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CARBURETOR.

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This invention relates to a carburetor and particularly to a carburetor wherein convenient remotely controlled adjusting means are provided and wherein said adjusting means may be operated without disturbing the initial and permanent adjustment of the carburetor.

Under certain conditions in certain types of carburetors it is desirable that the valve controlling the inlet for liquid fuel be temporarily opened to a greater extent than ordinarily for proper operation of the carburetor on which the engine is mounted. These conditions usually obtain when the engine is cold, as for example at starting, and it is of course desirable that this additional opening of the fuel valve be made without disturbing the initial and permanent adjustment thereof.

It is an important object therefore of this invention to provide a carburetor wherein a temporary adjustment of a regulating valve may be made without disturbing the permanent adjustment thereof.

It is also an important object of this invention to provide an adjusting means of the class described which is compact, economical and which may be conveniently attached to existing types of carburetors.

Other and further important objects of the present invention will be apparent from the disclosures in the specification and the accompanying drawings.

The invention (in a preferred form) is shown on the drawings and hereinafter more fully described.

On the drawings:

Figure 1 is a fragmentary top plan view of a carburetor embodying the principles of this invention, showing one form of remote control for the fuel valve adjusting means.

Figure 2 is a side elevation of the carburetor.

Figure 3 is an enlarged fragmentary section on the line 3—3 of Figure 1, with parts omitted and parts in elevation.

Figure 4 is a section on the line 4—4 of Figure 3.

As shown on the drawings:

The reference numeral 1 indicates a carburetor which is of a well known construction and which embodies the usual mixing chamber, fuel inlet and air inlet and is provided with a usual throttle valve for controlling the discharge of fuel mixture from

the carburetor. Liquid fuel enters the carburetor through an inlet passage 2 and the amount of fuel flowing through said inlet passage 2 is regulated by a needle valve 3 which is adjustably supported relative to the carburetor in a manner which will now be described. Engaged in a threaded aperture formed in a boss 4 at the top of the carburetor casing 1 and extending into the interior of the carburetor is an externally threaded sleeve 5 which is provided, intermediate its ends, with an integral hexagonal flange 6. The upper end of the stem of the needle valve 3 is externally threaded as indicated at 7 and the inside of the sleeve 5 is threaded to receive said threaded portion 7, whereby rotation of said threaded portion effects an axial adjustment of the needle valve 3 and consequently regulates the rate of flow of fuel from the passage 2. In order to facilitate the axial adjustment of the needle valve 3 relative to the sleeve 5, whereby a permanent adjustment of the needle valve is effected, the outer end of said needle valve is provided with a knurled adjusting nut 8.

In order to effect a temporary axial adjustment of the needle valve 3 relative to the passage 2 without disturbing the initial adjustment thereof relative to the sleeve 5, I have provided means whereby said sleeve may be rotated and a consequent axial adjustment of the needle valve effected. The upper end of the threaded sleeve 5 is reduced as indicated at 9 and engaged over said reduced portion and resting on the top of the hexagonal flange 6 is a plate 10 having an integral downwardly extending flange 11 thereon engaging five of the vertical surfaces of said hexagonal flange 6. Said plate 10 is provided with an integral outwardly extending arm 12 which at its outer end is provided with a suitable binding post 13 and binding screw 14, whereby said plate and the sleeve 5 may be connected to a Bowden wire or other suitable connection 15 for operation from a distance in a manner to be described hereinafter.

Engaged around the reduced portion 9 and resting on the plate 10 is a suitable washer 16 and engaged on said reduced portion 9 outside of said washer 16 and preferably tightened thereagainst is a nut 17. The upper end of the passage through the nut 17 is reduced to form a bevel face 18 and the upper end of the reduced portion

9 is beveled at 19 to coact with said bevel face, said portion 9 also being slotted as at 20, whereby coaction of the bevel faces 18 and 19, as the nut is tightened, acts to lock the threaded portion 7 and the needle valve 3 from rotation relative to the sleeve 5. By virtue of this construction it is possible to lock the needle valve 3 in proper permanent adjustment, which adjustment will not be disturbed by the rotation of the sleeve 5 to effect a temporary adjustment.

In the construction illustrated, the Bowden wire or flexible shaft 15 is extended through a flexible cover 21 which has one end supported in a suitable boss 22 on the carburetor 1 and which extends to a sleeve 23 which is supported by means of a bracket 24 on the dash of an automobile or at any other place from which it is desirable to effect the temporary adjustment of the needle valve 3. The end of the Bowden wire 15 is secured to the stem of a handle 25 which is slidably mounted in the sleeve 23 and it is apparent that by pulling out said handle 25 a rotation of the lever 12, plate 10, hexagonal flange 6, and consequently of the sleeve 5 and needle valve 3, will be effected to raise said needle valve away from the mouth of the passage 2 and consequently permit a larger amount of fuel to flow or be drawn from said passage.

After the engine on which the carburetor is mounted is started and has become sufficiently warm it will probably not be necessary to maintain this additional opening of the needle valve 3 and at this time the handle 25 may be pushed back into the sleeve 23 whereby the sleeve 5 and valve 3 will be rotated back to their normal position,

which is the proper position of the valve 3 for normal economical operation of the engine, this position having been arrived at by adjustment of said valve relative to the sleeve 5 and subsequently secured by a tightening of the nut 17.

It will be apparent from the foregoing description that the present invention provides means whereby a regulating valve may be temporarily adjusted without disturbing the permanent adjustment of said valve. Although I have shown an embodiment of this invention in connection with a particular type of carburetor, it will be appreciated that the same is readily applicable to other types of carburetors, and it will be further apparent that the apparatus disclosed is economical, durable and one which may be readily applied to existing types of carburetors.

I am aware that numerous details of construction may be varied through a wide range without departing from the principles of this invention, and I therefore do not purpose limiting the patent granted hereon otherwise than necessitated by the prior art.

I claim as my invention:

A fuel valve, a threaded stem therefor, an internally and externally threaded sleeve surrounding said threaded stem, a polygonal flange associated with said sleeve, an operating lever engaging said flange for partially rotating said sleeve, and a distance control adapted to move said lever to temporarily alter the adjustment of said valve.

In testimony whereof I have hereunto subscribed my name.

GEORGE KINGSTON.