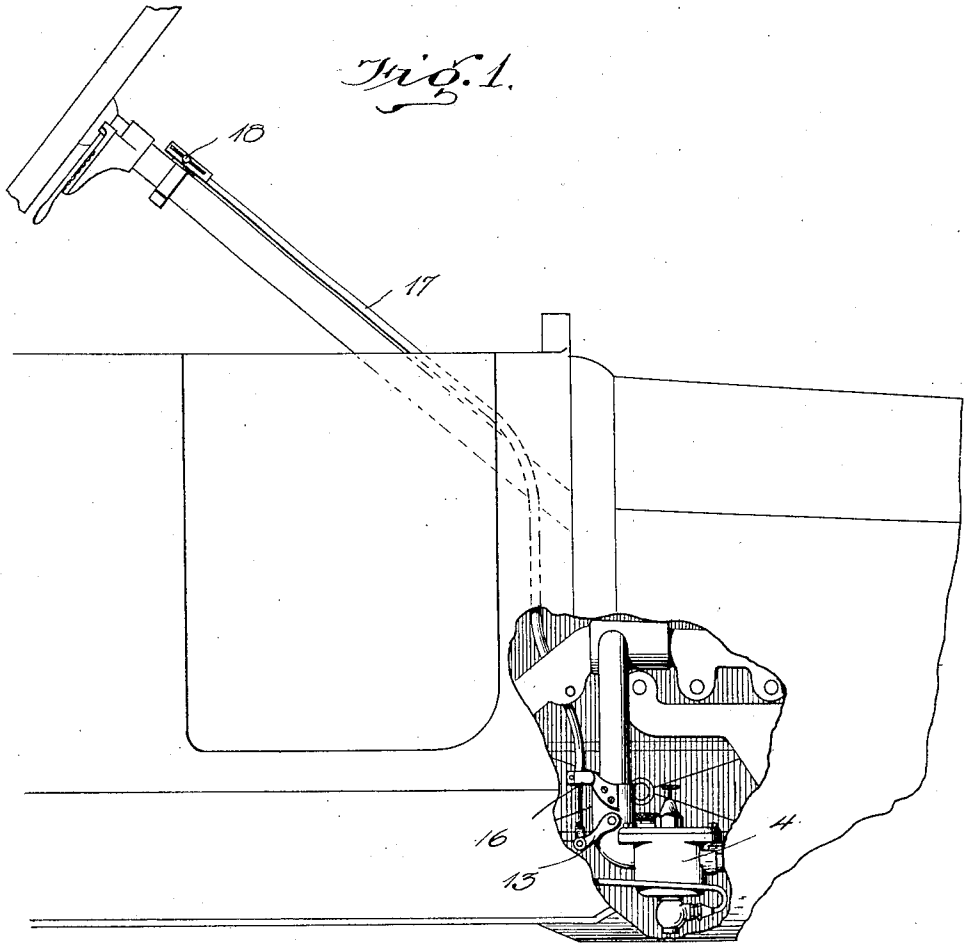
D. L. WINTERS.

CHOKE VALVE.

APPLICATION FILED OCT. 15, 1919.

1,347,199. Patented July 20, 1920.

Fig. 1.



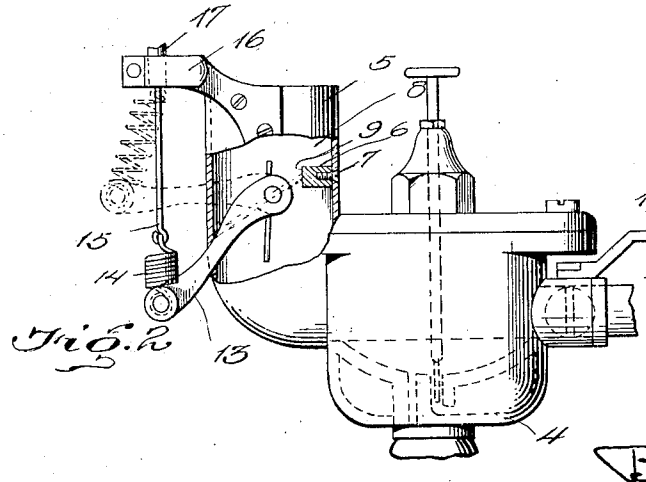
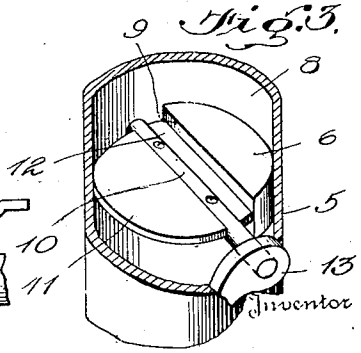


Fig. 2.

Fig. 3.



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UNITED STATES PATENT OFFICE.

DAVID L. WINTERS, OF EDGEWATER, MARYLAND.

CHOKE-VALVE.

1,347,199. Specification of Letters Patent. Patented July 20, 1920.

Application filed October 15, 1919. Serial No. 330,798.

To all whom it may concern:

Be it known that I, DAVID L. WINTERS, a citizen of the United States, residing at Edgewater, in the county of Anne Arundel and State of Maryland, have invented certain new and useful Improvements in Choke-Valves, of which the following is a specification.

This invention relates to choke valves, and more particularly to that class of such devices provided with means wherein the valve is given a certain flexibility of operation, in addition to manual actuation, in order to produce the best running conditions.

The primary object of this invention is to provide a convenient means for temporarily increasing the density of the mixture fed to the engine while warming up in order to effect a rapid "get-away" and to prevent stalling the engine when running slowly under abnormal traffic conditions due to excessive throttling of the normally lean mixture.

A further object is to so construct a choke valve of the character set forth adapted for attachment to any carbureter in order to supply the motor fed thereby with a moderately lean mixture under usual running conditions, so that the carbureter may be properly adjusted to attain such condition, and the choke valve employed to increase the density of the mixture at will, to meet varying load and atmospheric conditions without affecting the fixed adjustment, and to maintain said increase of density throughout subsequent operations of the throttle valve.

With the foregoing and other objects in view, as will be evident from the following specification, this invention consists in the peculiar construction and combination of the various coöperating elements of a choke valve as hereinafter described and more particularly pointed out in the appended claims.

Referring to the accompanying drawings, illustrating an embodiment of this invention and in which the same reference characters indicate the same parts wherever used,

Figure 1 is a fragmentary side view showing the device as installed.

Fig. 2 is a detail partly broken away and

Fig. 3 is a perspective view partly in section.

4 designates a carbureter of a suitable type having the usual air intake 5 provided in accordance with the present invention with a block 6 secured at 7 to the interior face of the wall 8 of the intake 5 and formed to fit the same, the said block projecting into the intake passage and terminating in a flat portion 9.

Adjacent the block 6 the intake 5 carries a transversely pivoted rod 10 upon which is a butterfly valve comprising a portion 11 equal in area to one half of that of the intake and a smaller portion 12 of such area and formation as to completely close the intake when in the position shown in Fig. 3, the portion 12 coöperating with the block 6 to accomplish such complete closure.

The rod 10 carries an operating lever 13 upon which is mounted a coil spring 14 of very light tension connecting the lever 13 to the wire 15 which is supported by bracket 16 on the intake 5 and extends into casing 17 to a suitable position convenient to the spark and throttle control terminating in an operating handle 18.

In operation the mechanism just described functions as follows:

Upon starting a cold engine the valve is entirely closed, assuming the position shown in Fig. 3, which can be done without flooding the carbureter due to the fact that immediately upon starting the engine, suction is set up in the intake 5 which, due to the difference in area of the wings 11—12 and the presence of the block 6 therein, causes the valve to open by suction against the tension of the spring 14, such opening being regulated by the thereafter operation of the throttle valve, the density of the mixture being thus automatically maintained by the operation of the spring 14.

In closing the valve from the position shown in full lines in Fig. 2 to the position shown in dotted lines in the same figure, the spring 14 acts only as a continuation of the member 15, tension being given to said spring only upon a further upward movement of the member 15 after passing the point of closing which the normal coiling of the spring permits.

The object of thus increasing the tension of the spring is to cause it to open only upon greater suction, thus increasing the density of the charge.

Considerable variation of the details as described herein may be resorted to with-

out departure from the spirit of the invention which is to be construed in the light of the following claims.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:

1. In combination, a carbureter provided with the usual throttle valve, fuel inlet, and air inlet, a valve in said air inlet, resilient means forming part of means within reach of the driver to close said valve, said resilient means being so connected with said valve as to permit the automatic opening thereof by the suction of the engine and to a degree proportioned to the load thereon.

2. In combination, a carbureter provided with the usual throttle valve, fuel inlet and air inlet, a valve in said air inlet, resilient means forming part of means within reach of the driver to close said valve, said resilient means being so connected with said valve as to permit of the automatic opening thereof by the suction of the engine, said manually operated means operating to close said valve and to increase the resistance of said resilient means to the automatic opening of the valve by such suction.

3. In combination, a carbureter provided with the usual throttle valve, fuel inlet and air inlet, a valve in said air inlet, resilient means forming part of means within reach of the driver to close said valve, said resilient means being so connected with said valve as to permit of the automatic opening thereof by the suction of the engine and to a degree proportioned to the load thereon, said manually operated means operating to close said valve and to increase the resistance of said resilient means to the automatic opening of the valve by such suction.

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

DAVID L. WINTERS.

Witnesses:
K. E. KLEIN,
ERNEST O. CROCKER.