March 24, 1931. J. G. MYER 1,798,027

GASOLINE ECONOMIZER FOR MOTORS

Filed Nov. 7, 1929

Fig. 1.

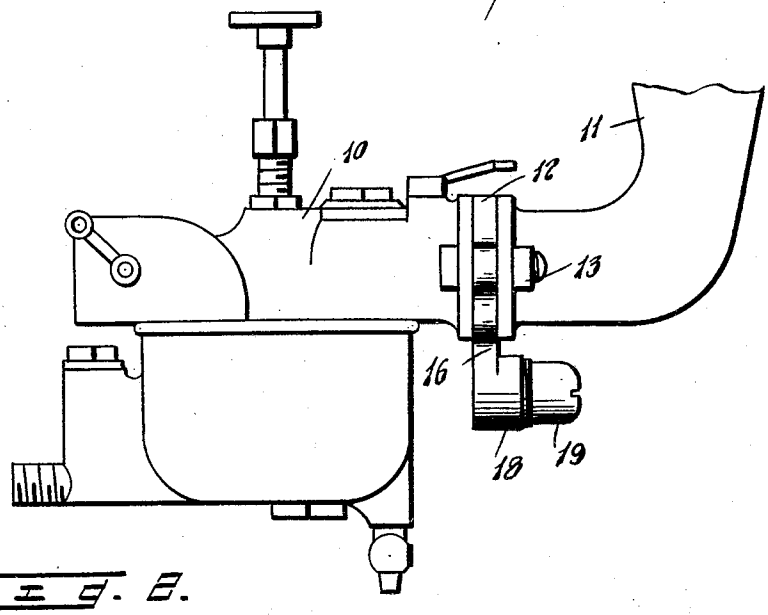


Fig. 2.

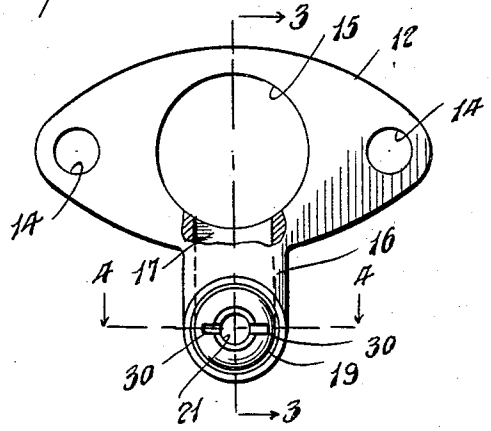


Fig. 4.

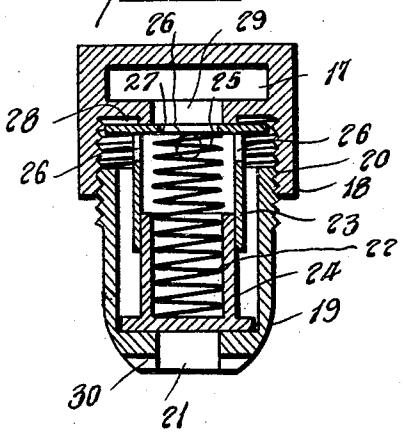
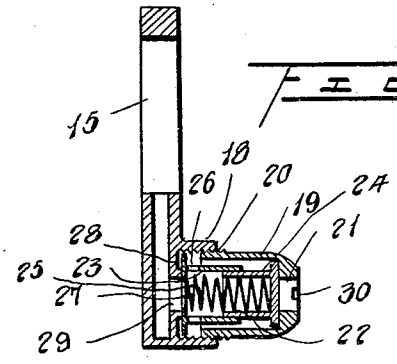


Fig. 3



Inventor

J. G. Myer.

By V. F. Randolph Jr.

Attorney

Patented Mar. 24, 1931 1,798,027

UNITED STATES PATENT OFFICE

JAMES G. MYER, OF BIG SPRINGS, WEST VIRGINIA

GASOLINE ECONOMIZER FOR MOTORS

Application filed November 7, 1929. Serial No. 405,465.

This invention relates to a fuel or gasoline economizer for use in connection with internal combustion engines as particularly used for propelling vehicles.

It is primarily aimed to provide a construction whereby auxiliary air is admitted into the fuel line in the proportion required to dilute the fuel mixture, irrespective of the speed of operation of the motor or vehicle to the end that the same amount of vacuum will be maintained on the carburetor regardless of the speed.

Another object is to provide a construction which may be used as an attachment or incorporated initially into the carburetor, as preferred, and which utilizes a novel construction hereinafter described with relation to accompanying drawings.

In said drawings:—

Figure 1 is a view showing the invention in side elevation and as applied to a fuel line of an automobile propelling motor;

Figure 2 is a front elevation of the device, partly broken away;

Figure 3 is a vertical sectional view taken on the line 3—3 of Figure 2; and

Figure 4 is a horizontal sectional view taken on the line 4—4 of Figure 2.

Referring specifically to the drawings, the fuel line illustrated consists of a conventional carburetor at 10 and an intake manifold 11, such parts being conventional in the propelling internal combustion engine of automobiles or other vehicles. My invention is shown as an attachment although it is obvious that the same may be embodied initially in the carburetor 10 as a part thereof. The attachment comprises an attaching plate 12 which is secured between the outlet of the carburetor 10 and inlet of the manifold 11, by bolts 13 passing through flanges on said part and through openings 14 in the plate 12. The passageway between the carburetor and manifold is not obstructed since the plate 12 has a large opening 15 registering therewith.

The plate 12 is provided with a downward extension or duct 16 integral therewith, having a passageway 17 arranged in communication with the opening 15. Extension 16 has a forwardly extending boss 18 in which a cap or barrel 19 is adjustably screw threaded as at 20, the same having an opening 21 at the forward end thereof.

Located within the barrel 19 is a valve device 22 consisting of sections 23 and 24, constantly urged apart and to positions closing the opening 21, by an expansive coil spring 25 located within the same. The section 23 has ports 26 in its sides and a port 27. Valve section 23 abuts a web 28 on the extension 16 which has an opening or port 29 therethrough in communication with that at 27. A slot 30 is provided diametrically of the barrel 19 in order to receive a screw driver or the like used in adjusting the position of the barrel 19 or the barrel 19 may be adjusted simply by turning it with the fingers.

In the present construction, the opening of the valve is controlled by the spring 25 which is so tensioned that the valve opens and closes to the right position automatically for all engine speeds, the valve opening when the pressure in the manifold drops to supply air to mix with the fuel mixture from the carburetor, and closing automatically when the pressure is increased. Because of this operation of the device great economy in the use of gasoline is effected.

In use the device operates as follows: when the motor is not operating the valve is in the closed position shown in Figure 4. When the motor is started, and while the speed is low, the valve element 22 moves against the pressure of spring 25 inwardly towards web 28 and in its innermost position will nearly close ports 26. As the speed of the motor increases the pressure in the intake manifold also increases allowing the spring 25 to react to move element 22 away from the web 28 and gradually opening the ports 26 to admit more and more air as the speed increases. The only adjustment necessary at any time is the positioning of the barrel 19. This barrel is moved to a position where the engine will run idle by screwing it down on the spring to the right tension and then it will take care of any speed and will not permit the engine to pull more gas but feed air instead.

Various changes may be resorted to pro-

vided they fall within the spirit and scope of the invention.

I claim as my invention:—

1. A device of the class described comprising a body having a passageway therethrough, said body having a boss thereon and a web inwardly of the boss provided with a port therethrough, a ported barrel adjustably screw threaded to the boss, telescoping valve sections, one of said valve sections being in contact with said web and provided with a port alined with the port in the web and another port communicating with the interior of the section, the other valve section being in contact with the barrel to control the port thereof, and an expansive spring within the valve sections urging separation thereof, the tension of said spring being variable through the adjustment of said barrel.

2. A device of the class described comprising a body provided with a port, a ported barrel adjustably connected to the body, telescoping valve sections, one of said valve sections being in contact with the body and provided with a port alined with the port in the body, and another port communicating with the interior of the section, the other valve section being in contact with the barrel to control the port thereof, and an expansive spring within the valve sections urging separation thereof, the tension of said spring being variable through the adjustment of said barrel.

In testimony whereof I affix my signature.

JAMES G. MYER.