April 26, 1932. A. F. MEADE 1,855,581

SAFETY SWITCH

Filed Aug. 22, 1930

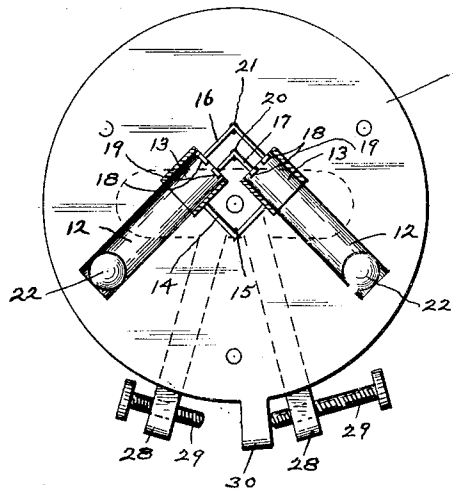


Fig 1

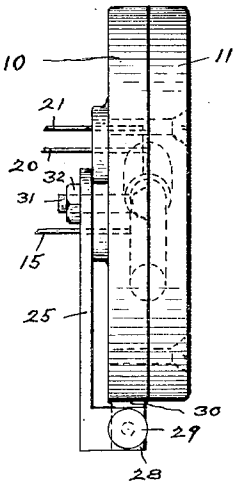


Fig 2

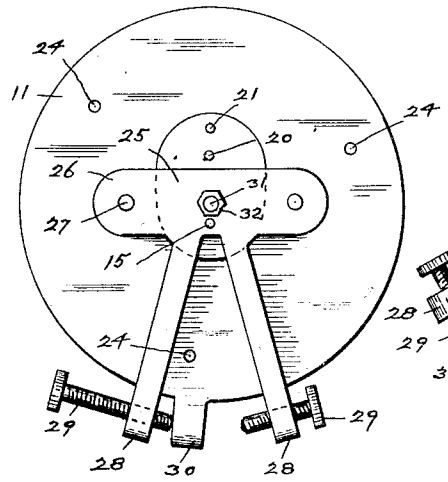


Fig 3

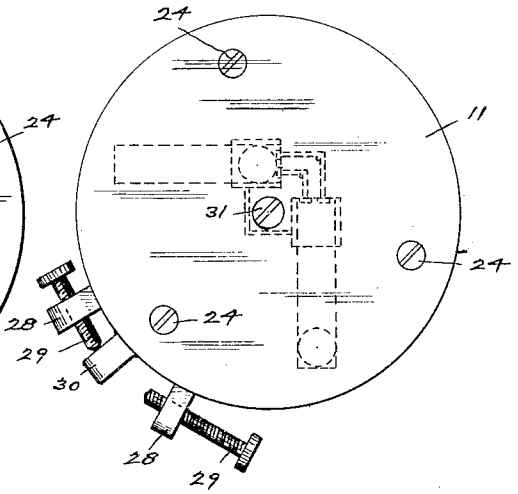


Fig 4

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UNITED STATES PATENT OFFICE

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SAFETY SWITCH

Application filed August 22, 1930. Serial No. 476,974.

This invention relates to a safety switch for use on vehicles, such as automobiles, motorcycles, boats and aeroplanes, and constitutes an improvement over my invention which is described and claimed in United States Patent No. 1,761,681 which was granted to me on June 3, 1930.

The object of the invention is to provide an automatic switch which may be mounted on a vehicle and connected into the ignition circuit, whereby should the vehicle overturn the ignition will become short circuited and prevent the further operation of the engine and the danger from fire.

Another object of the invention is to provide means in a switch of this class, whereby at the same time that the ignition circuit is shorted, the horn or other warning signal on the vehicle will be shorted and continue to sound until the battery current is exhausted, thus providing a distress signal.

Still another object of the invention is to provide means whereby the device may be set to operate at a predetermined angle from the perpendicular.

A further object being to provide a safety switch which may be so controlled that when mounted on an aeroplane it will not operate with the list of the plane, but may be cut in by the operator in case of accident to provide a distress signal.

With these and other objects in view the invention consists in certain novel construction and combination of parts as will hereinafter be fully described and claimed, and illustrated in the accompanying drawings, in which like figures of reference refer to corresponding parts in all of the views, and it is understood that slight changes may be made without departing from the spirit of the invention.

In the drawings:—

Figure 1 is a front elevation of the device, showing the same with the front cover removed to expose the working parts.

Figure 2 is a side view of the same, with the cover in place.

Figure 3 is a rear elevation of the device, showing the mounting and adjusting means.

Figure 4 shows a front elevation of the device in one of its extreme operative positions.

Referring to the drawings:—

The invention as here illustrated and described, comprises a two part casing 10 and 11 of suitable insulating material, and within the rear part 10 is formed two semicircular grooves 12 placed at any desired angle with each other, but here shown as at right angles, and within the adjacent ends thereof are secured two metallic contact tubes 13 which are connected by a lead 14, which in turn is connected by a wire 15 to one side of the storage battery on the vehicle.

The tubes 13 are open on their ends, and secured in the insulating material of the casing 10 are two terminals 16 and 17 which are provided with the contacts 18 and 19; the leads 16 being provided with a wire connected to a signal or horn on the vehicle, the other terminal of which is grounded; and the terminal 17 being connected by a wire 20 to one terminal of the ignition switch; that employed for the secondary current.

With each of the grooves 12 is freely mounted a metallic ball 22, which as the device is tipped to one side or the other will roll up the groove 12 enter the tube 13 and complete an electrical circuit between the tube 13 and the contacts 16 and 17, grounding the ignition circuit causing the motor to stop, and grounding the signal circuit, causing the signal to sound.

The front part of the casing 11 is formed with grooves which register with the grooves 12 in the part 10, and when both parts are secured together by the screws 24 or other suitable means, the grooves form tubes of insulating material, but should it be desirable to construct the casing of metal, it will be understood that these tubes must be of insulating material and the metallic tubes and contacts and leads all insulated from each other.

For mounting the device upon the vehicle, there is provided a bracket 25 having attaching arms 26 provided with holes 27 for attachment screws; and said bracket 25 is formed with two depending arms 28, having lugs formed on their ends within which

are threaded the adjustment limit screws 29; while the rear part 10 of the casing is provided with a depending stop 30 which will contact with either screw 29; and in this manner the distance between the ends of the screws 29 and the stop 30 may be regulated, so that as the vehicle swings from side to side the bracket 25 will have a certain amount of movement before the device is moved; thus providing a means whereby the device may be set to operate at any desired angle.

It is also to be noted that in place of the metallic balls, that some suitable material such as mercury may be employed to form the electrical contact.

The two part casing 10 and 11 is freely pivoted to the bracket 25 by the bolt 31 and nut 32 in such a manner that it may move freely as limited by the stop 30 and screws 29.

When the device is used on an aeroplane, it is intended that a suitable hand operated switch be employed to cut out the action of the ignition control, but allow of the operation of the signal should the operator find use for the same.

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

A safety switch comprising in part a two part casing and means for securing the same together, of two tubes formed therein on the same plane and at an angle to each other, metallic tubes mounted in the adjacent ends thereof, an ignition contact and a signal contact mounted in said case adjacent the metallic tubes and extending into the ends of the insulation tubes, a movable contact contained within said tubes and free to move from end to end by the movement of said switch, and means for adjusting the operative movement of said switch.

In testimony whereof I affix my signature.

ARTHUR F. MEADE.