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AUTO PROWLER ALARM

Filed Jan. 13, 1947

Fig. 2.

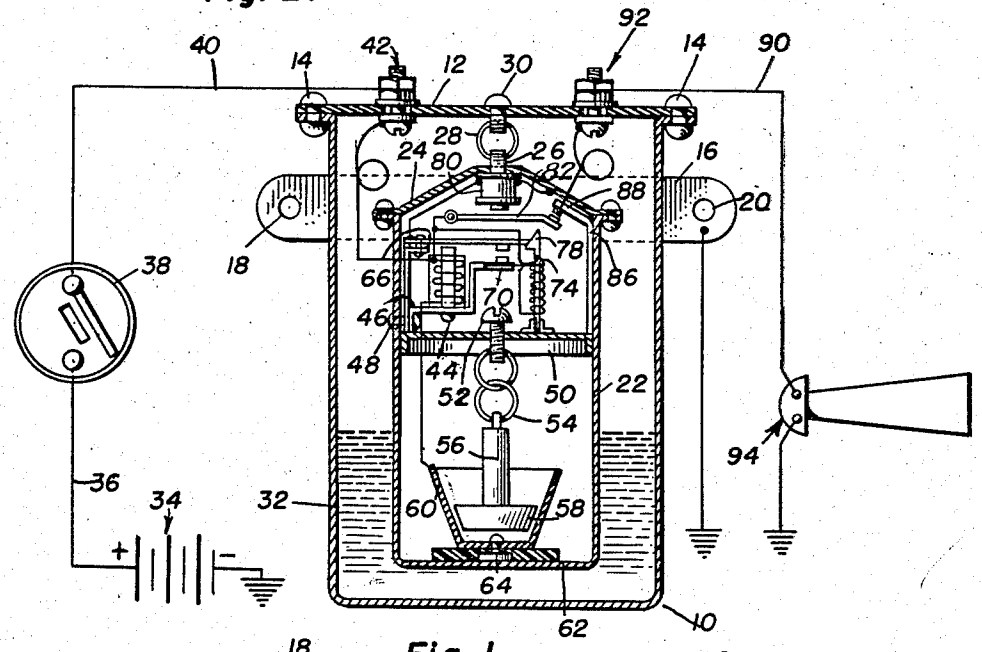


Fig. 1.

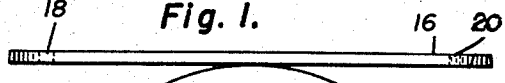
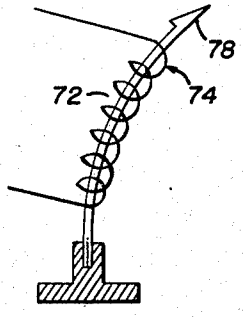


Fig. 3.



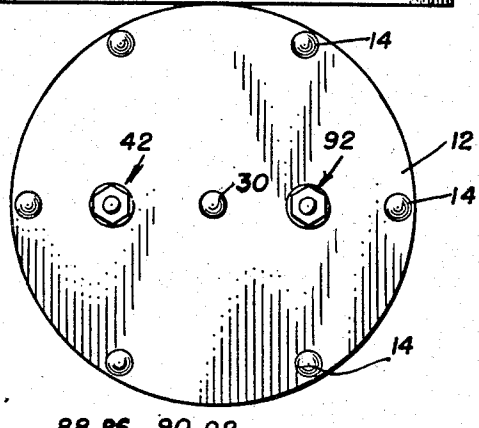
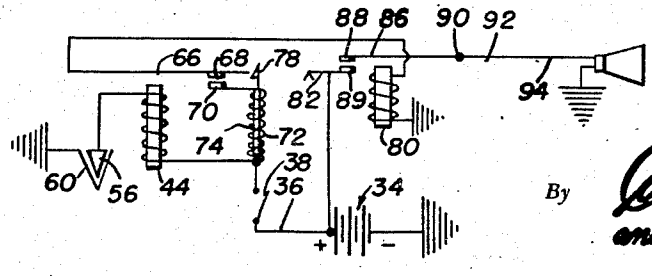


Fig. 4.



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AUTO PROWLER ALARM

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3 Claims. (Cl. 177—314)

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This invention relates to new and useful improvements in signalling devices adapted to be used generally in automotive vehicles.

The general purpose and object of this invention is to provide a device of the character described for intermittently sounding an alarm under certain predetermined conditions.

An object of this invention is to provide improved means for intermittently energizing a sounding device.

Another object of this invention is to provide buffer means for dampening vibration in the device.

A further object of this invention is to provide a switch means controlled by heating means for rendering a portion of the device operative.

A still further object of this invention is to provide a master control means for the device.

These objects and other ancillary objects will become apparent in following the description of the preferred embodiment of the instant invention illustrated in the accompanying drawings, wherein:

Figure 1 is a plan view of the preferred form of the instant invention;

Figure 2 is a tranverse sectional view of the invention disclosed in Figure 1, showing parts in elevation for clarity;

Figure 3 is an enlarged, exaggerated elevational view of the bimetallic latch and heating coil forming part of the instant invention, and

Figure 4 is a wiring diagram of the instant invention showing certain elements schematically.

Referring now in detail to the illustrated preferred embodiment of the instant invention, like reference characters are used throughout to indicate similar elements.

This invention appertains to signalling devices especially adapted to be used with automotive vehicles and especially adapted to intermittently sound an alarm when an automotive vehicle is in unauthorized use. The inventive concept embraces novel and improved means for sounding the above mentioned alarm.

A housing 10 is provided with a cover plate 12. Suitable securing means may be used to fasten said cover plate to said housing, however, the preferable securing means are indicated as rivets 14. A suitable fastening bracket 16 is provided transversely of said receptacle 10 and has a plurality of apertures 18 and 20 therein adapted to be used for convenient fastening to an automotive vehicle component. A second housing or receptacle 22 having a suitable cover 24 is swingingly mounted within the said receptacle

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10. The preferred mounting means consist of a hook 26 integral with or secured to the said cover 24, a ring 28 extending therethrough which is secured to a suitable hook 30 provided on the said lid or cover member 12. It is apparent that by this construction the receptacle 22 is free to swing within the housing 10. A vibration damping means 32 is provided in said receptacle 10 and exterior of the receptacle 22. This vibration damping means comprises a bath or quantity of a suitable liquid, preferably a selected weight oil.

An electrical circuit including various components is operatively secured exterior of and in the housing 10 and receptacle 22. For the best understanding of the operation of the invention and the components of the electrical circuit, reference is made to the schematic showing thereof in Figure 4. A source of current 34, preferably the storage battery of an automobile, is provided and a conductor 36 extends to a suitable lock switch 38. This switch may be mounted on the dashboard of an ordinary automotive vehicle similar to the mounting of an ignition lock. A suitable insulated conductor 40 is then led through the lid 12 and is held securely by a suitable nut and bolt construction generally indicated at 42. Electrical contact is then made with an electro-magnet 44 which is suitably secured to a perch 46 in said receptacle 22. Conventional securing means, such as the rivet 48 may be used to hold said perch in fixed relation with said receptacle 22. Beneath the perch 46 is a transverse cross member 50, separating the said receptacle 22 into two distinct chambers. An adjustable securing means 52 is provided through said transverse member 50 and has a ring bearing aperture therethrough. A second ring 54 is received in the above mentioned ring and a plunger-like pendulum 56 is swingingly secured to the said ring 54. The head portion 58 of said plunger 56 is preferably frusto-conical in shape and is adapted to be received in spaced relation with a frusto-cone 60. As is seen from an inspection of Figure 2, the said frusto-cone 60 is suitably insulated from the receptacle 22 by means of an insulating block 62 received between said receptacle and frusto-cone. A single rivet 64 may be used to secure the said members 60 and 62 in fixed relation.

Returning to the schematic showing of the operation of the invention, it is seen that when the electro-magnet 44 is de-energized, no current will flow since no ground contact is made. However, the said pendulum 56 striking its as-

sociated frusto-conical member **60** completes the circuit, thereby energizing the electro-magnet **44**. It is here noted that the movement of the pendulum is effected by the normal travel of an automotive vehicle. Upon energizing said electro-magnet **44**, a resilient arm **66** having a contact **68** thereon, is pulled toward said electro-magnet. Received on the said perch **46** and insulated therefrom is a second contact **70** which cooperates with the above mentioned contact **68** to form a switch. It is apparent from an inspection of Figure 4 that upon the energizing of the electro-magnet the switch formed at **68—70** is closed.

When the lock switch **38** is closed, current is free to flow to a heating coil **72** pending the supplying of a ground. The said heating coil **72** is provided about a bimetallic latch **74** which is fixedly secured to the said cross member or platform **50**. A keeper **78** is provided at the terminal portion of the said bimetallic latch. It is evident from an inspection of Figures 2 and 4, that the said latch and keeper are adapted to grasp the said arm **66** as the electro-magnet **44** pulls the latter in the appropriate direction. It is further obvious that upon the closing of the switch formed at **68—70** the heating coil will begin to operate. After a few seconds the bimetallic latch will assume a position somewhat similar to that shown in Figure 3, thereby releasing the arm **66**. Due to the inherent resiliency of the arm **66**, it assumes its natural position thereby opening the switch at **68—70**.

It is seen that the above described construction will cause intermittent and predetermined energizing of the second electro-magnet **80**. An arm **82** is secured to a wall of the said receptacle **22** and is of the single leaf spring construction. A suitable contact **89** is provided at one end of said leaf spring and said contact is in electrical communication with the said conductor **36**. A second arm **86** is secured to the said receptacle **22** and a suitable contact **88** is provided at one end thereof. The said contacts **89** and **88** cooperate to form a circuit breaker. It is apparent that upon energizing of the said electro-magnet **80** the circuit breaker **89—88** is opened or closed. Obviously, the intermittent energizing action of the hereinabove described components is transmitted to the circuit breaker **89—88**. A suitable conductor **90** is then led from the said contact **88** through a suitable nut and bolt securing means **92**, to a sounding means such as a siren or horn **94**. It is noted that if a horn is used, it may be the conventional automotive vehicle sounding device.

There has been described hereinabove a single preferred embodiment of the instant invention. It is understood, of course, that various changes in the details of construction, size, shape and configuration may be made herein without departing from the purview of the invention. Accordingly, limitation is sought only in accordance with the scope of the following claims.

Having thus described our invention what is claimed as new and novel and improved is:

1. A signal device adapted to be used in automotive vehicles, comprising a housing, a receptacle swingingly mounted within said housing, vibration damping means in said housing means forming, an electrical circuit in said housing and receptacle, sound producing means exterior of said housing and in said circuit, means for intermittently energizing said circuit thereby actuating said sound producing means, said intermittent energizing means including a freely swinging pendulum switch in said receptacle, an electro-magnet controlled thereby, a switch closed by said electro-magnet, means for retaining said switch closed for a predetermined interval and means actuated by said switch for actuating said sound producing means.

2. A signal device adapted to be used in automotive vehicles, comprising a housing, a receptacle swingingly mounted within said housing, vibration damping means in said housing means forming, an electrical circuit in said housing and receptacle, sound producing means exterior of said housing and in said circuit, means for intermittently energizing said circuit thereby actuating said sound producing means, said intermittent energizing means including a freely swinging pendulum switch in said receptacle, an electro-magnet controlled thereby, a switch closed by said electro-magnet, means for retaining said switch closed for a predetermined interval and means actuated by said switch for actuating said sound producing means, said last mentioned means including a second electro-magnet and a circuit breaker actuated by said second electro-magnet.

3. The invention as recited in claim 1, wherein said retaining means includes a bimetallic latch adapted to be deformed upon the application of heat thereto and a heating coil intermittently operable secured around said latch.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,298,055	Kershaw	Mar. 25, 1915
1,305,352	Gettell	June 3, 1919
1,729,800	Scott	Oct. 1, 1929
1,805,147	Murray	May 12, 1931
1,844,338	Rupert	Feb. 9, 1932