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VEHICLE ALARM SWITCH

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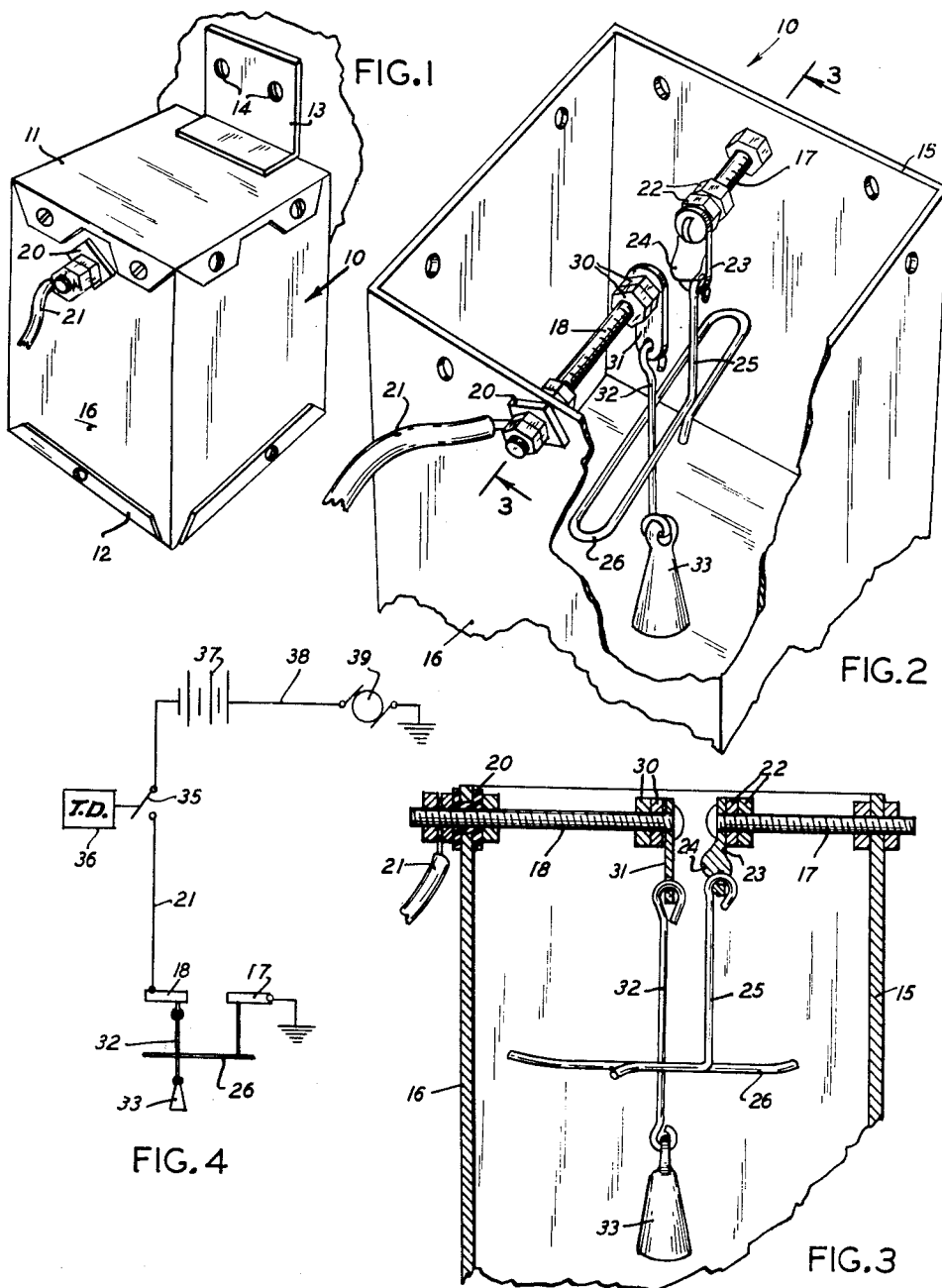


FIG. 4

FIG. 3

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VEHICLE ALARM SWITCH

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1 Claim. (Cl. 200—61.51)

My present invention comprises an improvement in alarm devices for frightening vandals or thieves intent on stripping hub caps, wheels, or other parts from a parked vehicle, or upon stealing the vehicle itself.

The principal object of my present invention is to provide means for setting off an alarm, such as the vehicle horn, when the vehicle is disturbed in any fashion. The invention comprises an alarm switch which automatically adjusts itself to any position in which the car might rest, which may be connected to the vehicle horn so as to cause the horn to give short blasts or a prolonged sounding when the vehicle is disturbed such as by raising one wheel, leaning on the vehicle or otherwise moving it.

The objects and advantages of the present invention will be more readily apparent from inspection of the following specification taken in connection with the accompanying drawings wherein like numerals refer to like parts throughout.

In the drawings,

Fig. 1 is a view in perspective of the alarm switch housing;

Fig. 2 is a view in perspective on an enlarged scale with portions of the housing broken away, illustrating the details of the alarm switch;

Fig. 3 is a vertical section taken substantially along line 3—3 of Fig. 2; and

Fig. 4 is a schematic wiring diagram of a typical circuit including the alarm switch.

The switch housing preferably comprises a support in the form of a rectangular sleeve 10 formed of sheet metal, which is closed at the top and bottom respectively by cover plates 11 and 12 held in position by suitable means such as the screws illustrated. Preferably the top cover plate 11 is provided with a sheet metal bracket 13 provided with openings 14 by means of which the housing may be secured to some hidden, relatively inaccessible locality, such as under the hood, against the fire wall, or inside the trunk. The sleeve 10 includes a pair of opposed walls 15 and 16 in which are mounted a pair of coaxially aligned, horizontally disposed bolts 17 and 18 respectively, the inner ends of which are separated from each other. The bolt 17 is not insulated from the wall 15 through which it passes, which wall is in contact with the body of the vehicle and hence is grounded, but bolt 18 passes through an electrical insulating grommet 20. A wire 21 is connected to the protruding end of the bolt 18.

Adjacent the inner, headed end of bolt 17 there is provided a pair of nuts 22 which may be locked against each other so that they will not tighten up against a freely swinging member 23. The mass of the member 23 is increased by a globule of solder 24 which rigidly connects the member 23 to a rigid, conductive wire formed as a vertical stem 25 having a horizontally disposed, narrow, elongated loop 26 at its lower end.

Adjacent the inner, headed end of bolt 18 there is mounted a pair of nuts 30 which may be locked against

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each other so that they will not tighten up upon a freely swinging member 31 which is pivotally connected to a link 32 passing through the loop 26 and supporting a weight such as a lead fishing sinker 33.

The wire 21 is connected to one terminal of a switch 35 which is adapted to be closed by a time delay device 36 of any suitable nature such as a dashpot device which may be manually released. The switch and its dashpot controlling member may be provided in some locality not readily apparent to prowlers but which may be easily reached by the driver of the vehicle as he leaves the driver's seat. The opposite terminal of the switch is connected to the battery 37, and the circuit from the battery includes a wire 38 leading to one of the brush contacts of the horn motor 39, the other contact of which is grounded through the vehicle frame in the usual manner.

No matter at what inclination, laterally, longitudinally or combinations thereof, the vehicle happens to come to rest, the loop 25 will come to a stationary position vertically beneath and parallel to the aligned bolts 17 and 18, and the link 32 will come to rest somewhere along the longitudinal axis of the loop 26, not making contact with either side of the loop. The operator will set the time delay device to close the switch 35 a few seconds after he has descended and had time to lock the car doors. Thereafter, whenever the vehicle is moved in any fashion the different periods of oscillation of the loop 26 and the weight 33 will cause the link 32 to make contact for indefinite periods of time with one side or other of the loop 26, thereby sounding an alarm, or series of alarms, which would have the effect of scaring off a thief or vandal. Of course, if the owner happens to be nearby he may take steps to apprehend the culprit.

It is to be appreciated that the wiring diagram is elementary and may have many variations due to the complexity of certain types of ignition and wiring circuits of various vehicles.

It will be observed that the members 23 and 31 are so constrained between the heads of the bolts and the nuts mounted on the pivot members as to be capable of movement in planes normal to the axis of the pivot members. The member 23 and the conductor rigidly secured thereto constitute a first conductor including the loop 26 which always maintains its position parallel to the pivot members, with its major axis parallel to the axis of the pivot members and its minor axis tangential to an arc about the axis of the pivot members. The link 32, however, is free to swing so that as the angularity of the vehicle shifts, the relative angularity of the link likewise shifts. However, the conductor link 32 normally rests somewhere along the major axis of the loop as long as the vehicle is not disturbed. The mass of the first conductor, including the loop, is relatively close to the axis of the pivot members and the center of mass of the second conductor comprising the link 32 is relatively far from the axis of the pivot members so that when the vehicle is disturbed the two members will oscillate with different periods of oscillation, thereby making contact with each other.

Having illustrated and described a preferred embodiment of the present invention, it should be apparent to those skilled in the art that the same permits of modification in detail and arrangement. I claim as my invention all such modifications as come within the true spirit and scope of the appended claim.

I claim:

A switch for setting off an alarm device in a vehicle if the vehicle should be disturbed, said switch comprising a support adapted to be mounted in the vehicle, a pair of electrically conductive pivot members positioned adjacent each other and insulated from each other, a pair of conductors pivotally suspended from said pivot mem-

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bers respectively in electrically conductive relation thereto, one said conductor being mounted on one said pivot member for pivotal movement about one substantially horizontal axis only, said one conductor including an elongated narrow loop below said one pivot member, said loop having a major axis several times the length of its minor axis, said major axis being parallel to said horizontal axis and said minor axis being tangent to an arc about said horizontal axis, the other said conductor passing through said loop and being mounted on the other said pivot member for pivotal movement in any direction, and a weight attached to the lower portions of said other

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conductor to cause said conductors to oscillate with different periods of oscillation to thereby make electrical contact with each other when said vehicle is disturbed.

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