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THEFTPROOFING DEVICE FOR MOTOR VEHICLES

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Fig. 1

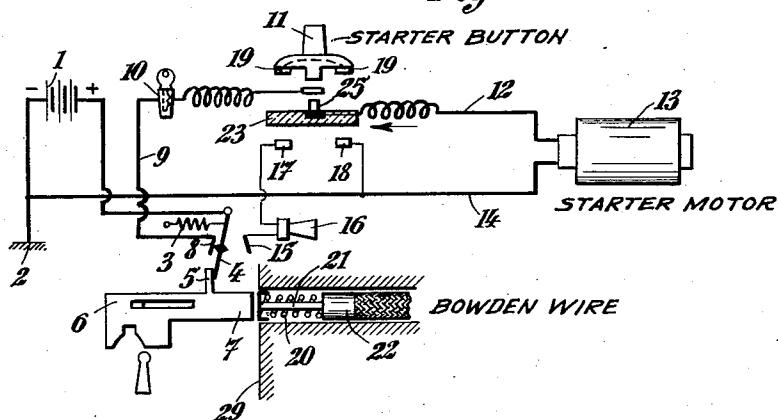


Fig. 2

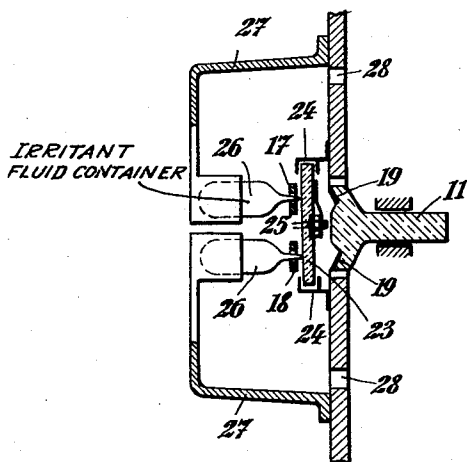
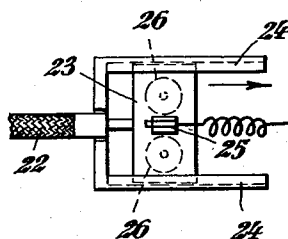


Fig. 3



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THEFTPROOFING DEVICE FOR MOTOR
VEHICLES

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6 Claims. (Cl. 177—314)

This invention relates to means for protecting automotive vehicles against theft. Numerous devices are already known for protecting automobiles and other power-driven vehicles against theft, in which an alarm signal is operated when unauthorized persons attempt to start the vehicle. Thiefproofing devices have also already become known in which on unauthorized use of the vehicle smoke or gas emitting cartridges are set in operation.

The present invention relates to a similarly acting contrivance, and consists essentially in providing, opposite a member (key, starting button) actuated in preparing for or in effecting the starting operation, easily breakable containers charged with an irritant fluid, which are protected from damage, as long as the vehicle is in the normal working condition, but which, on putting the vehicle out of operation (locking up of the vehicle) are positively exposed to fracture by the operation of such member, so that when these containers are broken and the fluid contained therein allowed to escape.

A form of construction embodying the invention is shown, by way of example, in the accompanying drawing, in which:

Fig. 1 shows a locking member in diagrammatic representation, and in conjunction with a circuit diagram.

Fig. 2 shows the arrangement of the irritant fluid containers in transverse section.

Fig. 3 is an elevation corresponding to Fig. 2, with the dash-board removed.

In the circuit diagram 1 denotes the starting battery the one pole of which is grounded at 2, while the other pole is connected to a change-over switch 4 which is stressed by a spring 3, and of which the switch lever is operated by the lug 5 on the bolt member 6 of locking member 7. 8 denotes a contact from which a wire 9 leads across the lock 10 of the starting key to the starting button 11 which is constructed in a manner to be described in due course. From the starting button the wire 12 leads to the starter 13 which is again grounded by means of the wire 14. On the other side of the switch lever 4 there is a contact 15 which is connected to the one pole of an alarm device 16 the other pole of which is connected to a contact 17. Adjacent this contact 17 is a contact 18. Both contacts may be connected together when occasion arises, by means of a contact-making bridge 19 provided in and insulated from the starting button.

The contact 18 is again connected to the grounding line. The bolt 6 of the locking member coacts with the flexible transmission element 22 of a Bowden wire 22 which is stressed by a spring 20. The other end of this flexible transmission element is attached to a covering plate 23 which is slidable in guides behind the dash-board (see Fig. 2). The plate 23 is provided on its front side opposite the starting button with two contacts 25 which are held in spaced relation to each other and which are interposed in the starting current circuit. The covering plate consists preferably of insulating material. Behind the covering plate there are resiliently mounted the contacts 17 and 18 each of which is preferably provided with an aperture through which apertures the tips of glass phials 26 extend. The bridging over of the contacts 17, 18 is effected, as occasion arises, by the current-conducting bridge 19 pertaining to the starting button. The glass phials 26 are supported in brackets 27 on the dash-board, and are filled with an irritant fluid such as for example sulphuretted hydrogen, bromine acetone, or the like. The dash-board is provided with gaps or apertures at 28.

The locking member 7 may be placed either on the dash-board or for instance in the door of the vehicle. In the latter case the locking member may also be utilized for locking the door, by arranging for instance for the bolt 6 to engage in a suitable recess in the door frame 29.

The mode of operation of the contrivance is as follows.

When the rightful user of the vehicle leaves the same and wishes to put the thiefproofing device into readiness for operation the locking member is transferred into the locking position by means of a suitably designed key, so that the bolt 6 is shifted (to the right in Fig. 1). The contact made at 8 is thereby interrupted by rocking of the lever 4 by means of the lug 5, and at the same time contact is established at 15. Thus the starting current circuit is interrupted, and the alarm current circuit brought into a condition of readiness for operation. At the same time the flexible transmission element 21 of the Bowden wire pull 22 is moved contrary to the action of the spring 20, and in its turn effects a displacement of the covering plate 23 so that this latter is no longer disposed in front of the tips of the glass phials 26. The starting button 11 is thus free to come in contact on the one hand with the contacts 17, 18 and on the other hand with the tips of the glass phials. The displacement of the covering plate 23 also brings the

contacts 25 disposed thereon and pertaining to the starting current circuit, out of reach of the starting button.

When an unauthorized person attempts to use the vehicle the first obstacle met with is the locking of the door by means of the bolt 6 pertaining to the locking member. If the unauthorized user attempts to gain access to the interior of the vehicle by some other way, for instance through an open window or the opened roof, and to start the vehicle he has to operate the starting button. It is presumed that the thief is in possession of an instrument-board key or that such key has been left in the locked up vehicle. Operation of the starting button then meets with no difficulties, but causes the tips of the glass phials to be broken by the end face of the starting button or knob, which strikes against them, with the result that the irritant gas evolved from the fluid with which the phials are charged escapes and enters the interior of the vehicle through the apertures 28. The unauthorized user of the vehicle is thereby rapidly incapacitated. After the tips of the glass phials have been broken off, that is to say while the irritant fluid is flowing out, the end face of the starting button or knob comes in contact with the contacts 17 and 18, and bridges these by means of the current-conducting bridge 19. This has the effect of closing the alarm current circuit put in readiness for operation by the switch lever 4, with the result that a powerful alarm signal is emitted to warn the neighbourhood or the owner of the vehicle that the vehicle is being tampered with by an unauthorized person.

When the rightful owner of the vehicle wishes to make use of the vehicle again the locking member 7 is brought into the unlocking position. This involves moving the flexible transmission element back into its starting position, with the result that the covering plate 23 is drawn across in front of the phials 26, and the contacts 25 pertaining to the starting current circuit brought into position in front of the starting button. Under the action of the spring 3, the switch lever 4 comes into contact again with the contact 8, while the alarm current circuit is interrupted at 15. When the dash-board key is inserted and the starting button depressed the closing of the contacts 25 will then close the starter current circuit, and the engine will start up in the usual manner.

It will be clear that any irritant gas may be employed for the purpose of the present invention, in place of the irritants already mentioned. Instead of by means of the starting button, the phials containing the irritant fluid may equally well be broken for instance by means of the starter key. In this case the phials must be provided with a suitable covering plate and contacts opposite the starter key instead of opposite the starting button. Finally, instead of the bolt shown in the drawing it is also possible to use a locking device with other tumblers, for example a suitably constructed safety lock of conventional design. Also, instead of glass phials there may also be used other containers which can only be crushed in or opened for instance at one point. The arrangement of the contacts may also be varied at will within the scope and spirit of the invention. The locking member of the protecting device may also if desired be combined with a door lock.

I claim:

1. A protection system for motor vehicles and

enclosed structures, comprising in combination locking means adapted to be in locking or unlocked condition, irritant fluid discharge means, discharge means actuating means operatively associated with and adapted to actuate said discharge means, control means operatively associated with said actuating means and connected with said locking means and rendering said actuating means ineffective with respect to the actuation of said discharge means when said locking means is in unlocked condition.

2. A protection system as claimed in claim 1 and comprising alarm means and alarm means actuating means connected therewith and being operatively associated with said control means and being rendered ineffective by said control means when said discharge means actuating means is rendered ineffective.

3. A protection system for motor vehicles and enclosed structures, comprising in combination, protection system operating control means for setting said system into operating and non-operating condition, irritant fluid discharge means, discharge means actuating means operatively associated with and adapted to actuate said discharge means, other control means operatively associated with said actuating means and connected with said operating control means and rendering said actuating means ineffective with respect to the actuation of said discharge means when said operating control means set said system into operating condition.

4. A protection system for motorized transport means having a starter power circuit, said system comprising, in combination, system operating control means for setting said system into operating and non-operating condition, starter circuit actuating means operatively associated with said starter circuit, irritant fluid discharge means operatively connected with and being adapted to be actuated by said starter circuit actuating means, irritant fluid discharge actuation preventing means operatively associated with said starter circuit actuating means and with said discharge means, said preventing means being operatively connected with said control means and preventing actuation of said discharge means when said operating control means set said system into non-operating condition and preventing actuation of said starter circuit when said operating control means set said system into operating condition, an alarm power circuit including alarm means and alarm power circuit actuating means, said alarm power circuit actuating means being operatively connected with and adapted to be actuated by said starter circuit actuating means, and circuit change over means connected with and adapted to be operated by said operating control means and changing overpower flow from said starter power circuit to said alarm power circuit.

5. A protection system for motor vehicles having an electric starter circuit and a starter switch therein, said system comprising, in combination, a starter switch operating member adapted to operate said starter switch, irritant fluid discharge means adapted to be actuated by said operating member, system operating control means connected with said starter switch and adapted to displace said switch with respect to said operating member and said discharge means, said starter switch being disposed between said operating member and said discharge means and preventing actuation of said discharge means by said operating member when the vehi-

cle is in normal operation and being adapted to be removed from its position between said operating member and said discharge means by said operating control means to permit actuation of said discharge means by said operating member.

6. A protection system for motorized transport means having a closable structure and an electric starter circuit and a starter switch in said circuit, said system comprising, in combination, locking means connected with said structure and being adapted to be in locking or un-

locked condition, operating means operatively associated with said switch, irritant fluid discharge means adapted to be actuated by said operating means, irritant fluid discharge actuation preventing means connected with said starter switch and being operatively associated with said discharge means, said discharge actuation preventing means being operatively connected with said locking means and preventing actuation of said discharge means when said locking means is in unlocked condition.

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