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SAFETY ELECTRICAL SWITCH

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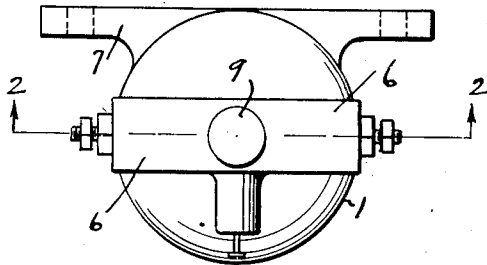


Fig. 1.

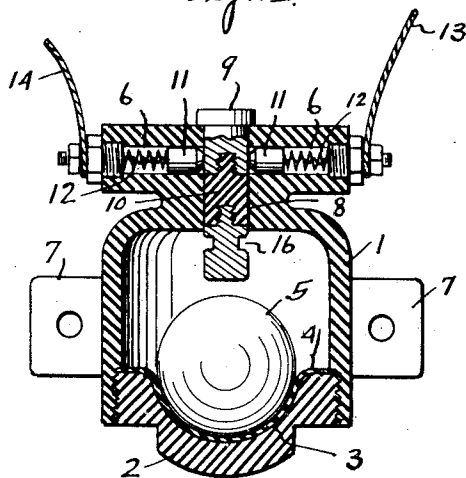


Fig. 2.

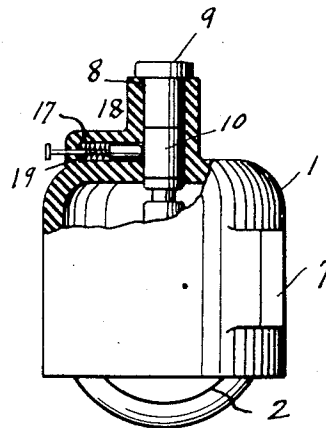


Fig. 3.

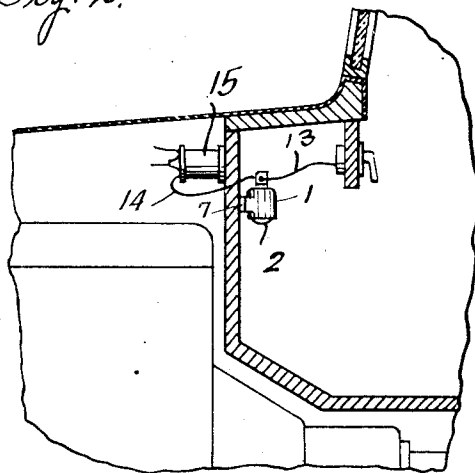


Fig. 4.

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## UNITED STATES PATENT OFFICE

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## SAFETY ELECTRICAL SWITCH

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## 1 Claim. (Cl. 200—52)

This invention relates to a safety electrical switch.

An object of the invention is to provide a switch of the character described which will automatically break the circuit into which it is connected when moved into an abnormal position.

The prime object of the invention is to provide an electrical switch adapted to be mounted in a motor vehicle and of such construction that it will break the circuit leading from the battery to the ignition system in case the vehicle is suddenly stopped, as in case of a collision, or is upset or assumes a semi-inverted position; by the use of this type of switch, the likelihood of fire in case of a motor vehicle accident will be greatly reduced.

With the above and other objects in view, the invention has particular relation to certain novel features of construction, operation and arrangement of parts, an example of which is given in this specification and illustrated in the accompanying drawing wherein:

Figure 1 shows a plan view of one form of the switch.

Figure 2 shows a sectional view taken on the line 2—2 of Figure 1.

Figure 3 shows a side elevation, and

Figure 4 shows a side view of the switch as installed on a motor vehicle.

Referring now more particularly to the drawing wherein like numerals of reference designate the same parts in each of the figures, the numeral 1 designates a switch casing which is bell-shaped in form and whose lower end is closed by the cap 2 having the inside concave seat 3 which is preferably lined with the resilient lining 4 and which is shaped to receive the metal ball 5.

Formed integrally with the casing 1 and extending across the top thereof, there are the cylinders 6, 6. The casing, cap, and the cylinders are formed of suitable non-conducting material and the casing is provided with a bracket 7 by means of which may be secured to the front board or panel of the vehicle, as shown in Figure 4. Between the cylinders 6 and at right angles thereto there is a cylinder 8 in which is mounted a plunger 9 whose ends are formed of metal, but whose intermediate section 10 is formed of non-conducting material.

In the cylinders 6 are the sliding contacts 11,

formed of conducting material and normally held inwardly by the coil push-springs 12, 12. These contacts 11 are connected into the electrical circuit formed by the wires 13, 14, leading from the battery to the coil 15 of the ignition system of the vehicle.

The outer end of the plunger 9 is formed with an enlarged head to limit the movement of the plunger inwardly, and when it is in normal position, the contacts 11 are in contact with the metallic outer end of the plunger 9 so that the circuit will be completed. In case the vehicle is suddenly stopped, as in case of a collision, or is partly, or entirely overturned, the ball 5 will strike the inner end of the plunger 9 and move said plunger outwardly carrying the non-conducting section 10 into registration with the contacts 11, thus breaking the circuit to the ignition system.

The inner end of the plunger 9 has an external, annular groove 16, and mounted within the cylinder 17 in the top of the casing there is a transversely movable dog 18 normally urged inwardly by the coil spring 19.

The drawing and description disclose what is now considered to be a preferred form of the invention by way of illustration only, while the broad principle of the invention will be defined by the appended claim.

What we claim is:—

A circuit maker and breaker comprising a casing having a concaved seat, a spherical weight on said seat, a plunger mounted in the casing whose lower end is spaced from said weight, said plunger having an electrical conducting surface on the upper portion and a non-conducting surface on the lower portion, a pair of cylinders mounted in the casing, pistons in the cylinders, the ends of said pistons contacting said plunger, said pistons being connected into an electrical circuit and completing said circuit when the pistons are in contact with one end of said plunger, said weight being effective upon displacement from the seat to actuate the plunger into position to bring the nonconducting material into contact with the pistons and thereby breaking said circuit and means for locking said plunger in circuit breaking position.

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