Sept. 18, 1951 L. L. CHAPPELL 2,568,610

SWITCH CONTACT ASSEMBLY

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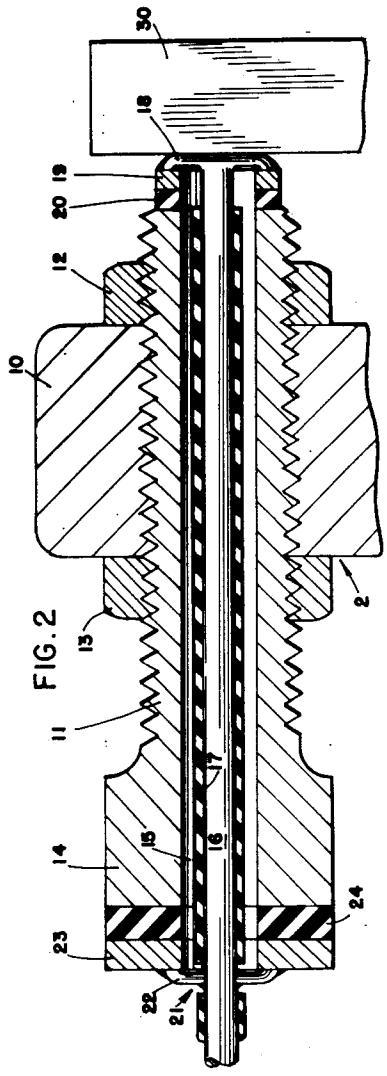


FIG. 2

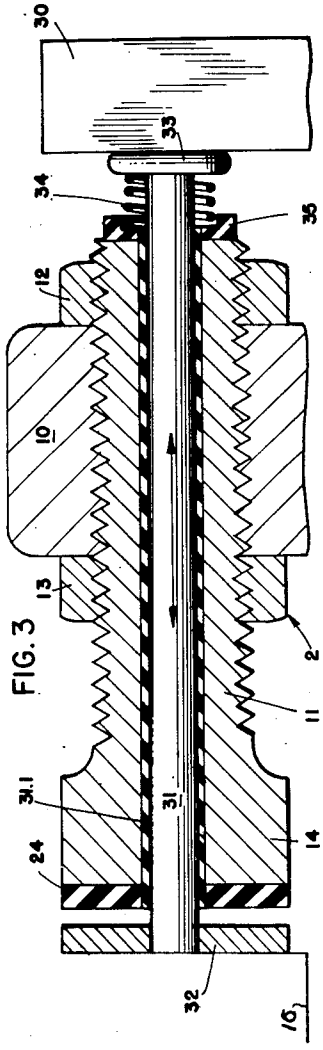


FIG. 3

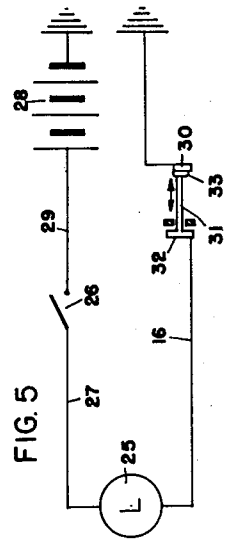


FIG. 5

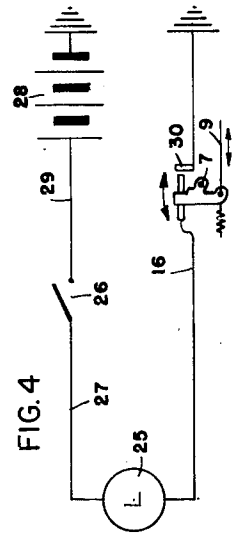


FIG. 4

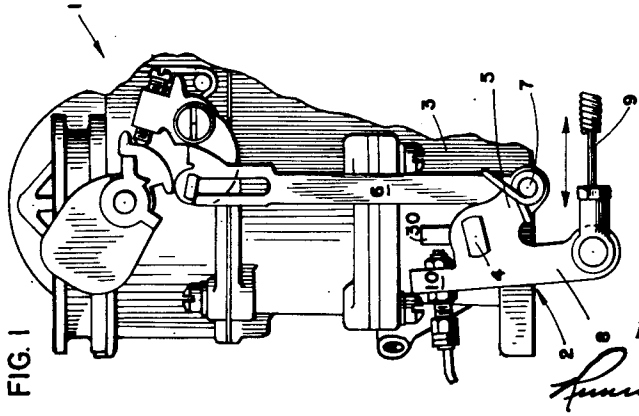


FIG. 1

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SWITCH CONTACT ASSEMBLY

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1 Claim. (Cl. 200—166)

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This invention relates to circuit makers and breakers for an electrically operative signal used in connection with auto-vehicles.

The main objects of this invention are to provide an electrically operative signal positioned on the rear of auto-vehicles which becomes operative when the accelerator pedal is not being depressed by the foot of the driver and before the driver applies the brake pedal to operate the usual stop light, whereby an electrical circuit is made to energize a lamp at the rear of the auto-vehicle to call attention to the following auto driver or persons behind the auto-vehicle, that the auto-vehicle is being decelerated by removal of the means for feeding gasoline into the engine and without the application of the usual brake; to provide a device of this character which includes a new and improved switch operable through the usual accelerator mechanism and associated with the carburetor of the auto-vehicle; to provide a switch mechanism of this character which is substituted for the usual idler screw or back out throttle lever adjusting screw of the carburetor of the engine, to provide a switch of this character which comprises an elongated hollow bolt in which bolt the contact element is insulatively carried; and to provide a simple unitary device of the character described which is inexpensive to manufacture, simple, and easily installed on all standard makes of cars without necessitating any material or comparatively expensive alterations to such standard constructions.

Specific embodiments of this invention are shown in the accompanying drawings in which:

Figure 1 is a perspective view of a standard make carburetor, parts being broken away, to which the device of the present invention has been installed.

Fig. 2 is a cross-sectional view through the preferred form of switch of my invention.

Fig. 3 is a cross-sectional view similar to Fig. 2 but showing a modified form of construction.

Fig. 4 is a diagrammatic illustration of the electrical circuit employed when using the device illustrated in Fig. 2.

Fig. 5 is a view similar to Fig. 4 except illustrating the circuit employed when using the device of modified form of construction shown in Fig. 3.

The carburetor, generally indicated by the numeral 1, is a standard construction made by the Carter Carburetor Corporation, but it is to be understood that any and all carburetors may be

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used and readily altered to employ the switch of the present invention, as long as either an idling screw and/or a back out throttle lever adjusting screw is embodied therein as a part thereof.

The carburetor 1, so far as material to the present invention, comprises a throttle lever 2 pivotally connected to the housing 3 by the pivot pin 4. The lever 2 is provided with an integrally formed arm 5 to which the lower end of link 6 is pivotally secured by pin 7. The upper end of link 6 is connected to the usual other carburetor mechanism as is understood by those skilled in the art.

The lever 2 is also provided with a second integrally formed arm 8 to which one end of the connecting rod 9 is pivotally secured. The other end of rod 9 is operatively connected to the usual accelerator pedal, not shown, of an auto-vehicle.

The lever 2 is also provided with an upstanding integrally formed threaded boss 10 which usually carries the idler adjusting screw but which screw is now replaced by the idling adjusting bolt and switch of my invention, as shown in detail in Fig. 2.

The idling adjusting bolt and switch of my invention and as shown in detail in Fig. 2, comprises an elongated externally threaded shank 11 adapted for threaded engagement in the boss 10 and held in a predetermined position by lock nuts 12—13. The rear end of the shank is provided with a hexagonal head 14, whereby, for ready manipulation and setting of the bolt relative to the boss 10. The bolt is provided with an axial bore 15 extending throughout its length. A contact wire 16, having an insulating protective coating, a covering 17 disposed around the wire 16, is housed in said bore 15. The free end of the wire 16 is skinned or bared and the end flattened as at 18 to form a contact element. The flattened end 18 is soldered or otherwise affixed and secured to the washer 19, which is insulatively spaced from the end of the shank 11 by a suitable insulating washer 20. The wire insulating coating 17 is partially removed as at 21 whereby to expose the wire 16 at that point and whereby the wire may be soldered as at 22 to the washer or abutment 23, which washer is insulatively spaced from the head 14 by an insulating washer 24.

Referring to the diagrammatic view (Fig. 4) it will be seen that the wire 16 is connected to one side of the lamp 25 and the other side of the lamp 25 is connected through the ignition switch

26 by lead 27. The other end of the ignition switch is connected to the battery 28 through lead 29. The other side of the battery is grounded to the frame of the car as usual. The contact 18 is adapted to abut against the boss 30 which forms a part of the carburetor casing, and which casing is usually bolted to the motor housing and consequently to the frame of the car, and therefore grounded.

In the embodiment shown in Fig. 3, like numerals have been applied to like parts which correspond to the identical parts shown in Fig. 2. In this modification, the cylindrical rod 31 is slidably positioned within a cylindrical insulating tube 31.1 housed in the axial bore 15, and provided with a headed end or abutment 32, which carries the lead wire 16. The inner face of the contact is arranged to abut against the insulating washer 24. The opposite end of the cylindrical rod 31 is provided with a bearing ring contact 33, rigidly formed on rod 31 and which is adapted to abut against the boss 30 when the foot of the auto-vehicle operator is removed from the accelerator pedal whereby to make the circuit illustrated in Fig. 5. A compression spring 34 is positioned on the rod 31 between the inner face of the contact 33 and an insulator seat 35, whereby upon acceleration of the auto-vehicle lever 2 will be shifted about the pivot pin 7 and cause the boss 10 to move to the left. When this occurs the adjustor bolt will move to the left as shown in Fig. 3 and break the contact between the elements 33 and 30 and the spring 34 will cause the rod 31 to move to the right thereby shifting the collar 32 so the same will abut against the insulator 24.

It will be appreciated from the drawings that in Fig. 4, the lamp circuit is broken thereby indicating that the driver or operator of the vehicle is accelerating the vehicle. In Fig. 5, the lamp circuit is complete or made because the auto-vehicle is being decelerated i. e. the foot of the operator has been removed from the accelerator pedal and no fuel is being fed to the engine.

The lamp 25 is mounted in any convenient place on the rear end of the auto-vehicle and to distinguish it from the usual and normal lamps thereon, it should carry a lens of a color which is different from the red lenses normally employed. The red lens usually indicates danger and, therefore, I prefer the use of an amber lens which usually indicates caution.

It is to be understood that numerous details shown and described may be altered or omitted without departing from the spirit of this invention as defined by the following claim.

I claim:

In an electric switch an arm, a screw adjustably carried by and rigid on said arm, and of a length substantially twice the width of said arm, said screw being provided with a longitudinal bore extending therethrough, an electrical conductor extending through said bore and insulated therefrom, said electrical conductor terminating at one end of said bore in an exposed contact, means insulating said contact from said screw, means at the opposite end of said screw for anchoring said conductor within said bore and including a metallic washer surrounding said conductor and rigidly connected thereto by soldering the same together whereby said conductor is rigidly mounted in said screw, and an insulating washer interposed between the end of the screw and said metallic washer.

LEWIS L. CHAPPELL.

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