

W. F. SCHULZ.

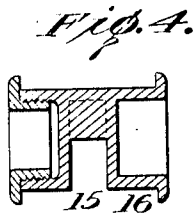
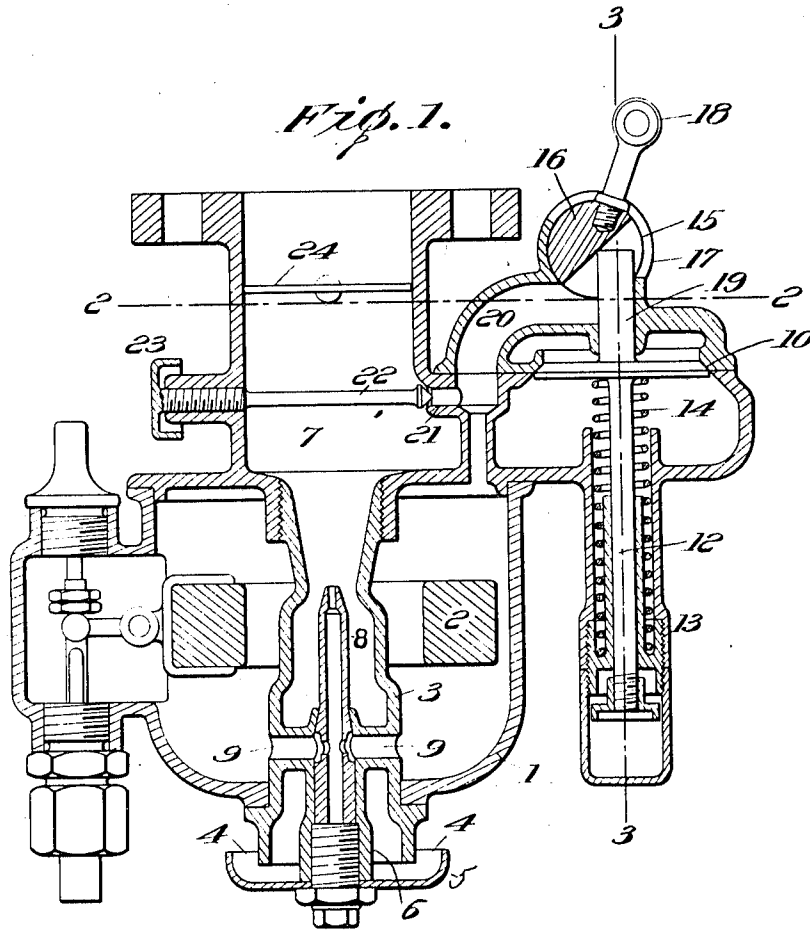
CARBURETER.

APPLICATION FILED NOV. 11, 1910.

1,020,059.

Patented Mar. 12, 1912

2 SHEETS—SHEET 1.



Witnesses:
Allan H. Goss.
Edna N. Thomas.

W. F. Schulz, Inventor
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2 SHEETS-SHEET 2.

Fig. 2.

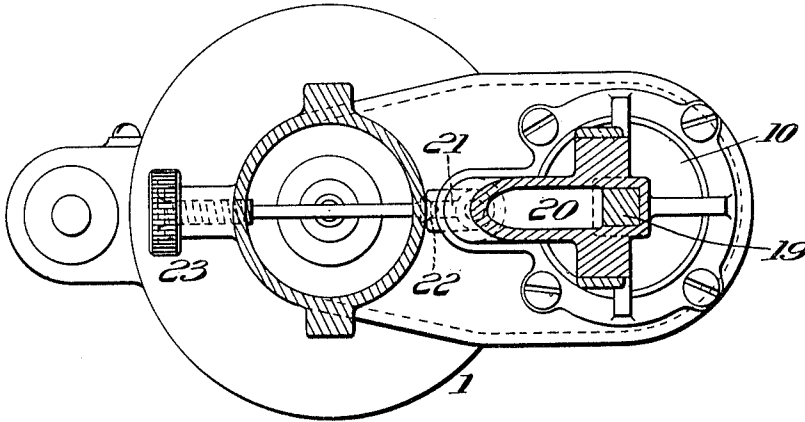
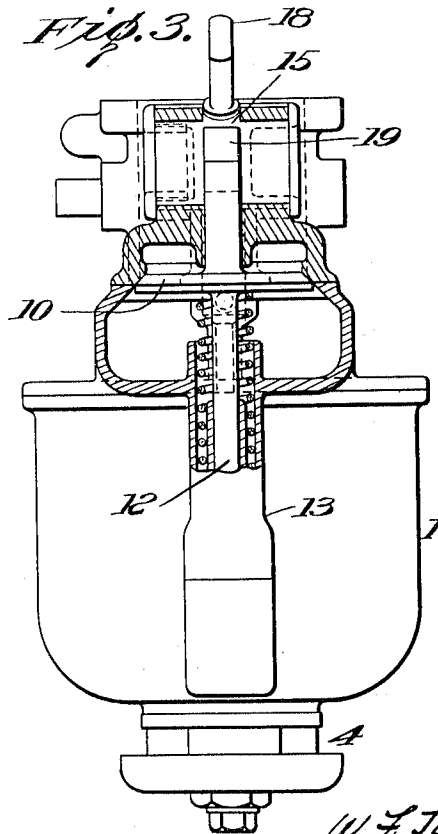


Fig. 3.



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UNITED STATES PATENT OFFICE.

WALTER F. SCHULZ, OF NEW YORK, N. Y.

CARBURETER.

1,020,059.

Specification of Letters Patent.

Patented Mar. 12, 1912.

Application filed November 11, 1910. Serial No. 591,751.

To all whom it may concern:

Be it known that I, WALTER F. SCHULZ, of the city of New York, State of New York, have invented certain new and useful Improvements in Carbureters; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My present invention contemplates the provision of improved means for controlling and accelerating the supply of fuel to a carbureter.

I provide means for withdrawing the atmospheric pressure from above the fuel on starting the engine to prevent too rich a mixture, and I also provide an air supply automatically controlled and conducted into the receptacle containing the fuel so that the atmospheric pressure acting upon the body of liquid will tend to promote its passage through the nozzle and thus maintain the proper proportion of fuel and air for high speeds.

As illustrated in the accompanying drawing, Figure 1 is a vertical longitudinal sectional view showing the preferred form of carbureter equipped with my improvements. Figs. 2 and 3 are sections on lines 2—2 and 3—3 respectively, Fig. 1. Fig. 4 is a detail.

Referring to the drawing I have shown, as an appropriate form of embodiment, a carbureter formed with a float chamber 1 containing a float 2 of the usual or any preferred construction. The function of this float is well understood in the art. Extending vertically through the float chamber is a hollow casing 3 to which a constant or primary supply of air is introduced as at 4, the casing being for this purpose open at its lower end and surrounded by a cup 5 secured to the central post 6 of the casing. The primary air supply passes up through the casing to the mixing chamber 7. 8 designates the nozzle shown vertically mounted within the casing and communicating through ports 9 with the interior of the float chamber 1. All of these parts are, or may be, of the usual or any preferred construction.

The secondary air supply valve is indicated at 10, the casing above this valve being open as shown in Fig. 2. This puppet valve is shown having its stem 12 vertically movable within a depending casing or cyl-

inder 13. A coil spring 14 tends to hold the valve to its seat.

The air pressure inlet port is indicated at 15. This port is shown formed in a cylindrical plug 16 axially movable within a circular casing 17 by means of a handle 18 to manually adjust the extent of the opening. I have shown the valve 10 provided with an upper extension or post 19 adapted to enter the port 15 to close the latter and thus operate as a valve for the air pressure supply. When the valve 10 is unseated the secondary air supply is established and this air passes the valve and enters the mixing chamber 7. At the same time valve 19 is removed from port 15 and the air pressure supply is established. This enters a passageway 20 leading to the top of the float chamber 1, so that the point at which it enters the float chamber will be above the level of the liquid fuel. I have also shown the air passage 20 in communication with the mixing chamber through a port 21 which latter is controlled by a manually operated valve 22 extending across the mixing chamber and through the wall of the casing and provided with a handle 23 at its outer end.

24 designates the throttle within the mixing chamber.

In practice, when the engine is started the initial air supply entering at 4 passes up through the casing 3 and combines with the fuel issuing from the nozzle 8. The mixture then passes through the mixing chamber 7 and past the throttle to the engine. Owing to the atmospheric pressure within the fuel receptacle, however, the fuel is ordinarily too rich in starting the engine as the pressure forces too much fuel into the nozzle. To overcome this difficulty the valve 22 is maintained slightly removed from its seat so that there may be constant communication between the mixing chamber 7 and the float chamber 1 through the passage 20. As the engine starts, the suction within the mixing chamber will be communicated to the float chamber, lessening the atmospheric pressure in the float chamber and consequently preventing too rich a mixture. As the engine speeds up valve 10 is drawn from its seat, admitting the secondary air supply to the mixing chamber. At the same time valve 19 opens port 15 and the air pressure supply entering at that point goes through passage 20 to the float receptacle where it acts upon the liquid

fuel and tends to force it through ports 9 of the nozzle thereby increasing the fuel in proportion to the air.

The advantages of my invention will be apparent to those skilled in the art. By the construction described and the automatic control, I am enabled to lessen or increase the supply of fuel to maintain the necessary supply thereof in proportion to the engine speed.

While I have illustrated the preferred form of embodiment of my invention, yet it will be noted that it is not necessary to employ a float chamber of the form illustrated, nor is it necessary to locate it at the point shown in the drawings, since the air entering through passage 20 might be conducted to any fuel receptacle in communication with a mixing chamber and with the nozzle of a carbureter.

I claim as my invention:—

1. A carbureter having a fuel receptacle, a secondary air admitting means, means for

automatically controlling said secondary air supply, and means operated thereby for admitting air pressure to said fuel receptacle.

2. A carbureter having a fuel receptacle, an air pipe leading thereto, a valve governing the passage of air through said pipe, a secondary air admitting valve, and means for operating said former valve by said secondary air valve.

3. In a carbureter, a fuel receptacle having an air inlet passage, an axially adjustable plug valve in said passage formed with a transverse port, and a secondary air valve carrying a post adapted to normally close said port.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

WALTER F. SCHULZ.

Witnesses:

SILAS SNOW,
HARRY A. CROSBY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."