H. O. BROGNIEZ.

FUEL DISTRIBUTING MECHANISM FOR CARBURETERS.

APPLICATION FILED SEPT. 24, 1917.

1,267,314. Patented May 21, 1918.

FIG. 1

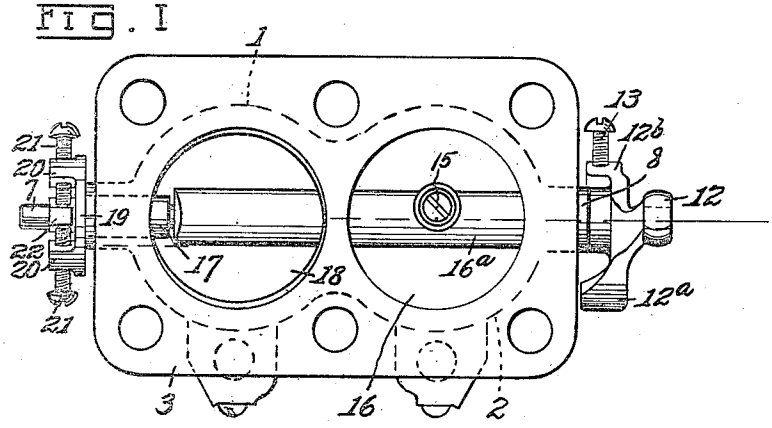


FIG. 2

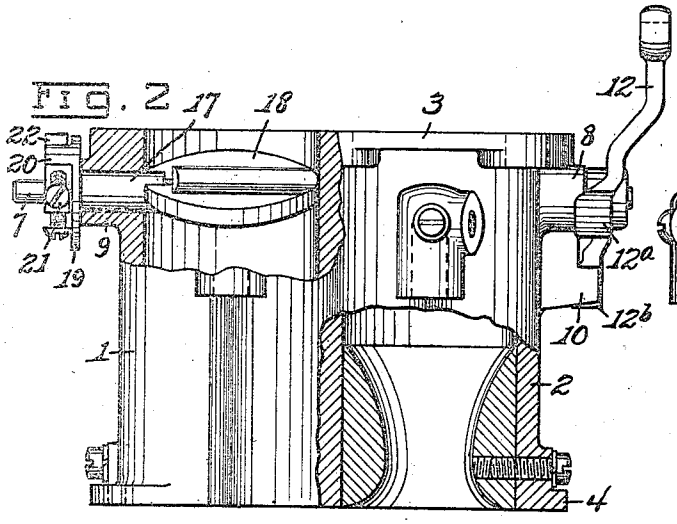


FIG. 3

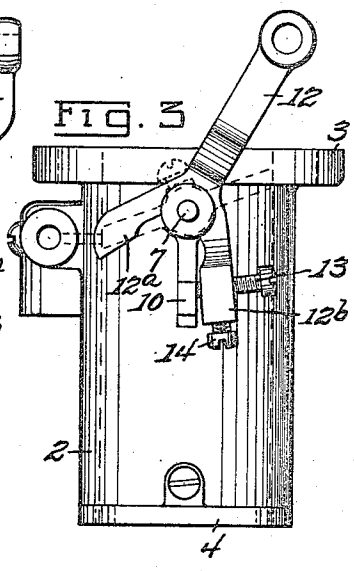


FIG. 4

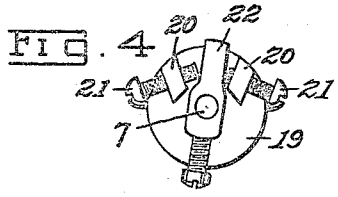
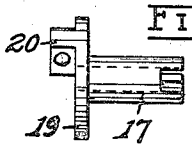


FIG. 5



INVENTOR

Harvey O'Brogniez.

BY

H. E. Dunlap

ATTORNEY

UNITED STATES PATENT OFFICE.

HARVEY O. BROGNIEZ, OF WHEELING, WEST VIRGINIA, ASSIGNOR OF ONE-HALF TO HARRY L. WHITE, OF WHEELING, WEST VIRGINIA.

FUEL-DISTRIBUTING MECHANISM FOR CARBURETERS.

1,267,314. Specification of Letters Patent. Patented May 21, 1918.

Application filed September 24, 1917. Serial No. 192,899.

To all whom it may concern:

Be it known that I, HARVEY O. BROGNIEZ, a citizen of the United States of America, and resident of Wheeling, county of Ohio, and State of West Virginia, have invented certain new and useful Improvements in Fuel-Distributing Mechanisms for Carbureters, of which the following is a specification.

This invention relates broadly to carbureters, and more particularly to a valve for carbureters.

The primary object of the invention is to provide a valve construction for a gasolene carbureter designed primarily for use on gasolene engines or motors of the twin cylinder or V-type, the same being adapted to provide independent fuel supplies to the two sides of the motor and embodying two separately adjustable throttle valves.

A further object of the invention is to provide a device of the character mentioned in which either throttle valve may be adjusted without disturbing the adjustment of the other.

With these and other important objects in view, the invention resides in the features of construction, arrangement of parts and combinations of elements which will hereinafter be fully described, reference being had to the accompanying drawings, in which—

Figure 1 is a top plan view of the invention;

Fig. 2 is a view partly in side elevation and partly in vertical section;

Fig. 3 is an end elevation of the invention;

Fig. 4 is an end elevation of the mechanism for adjusting one throttle valve; and—

Fig. 5 is a side elevation of the same, detached.

Referring to said drawings, in which like designating characters distinguish like parts throughout the several views—

1 and 2 indicate upright twin casings which are preferably cast in an integral structure, the same having top and bottom attaching flanges 3 and 4 adapted for bolting respectively to the ends of two separate intake manifolds leading to the cylinders at opposite sides of the motor and to an underlying carbureter proper.

Directed transversely through the interiors of the casings 1 and 2 near their upper ends is a rotary shaft 7 which is mounted at one end in a bearing 8 provided therefor on the casing 2. Extending downward from said bearing is an integral arm or stop 10, and fixed upon the projecting end of said shaft adjacent to said stop 10 is a crank arm or lever 12 designed for connection with suitably arranged throttle control levers leading to a convenient point on the usual steering column. Said lever 12 is of approximately Y-shape and has its divergent arms 12^a and 12^b disposed in straddling relation to said stop 10, as is clearly shown in Fig. 3. The arm 12^a is designed to engage or abut directly against one side of said stop 10 at one limit of rotary movement of the shaft 7, and an adjusting screw 13 carried by the arm 12^b is adapted for adjustment to regulate the extent of movement of said shaft in the opposite direction, said screw being adapted to have its point seat against said stop. Suitable means, as an impinging set-screw 14, is provided for locking the adjusting screw 13 in adjusted position.

Adjustably mounted upon the shaft 7 within the casing 2 is a throttle-valve 16 of oval form adapted to close the gas passage through said casing when occupying slightly inclined position, as shown in dotted lines in Fig. 3. Said valve 16 has a sleeve portion 16^a through which the shaft is directed, and a set-screw 15 is projected into impinging relation to said shaft for holding said valve in adjusted position.

The opposite end of the shaft 7 is loosely mounted within a sleeve 17 which is rotatably mounted in a bearing 9 formed on the casing 1. Said sleeve has a transverse slot in its inner end for the reception of the adjacent edge of a throttle valve 18 which is located within said casing 1. Said valve 18 is similar to valve 16 except that it loosely embraces and is rotatable with respect to said shaft. Formed upon, or fixed to, the outer end of said sleeve 17 is a disk 19 which has formed on its outer surface two outwardly projecting lugs 20 spaced a suitable distance apart and having adjusting screws 21 directed therethrough. An arm 22 adjustably mounted upon the adjacent pro-

jecting end of the shaft 7 is disposed between said lugs 20.

As is well known, due to various causes it is practically impossible to drive the two sides of a motor of the twin cylinder, or V, type at constant uniform speeds when fuel is supplied to said two sides in equal volumes. In other words, with an equal supply of fuel furnished to the two sides, one will overrun or develop a speed in excess of that of the other, resulting in an excess burden being placed upon the former and in a consequent impairment of the general efficiency of the motor. It is the purpose of the present invention to provide means whereby the fuel supplies to the two sides of the motor may be relatively adjusted so that equal speeds will be maintained by said sides.

In practice, the throttle valve 16 is first adjusted on the shaft 7 to a position wherein it closes the passage through cylinder 2 when the arm 12^b is disposed in engagement with the stop 10. The screw 13 is then adjusted to open said valve 16 for permitting the passage thereby of the volume of fuel requisite for driving one side of the motor at the idling speed desired, it being understood that the ignition wiring to the opposite side of the engine is disconnected while said adjustment is being made. Then, disconnecting the ignition circuit to the one side and connecting the ignition circuit to the other side, the latter is adjusted to operate at precisely the same desired idling speed, such adjustment being effected as follows: The two adjusting screws 21 are retracted to render the disk 19, the sleeve 17, which is relatively fixed with respect to said disk, and the throttle valve 18, the edge of which is snugly received in the slot of said sleeve, free for rotary movement on the shaft 7. Then, with the shaft disposed in the position wherein the previously adjusted screw 13 has its point seated against the stop 10, the disk 19 is rotated to open the throttle valve 18 the requisite distance, whereupon the screws 21 are adjusted into seating relation to the opposite sides of the arm 22, thus locking said throttle valve in adjusted position with respect to said shaft.

With the two sides of the throttle valves adjusted as above described, the two sides of the motor operate uniformly and without undue strains being imposed upon either.

What is claimed is—

1. A fuel-distributing mechanism for carbureters, comprising a casing having a pair of gas passages therethrough, a rotary shaft mounted in said casing and extending transversely through said passages, a throttle valve adjustably mounted on said shaft within one of said passages, a rotary sleeve mounted in said casing adjacent to the other of said passages and having the adjacent end of said shaft rotatable therein, a throttle valve loosely mounted on said shaft within the last-mentioned passage, said sleeve and the last-mentioned valve being relatively fixed, means for adjusting said sleeve in rigid relation to said shaft whereby said last-mentioned valve is maintained in fixed relation to said shaft, and means for imparting movement to said shaft for shifting the positions of said valves with respect to said passages.

2. A fuel-distributing mechanism for carbureters, comprising a casing having a pair of parallel upright passages therethrough, said casing being adapted for seating upon a carbureter and for connection at its upper end with two separate intake manifolds, a rotary shaft mounted in said casing and extending transversely through said passages, means for limiting the extent of rotary movement of said shaft, a throttle valve adjustably mounted upon said shaft within one of said passages, a second throttle valve loosely mounted upon said shaft within the other passage, a rotary sleeve embracing one end of said shaft and disposed in operative relation to said second throttle valve, and means for adjusting said sleeve on said shaft for positioning said second valve on the latter.

3. A fuel-distributing mechanism for carbureters, comprising a casing having a pair of parallel upright passages therethrough, said casing being adapted for seating upon a carbureter and for connection at its upper end with two separate intake manifolds, a rotary shaft mounted in said casing and extending transversely through said passages, means for limiting the extent of rotary movement of said shaft, a throttle valve adjustably mounted upon said shaft within one of said passages, a second throttle valve loosely mounted upon said shaft within the other passage, a rotary sleeve embracing said shaft adjacent to the position of said second valve, said sleeve being operatively engaged with said second valve, and means for adjusting said sleeve on said shaft for positioning said second valve in rigid relation to said shaft.

4. A fuel-distributing mechanism for carbureters, comprising a casing having a pair of parallel upright passages therethrough, said casing being adapted for seating upon a carbureter and for connection at its upper end with two separate intake manifolds, a rotary shaft mounted in said casing and extending transversely through said passages, means for limiting the extent of rotary movement of said shaft, a throttle valve adjustably mounted upon said shaft within one of said passages, a second throttle valve loosely mounted upon said shaft within the other passage, a rotary sleeve embracing said shaft adjacent to the position of said

second valve, said sleeve being operatively engaged with said second valve, a disk carried by said sleeve and having a pair of outwardly projecting lugs on its outer face, an arm rigidly mounted on said shaft and disposed between said lugs, and adjusting screws carried by said lugs impinging upon opposite faces of said arm whereby said sleeve and second valve are maintained in adjusted relation to said shaft.

In testimony whereof, I affix my signature in presence of two subscribing witnesses.

HARVEY O. BROGNIEZ.

Witnesses:
H. E. DUNLAP,
W. F. KEEFER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."