

PATENT SPECIFICATION



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PROVISIONAL SPECIFICATION.

Improvements in and relating to Carburetting Apparatus.

I, GEORGE CONSTANTINESCO, of "Carmen Sylva", Beechwood Avenue, Oatlands Park, Weybridge, in the County of Surrey, British subject, do hereby declare the nature of this invention to be as follows:—

This invention consists in improvements designed to secure ease in machining the butterfly valve, tightness of fit, diminution in wear, ease in assemblage and dis-assemblage 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 carburettor forming the subject matter of my British Specification No. 204,730, but it is to be understood that their application is not confined to any particular type of carburettor.

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 spindle parallel to two of its edges, which spindle is supported friction tight in bosses on the suction passage. One of its edges projects 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.

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 carburettor forming the subject matter

of the above named prior specification or to any other drip carburettor, the fuel inlet is immediately above and reaches down to the spindle, the throttle being slightly cut away, if necessary, so that the fuel inlet shall reach down as far as possible into the suction inlet. The fuel inlet terminates in a small conical cap which is slit vertically for the escape of fuel, the slit being on the side of the cap 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 throttling as by the insertion of a rag or the like into the air inlet.

As in my prior specification, the fuel chamber is preferably situated immediately above the throttle, and is cast in one with the suction passage. 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 nearer to the axis of the chamber. Their remoter ends are acted upon by the float. A spring pressed pin passes through the chamber for depressing the float or the bridge piece when it is desired to flood the carburettor.

Dated the 9th day of April, 1925.

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[Price 1/-]

COMPLETE SPECIFICATION.

Improvements in and relating to Carburetting Apparatus.

- I, GEORGE CONSTANTINESCO, of "Carmen Sylva", Beechwood Avenue, Oatlands Park, Weybridge, in the County of Surrey, British subject, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—
- 10 This invention consists in improvements in carburettors designed to secure ease in machining the air throttle, tightness of fit, diminution of wear, ease in assemblage and dis-assemblage and greater control of air admission than is possible with existing valves.
- 15 The improvements are chiefly applicable to the carburettor forming the subject matter of my British Specification No. 204,730, but it is to be understood that their application is not confined to any particular type of carburettor. They may be used with specially designed carburettors as hereinafter set forth.
- 20 The throttle is square or rectangular in shape 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 spindle parallel to two of its edges, which spindle is preferably supported friction tight in bosses on the suction pipe. One of its edges is provided with a socket or other means projecting beyond the suction inlet 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.
- 25 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 carburettor forming the subject matter of the above named prior specification or to any other drip carburettor, the fuel inlet is immediately above and reaches down to the spindle, the throttle being slightly cut away, if necessary, so that the fuel inlet shall reach down as far as possible into the suction passage. As in my prior specification 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 throttling as by the insertion of a rag or the like into the air inlet.
- 30 As in my prior specification, the fuel chamber is preferably situated immediately above the throttle. In a form of carburettor to which my invention is applicable, it is cast in one with the suction pipe, the fuel inlet into the chamber being through the middle of the cover, and 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.
- 35 In the accompanying drawings which illustrate my invention:
- Figure 1 is a central vertical section through a carburettor 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 carburettor 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 carburettor float chamber. The throttle 2 turns upon a spindle 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 carburetted, whereas leakage occurring at the sides of the valve is likely to pass the fuel inlet without taking up any fuel. Preferably 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 strangled 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 carburettor is preferably of the type, though not of the identical construction shown in my prior specification. A suitable form is shown in Figure 1 by way of example. 8 is a drip tube, 9 the float upon which rests the tail of a cone fuel valve 10. 11 is a filter. The suction inlet may be cast or otherwise formed in one piece with the float chamber.

Figure 4 shows a modified form of throttle and carburettor, 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 strangled before reaching the fuel inlet 6. This figure also shows by way of example another suitable form of carburettor. 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. As before the suction inlet may be cast or otherwise formed in one piece with the float chamber.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. Means for controlling air admission means for carburettors for internal combustion engines, comprising a throttle of square or rectangular shape mounted in a suction passage of corresponding shape, characterized by the features that the throttle is pivoted about a central pivot or spindle parallel to two of its edges and adapted to close the suction passage in either of its extreme positions, and is provided at one of its edges with means projecting beyond the entrance to the suction passage for coupling it to actuating means.

2. Means for controlling air admission means, as claimed in Claim 1, characterized by the feature that the throttle turns freely about its pivot, which pivot fits friction tight into holes in the walls of the suction passage.

3. Means for controlling air admission means as claimed in Claim 1 or 2, in which the throttle is divided longitudinally into two portions, the portions being pressed apart by a spring.

4. In combination with the means claimed in any of the preceding claims, a fuel inlet extending downwardly into the suction passage towards the pivot of the throttle, the throttle being preferably cut away to make room for the fuel inlet.

5. In combination with means as claimed in any of the preceding claims, a float chamber formed, for example by casting, in one piece with the air inlet.

6. Carburetting apparatus including suction pipe and throttle, substantially as described with reference to Figures 1, 2 and 3.

7. Carburetting apparatus including suction pipe and throttle, substantially as described with reference to Figure 4.

Dated the 9th day of January, 1926.

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[This Drawing is a reproduction of the Original on a reduced scale.]

Fig. 1.

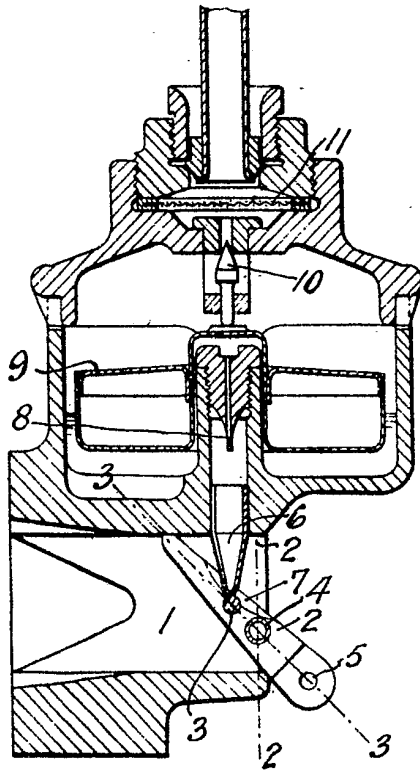


Fig. 4.

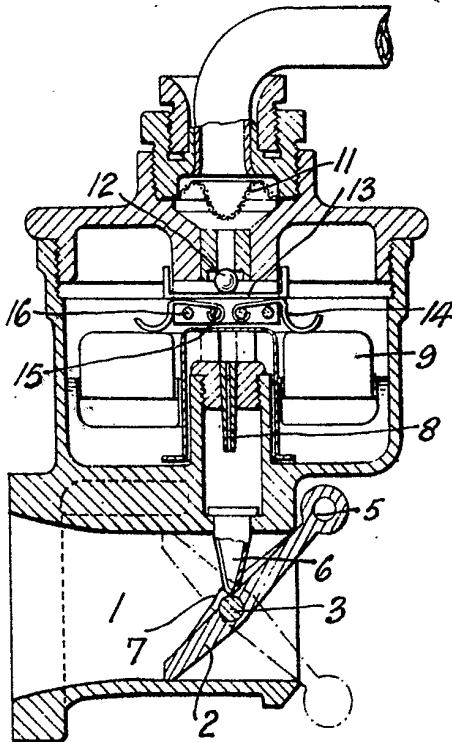


Fig. 2.

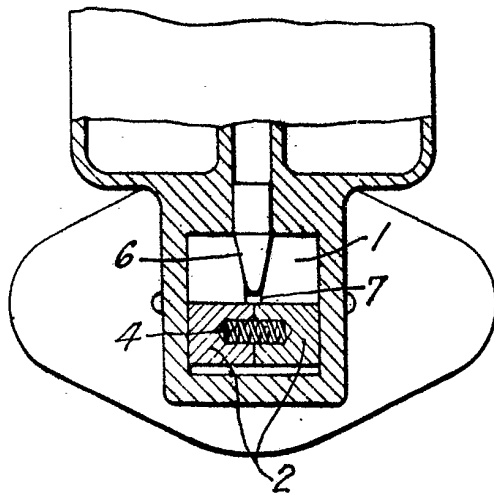


Fig. 3.

