Oct. 1, 1929. G. CONSTANTINESCO 1,730,268

CARBURETING APPARATUS

Filed Feb. 11, 1926

Fig. 1.

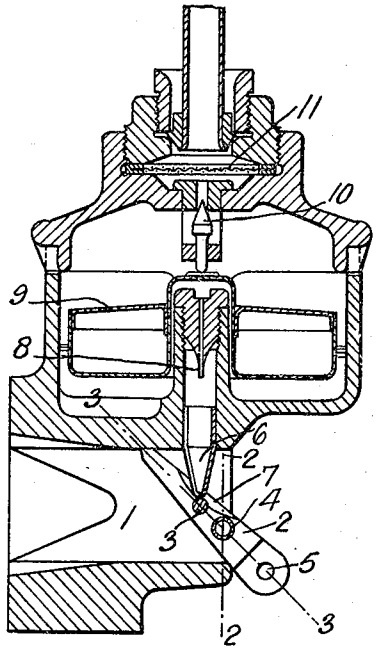


Fig. 4.

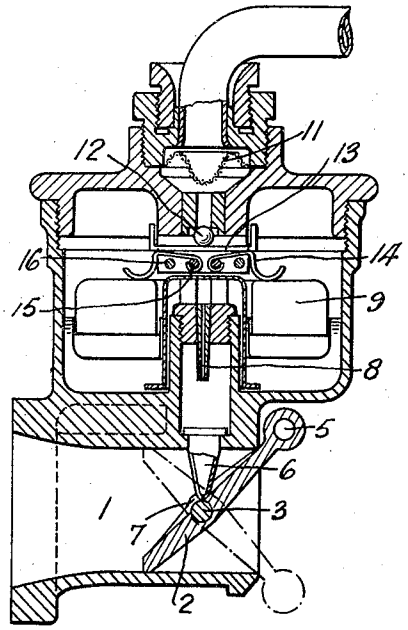


Fig. 2.

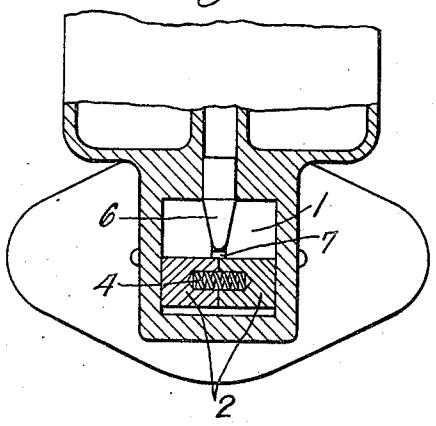
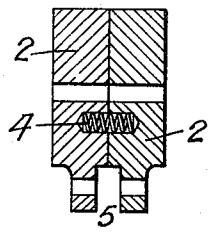


Fig. 3.



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Patented Oct. 1, 1929

1,730,268

UNITED STATES PATENT OFFICE

GEORGE CONSTANTINESCO, OF WEYBRIDGE, ENGLAND

CARBURETING APPARATUS

Application filed February 11, 1926, Serial No. 87,665, and in Great Britain April 9, 1925.

This invention consists in improvements designed to secure ease in machining the throttle, tightness of fit, diminution of wear, ease in assemblage and disassemblage and greater control of air admission than is possible with existing valves. It also consists in improved means for admitting fuel to the float chamber.

The improvements are chiefly applicable to the carburetor forming the subject matter of my United States application Serial No. 611,457, but it is to be understood that their application is not confined to any particular type of carburetor.

The throttle is square or rectangular in shape instead of circular or elliptic as is usual and fits into the suction passage which is also square or rectangular in section at the part occupied by the throttle. It turns freely about a central pin parallel to two of its edges, which pin is supported friction tight in bosses on the suction pipe. One of its edges may project beyond the suction inlet, and on this edge is fixed a socket for the reception of the actuating means. It is designed so as completely to close the inlet in either of its extreme positions. It may be divided into two parts longitudinally, a spring being interposed between the parts so as to press them outwardly against the sides of the suction passage.

Preferably the fuel inlet into the suction passage is between the lines where the throttle meets the suction passage in its extreme positions. When applied to the carburetor forming the subject matter of the above named prior application or to any other drip carburetor, the fuel inlet is immediately above and reaches down to the pin, the throttle being slightly cut away, if necesary, so that the fuel inlet shall reach down as far as possible into the suction passage. As in my prior application the fuel inlet terminates in a small conical cup which is slit vertically for the escape of fuel, the slit being on the side of the cup nearest the engine. An advantage of this arrangement of inlet and throttle is that by depressing the accelerator pedal so that the throttle is moved beyond its mean position, the air supply can be throttled before it reaches the fuel inlet. This facilitates starting in cold weather since it obviates the necessity of artificial choking as by the insertion of a rag or the like into the air inlet.

As in my prior application, the fuel chamber is preferably situated immediately above the throttle, and is cast in one with the suction pipe. The fuel inlet into the chamber is through the middle of the cover, and is controlled by a ball carried by a loose bridge piece which is raised or lowered by a pair of levers pivoted at their ends nearest to the axis of the chamber. Their remoter ends are acted upon by the float. Alternatively, the valve may be a cone having a tail piece or spindle resting on the float.

In the accompanying drawings, which illustrate my invention:—

Figure 1 is a central vertical section through a carburetor and suction passage.

Figure 2 is a part section on the line 2—2 of Figure 1.

Figure 3 is a section of the throttle on the line 3—3 of Figure 1.

Figure 4 is a modified form of carburetor and throttle.

Referring to Figures 1, 2 and 3, the suction passage 1 is rectangular in section, square in this instance, the suction pipe itself being preferably cast in one piece with the carburetor float chamber. The throttle 2 turns upon a pin 3 which is a tight fit in the wall of the suction pipe. In the form shown it is divided longitudinally into two equal portions as shown in Figure 3, the portions being recessed to receive a spring 4 which presses them apart. The portions have each an eye or tail piece 5 which projects beyond the suction inlet and is adapted to receive a pin or other means, not shown, for connecting them to the usual actuating device. The spring ensures a fit against the sides of the suction passage. If any leakage occurs it takes place through the division between the two portions of the valve and becomes carbureted, whereas leakage occurring at the sides of the valve is likely to pass the fuel inlet without taking up any fuel. Pref-

erably as shown the fuel inlet is situated immediately above or nearly above the pin 3 and consists of a conical cup 6 slotted down the side nearest the engine and projecting down almost to the spindle. The two parts of the throttle are in this case cut away as shown at 7 to make room for the cup. The advantage of this arrangement is that the throttle can be closed in either direction, so that the supply to the engine can be choked either after the air reaches the fuel inlet or before. The ability to do this latter is of great value for starting the engine from the cold in cold weather.

The carburetor is preferably of the type, though not of the identical construction shown in my prior application. 8 is a drip tube. 9 the float upon which rests the tail of a cone fuel valve 10. 11 is a filter.

Figure 4 shows a modified form of throttle and carburetor, like parts being represented by the same reference numerals as before. 1 is the suction passage of rectangular section. The throttle 2 is in this instance in one piece only and is provided with an eye 5 projecting beyond the entrance to the air inlet and adapted to receive actuating means which is not shown. It is mounted on a pin 3, as in the form above described, and is cut away in the middle as shown at 7 for the same purpose. It is shown in the position in which the air is choked before reaching the fuel inlet 6. The inlet valve in this case consists of a ball 12 carried by a loose bridge piece 13 which rests on levers 14. The tails of the levers bear on the float 9. They are pivoted at 15, and their downward motion is limited by pins 16.

What I claim is:—

1. In combination in a carburetor, a suction passage of rectangular section, a transverse pin fixed in the walls of such passage, a rectangular throttle mounted at its substantial median line to turn freely on said pin, one edge of said throttle projecting beyond the inlet end of the suction passage, said throttle being divided longitudinally into two sections, a spring interposed between the sections to press them apart, and throttle operating means connected to said projecting edge.

2. In combination in a carburetor, a suction passage of rectangular section, a transverse pin fixed in the walls of such passage, a rectangular throttle mounted at its substantial median line to turn freely on said pin, one edge of said throttle projecting beyond the inlet end of the suction passage, said throttle being divided longitudinally into two sections, a spring interposed between the sections to press them apart, a fuel inlet extending downwardly into the suction passage, said throttle being cut away to receive the fuel inlets, and throttle operating means connected to said projecting edge of the throttle.

In testimony that I claim the foregoing as my invention, I have signed my name this 26th day of January 1926.

GEORGE CONSTANTINESCO.