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2,545,965

MASTER SWITCH

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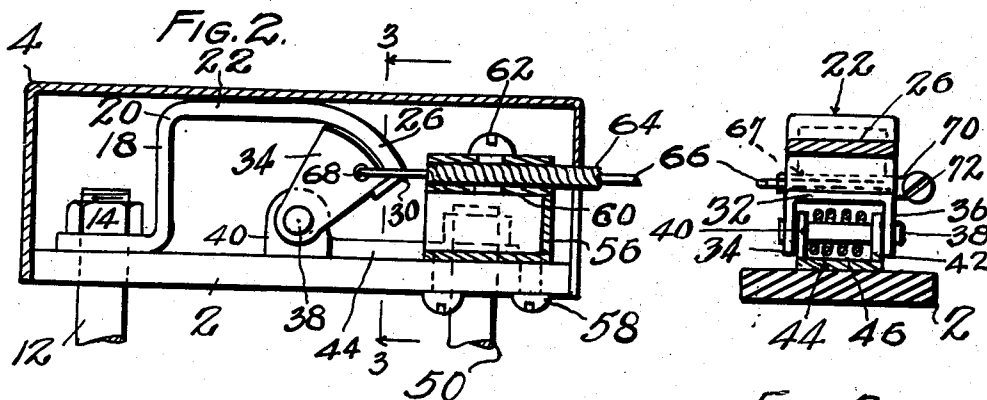
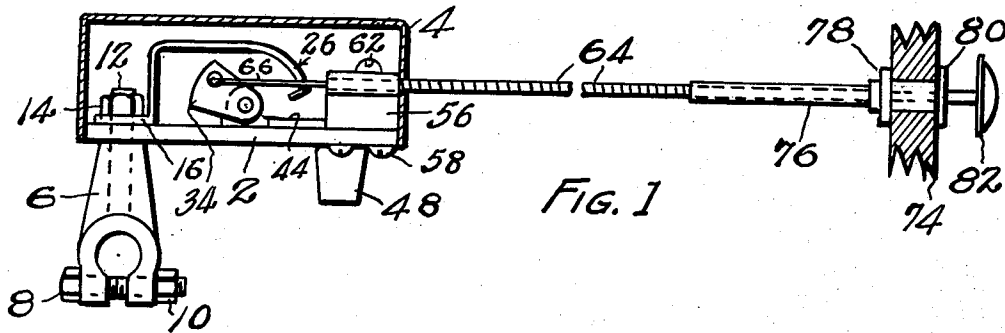


FIG. 3.

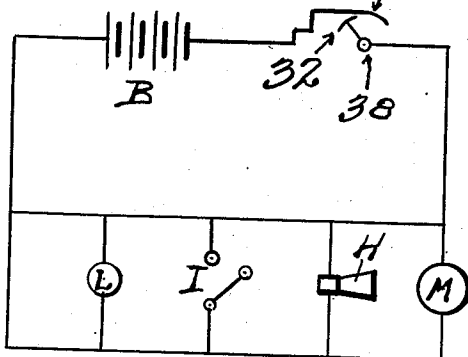
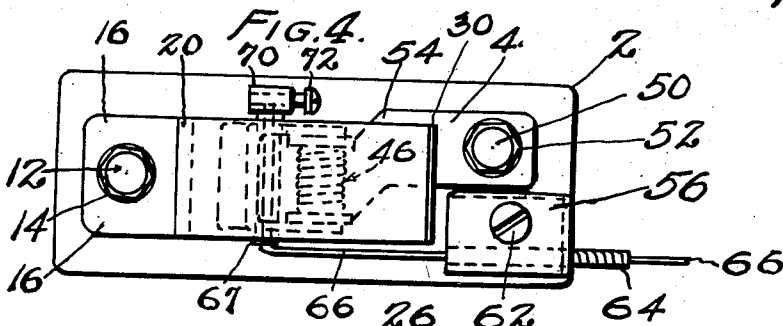


FIG. 5.

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UNITED STATES PATENT OFFICE

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MASTER SWITCH

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2 Claims. (Cl. 200-161)

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My present invention relates to an improved master switch especially adapted for use in automobiles and other vehicles employing a storage battery. The switch of my invention is designed to be electrically connected between the battery and all electrical facilities including the starter motor and the ignition circuit so that when the car is not in use, the switch may be opened to prevent any battery drain or short circuit, and also to prevent unauthorized use of the car.

The switch of my invention is manually controlled preferably from the instrument panel of the vehicle and includes a fixed and a movable contact so designed as to afford a maximum contact when the switch is closed and a non-arcing contact when being opened or closed.

In the accompanying drawings I have illustrated one complete example of the physical embodiment of my invention according to the best mode I have thus far devised, but it will be understood that various changes and alterations may be made in the exemplified structure within the scope of the appended claims.

In the drawings:

Figure 1 is a longitudinal sectional view of the switch of my invention.

Figure 2 is an enlarged detail view similar to Fig. 1.

Figure 3 is a transverse sectional view at line 3-3 of Fig. 2.

Figure 4 is a top plan view.

Figure 5 is a diagrammatic view of the electrical circuit including the switch of my invention.

Referring now to the drawings I have illustrated the present preferred embodiment of my invention as comprising a base 2 of insulating material and a housing or cover 4 suitably and detachably secured thereto.

One end of the base is mounted upon a battery clamp 6 of the usual bifurcated type, which has a clamp bolt 8 and nut 10, and a stud bolt 12 of the clamp extends through an opening in the base to accommodate the clamp nut 14.

Retained and clamped with the base by nut 14 I mount an angular frame forming the fixed contact which comprises an attaching flange 16 having a hole for the stud bolt 12, and an upright leg 18. The fixed contact is bent at a right angle 20 to form a flat arm 22 that curves downwardly at 26 to provide an inner arcuate contact face, and this arm 22 at its free end terminates in a depending flange to form a stop or shoulder 30. The fixed contact is preferably fashioned of copper, or other suitable conduct-

ing material, of substantial thickness and flexible along the arcuate leg 26.

The movable contact, of suitable conducting material, consists of a U-shaped yoke having a base 32, and perforated lugs 34, 34, pivotally mounted through shaft 38 in the ears 40-42 of the support 44 secured to the base 2. A spring 46 about the shaft expands the ears into engagement with the legs 34-36.

A terminal post 48 of the usual tapered type is spaced from the attaching end of the base to receive a cable clamp and this post has a stud 50 extending through the base and the support and secured by nut 52. The support is offset at 54 to permit the mounting of the housing 56 secured by screws 58 and having a clamp plate 60 secured by screw 62 to clamp the flexible tubing 64 in which is freely movable the wire 66.

One end of the wire passes through the insulating sleeve 67 in the aligned apertures 68 of the legs 34-36 and is secured by clamp 70 having a set screw 72.

The tubing 64 and wire 66 extend to a suitable mounting panel as the instrument panel 74 and the guide tube 76 is secured by lock nut 78 and the collar 80 so that the knob 82 on the wire may be moved in and out to open or close the switch.

The arcuate contact face on the base of the yoke is curved to conform to the arcuate face of the fixed contact and it will be seen that as the wire is pulled to close the switch the leading edge will touch laterally of the fixed contact, and with further movement the co-acting faces will frictionally engage and will remain pressed against each other due to the spring tension of the fixed contact.

In Fig. 5 it will be seen that the switch is located between the positive terminal of battery B and between the starter motor M, the horn H, ignition switch I and lamps L. These items are all connected in series but require the switch 32 to be closed before they may be actuated.

From the above description it will be apparent that the switch of my invention will control the output of the battery and will prevent any drain upon the battery in case of short circuit or failure of any switch means to function.

Having thus fully described my invention what I claim as new and desire to secure by Letters Patent is:

1. A master control switch for electrical circuits comprising a base of insulating material, a fixed contact of resilient conducting material on the base and having a plane portion and a

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downwardly curved portion, a stop on the end of the curved portion spaced above the base, a pair of spaced ears on the base, a shaft through the ears, a spring on the shaft confined by the ears, a contact yoke on the shaft outside the ears and mounted on a line parallel with the juncture line of the plane and curved portions of the fixed contact and the contact face of the yoke being curved on substantially the same radius as that of the curved portion of the fixed contact, and actuating means for the movable contact comprising a wire engaging the legs of the yoke.

2. In a control switch for electrical circuits, the combination with an insulating base adapted for mounting on a battery clamp-bolt, a movable contact of inverted U-shape having spaced legs pivoted on the base, an exterior arcuate friction face on the contact, a spring coacting with the contact for swinging the contact to open position, and manually operated means for swinging the contact to closed position, of an angular frame of conducting material mounted

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on the base and detachable means for clamping the frame on the clamp bolt to form a stationary contact, said stationary contact terminating in a resilient free end forming an inner arcuate friction face in the path of movement of the movable contact, and a depending flange on said end forming a stop for limiting closing movement of the movable contact.

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