Feb. 1, 1927. 1,616,082

S. G. GARRETT

CHOKE CONTROL FOR CARBURETORS

Filed Sept. 23, 1926

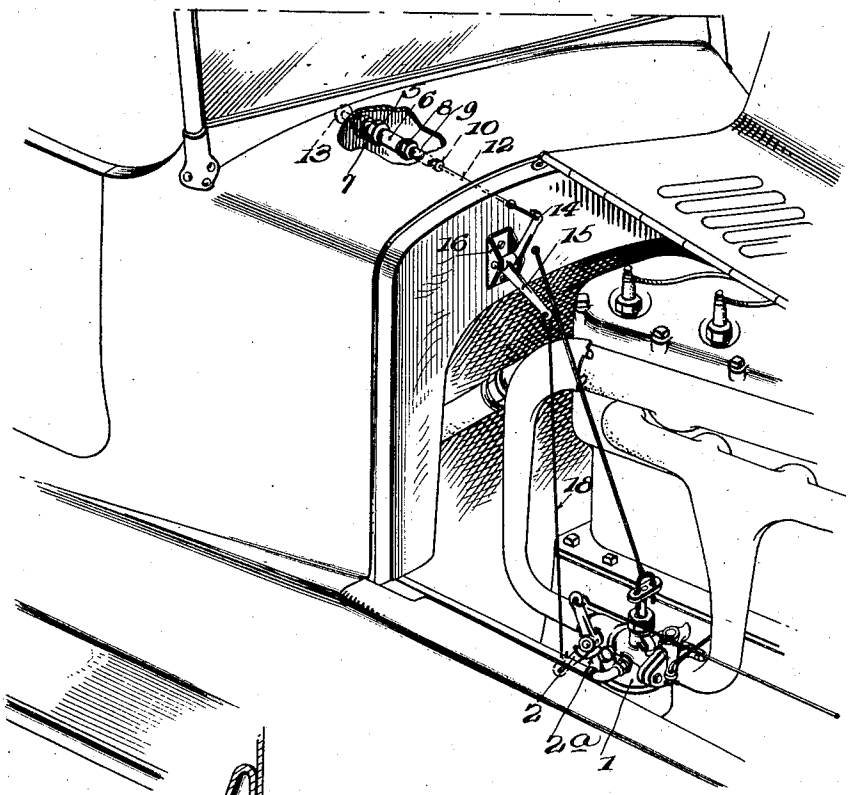


Fig. 1.

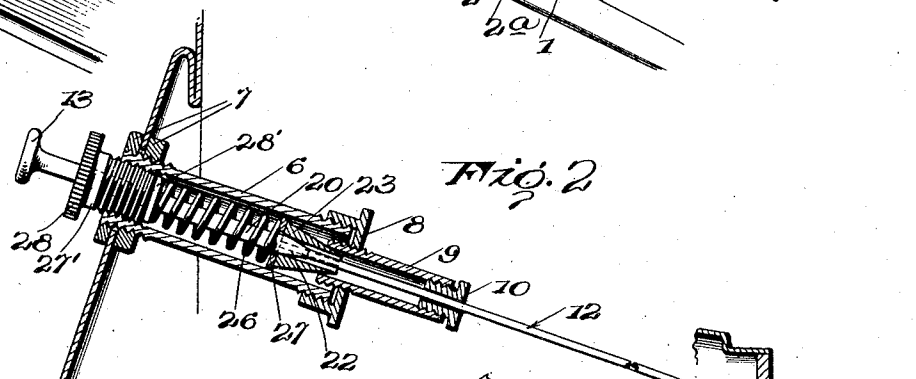


Fig. 2

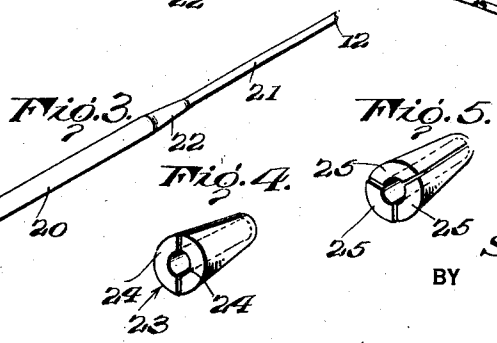


Fig. 3.

Fig. 4.

Fig. 5.

PROPRIETOR

S. G. Garrett.

BY

Munn & Co.

ATTORNEYS

Patented Feb. 1, 1927. 1,616,082

UNITED STATES PATENT OFFICE.

STUART G. GARRETT, OF TULSA, OKLAHOMA.

CHOKE CONTROL FOR CARBURETORS.

Application filed September 23, 1926. Serial No. 137,303.

This invention relates to a choke control for carburetors.

The object of the invention is to provide an operating mechanism for the chokes of carburetors of the type which will automatically open by a spring or the like whereby the return of the choke from a closed or partially closed position to an open position will be retarded. In other words the operating mechanism provides for a variable speed of return from a closed or partially closed to the normally open position of the choke. In starting automobile engines of the type employing a choke normally held open by a spring or the like the operator of the vehicle pulls the choke closed or partially closed but it immediately returns to open position as soon as the operator releases hold of the same. This necessitates repeated manipulation of the choke under some conditions. The present invention proposes to take advantage of the automatic opening of the choke but to do so without necessitating repeated manipulation thereof, and this is accomplished by retarding to the desirable degree the return movement of the choke rod.

A further object is to provide a device having these advantages and capacities and which is of simple and durable construction, reliable and effective in operation and easy and comparatively inexpensive to manufacture and install.

Other objects and advantages reside in certain novel features of the construction, arrangement and combination of parts which will be hereinafter more fully described and particularly pointed out in the appended claims, reference being had to the accompanying drawings forming a part of this specification, and in which:

Figure 1 is a fragmentary perspective view showing the choke control embodying the present invention in use on an automobile,

Figure 2 is a fragmentary view partly in section and partly in side elevation illustrating the details of the choke control mechanism,

Figure 3 is a fragmentary detail perspective view of the novel form of choke rod,

Figure 4 is a detail perspective view showing one set of slips or wedges that may be employed, and

Figure 5 shows a slightly modified form of slip.

Referring to the drawings, the numeral 1 designates a carburetor of an automobile in which the usual choke, not shown, is embodied. The choke is spring-closed in accordance with the usual practice as for instance by means of a spring 2^a and has a lever 2 connected therewith and whereby it may be opened against the tension of the spring which closes the same.

The choke operating mechanism or control constituting the present invention is designated generally at 5 and comprises a cylindrical casing 6 mounted on and secured to the instrument board of the car by nuts 7. The upper end of the casing 6 carries a combined guide plug and tensioning device 27′ and the lower end thereof has a reducing bushing 8 threaded thereon and carrying a short cylinder 9 in which a guide plug 10 is threaded. Through the guide bearings provided in the combined tensioning device and guide plug 27′ and in the guide plug 10, a choke rod, designated generally at 12, is slidably fitted. The upper end of the choke rod 9 has an operating knob 13 integral therewith and the lower end thereof is connected, as at 14, with a bell crank lever 15, the bell crank lever 15 being fulcrumed on a bracket 16 carried by a stationary part of the automobile and being connected to a wire 18 which is fastened at its lower end to the operating lever 2 of the choke of the carburetor.

The choke rod 12 adjacent the knob 13 has a thickened section 20, the thickened section 20 being connected with the main section 21 of the rod by means of a tapering section 22 of frusto-conical form. This tapering section 22 is designed to and does co-act with a set of slips, designated generally at 23, the slips being positioned within the cylindrical casing 6 and seating against the upper end of the short cylinder 9. The slips are tapered externally but have an internal bore of uniform cross sectional area from end to end. Preferably the bore is of cylindrical form. The small end of

the slip assembly enters the short cylinder 9. As shown in Fig. 4 the set of slips 23 may comprise two slips 24 but the number of slips may be varied, three or four segments or slips being used if desirable. Fig. 5 illustrates that the set of slips may consist of three slips 25.

The slips making up the set 23 are forced against the seat provided by the short cylinder 9 by means of a coil spring 26, one end of which engages a washer 27 resting on the large end of the slips and the other end of which engages a washer 28′ abutting the combined tensioning and guide plug 27′. This plug 27′ has a knurled or milled flange 28 to facilitate turning of the same. Obviously, turning of the plug 27′ results in a variation of the tension of the spring 26.

When the choke rod is pulled upwardly the choke is partially closed. As soon as the operator releases hold of the rod the spring associated with the choke tends to open the choke and to pull the rod 12 downwardly. The downward movement of the rod occurs freely at first but as soon as the tapered portion 22 of the rod engages the uniform internal bore of the slips 23 this closing movement is retarded and occurs at a very slow rate of speed. The rate of speed at which the closing movement occurs depends upon the spring 26 which may be regulated by turning the plug 27′. When the tapered portion 22 of the rod 20 engages the uniform internal bore or opening of the slips 23 it tends to force these slips apart and this tendency is resisted by the combined action of the spring 26 and cylinder 9. It is to be noted that the slips do not have a full seat in the cylinder 9 but only a line contact therewith and as a result of this arrangement and of the co-action of the tapered section 22 with the wall of the cylindrical or uniform bore or opening of the slips the slips are permitted to and do gradually spread rather than lock and hold the rod against movement.

I claim:

1. A choke control for carburetors comprising a casing, means on the casing affording a seat, slips mounted on the seat, a choke rod extending through the casing and having a portion co-operable with the slips, and yieldable means tending to maintain the slips in yielding gripping engagement with the choke rod.

2. A choke control for carburetors comprising a casing, means on the casing affording a seat, slips mounted on the seat, a choke rod extending through the casing and having a portion co-operable with the slips, spring means tending to maintain the slips in yielding gripping engagement with the choke rod, and means for tensioning the said spring means.

3. A choke control for carburetors comprising a casing having a seat, externally tapered slips co-operable with the seat, a choke rod extending through the casing, means on the casing providing a bearing for the choke rod, said slips having a bore of uniform cross section from end to end, said choke rod having a tapered portion co-operable with the uniform internal bore of the slips, and spring means for urging the slips into yieldable gripping engagement with the choke rod.

4. A choke control for carburetors comprising a casing, means on the casing affording a seat, slips co-operable with the seat, plugs mounted on the casing and having bearings, a choke rod slidably fitted in the bearing, said choke rod being extended through the slips and engaged thereby, a compression spring having one end engaged with the slips and the other end engaged with one of the plugs, whereby the plug may be used to tension the spring.

STUART G. GARRETT.