

[54] SAFETY SWITCH

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307/10 R, 10 BP, 10 AT, 9, 116, 119

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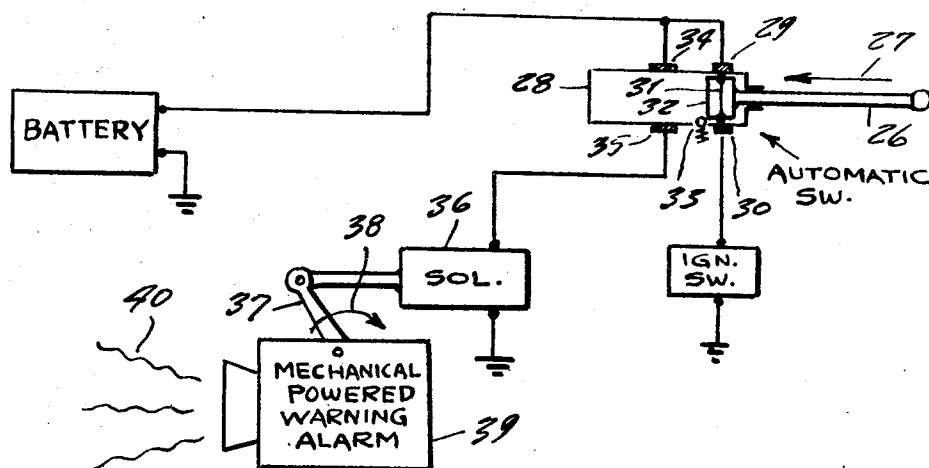
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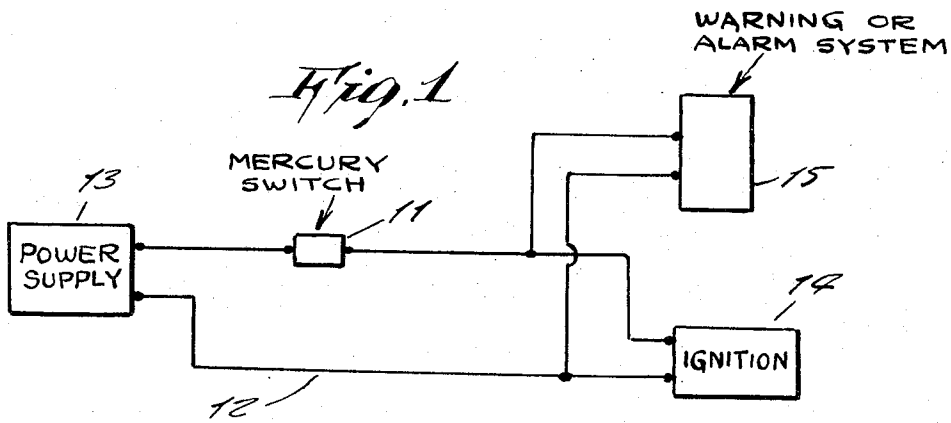
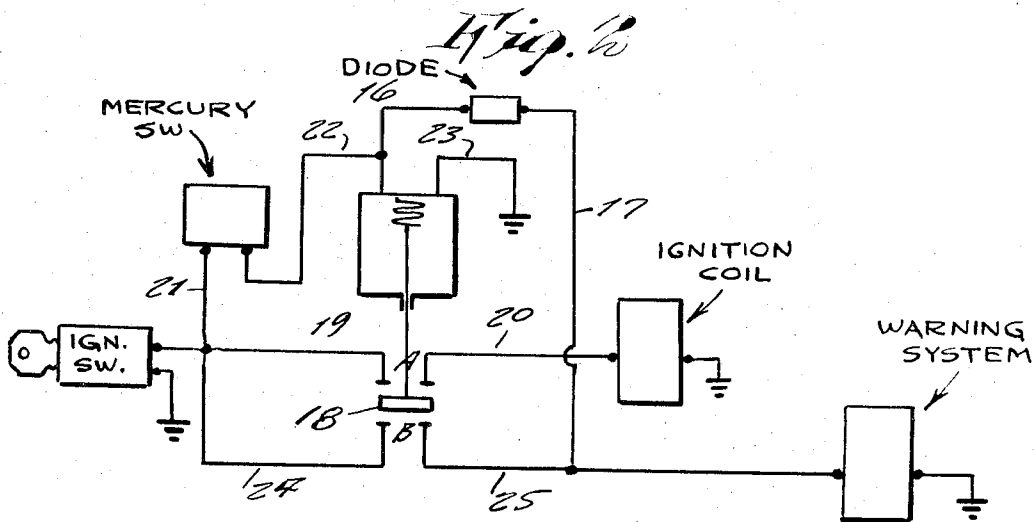
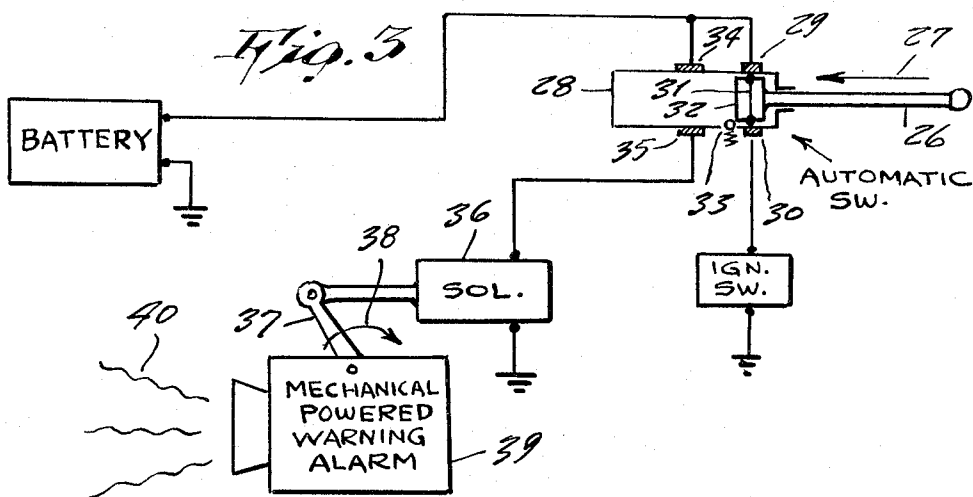
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[57] ABSTRACT

A safety system for any type of vehicle and which incorporates a means whereby the engine is shut off prior to a collision so to prevent the vehicle from catching fire and exploding, the device also including a four alarm system which at the same time is activated so to warn and notify other persons so that help can be summoned.

1 Claim, 3 Drawing Figures





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SAFETY SWITCH

This invention relates generally to safety systems.

It is generally well known that in the case of a collision, a vehicle is subject to catching fire and exploding if the engine has been left on. This situation is, of course, objectionable and therefore in want of improvement.

Accordingly it is the principal purpose of the present invention to provide a safety system wherein the engine can be shut off prior to a collision impact so to prevent the vehicle from catching fire and exploding.

Another object of the present invention is to provide a safety system which is adaptable for all types of vehicles such as automobiles, trucks, buses, air planes and the like.

Still another object of the present invention is to provide a safety system wherein at the same time that the engine is shut off, an alarm system can be visually and/or audibly activated so to summon help from other persons when the vehicle has crashed.

Other objects of the present invention are to provide a safety switch which is simple in design, inexpensive to manufacture, rugged in construction, easy to use, and efficient in operation.

These and other objects will be readily evident upon a study of the following specification and the accompanying drawing wherein:

FIG. 1 is a diagrammatic view of the present invention.

FIG. 2 is an electrical circuit of the present invention, and

FIG. 3 is an electrical diagram showing a modified design of the invention.

Referring not to the drawing in detail, and more particularly at this time to FIG. 1 thereof, the safety switch system is shown to incorporate a mercury switch 11 within an electrical circuit 12, the mercury switch being located between a power supply 13 and an ignition 14 of a vehicle.

It will now be evident in case of an impending collision of the vehicle that the mercury switch 11 can manually or due to the impact force of a crashing collision be thrown into an open position so as to open the circuit 12 between the power supply and the ignition, thus shutting off the vehicle engine. Thus the danger of a fire and explosion has been removed.

It is to be noted that a warning or alarm system 15 is in a parallel circuit with the ignition 14 so that at the same time that the ignition is turned off, the warning or alarm system can be turned on so as to visually or audibly gain the attention of other persons for obtaining help for a person in the vehicle.

In FIG. 2, a refinement of the above described diagram is shown and wherein the circuit includes a diode 16. This may be reset. A line 17 keeps the B contacts in a closed position until the recess is pushed. Normally the B contacts are closed with no power. A sliding contact bar 18 moves from the B contact to the A contacts when the ignition is on. Thus these contacts are closed when the ignition switch is on.

It will now be evident that in a normal operation the conductors 19 and 20 between the ignition switch and the ignition coil are used together with the conductors 21 between the ignition switch and mercury switch and the conductor 22 as well as the conductor 23.

In an emergency, the conductors 17, 24 and 25 become activated as described so to shut off the ignition system and turn on the warning system.

Referring now to FIG. 3 of the drawing, there is shown a modified design of safety switch which is automatically activated without attention from the driver so as to shut off the vehicle engine and also automatically to turn on the alarm system.

This form of the invention, the alarm system is either of mechanical or pneumatic type so that there is no electricity operating the same; the vehicle thus having no electrical system at work when there is a collision crash.

In this form of the invention, there is provided a forwardly extending probe 26 which projects forwardly of the vehicle so that in case of a collision crash this is the first part of the vehicle to come into engagement with the other object. Such impact causes the probe 26 to slide in the direction as shown by arrow 27 and into the cylinder 28.

This action causes a break of electrical circuit between contacts 29 and 30 so to prevent electrical energy from the battery to the ignition switch. Thus the vehicle engine is shut off.

As shown in the diagram, a conductor 31 is carried by the piston 32 within the cylinder 28 and to which in normal use of the vehicle closes the circuit between the contact 29 and 30.

In normal use so to prevent accidental movement of the probe 26 into the cylinder 28, is provided a detent 33 which normally retains the probe in its forward extended position except in case of a violent impact which would then permit the probe to slide rearwardly.

Upon its initial travel into the cylinder 28, the piston conductor 31 moves momentarily past the contacts 34 and 35 so as to close an electrical circuit between the battery and a solenoid 36. This momentarily causes the solenoid to be activated and thus swing the lever 37 as shown by the arrow 38 which thus turns on the mechanical powered warning alarm 39 so to produce a visual or audible warning 40.

The rearwardly sliding piston or probe 26 into the cylinder 28 quickly moves past the contacts 34 and 35 so that immediately thereafter the solenoid is shut off and all other electrical systems of the vehicle are out when the probe 26 reaches the rear end of the cylinder 28.

At this moment only the mechanically operated warning system is operating and all electrical systems are out. Thus an improved construction has been obtained and wherein the entire device is automatically operated without any attention from the motorist or operator of the vehicle.

What I now claim is:

1. In a safety switch system, the combination of a means for shutting off the engine of a vehicle so to prevent a fire and explosion in case of a collision crash, said system including a means between a power source and an ignition of said engine, said means breaking an electrical circuit between said power supply and ignition while at the same time turning on an alarm system, said system incorporating slideable contact plate for selectively engaging either a pair of contacts between an ignition switch and an ignition coil or alternately engaging a pair of contacts of a warning system said

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means comprising slideable probe projecting forwardly of said vehicle, said probe being rearwardly slideable into a cylinder, said probe in its forward position closing a circuit between contacts for closing electrical power between said power supply and said ignition, said probe in an intermediate slideable position closing a circuit between a solenoid and said power supply, said solenoid manually operating a lever of a mechani-

cal powered warning alarm, and said probe at its rear end having a transverse conductor to form a bridge between the contacts of said power supply and ignition or the contacts of said power supply and solenoid, said bridge at its rearmost position having passed beyond the last said pair of contacts, into an electrically disengaged location.

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