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1,940,251

CARBURETOR

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Fig. 1.

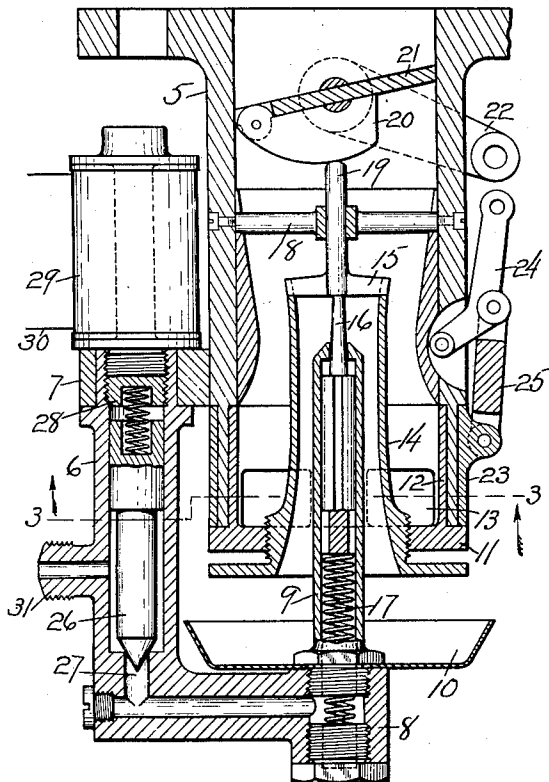


Fig. 2.

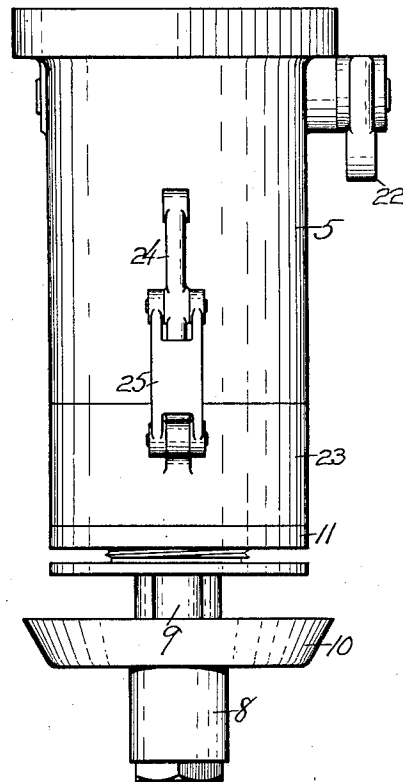
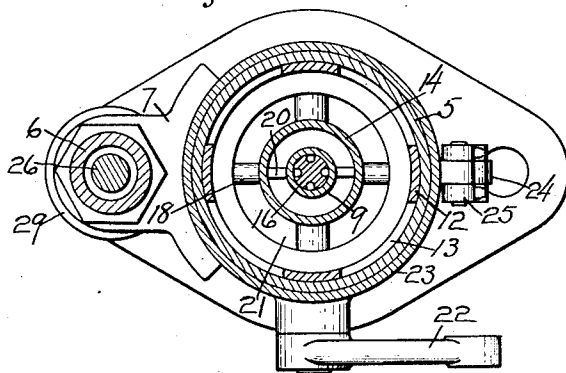


Fig. 3.



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CARBURETOR

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Application January 8, 1930. Serial No. 419,243

5 Claims. (Cl. 261—49)

My invention relates to the class of devices that are employed for mixing fluids, more especially for combustion purposes, and an object of my invention, among others, is the production of a device of this class that shall be extremely efficient for the purpose for which it is employed.

One form of a carburetor embodying my invention and in the construction and use of which the objects herein set out, as well as others, may be attained, is illustrated in the accompanying drawing, in which—

Figure 1 is a view partially in lengthwise central section through my improved carburetor showing the valves closed.

Figure 2 is a side view of the same.

Figure 3 is a view in cross section on a plane denoted by the dotted line 3—3 of Figure 1.

In the accompanying drawing the numeral 5 indicates the shell of my improved carburetor that is preferably of cylindrical shape with an opening extending therethrough. A fuel supply tube 6 is secured to a support 7 projecting laterally from one side of the shell, said tube extending along one side of the shell and underneath the end thereof to a point opposite its axial center, and as shown in Figure 1 of the drawing, this tube terminating in a union 8 from which a fuel inlet tube 9 extends into the shell, preferably at the axial center thereof. A drip pan 10 is secured to said union opposite the end of the shell and spaced at some distance therefrom.

An air inlet valve 11 is seated against the end of the shell 5 to close this opening into the shell, said valve comprising a valve sleeve 12 projecting into and nicely fitting the interior of the shell. This sleeve has air inlet ports 13 that are normally closed by the wall of the shell.

An idling air inlet tube 14 is adjustably secured to the valve 11 as by means of interengaging screw threads and a fuel valve actuating bar 15 extends across the mouth of this tube to make contact with the end of a needle valve 16 which is tapered and which projects out of the inner end of the fuel inlet tube, and as shown in Figure 1. This needle valve rests upon a spring 17 seated on a plug in the union 8.

A supporting spider 18 extends across the opening through the shell 5 and above the mouth of the tube 14 and a fuel valve operating rod 19 extends from the bar 15 into contact with the edge of a throttle valve actuator 20 in the form of a cam plate projecting from the under side of a throttle valve 21 pivotally mounted within the opening through the shell 5 and

rigidly connected with a throttle lever 22. The actuator 20 is pivotally supported by the throttle valve 21 and it acts to impart a variable movement to the rod 19, bar 15, tube 14 and consequently to the inlet or air valve 11.

A choke valve 23 in the form of a sleeve is mounted on the outer surface of and at the lower end of the shell 5, this valve being slidably mounted to, under certain conditions, prevent entrance of air through the ports 13, as when starting the engine. A choke lever 24 is pivotally mounted on the side of the shell 5 and is connected by a link 25 with the sleeve 23.

In the operation of this choking device, the lever 24 acts to move the sleeve 23 downwardly against the air supply valve 11, moving the latter and thereby operating the needle valve 16 to admit fuel to the carburetor. During this movement the choke valve or sleeve 23 is pressed against the air valve 11 and therefore prevents entry of air through the ports 13.

In order to stop the flow of fuel in the form of liquid through the tube 6, I provide a stop valve 26 seated against the edge of a port 27 in said tube 6. This valve is spring pressed against its seat and its end opposite the valve seat is within the zone of attraction of a magnet 28, that is energized by means of a coil 29 of any well known construction and which will be readily understood by those skilled in the art.

This magnet has a suitably wired connection 30 with the electrical apparatus forming a part of the ignition system of the engine, and supply of electricity to the coil may be controlled by the switch that controls the supply of electricity to the ignition mechanism. This switch is not illustrated herein, but as it is of old and well known construction, its connection with the present apparatus will be readily understood.

The valve 26 is normally closed, but it will be apparent from the foregoing description, that when the switch is turned to connect the ignition apparatus with a source of electrical energy the coil 29 will be energized and the valve 26 will be moved from its seat to admit the combustion fluid to the tube 6 for supply to the carburetor, such fluid being admitted through a passage in a nipple 31 suitably connected with any source of fluid supply.

It will be noted that the proper proportions of fuel and air are automatically maintained by the operation of the valve actuator 20 that functions simultaneously upon both the fuel supply valve 16 and the air inlet valve 11, and that if the latter be opened when it is desired to enrich

the mixture, the choke valve 23 will operate to prevent admission of air around the valve 11.

In accordance with the provisions of the patent statutes I have described the principles of operation of my invention, together with the device which I now consider to represent the best embodiment thereof; but I desire to have it understood that the device shown is only illustrative, and that the invention may be carried out by other means and applied to uses other than those above set out.

I claim—

1. A carburetor including a shell open at one end, a movably mounted air inlet valve to close the end of the shell, said valve comprising a sleeve fitting the wall of the shell and having air inlet ports therethrough, an idling air inlet tube secured to said valve and projecting inwardly therefrom into the shell, means for admitting a combustible fluid to the interior of said tube, and means for moving said tube to operate said valve.

2. A carburetor including a shell open at one end, a movably mounted air inlet valve to close the end of the shell, a valve operating sleeve movably fitting the surface of the end of the shell to make contact with said air inlet valve, means for actuating said sleeve, and means for admitting a combustible fluid to the interior of the shell.

3. A carburetor including a shell open at one

end, a movably mounted air inlet valve to close the end of the shell and having its edge projecting beyond the periphery thereof, a valve operating sleeve movably fitting the outer surface of the shell to engage the outer edge of said air inlet valve, means for actuating said sleeve, and means for admitting a combustible fluid to the interior of the shell.

4. A carburetor including a shell open at one end, a movably mounted air inlet valve to close the end of the shell, said valve comprising a sleeve fitting the inner wall of the shell and having inlet ports therethrough, a choke valve comprising a sleeve movably fitting the outer surface of the end of the shell and arranged to close the opening between the air inlet valve and the end of the shell, means for operating the choke valve, and means for admitting a combustible fluid into the interior of the shell.

5. A carburetor including a shell open at one end, a movably mounted air inlet valve to close the end of the shell, said valve comprising a sleeve fitting the inner wall of the shell and having inlet ports therethrough with a flange projecting beyond the periphery of the shell, a choke valve comprising a sleeve movably fitting the outer surface of the end of the shell to contact with said flange, means for operating the choke valve, and means for admitting a combustible fluid into the interior of the shell.

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