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BURGLAR ALARM FOR MOTOR VEHICLES

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3 Claims. (Cl. 200—52)

This invention relates to alarm devices and more particularly to alarms for motor vehicles and the like to prevent attempted unauthorized use thereof.

Alarm devices have previously been developed which include a circuit maker and breaker having a contact in the form of a pendulum which is adapted to swing against another contact when the vehicle is set in motion and the circuit is not otherwise broken by a lock controlled switch which can be operated only by the authorized user of the vehicle.

One drawback of the prior devices is that they are so constructed that when the vehicle is parked on a longitudinal or lateral incline the pendulum-like contact element will complete the circuit and thus render the device useless. Another disadvantage in such devices is that while some of them are adjustable to increase or decrease the gap in the circuit maker such adjustment has been unhandy and more or less difficult to attempt.

It is an object of my invention to provide an alarm device which will function properly or normally even though the vehicle upon which it is mounted may not be parked on a level spot, the alarm itself automatically compensating for the slanted position which the vehicle might assume.

Another object of the invention is to provide an alarm device which is quickly and easily adjustable to make it more or less sensitive to vehicle movement as desired.

These and other objects and advantages of the invention will more fully appear from the following description made in connection with the accompanying drawing, wherein like reference characters refer to the same parts throughout the views, and, in which:

Fig. 1 is a plan view of the alarm;

Fig. 2 is a vertical section taken on the line 2—2 of Fig. 1;

Fig. 3 is a section taken on the line 3—3 of Fig. 2;

Fig. 4 is a fragmentary section taken on the line 4—4 of Fig. 2; and

Fig. 5 is a diagrammatic view showing a complete alarm system.

In the drawing there is shown an alarm having a casing C with a top 6 thereon. An eye bolt 7 is secured to the casing top 6 and extends downwardly from the other side thereof to receive the looped upper end 8 of a contact arm 9. The contact arm 9 is suitably connected to a weight

10 and as can readily be seen the arm 9 is free to swing in any direction.

Secured to the casing top 6 closely adjacent the eye bolt 7 is an eye bolt 11 having a second contact arm 12 suspended therefrom for comparatively free swinging movement. Secured to the lower or free end of the contact arm 12 is a plate 13 which extends laterally from the end of said contact arm 12 and the more laterally extending portion of said plate 13 is provided with a rectangular aperture 14. It should be noted that that portion of the plate 14 closer to the contact arm 12 is solid and, therefore, more heavily weighted than that portion of said plate 13 which has the aperture 14 formed therein. This unequal distribution of weight in the plate 13 causes the arm 12 to hang in a vertical position when the casing C is in a right position.

The first mentioned contact arm 9 has a small thin plate 15 secured thereto and said plate 15 and the adjacent portion of said arm 9 lie in and extend through the aperture 14 in the laterally extending plate 13 on the arm 12.

As indicated in Fig. 5 the contact arm 12 is connected by a wire 16 to a suitable ground 17. Contact arm 9 is connected by a wire 18 to the ground side of a horn 19 which may conveniently be a conventional horn of a motor vehicle. The positive side of the horn 19 is connected by a wire 20 to the positive side of the battery 21 and the negative pole of said battery is shown connected by a wire 22 to a ground 23. An alarm signal lamp 24 is connected in parallel by wires 25 and 26 to wires 18 and 20 respectively. Thus when the circuit is energized any jostling movement of the vehicle as it is being driven or towed off will cause the laterally extending plate 13 on the arm 12 to engage the contact arm 9 and energize the alarm circuit. Ordinarily, a keyed controlled switch is placed in the circuit but this is conventional and is not shown since it has nothing to do with the present invention.

In order to increase or decrease the sensitivity of my alarm switch I make the eye bolt 7 which supports the contact arm 9 rotatable in the casing top 6, and the upper end of said eye bolt 7 is connected to a suitable pointer 27. The free end of the pointer 27 is adapted to swing along a series of graduations 28 which indicate the position of the small plate 15 on the contact arm 9 relative to the sides and ends of the aperture 14 in the laterally extending plate 13. Naturally, in the position of the plate 15 shown in Fig. 4 the contact arms 9 and 12 can describe much greater relative movement than if the

pointer 27 were swung 90 degrees to bring the width of the plate 15 on arm 9 transversely of the aperture 14 in the laterally extending contact member 13. The operator of the vehicle can tell at a glance the relative positions of the contact members and can quickly and easily set the plate 15 in a position desired by swinging of the pointer 27.

Due to the fact that the eye bolts 7 and 11 which support the contact arms 9 and 12 respectively are positioned very close together the vehicle and alarm unit can be brought to rest on laterally sloping streets or on hills and the arms 9 and 12 will swing to approximately the same relative positions which they have in the drawing. This is not possible where only one of the contact arms is swingable.

The weight 10 on the arm 9 is provided so that when the alarm device is shaken due to movement of the vehicle one arm will swing to a greater degree and with a different timing than the other, thus insuring proper establishment of the alarm circuit.

From the foregoing description it will be seen that I have provided an alarm device particularly adaptable for use on motor vehicles which is simple in construction, efficient in operation under varying conditions and very easily adjusted to various degrees of sensitivity.

While I have shown one specific form of my invention in the drawing, it will, of course, be understood that various changes may be made in the form, details, arrangement and propor-

tions of the various parts without departing from the scope of my invention.

What is claimed is:

1. In an alarm device for vehicles, a pair of relatively movable contact arms, means for supporting said arms, the first of said arms having a portion substantially encircling the second of said arms in spaced relation thereto, said encircling portion defining an elongated enclosure, the second of said arms having its encircled portion cross sectionally elongated, and one of said arms being rotatable relative to the other to vary the spacing between said elongated enclosure of said first arm and said cross sectionally elongated portion of said second arm.

2. In an alarm device for vehicles, a pair of independently movable contact arms, means for supporting said arms, the first of said arms having a portion substantially encircling the second of said arms in spaced relation thereto, said encircling portion defining an elongated enclosure, the second of said arms having its encircled portion cross sectionally elongated, one of said arms being rotatable on said support and relative to the other of said arms to vary the spacing between said elongated enclosure of said first arm and said cross sectionally elongated portion of said second arm, and means carried by said support and connected to said rotatable arm for moving said rotatable arm to vary said spacing between said arm.

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