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THROTTLE VALVE INDICATOR

Filed Aug. 9, 1924

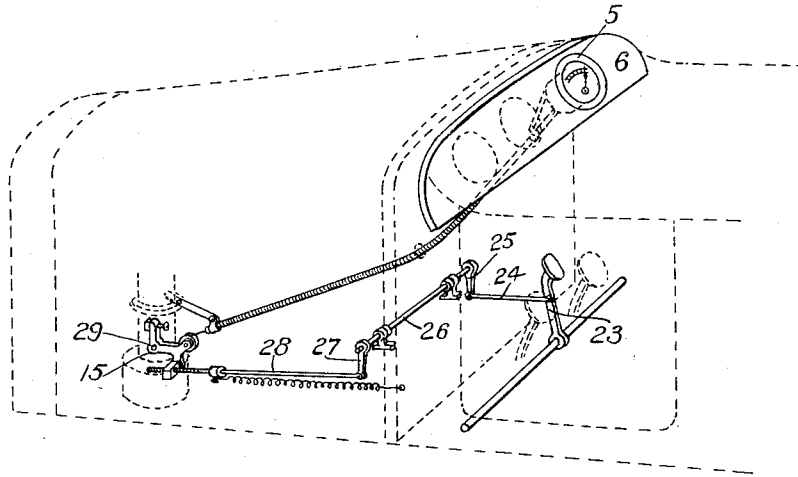


FIG. 1

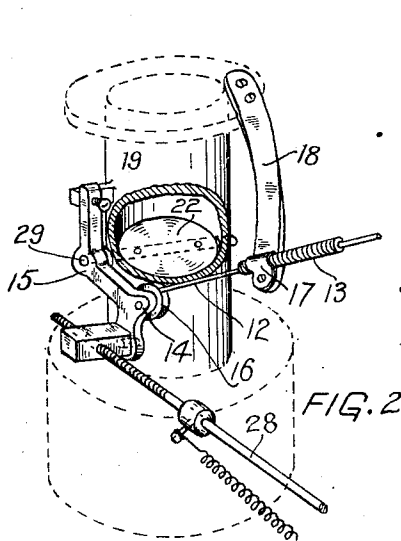


FIG. 2

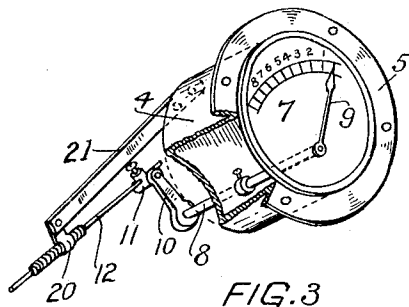


FIG. 3

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THROTTLE-VALVE INDICATOR.

Application filed August 9, 1924, Serial No. 731,130, and in Australia April 2, 1924.

This invention relates to carburettors used upon or with internal combustion engines and particularly upon automobiles which have means for controlling the entrance of fuel mixture from the carburettor to the engine. And the improvement has been specially devised in order to provide for the driver an indicator of the degree or extent of operation of the carburettor throttle diaphragm so that a better control and regulation of said throttle may be effected by the driver and thus enable him to economize the consumption of fuel.

The improvement consists in the combination with the throttle of a suitable gauge or indicator, such as a dial with graduations marked thereon and an oscillatable pointer mounted so that it will traverse across said graduations, or an oscillatable dial to travel in relation to a fixed pointer, and means of conveying the motion of the throttle to said pointer or dial so that as the throttle is manipulated as ordinarily or in any convenient manner the degree or extent of movement thereof and consequently of the extent the throttle passage is open will be displayed upon the indicator visible to the driver and thereby enable him to more efficiently and economically regulate the quantity of fuel mixture passing to the engine.

And in order that the invention and a practical application of the same to the carburettor of an automobile engine will be readily understood the same will be described with reference to the accompanying drawings in which:—

Figure 1 is a perspective of the improvement applied to the carburettor of an automobile,

Figure 2 is an enlarged perspective of the carburettor throttle, and

Figure 3 is a perspective of the indicator with part removed.

The indicator, conveniently consists of a casing 4 with flange 5 for affixture to the dash board 6 of the car, a dial 7 having requisite graduations thereon, a rotatable shaft 8 axially disposed through the casing 4 at right angles to said dial 7 and having on the front end a hand or pointer 9 to oscillate across the dial and on the rear end an arm or crank 10 having hinged to its free end a clamping member 11. Said crank 10 is connected by means of the clamping mem-

ber 11 to one end of a Bowden wire 12 leading to the carburettor where its other end is connected to the forward arm 14 of the throttle crank 15 in any suitable manner say by washers 16 clamped by a set screw there-through and into said arm 14. The Bowden wire casing 13 is clamped and supported at one end as at 17 to the end of an arm 18 secured to the throttle casing 19 and at the other end is clamped as at 20 to the end of an arm 21 secured to the rear end of the indicator casing 4.

In use as the throttle 22 is manipulated as ordinarily by movement of pedal 23 conveyed by rod 24 crank 25 shaft 26 crank 27 rod 28 and crank 15 upon the axle or shaft 29 of the throttle 22 motion of said shaft 29 and consequently of the throttle 22 is conveyed by arm 14 of said crank 15 wire 12 crank 10 and shaft 8 to the pointer 9 which is moved across the dial 7 and so indicates to the driver the extent to which the throttle is opened.

I claim:—

1. The combination, with a manually-operated throttle valve provided with a crank, of a pair of indicator elements movable relatively to one another, one of the said elements being graduated and the other forming a movable pointer for the graduated element, and means directly responsive to the movement of said throttle valve, said means embodying a Bowden wire connecting the movable pointer with the crank of said throttle valve for indicating the position of the same.

2. The combination, with a throttle valve provided with an operating stem, of a manually operable controller therefor, and a gage for indicating the degree of opening of the valve and comprising a graduated element and a pointing element movable with relation thereto, the said controller and gage being remotely situated with relation to the said valve, and separate operating connections extending from the valve stem to the controller and to an element of the gage, respectively.

3. The combination, with a throttle valve provided with an operating stem, of a pair of arms affixed to the stem, a remotely situated lever for operating the valve, an operating connection between one of said arms and said lever, a remotely situated gage for

indicating the degree of opening of said valve, and another operating connection between the other of said arms and said gage.

4. The combination, with a throttle valve
5 provided with an operating stem, of a controller for said valve situated remotely therefrom, an operating connection extending from said controller to said stem, a gage

for indicating the degree of opening of said valve, and a flexible, but positive, operating 10 connection that extends from said stem to said gage.

Dated this fifth day of July, one thousand nine hundred and twenty-four.

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