Jan. 6, 1931. O. BRAUN 1,787,854

CARBURETOR

Filed Feb. 21, 1928 2 Sheets-Sheet 1

Fig. 1.

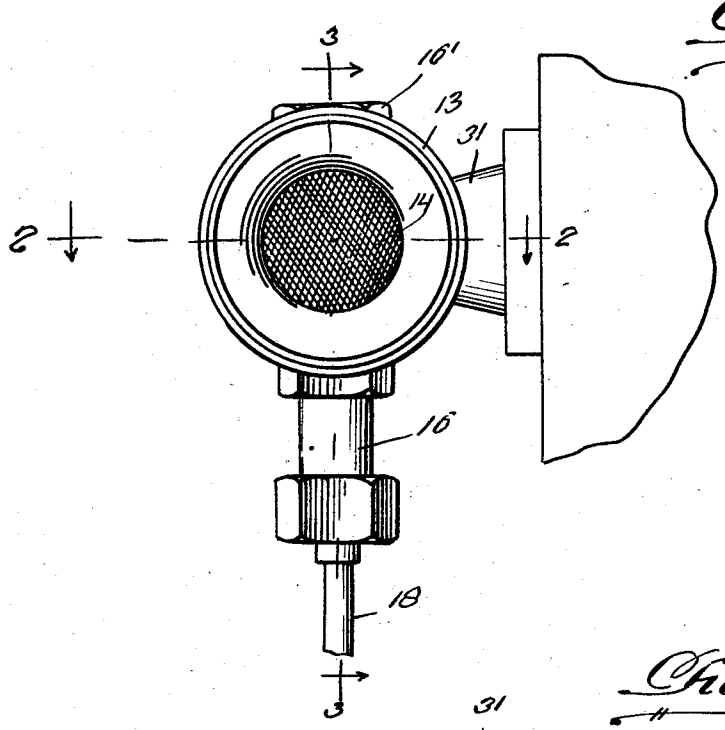
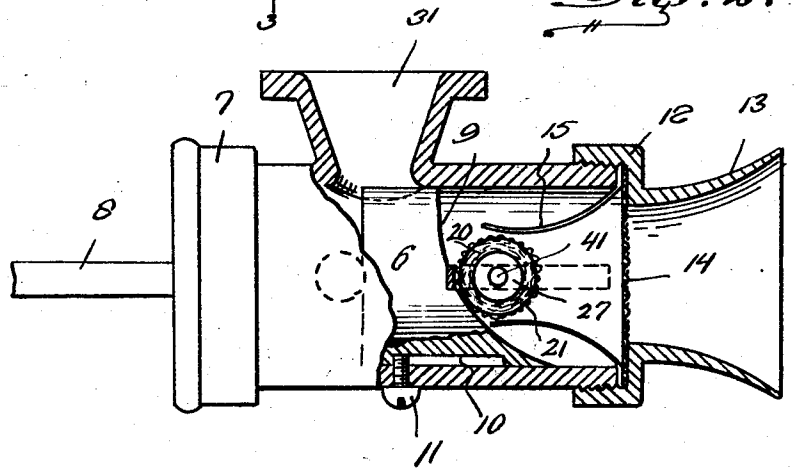


Fig. 2.



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CARBURETOR

Filed Feb. 21, 1928 2 Sheets-Sheet 2

Fig. 3.

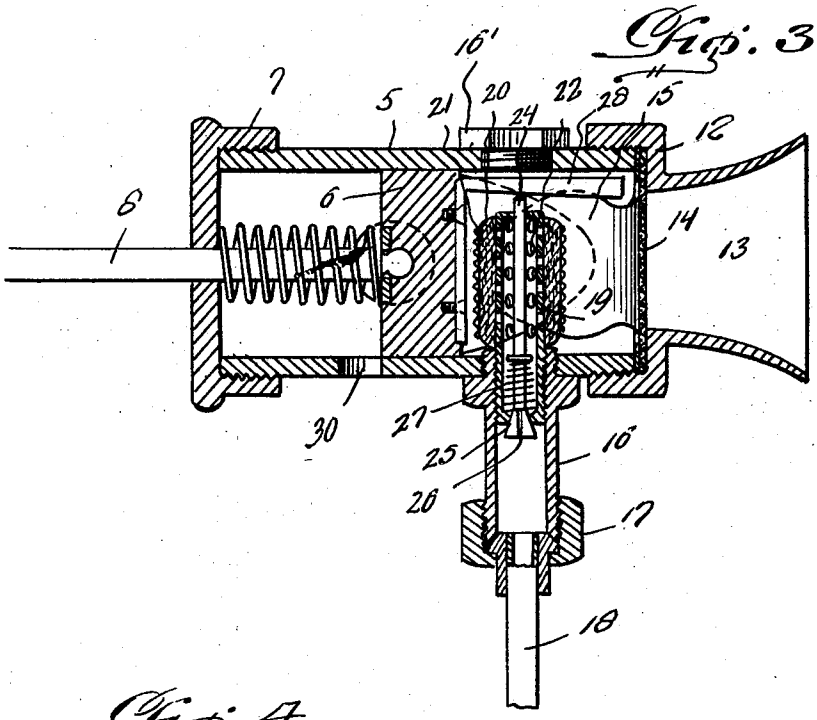
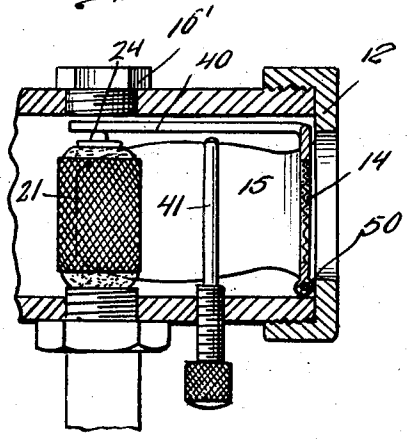


Fig. 4.



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UNITED STATES PATENT OFFICE

OTTO BRAUN, OF TRYON, NORTH CAROLINA

CARBURETOR

Application filed February 21, 1928, Serial No. 255,975, and in Austria October 28, 1926.

The present invention relates to a carburetor and has for its prime object to vaporize liquid fuel, such as gasoline and mix the same with proper quantities of air for combustion purposes without the use of the jet structure which is most commonly used in carburetors now found on the market.

Another very important object of the invention resides in the provision of a carburetor of this nature, which may be actuated to shut off altogether the supply of combustible gas delivering to the cylinders of the engine air, so as to turn the engine into a braking element for the vehicle upon which it may be mounted.

With the above and numerous other objects in view as will appear as the description proceeds, the invention resides in certain novel features of construction and in the arrangement of parts as will be hereinafter more fully described and claimed.

In the drawing:

Figure 1 is an end elevation of the carburetor embodying my invention showing the same attached to an engine.

Figure 2 is a top plan view thereof showing portions in section, taken on the line 2—2 of Figure 1, looking in the direction of the arrows.

Figure 3 is a vertical longitudinal section taken substantially on the line 3—3 of Figure 1, looking in the direction of the arrows.

Figure 4 is a detail section, showing another embodiment.

Referring to the drawings in detail, it will be seen that the numeral 5 denotes a cylinder with a piston 6 slidable therein. A cap 7 closes one end of the cylinder and has a rod 8 slidable through an opening therein and connected with the piston 6 at one face thereof. The other face of the piston is concaved as indicated at 9. The piston is limited in its movement by being provided with the groove 10 extending longitudinally thereof into which extends a screw 11, threaded in an opening in the side of the cylinder 5.

The cap 12 on the other end of the cylinder mounts a funnel shaped member 13 for intaking air. The cap 12 also holds the screen 14 in place, for filtering the air, and spring gates 15 which will widen outwardly from each other as the air rushes into this end of the cylinder, of course, in proportion to the speed of the engine.

A nipple 16 is threaded through the bottom of the cylinder and has a coupling 17 with a pipe 18 leading from a gasoline tank or other suitable source of supply. The top of the cylinder has an opening with a plug 16′ threaded therein. The plug and nipple may be interchanged.

A sleeve 19 is threadedly engaged in the nipple and extends upwardly through the cylinder 5. Gauze 20 is held about the sleeve 19 by means of wire mesh 21. The cylindrical wall of the sleeve is perforated as is indicated at 22. The ends are closed, and the upper end is provided with an opening through which is slidable a valve stem 24. The bottom end is provided with a valve seat 25 against which is seatable a valve 26 on the end of the stem 24. A spring 27 normally holds this valve closed. In the embodiment of the invention shown in Figures 1, 2, and 3, a wedge shaped member 28 projects from the concaved face 9 of the piston 6 over the upper end of the valve stem 24, so that when the piston is moved to the left, this wedge shaped member will press down on the stem and open the valve 26 against the tension of the spring 27. The bottom of the cylinder 5 is provided with an air intake opening 30 remote from the nipple 16 and adjacent the cap 7. In this embodiment of the invention it will be seen that when the parts are located as shown in Figure 2 and the neck 31 projecting laterally from one side of the cylinder 5 is connected with the engine and suction created therein by the usual intake stroke, air will be sucked through the neck 31, through the cylinder 5 and opening 30, so that the engine will function as a brake. However, when the rod 8 is pulled to the left and the piston 6 is pulled back over the opening 30, so as to communicate the forward portion of the cylinder with the neck 31, a suction is created in the forward portion of the cylinder 5 so as to suck up gasoline through the sleeve 19 out through its apertures 22, through the gauze 20 and screen

21 thereby vaporizing the gasoline and mixing the same with air sucked in the funnel shaped extension 13 and screen 14. The greater the suction, the wider the spring gauze 15 will open as will be apparent.

The embodiment shown in Figure 4 is identical with that just described, except that no wedge shaped extension 28 is used. In place thereof is a spring member 40, attached at right angles to a screened flap valve 14 movably hinged at lower side as at 50. The suction of air presses the valve inwardly thereby depressing member 40. This spring 40 is regulated by a screw 41 threaded through the body portion of the cylinder.

In returning to the preferred form of the invention it will be seen that when the wedge shaped member 28 rides across the valve stem 24 on the stroke of the piston 6, compressing the coiled spring, the valve will be opened to permit the passage of fuel. However, when the piston 6 is moved toward the valve, the spring of the valve will seat the valve member due to the receding surface of the wedge member 28 contacting with the upper end of the stem 24.

It will thus be seen that the fuel line may be entirely cut off, if desired, so that the motor may be operated as a brake to reduce momentum of the vehicle.

It is thought that the construction, utility, operation and advantages of the invention will now be quite apparent to those skilled in this art, without a more detailed description thereof. The present embodiment of the invention has been disclosed in detail merely by way of example, since in actual practice it attains the features of advantage enumerated as desirable in the statement of the invention and the above description.

It will be apparent that changes in the details of construction, in the combination and arrangement of parts may be resorted to, without departing from the spirit or scope of the invention as hereinafter claimed or sacrificing any of its advantages.

Having thus described my invention, what I claim as new is:

1. A carburetor of the class described comprising a barrel, a nipple extending into the barrel, a sleeve threadedly engaged in the nipple and extending across the barrel and provided with an apertured cylindrical wall, gauze wrapped around the apertured wall, a screen disposed about the gauze to hold the same in place, valve means associated with the sleeve, means for operating the valve means, said means comprising a piston slidable in the barrel, and a wedge extending therefrom over the sleeve, said valve having a rod projecting above the sleeve to be engaged by the wedge shaped extension.

2. A carburetor of the class described comprising a barrel, a nipple extending into the barrel, a sleeve threadedly engaged in the nipple and extending across the barrel and provided with an apertured cylindrical wall, gauze wrapped around the apertured wall, a screen disposed about the gauze to hold the same in place, valve means associated with the sleeve, means for operating the valve means, said means comprising a piston slidable in the barrel, and a wedge extending therefrom over the sleeve, said valve having a rod projecting above the sleeve to be engaged by the wedge shaped extension, said barrel having an air opening closable by the piston when moved to actuate the valve mechanism.

3. A carburetor of the class described comprising a barrel, a nipple extending into the barrel, a sleeve threadedly engaged in the nipple and extending across the barrel and provided with an apertured cylindrical wall, gauze wrapped around the apertured wall, a screen disposed about the gauze to hold the same in place, valve means associated with the sleeve, means for operating the valve means, said means comprising a piston slidable in the barrel, and a wedge extending therefrom over the sleeve, said valve having a rod projecting above the sleeve to be engaged by the wedge shaped extension, a fuel line supply connection leading from a fuel supply source to the nipple, said barrel having an air opening closable by the piston when moved to actuate the valve means.

4. A carburetor of the class described comprising a barrel, a nipple extending into the barrel, a sleeve threadedly engaged in the nipple and extending across the barrel and provided with an apertured cylindrical wall, gauze wrapped around the apertured wall, a screen disposed about the gauze to hold the same in place, valve means associated with the sleeve, means for operating the valve means, said means comprising a piston slidable in the barrel, and a wedge extending therefrom over the sleeve, said valve having a rod projecting above the sleeve to be engaged by the wedge-shaped extension, said barrel having an air opening closable by the piston when moved to actuate the valve means, a fuel line supply connection leading from a fuel supply source to the nipple, a cap on one end of the barrel, and a funnel-shaped extension therefrom.

5. A carburetor of the class described comprising a barrel, a nipple extending into the barrel, a sleeve threadedly engaged in the nipple and extending across the barrel and provided with an apertured cylindrical wall, gauze wrapped around the apertured wall, a screen disposed about the gauze to hold the same in place, valve means associated with the sleeve, means for operating the valve means, said means comprising a piston slidable in the barrel, and a wedge extending therefrom over the sleeve, said valve having a rod projecting above the sleeve to be engaged

by the wedge shaped extension, said barrel having an air opening closable by the piston when moved to actuate the valve means, a fuel line supply connection leading from a fuel supply source to the nipple, a cap on one end of the barrel, and a funnel shaped extension therefrom, a screen held in place by the cap.

6. A carburetor of the class described comprising a barrel, a nipple extending into the barrel, a sleeve threadedly engaged in the nipple and extending across the barrel and provided with an apertured cylindrical wall, gauze wrapped around the apertured wall, a screen disposed about the gauze to hold the same in place, valve means associated with the sleeve, means for operating the valve means, said means comprising a piston slidable in the barrel, and a wedge extending therefrom over the sleeve, said valve having a rod projecting above the sleeve to be engaged by the wedge shaped extension, said barrel having an air opening closable by the piston when moved to actuate the valve means, a fuel line supply connection leading from a fuel supply source to the nipple, a cap on one end of the barrel, and a funnel shaped extension therefrom, a screen held in place by said cap, spring gates held in place in the barrel by said cap and extending inwardly of the barrel and adapted to be spread apart as air is sucked therethrough.

7. A carburetor of the class described comprising a barrel, a nipple extending into the barrel, a sleeve threadedly engaged in the nipple and extending across the barrel and provided with an apertured cylindrical wall, gauze wrapped around the apertured wall, a screen disposed about the gauze to hold the same in place, valve means associated with the sleeve, means for operating the valve means, said means comprising a piston slidable in the barrel, and a wedge extending therefrom over the sleeve, said valve having a rod projecting above the sleeve to be engaged by the wedge shaped extension, said piston being provided with a longitudinally extending slot, and a screw threaded through the barrel into the slot to prevent rotation of the piston and to limit its longitudinal movement.

In testimony whereof I affix my signature.

OTTO BRAUN.