

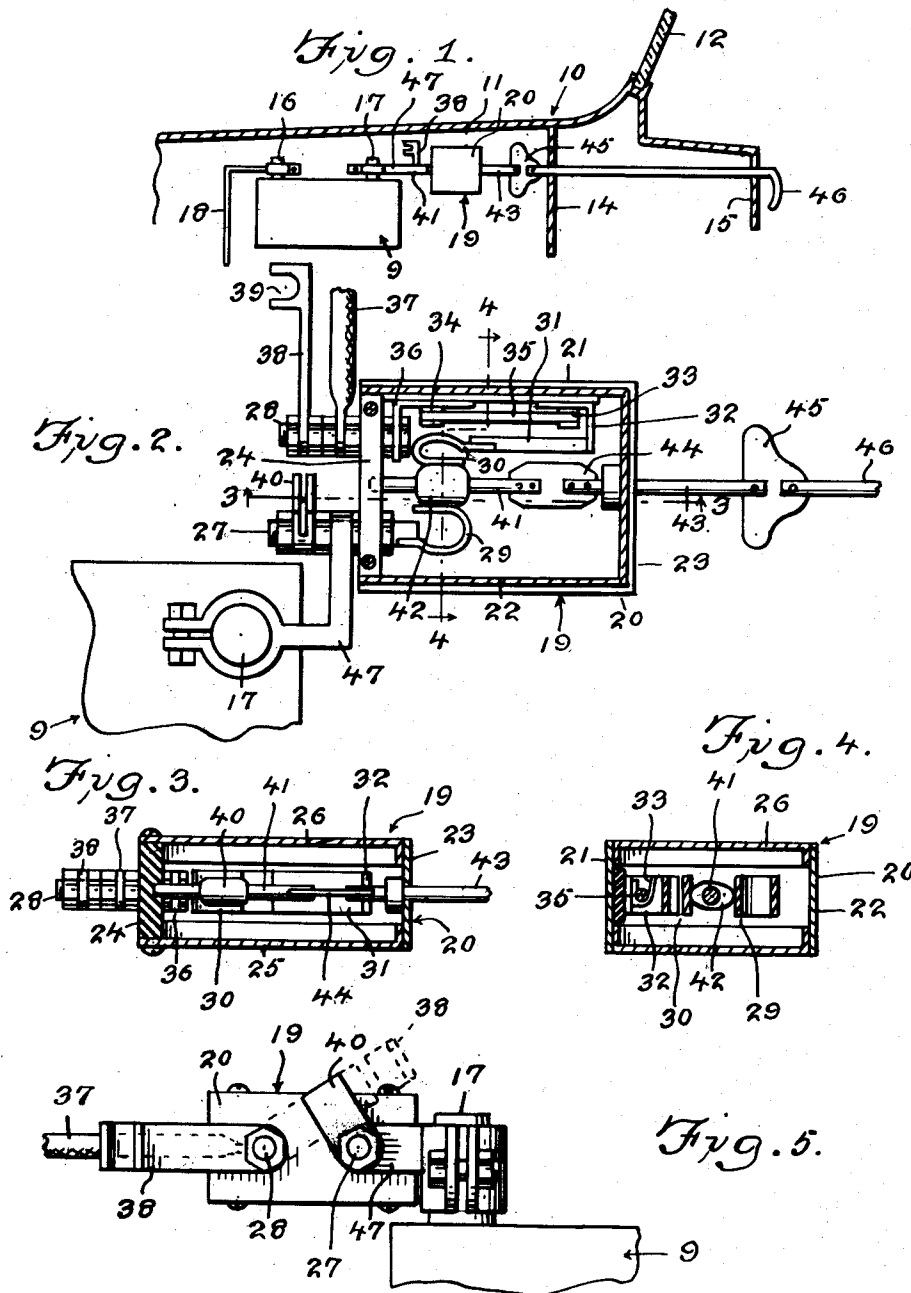
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BATTERY SWITCH

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BATTERY SWITCH

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1 Claim. (Cl. 200—52)

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This invention relates to an electrical switch, and more particularly to an electric cut-out switch for use in vehicles, boats, airplanes and the like.

The object of the invention is to provide an electrical switch which can be readily manually actuated from the dashboard of a vehicle, whereby the battery circuit in the vehicle can be interrupted as when a short circuit occurs.

Another object of the invention is to provide an electrical switch which will enable a person to readily interrupt the battery circuit when the vehicle is left for the night, or when a short or overload occurs, the switch of the present invention being easy to install and inspect.

A further object of the invention is to provide a switch which is extremely simple and inexpensive to manufacture.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawings forming a part of this application, and in which like numerals are used to designate like parts throughout the same:

Figure 1 is a side elevation of the switch of the present invention connected to the battery of a vehicle, and with parts of the vehicle being shown in section;

Figure 2 is an enlarged horizontal sectional view taken through the switch and showing the switch connected to the battery;

Figure 3 is a sectional view taken on the line 3—3 of Figure 2;

Figure 4 is a sectional view taken on the line 4—4 of Figure 2;

Figure 5 is an end elevational view of the assembly of Figure 2.

Referring in detail to the drawings, the numeral 10 designates a portion of a vehicle, such as an automobile, Figure 1, and the vehicle 1 includes a hood 11, a windshield 12, a frame 14, and a dashboard 15. Arranged below the hood 11 in the vehicle 10 is the usual storage battery 9 which is provided with the upstanding posts 16 and 17. A cable 18 has one end connected to the post 16 and the other end of the cable 18 may be grounded.

The present invention is directed to a switch which is indicated generally by the numeral 19, and by means of the switch 19 of the present invention the battery circuit can be interrupted as desired, as when a short circuit or overload occurs. The switch 19 includes a housing 20 which may be fabricated of any suitable material, such as metal, and the housing 20 includes spaced

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parallel side walls 21 and 22, and spaced parallel end walls 23 and 24. Detachably connected to the side and end walls is a bottom wall 25 and a top wall 26 or cover 26 is also provided.

Projecting into the housing 20 through the end wall 24 is a pair of spaced parallel terminals 27 and 28, Figure 2. A contact 29 which may be in the shape of a hook that is formed of spring metal is electrically connected to the inner end of the terminal 27, and spaced from the contact 29 is a second spring-like contact 30 which also has a hook shape. A bar 31 electrically connects the contact 30 to an L-shaped support member 32, and a pair of spaced sockets 33 and 34 are arranged in the housing 20 adjacent the side wall 21. These sockets 33 and 34 serve to detachably support therein a fuse 35 which may be made of any suitable metal or other material, and a support member 36 serves to electrically connect the socket 34 to the terminal 28. A cable or line 37 has one end connected to the terminal 28, while the other end of the cable 37 is adapted to be connected to the vehicle starting motor or other mechanism. The sockets 33 and 34 are separated from the housing by insulation.

Pivotaly connected to the terminal 28 and arranged exteriorly of the housing 20 is an arm or lever 38 which is provided with a cut-away flange 39. The arm 38 can be pivoted so that the cut-away flange 39 engages a bifurcated finger 40 that projects from the other terminal 27. Thus, by swinging the arm 38 from the solid line position shown in Figure 5 to the dotted line position shown in Figure 5, the switch 19 can be by-passed for a purpose to be later described.

Extending through the housing 19 is a bar 41 that has a body member 42 mounted thereon. The body member 42 has a substantially flat shape so that when it is in the position shown in Figure 2, it will electrically connect the contacts 29 and 30 together, but when the bar 41 is rotated 90°, the body member 42 will not make contact with the members 29 and 30. A rod 43 rotatably extends through the end wall 23, the rod 43 being connected to the bar 41 by means of a plate 44. A handle 46 is connected to the outer end of the rod 43 by means of a bracket 45, and the handle 46 extends through the dashboard 15 whereby the driver of the vehicle can readily rotate the handle 46 to thereby turn the body member 42 into its various adjustable positions. A bus bar 47 has one end arranged in engagement with the post 17 of the battery 9, while the other end of the bus bar 47 is electrically connected to the terminal 27.

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In use, the parts are normally arranged as shown in Figure 2, so that current flows from the battery 9 through the post 17, then through the bus bar 47, then through the terminal 27, then through the contact 29, then to the contact 30 5 through the body member 42. This current further flows through the members 31 and 32, and then through the fuse 35 and into the terminal 28, the cable 37 serving to electrically connect the terminal 28 to a suitable motor or other mem- 10 ber which may be located in the automobile. When the driver of the vehicle parks the car at night, or at any other time, the battery circuit can be interrupted. To interrupt the battery circuit, the handle 46 is rotated, whereby the rod 15 43 will turn bar 41 so that the body member 42 will move out of electrical engagement with the contacts 29 and 30. Also, when it is desired to start or use the vehicle in a normal way, the handle 46 is again rotated to the position shown 20 in Figure 2, so that electrical contact will be completed between the members 29 and 30. Further, the fuse 35 provides an additional safety feature, since the fuse 35 will burn out in the event of a short circuit or overload. Also, when it is desired 25 to by-pass the entire switch 19, the arm 38 can be pivoted from the solid line position shown in Figure 5 to the dotted line position, whereby the electrical circuit is completed between the terminals 27 and 28.

The switch of the present invention can be used for automobiles, boats, airplanes or other moving vehicles. The switch is ruggedly constructed so that it will not readily get out of order and is simple to operate. The body member 42 35 has a substantially oval shape, and the parts

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are constructed so that there will be no spark formed when the switch is turned on and off. Further, the fuse 35 will melt when a short or hot wire occurs, so that all of the electricity from the battery will be automatically cut off. The body member 42 can be made of any suitable conducting material, the switch is not complicated, easy and inexpensive to manufacture, and inexpensive to install, since such switch can be installed by the owner of the vehicle himself.

What is claimed is:

In a switch, a housing having a bottom wall, spaced parallel side walls and spaced parallel end walls, a cover detachably connected to said housing, a pair of spaced parallel terminals projecting into said housing, a finger projecting from one of said terminals, an arm pivotally connected to the other terminal and mounted for movement into and out of engagement with said finger, a pair of spaced spring contacts arranged in said housing and electrically connected to said terminals, a bar rotatably arranged in said housing, a body member mounted on said bar and mounted for movement into and out of electrical engagement with said contacts.

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