

J. GALAMB.  
 CARBURETOR PRIMING ROD MOUNTING.  
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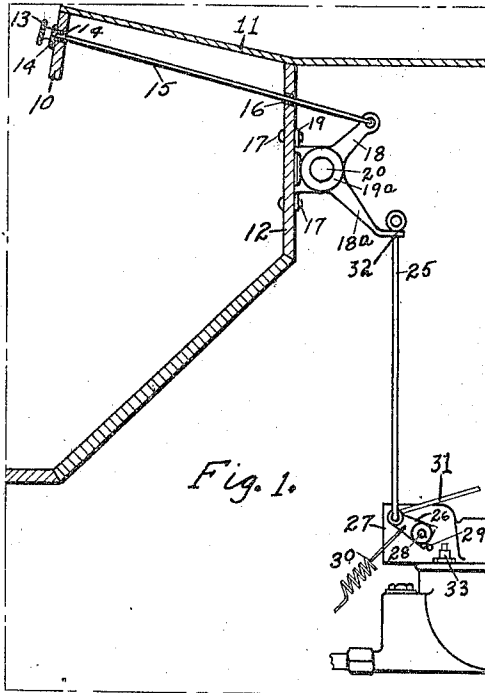


Fig. 1.

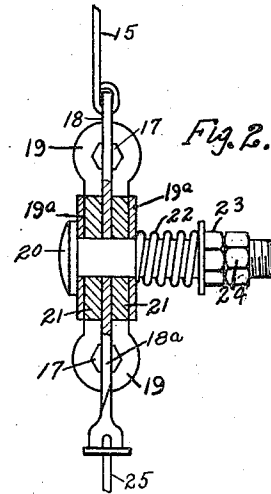


Fig. 2.

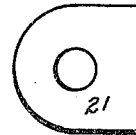


Fig. 4.

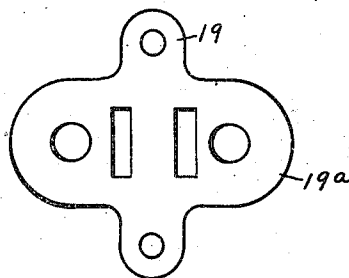


Fig. 3.

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## UNITED STATES PATENT OFFICE.

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## CARBURETOR-PRIMING-ROD MOUNTING.

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*To all whom it may concern:*

Be it known that I, JOSEPH GALAMB, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented new and useful Improvements in Carburetor-Priming-Rod Mountings, of which the following is a specification.

The object of my invention is to provide new and useful automobile instrument board carburetor controlling means of simple, durable and inexpensive construction.

A further object of my invention is to provide means whereby the volume of air to be carburetted in an internal combustion engine carburetor can be simply and easily controlled by the driver of an automobile from his seat.

A further object of my invention is to provide means whereby the volume of air admitted to the carburetor of an internal combustion engine to be carburetted may be adjusted by the operator of the engine to meet the varying atmospheric conditions under which such an engine is operated, and for maintaining such adjustment as long as may be desired by the operator.

A further object of my invention is to provide means whereby a mixture of air and a volatile inflammable liquid, such as gasoline, containing a high percentage of the volatile inflammable liquid, as compared with air, may be readily obtained from a carburetor without the necessity of varying the amount of volatile inflammable liquid supplied to the mixing chamber of the carburetor.

With these and other objects in view my invention consists in the arrangement, combination, and construction of the various parts of my improved device, as described in the specification, claimed in my claims, and shown in the accompanying drawing, in which:

Figure 1 is a vertical sectional view of an automobile instrument board and dash board with my improved device mounted thereon.

Figure 2 shows an elevation of my improved device, parts being broken away to better illustrate the construction.

Figure 3 is a plan view of the blank from which the bracket of my improved device is formed.

Figure 4 is an elevation of one of the frictional binding washers used in my improved device.

device.

In the following description of the parts and the principle of operation of my improved device, corresponding parts of my device shown in various figures of the drawing are always referred to under the same reference numeral.

In Figure 1 the instrument board, cowl and dash board of an automobile are indicated generally by the reference numerals 10, 11 and 12, respectively. The controlling rod 15, Figures 1 and 2, passes through the bearings 14 and 16 in the instrument and dash boards, 10 and 12, respectively, and is connected with the upper arm 18 of the bell crank lever 18—18<sup>a</sup>. For convenience in operation the end of the controlling rod 15 is provided with a knurled head 13. The frame 19—19<sup>a</sup>, see Figures 1, 2 and 3, of my improved bracket is detachably fastened to the dash board 12 by the small bolts 17—17. That portion of the frame indicated by the reference numeral 19 has ears at each end thereof through which the bolts 17 pass. The side flanges 19<sup>a</sup> of the frame are properly drilled to permit passage of the bolt therethrough, said bolt 20 forming the shaft upon which the bell crank lever 18—18<sup>a</sup> turns. The bell crank lever 18—18<sup>a</sup>, Figures 1 and 2, is disposed between and contacts with the frictional binding washers 21, Figures 2 and 4. These frictional binding washers 21 may be of any suitable material, and are held in position against the bell crank lever 18—18<sup>a</sup> by the tension of the spring 22, see Figure 2, which tension may be varied by means of the nut 23 on the bolt 20, the adjustment of the nut 23 being maintained by the lock nut 24. The frictional binding washers 21 are preferably formed with a square end, see Figure 4, which rests against the frame 19 and prevents the washers from turning with the bell crank lever 18—18<sup>a</sup>.

The actuating rod 25, Figures 1 and 2, extends from the bell crank lever 18<sup>a</sup> to the lever 26 of the carburetor 33, said lever 26 being fixed to the shaft 28, the end of which is shown, Figure 1, and the air inlet valve within the air inlet passage 27 of the carburetor is mounted upon this shaft 28. This air inlet valve is a well known feature of

carburetor construction and is not shown herewith. The air inlet valve lever 26 is normally held against stop 29 by the tension of the spring 30 in which position the air inlet valve of the carburetor is set for ordinary operation of the engine. An auxiliary operating rod 31 is pivoted to the lever 26 and extends to the front of the automobile, whereby the carburetor air inlet valve may be manipulated from that point.

In the practical operation of my improved device it will be understood that it is for the purpose of providing means for adjusting the position of the air inlet valve of a carburetor on an internal combustion engine and thereby the proportion of gas and air in the explosive mixture formed within the carburetor, and for maintaining such adjustment of the air inlet valve as long as may be desired; such adjustment being made without the necessity of the operator leaving his seat in the automobile. This is particularly important when operating an automobile equipped with mechanical means for starting the engine, in other words, a "self-starter."

It is necessary to provide means for varying the proportions of gas and air in the explosive mixture delivered by the carburetor for several reasons, the most important of which is to provide a "rich" mixture, i. e., one containing a high proportion of gas to air, for starting the engine, as such a mixture ignites more readily than a "lean" one, or one containing a greater proportion of air to gas. The "lean" mixture is more powerful and economical for general running purposes, however, and it is necessary, therefore, to provide means for quickly and easily changing the "rich" mixture to a "lean" one after the engine has commenced to run. This adjusting of the carburetor to provide a rich mixture is commonly known as "priming."

Attempts have been made to control the mixture of air and gas formed in the carburetor by means of adjusting the position of the needle point in the inlet valve to the carburetor mixing chamber, through which valve the volatile inflammable liquid passes, in order to vary the size of the valve opening and thereby the amount of volatile inflammable liquid admitted to the mixing chamber through the valve. On account of the fact, however, that a very minute change in the amount of volatile inflammable liquid admitted to the mixing chamber will seriously affect the operation of the engine, and the further fact that it requires considerable time, and more skill than the average driver of an automobile possesses, to readjust the needle valve to the proper position for ordinary running, it has been found impracticable to attempt to vary the proportion of gas and air in the explosive mixture

by these means. Furthermore frequent manipulation of the needle point tends to roughen the fine end thereof and thereby make impossible the proper adjustment of this valve.

On the other hand the adjustment of the air inlet valve of the carburetor is a simple one and this valve can be quickly reset to a predetermined proper running position with absolute certainty. Therefore, by means of my improved device the operator of an automobile equipped with same can vary at will the proportion of air in the explosive mixture formed in the carburetor mixing chamber to provide a "rich" or a "lean" mixture, and he can, if desired, maintain any particular proportion indefinitely.

The operation of my improved device in the form herein described is as follows:

The actuating rod 25, Figures 1 and 2, being connected by means of the bell crank lever 18—18<sup>a</sup> to the lever 25, which in turn is connected to the lever 26, it will be seen that movement of the bell crank lever arm 18<sup>a</sup> in an upward direction will tend to pull up the lever 26, and thereby tend to close the air inlet valve in the air inlet passage 17 of the carburetor 33, and thus diminish the volume of air entering the carburetor. The bell crank arm 18<sup>a</sup> being formed integral with the arm 18, it will be seen that all that is necessary for the operator to do in order to manipulate the air inlet valve of the carburetor is to pull out the controlling rod 15, which in turn moves the bell crank lever arms 18 and 18<sup>a</sup> and thereby the actuating rod 25, thus adjusting the position of the air inlet valve. The frictional binding washers 21, being compressed by the tension of the spring 22 tend to hold the bell crank lever 18—18<sup>a</sup> in any position in which it may be set by movement of the controlling rod 15. I have only shown two of these frictional binding washers 21, but it will be understood that more could be used if desired without departing from the spirit of my invention.

When it is desired to re-open the air inlet valve the controlling rod 15 is pushed in or toward the bell crank lever 18—18<sup>a</sup>, which depresses the bell crank lever arm 18<sup>a</sup> and the tension of the spring 30 upon the lever 26 returns it to its normal position against the stop 29. I prefer to make the actuating rod 25 slightly smaller in diameter than the hole at 32 in the bell crank lever arm 18<sup>a</sup> in order to secure a loose or slip fit, as this permits operating of the lever 26 by means of the auxiliary control rod 31 from the front of the engine without changing the position of the bell crank lever 18—18<sup>a</sup>.

It will be understood that I do not desire to limit myself in this application to the use of my improved device on automobiles, but that it may also be used with appropriate

mounting on tractors, motor boats, motor-cycles and other machines in which it is desirable to provide simple and inexpensive means for controlling the air inlet valve of a carburetor. Changes may be made in the arrangement of the parts, as for instance the bracket 19 might be mounted on some other part of the machine, as for instance the radiator or frame.

Some changes may be made in the arrangement and construction of the various parts of my improved device without departing from the spirit of the invention therein and it is my intention to cover by my claims such changes as may be reasonably included within the scope thereof.

I claim as my invention:

1. Automobile instrument board controlling mechanism for adjusting the position of the air inlet valve of an internal combustion engine carburetor, comprising means for conveniently operating said mechanism from the automobile instrument board, a bell crank lever having one arm arranged to be operated by the above means from the automobile instrument board, and the other arm operably connected with the carburetor air inlet valve, said bell crank lever being mounted with its fulcrum between frictional binding washers which normally yieldingly prevent movement of the bell crank lever, said frictional binding washers being non-rotatable.

2. Automobile instrument board controlling mechanism for adjusting the position of the air inlet valve of an internal combustion engine carburetor, comprising means for conveniently operating said mechanism from the automobile instrument board, a bell crank lever having one arm arranged to be operated by the above means from the automobile instrument board, and the other arm operably connected with the carburetor air inlet valve, said bell crank lever being mounted with its fulcrum between frictional binding washers which normally tend to prevent movement of the bell crank lever.

3. Automobile instrument board controlling mechanism for adjusting the position of the air inlet valve of an internal combustion engine carburetor, comprising means for conveniently operating said mechanism from the automobile instrument board, a bell crank lever having one arm arranged to be operated by the above means from the automobile instrument board, and the other arm operably connected with the carburetor air inlet valve, said bell crank lever being

mounted with its fulcrum between frictional binding washers which normally tend to prevent movement of the bell crank lever, said frictional binding washers being non-rotatable and subjected to a side pressure produced by yieldable means.

4. Automobile instrument board controlling mechanism for adjusting the position of the air inlet valve of an internal combustion engine carburetor, comprising means for conveniently operating said mechanism from the automobile instrument board, a bell crank lever having one arm arranged to be operated by the above means from the automobile instrument board, and the other arm operably connected with the carburetor air inlet valve, said bell crank lever being mounted with its fulcrum between frictional binding washers which normally tend to prevent movement of the bell crank lever, said frictional binding washers being non-rotatable and subjected to a side pressure produced by yieldable means, and means for adjusting said side pressure on said frictional binding washers.

5. In a dash controlled air inlet for carburetors for motor vehicles, a rod extended thru the instrument board of the vehicle and the dash board of the vehicle, a second rod operatively connected with the air inlet of the carburetor, and means for operatively connecting the adjacent ends of said rod together whereby motion of one rod will impart motion to the other rod, said means being adapted to hold its position except when urged by the rod extending thru the instrument board.

6. A mounting for the instrument board control for the air inlet of carburetors for motor vehicles comprising a rod extended thru the instrument board of the vehicle, a second rod connected with the air inlet of the carburetor, a blank having pairs of oppositely extending ears, the ears of one pair being bent at right angles to the body of the blank to form a pintle support, and the other ears being adapted to be secured to a portion of the vehicle to support the blank, a pintle extended thru said ears, a lever mounted on said pintle, one end of said lever being operatively connected with the instrument board rod and the other end of said lever being connected to the air inlet rod, and means associated with said lever and said ears for holding the lever in a plurality of adjusted positions.

JOSEPH GALAMB.