V. E. WASSERLEIN.

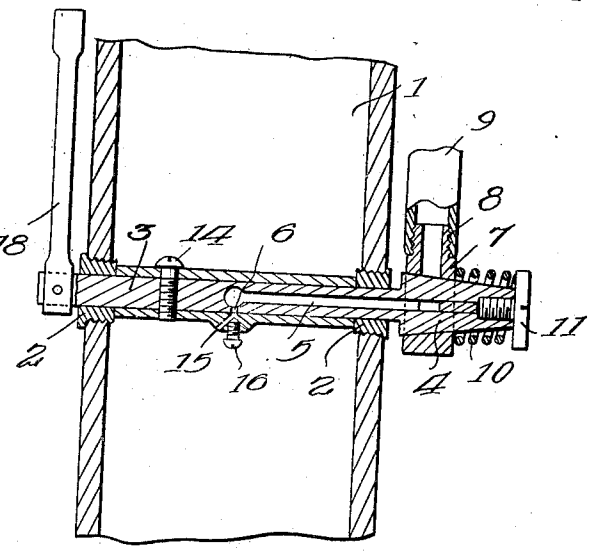
FUEL CONTROL VALVE FOR CARBURETERS.

APPLICATION FILED APR. 9, 1917.

1,374,262.

Patented Apr. 12, 1921.

Fig. 1.



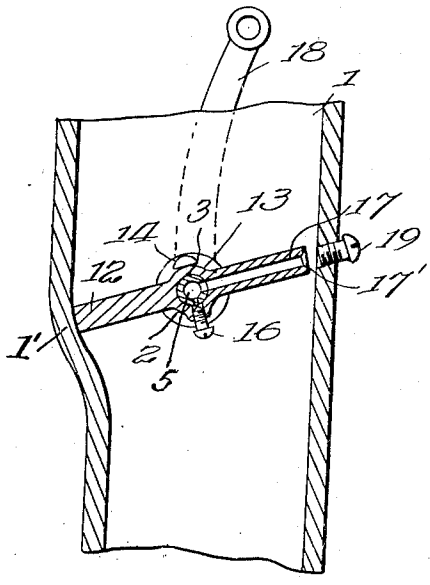
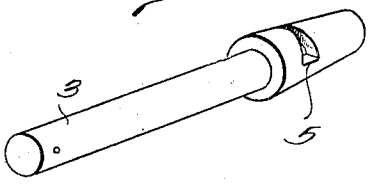


Fig. 2.

Fig. 3



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UNITED STATES PATENT OFFICE.

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FUEL-CONTROL VALVE FOR CARBURETERS.

1,374,262. Specification of Letters Patent. Patented Apr. 12, 1921.

Application filed April 9, 1917. Serial No. 160,778.

To all whom it may concern:

Be it known that I, VICTOR E. WASSERLEIN, a citizen of the United States, and resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Fuel-Control Valves for Carbureters, of which the following is a specification.

This invention relates to carbureters and has more especial reference to an improved fuel control valve for carbureters.

The invention has for its dominant object to provide a fuel control valve so constructed as to permit the flow of fuel therethrough into the carbureter and to increase or decrease or instantly discontinue such flow according to the movement of the valve.

Another and equally important object of the invention is to provide adjustable air intake means whereby the proper admixture of air will be obtained to permit the forming of a rich or lean explosive charge.

The foregoing together with additional advantageous details and arrangement of parts of the preferred embodiment of my invention will be clear from the specific description hereinafter contained, when read in connection with the accompanying drawings, forming parts hereof, wherein said embodiment of the invention is illustrated for the purpose of facilitating a full understanding of the present improvements.

In the drawings:

Figure 1 is a vertical transverse section through a fragment of a carbureter with my improved fuel control valve applied thereto;

Fig. 2 is a similar view taken at substantially right-angles to Fig. 1; and

Fig. 3 is a detail in perspective of the improved control valve stem.

Similar characters of reference are employed in all of the above described views to indicate corresponding parts.

Referring to the drawing in detail, 1 designates generally a portion of a casing forming the intake passage of a carbureter and having formed therein diametrically opposed horizontally alining openings in which are received bearings 2, said casing being provided with an outwardly curved or bellied portion 1′ at one side thereof for a purpose presently described.

Engaged in the bearings 2 is a valve stem, the same being formed at one extremity with a substantially frusto-conical portion 4 providing the usual plug type of valve. The valve stem 3 has provided therein longitudinally for a portion of its length a bore 5, the inner end opening laterally through said stem to provide an air inlet port 6, while said bore near its outer end is provided with a lateral portion opening through the plug valve 4, the air inlet port being designed to permit the admission of air into the bore 5 in said valve stem.

A casing element 7 is removably fitted upon the plug valve 4 of the valve stem 3 and is provided with an externally threaded neck 8 adapted to receive thereon the usual fuel supply conduit or pipe 9. To properly hold the element 7 with relation to the plug valve 4 a coiled spring 10 is arranged about the outer portion of the latter and has its bearings upon the head of a set screw 11 and the element 7, the set screw being turned into engagement with the threaded extremity of the bore 5 in the valve stem 3.

A butterfly valve 12 is mounted upon the valve stem 3 within the casing 1, the valve being formed with a boss 13 which receives a screw 16, the latter being threaded in a suitable opening formed in the boss 13. This boss has provided therein outwardly divergent air ducts 15 which merge into each other and open through the butterfly valve 12 for direct communication with the air intake port 6 in the valve stem 3, the opening for the screw 16 merging into the ducts 15 so that on adjustment of the said screw inwardly the ducts 15 can be closed and to regulate the flow of air through the ducts 15 the screw is turned in said opening.

A discharge way 17 is formed in the butterfly valve 12 and extends at substantially right angles to the bore 5 in the valve stem 1, the inner extremity of said way being in direct communication with the inner end of the bore 5. At the outer extremity of the way 17 a flared portion 17′ is provided.

An operating arm 18 is secured to the extremity of the valve stem 3 opposite the plug valve portion 4 and has connection with a suitable lever arranged in proximity to the operator of the engine.

A screw threaded opening is formed in the casing 1 and has adjustably engaged therein a set screw 19, thus when it is desired to clean the discharge way 17 in the

butterfly valve 12 when the latter is in one position the set screw 19 is removed, thereby giving free access to the way 17 for the introduction of a wire into the same.

The butterfly valve 12 is made fast upon the valve stem 3 through the medium of a set screw 14 which is passed transversely through said stem and butterfly valve.

In operation, to admit fuel to the carbureter casing 1 the butterfly valve 12 is turned with the valve stem 3 until the lateral portion of the bore 5 opening through the plug valve 4 communicates with the port in the casing 7 and at this time a small amount of fuel will be permitted to flow from the conduit 9 through said casing 1 and valve stem 3 into the discharge way 17 in the butterfly valve 12 and from there the fuel will be discharged in the form of a spray into the carbureter. It is evident that the supply of fuel may be readily increased or decreased by rotating the valve stem 3 on operating the arm 18 so that the laterally extending portion of the bore 5 opening through the plug valve 4 will increase in size with its registration with the port in the casing 7. The flow of fuel may be readily brought to a maximum by moving the valve stem 3 a predetermined distance, that is to say, to full open position.

The admixture of air with the explosive charge can be varied by adjusting the screw 16 to regulate the extent of the openings through the ducts 15.

Manifestly, the construction shown is capable of considerable modification and such modification as is within the scope of my claim, I consider within the spirit of my invention.

I claim:

The combination with a casing, of a valve stem journaled transversely therein and having an external plug valve portion, said stem being formed for a major portion of its length with a bore having lateral portions opening through said stem and the plug valve, a fuel supply means fitted on the plug valve, means active upon said fuel supply means to effect a fluid tight joint between the same and the plug valve, a butterfly valve fitted upon the valve stem and movable therewith, said butterfly valve being formed with a discharge way communicating with the bore in the valve stem and disposed at right angles to said bore, an enlargement formed on the butterfly valve and having outwardly divergent air ducts communicating with said bore, and a screw adjustably fitted within the enlargement and adapted to intersect the ducts.

In testimony whereof, I affix my signature hereto.

VICTOR E. WASSERLEIN.