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L. G. MILLER

2,685,006

SWITCH MOUNTING

Filed April 19, 1951

Fig. 1.

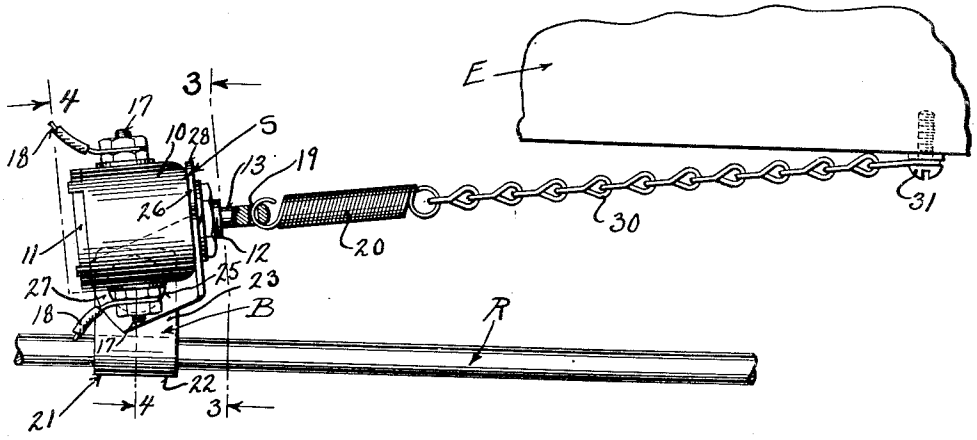


Fig. 2.

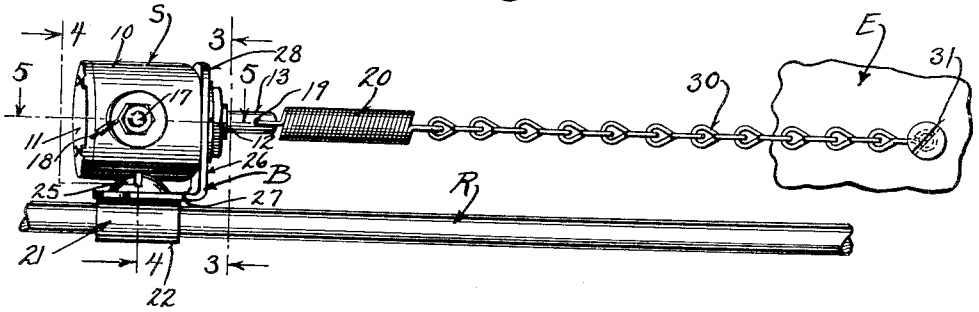


Fig. 3.

Fig. 4.

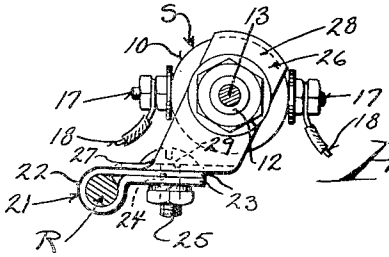
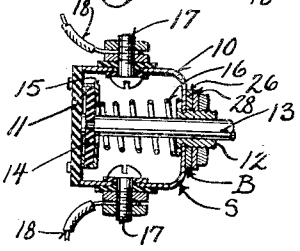
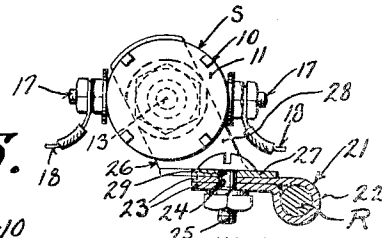


Fig. 5.





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SWITCH MOUNTING

Louis G. Miller, Milwaukee, Wis.

Application April 19, 1951, Serial No. 221,867

1 Claim. (Cl. 200—61.89)

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This invention appertains to signals for automobiles, and is a continuation in part of my prior application Ser. No. 111,041, filed August 18, 1949, now abandoned.

In warning signals for automobiles, such as in the pre-brake light disclosed in my prior application, where an electric circuit is closed through a signal light bulb when the foot is removed from the accelerator pedal, much difficulty is encountered in installing switches on different makes and models of automobiles. In all installations with which I am familiar, the switch is secured to the engine or some other stationary part of the automobile. This requires various types of brackets to suit different makes of automobiles and in some instances a number of different kinds of brackets are furnished by manufacturers in the package containing the signal light equipment. Even with a plurality of different kinds of brackets, difficulty is encountered in properly locating the switch at a correct angle relative to the throttle rod of the engine.

It is therefore one of the primary objects of my invention to provide novel means for mounting the switch itself directly on the throttle rod for movement therewith or other desired moving part of the carburetor linkage and then anchor the pull chain for the switch, by means of a simple screw, to a convenient stationary part of the automobile.

Another salient object of my invention is the provision of a novel mounting bracket for the switch, whereby the switch can be placed at any point around the throttle rod and at any desired angle thereto, whereby the pull chain can be successfully led to a convenient part of the automobile, without interfering with other working parts of the vehicle.

A further important object of my invention is to provide a switch mounting bracket of the above character, which includes a mounting clamp for receiving the throttle rod or other moving part of a carburetor linkage which can be turned or rotated entirely around the rod to a desired position and thereafter secured in place against movement in conjunction with an angle plate carrying the switch which can be adjusted on the clamp to a desired position.

A still further object of my invention is to provide a novel means for mounting a simple switch on a moving part of a carburetor linkage, which will be durable and efficient in use, and one that will be inexpensive to manufacture.

With these and other objects in view, the invention consists in the novel construction, arrangement and formation of parts, as will be hereinafter more specifically described and claimed, and illustrated in the accompanying drawing, in which drawing,

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Figure 1 is a fragmentary side elevational view showing the novel means employed for connecting the switch to the throttle rod, parts of the figure being shown in section.

Figure 2 is a fragmentary top plan view, showing the improved switch mounting.

Figure 3 is a detail sectional view taken on the line 3—3 of Figure 1, looking in the direction of the arrows, illustrating one end of the switch mounting.

Figure 4 is a similar sectional view taken on the line 4—4 of Figure 1, looking in the direction of the arrows.

Figure 5 is a detail longitudinal sectional view through the switch, taken on the line 5—5 of Figure 2, looking in the direction of the arrows.

Referring to the drawing in detail, wherein similar reference characters designate corresponding parts throughout the several views, the letter B generally indicates the novel bracket or mounting for connecting a switch S to a moving part of a carburetor linkage, such as a throttle rod R of an engine E.

Only a part of the throttle rod R and engine E has been shown, sufficient to illustrate the operation of the switch S and the mounting bracket B.

The switch S preferably includes an outer metal shell 10, closed at one end by a wall 11 formed of non-electric conducting material. Secured to the shell 10 is an externally threaded guide sleeve 12, through which slidably extends the switch plunger 13. Secured to the inner end of the plunger is a disc 14, formed of non-electric conducting material, and the periphery of the disc has connected therewith a conductor ring 15. An expansion spring 16 is confined within the shell 10 and is coiled about the plunger rod 13 and normally functions to hold the plunger in and the fiber disc 14 against the end wall 11. The shell has connected thereto at diametrically opposed points, electric conducting contact members 17, which can be in the nature of screws. These contact members 17 are insulated from the shell and also constitute binding posts whereby electric conductor wires 18 can be anchored thereto. The conductor wires 18 form means whereby the switch can be electrically connected to a battery and signal light bulb (not shown). The switch plunger 13, extends exteriorly of the

shell 10 and is provided with an eye 19 to which is anchored one end of a coil spring 20, the purpose of which will later appear. The guide sleeve 12 for the plunger rod 13 also constitutes means whereby the switch can be conveniently secured in place by the mounting bracket B, which will now be described.

The mounting bracket B includes a clamp 21 which is sprung about the throttle rod R. This clamp embodies a substantially cylindrical barrel portion 22 and laterally projecting ears 23. The ears are provided with openings 24. After the clamp 21 is placed in position over the rod R a bolt 25 is passed through the apertures 24 and by tightening a nut on the bolt the ears 23 can be brought into intimate contact to contract the barrel 22 into gripping contact with the throttle rod. By referring to Figures 3 and 4, it can be seen that the ears 23 project laterally or tangentially from the rod R and that the clamp before the tightening thereof can be moved longitudinally of the rod and entirely around the rod.

In conjunction with the clamp 21, I utilize an L-shaped attaching plate 26. This plate 26 includes an attaching foot 27 and an angularly extending leg 28. The foot 27 has formed therein an opening 29 and the foot is placed against one ear 23 and the bolt 25 passes through the foot and firmly connects the foot to the clamp 21. Before the tightening of the bolt, the L-shaped plate can be swung around the bolt to different angular positions. The leg 28 has an opening therein for receiving the guide sleeve 12 of the switch S and after the switch is placed on the plate a lock nut 29 is utilized for clamping the switch to the plate.

A pull chain 30 is connected to the spring 20 and the outer end of the pull chain can be connected to a convenient and desired point on the engine in any desired way, such as by a screw 31, or an adjacent stud bolt or the like (not shown). The spring 20 is utilized to take up slack in the chain, so that the chain will always be in a taut condition.

In view of the fact that the clamp 21, can be rotated around the rod R, and longitudinally thereof, the switch can be disposed at any point around the rod and the angle of the switch S relative to the rod R can be changed by loosening and then tightening the bolt. Hence, the switch is connected to the rod R for universal movement.

In the illustration, the rod R is shown in a position for opening the throttle of the engine and when the throttle rod R moves to the left, Figures 1 and 2, as the driver removes his foot from the accelerator pedal, the switch S will move to the left with the rod R and the disc 14 of the switch will be moved into engagement with the contact 17 to bring about the closing of a circuit through a signal slow light (not shown).

While the switch is particularly adapted for use in conjunction with a warning pre-brake, or slow light, obviously the switch and its mounting can be used for other purposes.

Changes in details may be made without departing from the spirit or the scope of this invention, but what is claimed as new is:

In a device for opening and closing circuits on automobiles of the type including a movable throttle rod and a stationary part, a switch including a body and a movable contact; means for securing the body to the throttle rod for movement therewith, means operatively connecting the movable contact with the stationary automobile part, and said means for connecting the switch body to the throttle rod including a clamp having an open barrel adapted to be sprung around the throttle rod, laterally projecting ears on the longitudinal edges of the barrel provided with aligned openings, the barrel being initially movable longitudinally of and axially around the throttle rod, an angle plate including a foot and a leg, means attaching the body of the switch to the leg and said foot being in abutting contact with one of the ears and provided with an opening, and a bolt extending through the openings in the ears and foot for tightening the barrel around the rod and for adjustably holding the angle plate on the clamp.

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