March 30, 1937. E. KIEBER 2,075,040

PROTECTIVE DEVICE FOR AUTOMOBILES

Filed Feb. 24, 1934

FIG. 1.

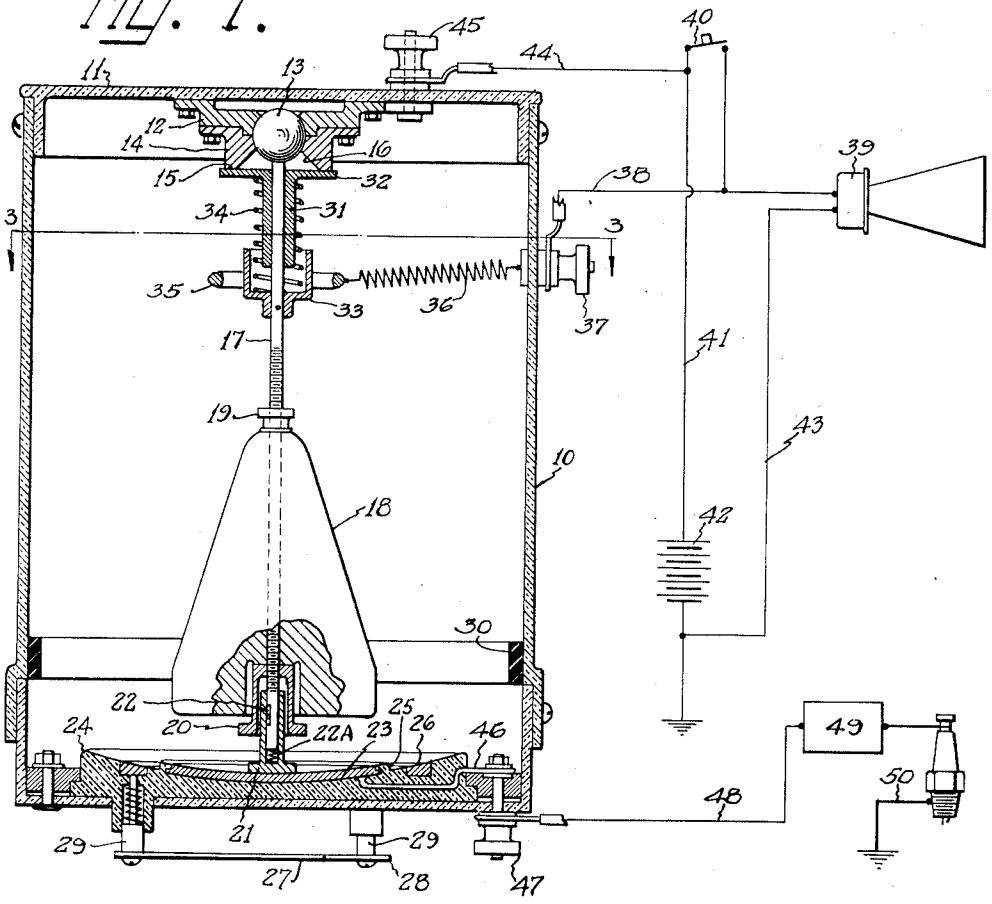


FIG. 2.

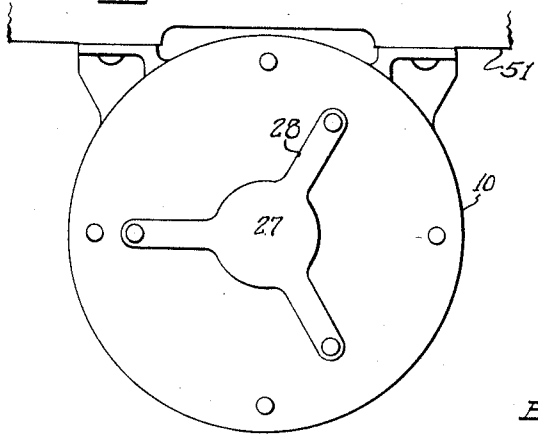
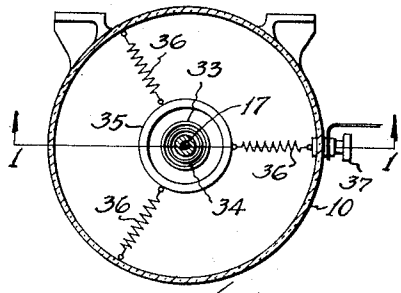


FIG. 3.



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PROTECTIVE DEVICE FOR AUTOMOBILES

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2 Claims. (Cl. 200—52)

This invention relates generally to automobiles, and particularly to a device for warning drivers of excessive speed on curves and for the prevention of fire in case the machine is overturned.

The main object of this invention is to warn drivers of automobiles when they are exceeding safe speed limits on curves.

The second object is to shut off the ignition in event of a collision, or when the car is overturned, or if the car takes a curve with very dangerous speed.

The third object is to so construct the device as to automatically continue to sound the alarm when a car has been overturned.

These, and other objects, will become more apparent from the specification following as illustrated in the accompanying drawing, in which:

Fig. 1 is a vertical section through the device showing the wiring in diagram.

Fig. 2 is a bottom view of the device.

Fig. 3 is a section taken along the line 3—3 in Fig. 1.

Similar numbers of reference refer to similar parts throughout the views.

Referring in detail to the drawing, there is shown a cylindrical case 10 provided with a cap 11 on the under side of which is secured the upper half 12 of a socket for the ball 13, which is retained by a cap 14 whose under side 15 is countersunk along the lines 16.

The ball 13 has attached thereto a threaded rod 17 on whose lower end is disposed a weight 18 which is held between the upper nut 19 and the lower nut 20. The rod 17 has slidably mounted on its lower end a contact shoe 21 which is prevented from rotating by means of a spline 22. The shoe 21 is urged downwardly by means of a spring 22—A. The shoe 21 engages a concave metal plate 23 which is mounted on a base of insulating material 24. When the weight 18 is swung a sufficient distance from the center of the plate 23 the shoe 21 latches on the outside of the shoulder 25 of the base 24.

Outside of the shoulder 25 is disposed an annular trip ring 26 which can be raised by pushing upwardly on the button 27 whose radial arms 28 carry the spring-urged plungers 29 whose upper ends are attached to the ring 26. The purpose of the button 27 is merely to provide a release for the shoe 21. Secured to the inside of the case 10 and surrounding the lower end of the weight 18 is a resilient cushion 30.

The rod 17 passes through a sleeve 31 which is provided with a flange 32 at its upper end, which flange engages the under side 15 of the cap 14. Secured to the rod 17 is a cup 33 in which rests the spring 34 whose upper end surrounds the sleeve 31 and bears against the flange 32.

The purpose of this construction is to urge the weight 18 to a central position. Surrounding the cup 33 is a ring 35 which is suspended from the springs 36, one of which is joined to a binding post 37 on the case 10 and is joined by means of the wire 38 to the horn 39 and horn button 40. One side of the horn button 40 is joined by the wire 41 to the grounded battery 42, which is also connected by means of the wire 43 to the horn 39. The wire 41 is joined by means of a wire 44 to the binding post 45 which connects with the socket member 12.

The plate 23 is connected by means of a wire 46 to the binding post 47 which is joined by means of the wire 48 to the coil 49 of the ignition circuit 50, which is shown in its elemental form for the purpose of simplifying the invention.

The operation of the device is as follows: It being assumed that the casing 10 is mounted on some portion 51 of the automobile so that the rod 17 will assume a vertical position in the center of the plate 23, and that the connections have been made as indicated, and, for example, the driver of the car permits it to round a curve at an excessive speed the weight 18 will swing toward the outside of the curve and when the cup 33 engages the ring 35 the horn circuit will be closed through the wires 38, 43, 41 and 44, indicating to the occupants of the car that they are traveling at a dangerous speed.

If, however, this speed is increased on the curve to the point at which the shoe 21 will latch upon the shoulder 25 then the flow of current to the ignition circuit is interrupted, which will not only retard the speed of the car but will prevent a spark from the ignition system setting the car on fire, which is often the case when a car is overturned.

The actions just described also take place when the car is accelerated or decelerated at abnormal rates of speed, or in event of a collision from any direction—that is to say, if a car is being operated or standing still and it is struck by another machine it will sound the horn and continue to sound it until the button 27 is tripped.

It will be understood that while I have shown the pendulum type of switch that the mercurial type of switch may also be used, and it is not my intention to be limited to the precise form of the device shown in the drawing, since I intend to cover all forms of the device which fall fairly within the appended claims.

I claim:

1. A protective device for automobiles including a switch consisting of a case, a pendulum mounted in said case having a universal pivot by means of which it is attached to said case adapted to permit said pendulum to swing in any direction, a contact plate mounted under said pendulum, a shoe yieldably attached to said pendulum and contacting said plate, a means for latching said shoe beyond the periphery of said plate out of electrical contact therewith, means for releasing said shoe and permitting said pendulum to return to a normal vertical position in the center of said plate and a resiliently mounted contact ring disposed around said pendulum adapted to engage same when said pendulum is moved to a latched position.

2. A switch comprising a support, a pendulum suspended on said support for universal movement, a circular concave contact plate under said pendulum, a contact shoe slidable on said plate and yieldably connected to said pendulum, said pendulum, plate and shoe adapted to be included in series in an electric circuit, means for latching said shoe beyond the periphery of the plate and out of contact therewith, yieldable means for engaging the pendulum before the shoe breaks contact with the plate and for yieldably resisting the contact breaking movement of the pendulum, means connected to the yieldable means for connecting said pendulum in an additional circuit and means for unlatching said shoe from any point about the plate.

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