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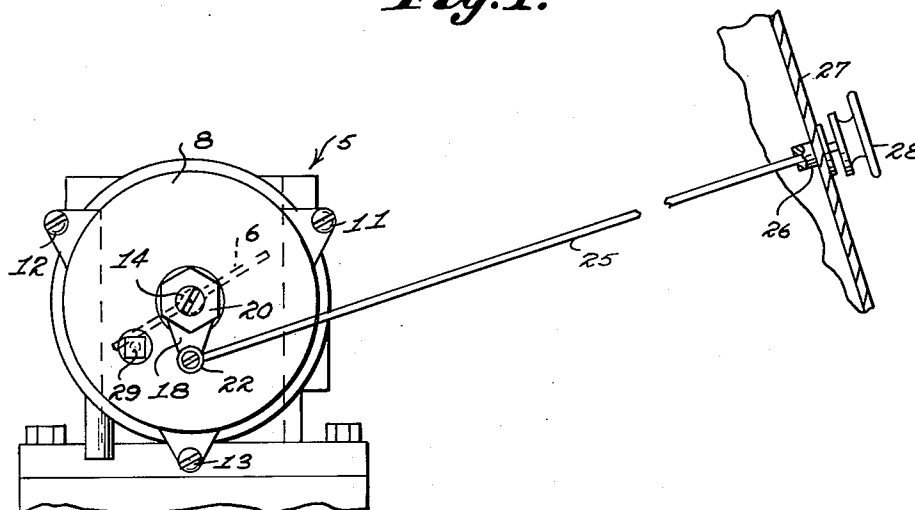
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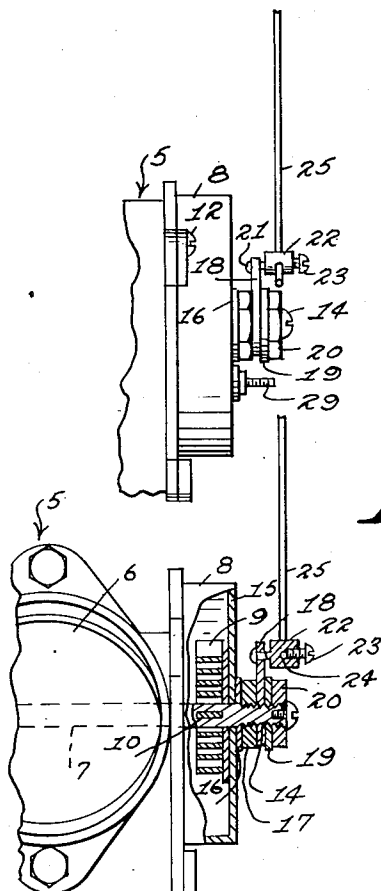
CARBURETOR CHOKE

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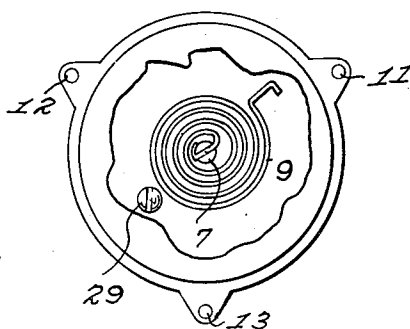
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



*Fig. 4.*

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## UNITED STATES PATENT OFFICE

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## CARBURETOR CHOKE

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1 Claim. (Cl. 236—101)

1

This invention relates to an improved choking device for internal combustion engine carburetors of the automatic type, the primary object of the invention being to provide manual means operable from the driving compartment of an automobile or the like whereby an under-choking or over-choking automatic choke may be adjusted for existing operating conditions without having to resort to mechanical adjustment and/or disassembly of the automatic choke mechanism.

Other important objects and advantageous features of the invention will be apparent from the following description and accompanying drawings, wherein, merely for purposes of illustration herein, a specific embodiment of the invention is set forth in detail.

In the drawings—

Figure 1 is a fragmentary, contracted side elevation, showing an arrangement in accordance with the present invention.

Figure 2 is a fragmentary end elevation, looking from left to right in Figure 1.

Figure 3 is a fragmentary top plan view, partly in section to show structural details, and

Figure 4 is an inner side elevation of the climatic housing of a conventional automatic choke, partly broken away to show the thermostatic element therein and the butterfly valve shaft operated thereby.

Referring in detail to the drawings, the numeral 5 generally designates a conventional automobile engine carburetor of the Carter type, having a butterfly choke valve 6 on a shaft 7 extending laterally through the carburetor into the climatic housing 8 mounted on the side of the carburetor and enclosing a helical thermostatic coil 9 having its outer end anchored to the housing 8 and its inner end inserted in a slot 10 provided in the shaft 7, whereby the shaft 7 and hence the choke valve 6 are automatically rotatably positioned in accordance with the prevailing atmospheric and engine temperatures.

Ordinarily the action of the automatic choke mechanism is correctly set at the factory, but wear and deterioration due to heat and other factors produce maladjustment of the mechanism in time, and necessary adjustment thereof for proper operation of the carburetor, and hence of the engine associated therewith, is usually obtained by removing and/or adjusting the housing mounting screws 11, 12 and 13.

However, in accordance with the present invention, adjustment of the action of the automatic choke mechanism, either to compensate

2

for maladjustment thereof or to accommodate special operating conditions, is obtainable at the will of the driver of an automobile or the like, without disturbing the screws 11, 12 and 13 or the housing 8.

This is done by providing the butterfly choke valve shaft 7 with a threaded prolongation 14 extending through the outer wall 15 of the housing 8, as best shown in Figure 3. On the threaded prolongation 14 is placed a washer 16 to engage the outer surface of the wall 15, followed by an inner locknut 17, an apertured radial lever arm 18, a lock washer 19, and an outer lock nut 20, these parts being adjusted on the shaft prolongation so that the arm 18 is fixed in correct angular position and no binding contact with the housing 8 obtains.

The radially outward end of the arm 18 is traversed by the pivot 21 of an ordinary choke rod holder 22, having a set screw 23 for holding in the bore 24 thereof the choke rod 25. The choke rod 25 is extended rearwardly from the carburetor 5 through a choke rod fitting 26 on the instrument panel 27 and is provided on its rear end with a button or knob 28.

A stop for the lever arm 18 is provided in the form of a bolt 29 extending through the wall 15 of the housing 8 into the path of the arm 18, and so positioned that the lever 18 cannot be operated by the choke rod 25 in a reverse direction sufficiently to damage the thermostatic element 9 or move the choke valve beyond closed position.

In operation, if the automatic operation of the automatic choke mechanism is such that under-choking of the carburetor takes place, the button 28 is pushed forwardly, so as to further close the choke valve 6 and thereby adjust the mechanism to provide desirable additional choking. In the case of over-choking produced by the automatic choke mechanism, the button 28 is pulled rearwardly to further open the choke valve 6 to the degree desired. The button 28 is left in the position producing smooth operation of the engine when warmed up.

What is claimed is:

The combination with a carburetor including a butterfly valve carrying shaft having one end projecting therefrom, a housing surrounding and positioned inwardly of the projecting end of said shaft and secured to the carburetor, a helical thermostatic coil fixedly anchored within said housing and secured to said shaft, said shaft being threaded inwardly from its projecting end and terminating at a point adjacent said hous-

3

ing to form a threaded portion, a choke valve control mechanism operatively connected to the threaded portion of said shaft, said mechanism comprising a first lock nut positioned on the threaded portion of said shaft and in threaded engagement therewith, a lever arm positioned in side by side spaced relation with respect to said housing and having one end circumposed about the threaded portion of said shaft and abutting said lock nut, a second lock nut positioned on the threaded portion of said shaft abutting said one end of said lever arm and in threaded engagement with the threaded portion of said shaft, a choke rod arranged in end to end relation with respect to the other end of said lever arm and having one end pivotally connected to the other end of said lever arm, and hand actuatable

4

means on the other end of said choke rod for actuating the latter.

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