attains a level the same as that in the float chamber in a manner well understood. The details of this part of the apparatus are unimportant.

It will be obvious to those who are familiar with such matters that the details of construction of the apparatus shown and described are immaterial because the invention
5 may be embodied in many different forms. I therefore do not limit myself to such details.

I claim:

10 In a carbureter a float chamber, a needle valve consisting of a light wire pointed at the bottom and seated in an underlying corresponding seat, a collar upon the needle at some distance from its end, a spring engaging with the collar at one end and with a movable

device at its other end, which supplements the action of gravity in seating the valve, a
15 float and means actuated by the descent of the float and which engage the needle, whereby it is lifted from its seat.

In testimony whereof I have signed my name to this specification in the presence of
20 two subscribing witnesses.

LEONARD B. GAYLOR. [L. s.]

Witnesses:

JAMES E. POWERS,
ALFRED L. POWELL.