Aug. 30, 1927. 1,640,695

B. B. DOLLY

AUTOMATIC SAFETY SWITCH

Filed June 22, 1926

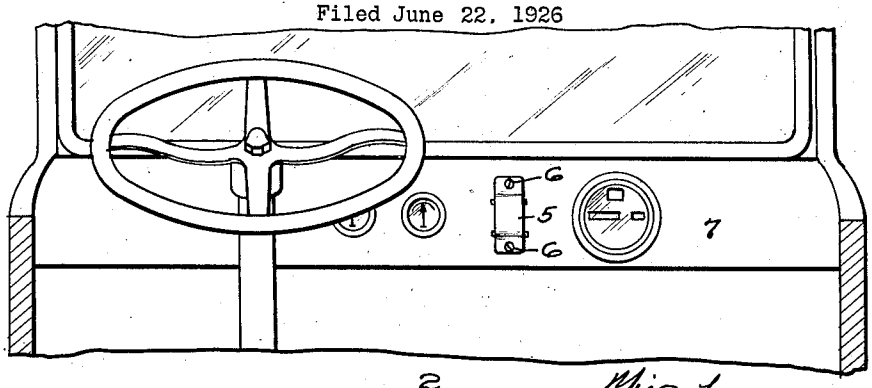


Fig. 1.

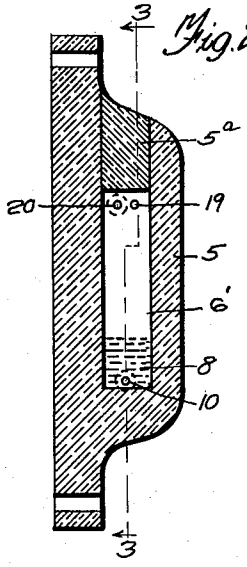


Fig. 2.

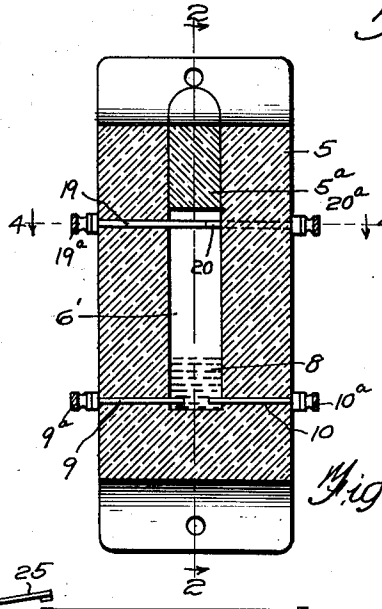


Fig. 3.

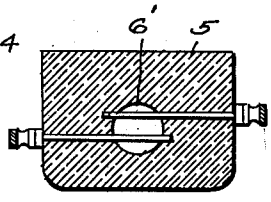


Fig. 4.

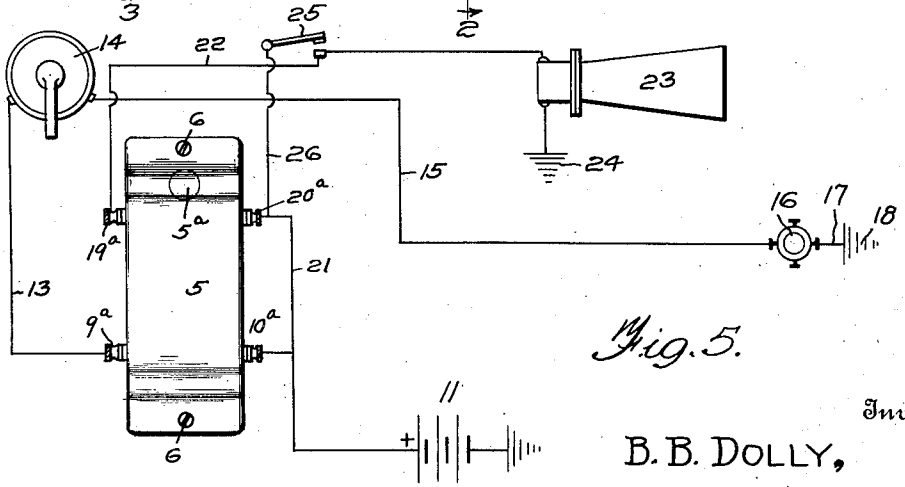


Fig. 5.

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UNITED STATES PATENT OFFICE.

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AUTOMATIC SAFETY SWITCH.

Application filed June 22, 1926. Serial No. 117,756.

This invention relates to an ignition controlling and signal sounding mechanism adapted for use upon automobiles and arranged to function in such manner that if an automobile, truck, tractor, or the like, overturns, the ignition will be automatically cut off, to thereby avoid danger of igniting the gasoline which is usually scattered about in the case of a collision or other accident, or which runs from the inverted tank of the vehicle. The device of the present invention also serves to close the circuit to the horn of the vehicle and cause the same to sound continuously, so that aid will be summoned, if the driver of the vehicle is pinned beneath the same and is unable to help himself.

Further objects and advantages of the invention will be set forth in the detailed description which follows.

In the accompanying drawing

Fig. 1 is a fragmentary section through an automobile illustrating the instrument board thereof and showing the controlling switch of the present invention mounted thereon.

Fig. 2 is a vertical sectional view of the controlling switch of the present invention upon line 2—2 of Fig. 3.

Fig. 3 is a vertical sectional view upon line 3—3 of Fig. 2.

Fig. 4 is a horizontal sectional view upon line 4—4 of Fig. 3 and

Fig. 5 is a diagrammatic view illustrating the circuits, hereinafter described.

Like numerals designate corresponding parts in all of the figures of the drawing.

The controlling switch of the present invention comprises a body 5, which is adapted to be secured by screws 6 or like fastening devices to the instrument board 7, of an automobile or other motor vehicle, such as a truck, tractor, or the like. A cavity 6′, is formed within the body 5, the upper end of which is suitably closed by a plug or other closure 5^a. Cavity 6′, contains a body of mercury 8, which, as long as the vehicle is in an upright position, occupies a position at the lower end of the cavity and there establishes contact between two contact wires 9 and 10, which are disposed in and constitute a part of the ignition, the ignition circuit being completed as follows: from the positive side of the vehicle battery 11 through conductor 12 to binding post 10^a of wire 10, then through the body of mercury 8 to wire 9, binding post 9^a of said wire, conductor 13, ignition switch 14, conductor 15, distributor 16, and conductor 17 to ground 18. This is the normal position of the apparatus and at this time no circuit is completed between two opposed and spaced wires 19 and 20 which project in opposite directions from the opposite sides of the body 5, into the cavity 6′. These wires 19 and 20 have binding posts 19^a and 20^a at their outer ends, the post 20^a being connected by a conductor 21, with the source of current supply as, for example, with the conductor 12. The binding post 19^a is connected in any suitable manner with the horn by means of conductor 22 so that when electrical connection is made between the wires 19 and 20 current will flow from the positive side of the battery through conductor 21, wires 20 and 19, and conductor 22 to the horn 23; it being understood that the opposite side of the horn is grounded as at 24 in the usual way. The usual controlling button of the horn is indicated at 25 and receives current through conductor 26 from the conductor 21.

If by reason of a collision, going over an embankment or otherwise, the vehicle should overturn, the body of mercury 8 will be caused to flow to the opposite end of the cavity 6 and there establish communication between wires 19 and 20. The movement of the body of mercury away from the wires 9 and 10 breaks the ignition circuit, brings the engine to a stop, and eliminates the possibility of the gasoline being ignited by the continued operation of the ignition circuit. At the same time the horn is started to sounding and will continue to sound until aid is summoned.

I contemplate making the body 5 out of hard rubber or fibre but it may be made of glass or any other suitable material. It is, therefore, to be understood that whatever changes fairly come within either the terms or the spirit of the appended claim are within the purview of my invention. Particular emphasis is laid upon the fact that I positively open the ignition circuit instead of merely grounding the same as has been heretofore proposed. Grounding the circuit, when a battery is employed is dangerous since it may cause the relatively small wire used, to fuse or become so hot as to ignite the gasoline.

Having described my invention what I claim is:

The combination with a motor vehicle and its ignition circuit, of a switch, comprising a body rigidly affixed to the motor vehicle to be bodily inverted therewith in the event of an upset of said vehicle, said body having a cavity therein containing a movable conductive body, spaced conductors the ends of which are exposed in said cavity adjacent the lower end thereof and which conductors are connected with the ignition circuit of the motor vehicle, said conductive body normally completing the ignition circuit, a pair of conductors at the upper portion of the cavity having portions exposed in said cavity, an electric horn and connections between the last named conductors and said horn adapted to sound the latter when the movable body travels to that end of the body occupied by the last named conductors upon upset of the vehicle.

In testimony whereof he affixes his signature.

BERNARD B. DOLLY.