F. HAYNES & V. F. GARVIN.

THEFT ALARM SYSTEM FOR AUTOMOBILES.

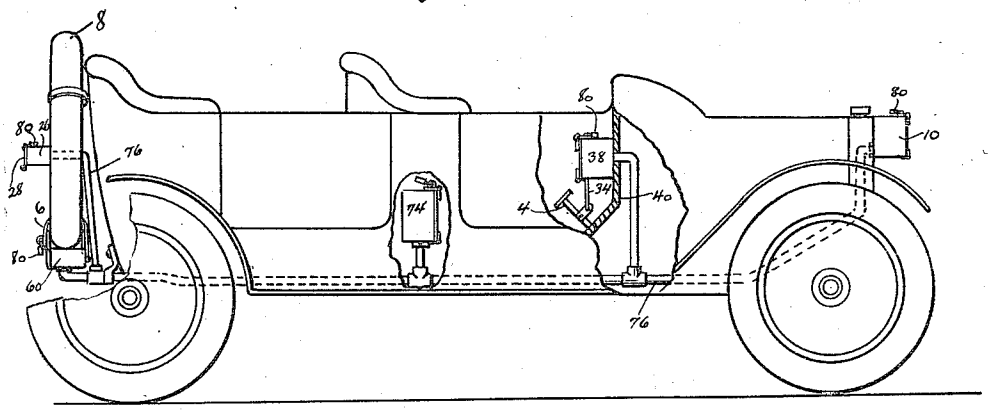
APPLICATION FILED APR. 22, 1916.

1,284,328.

Patented Nov. 12, 1918.

2 SHEETS—SHEET 1.

Fig. 1.



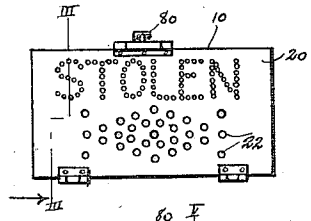


Fig. 2.

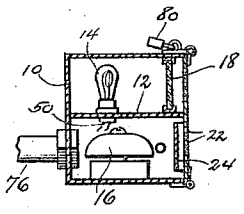


Fig. 3.

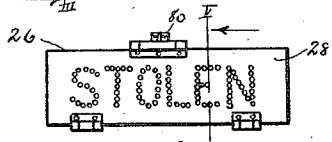


Fig. 4.

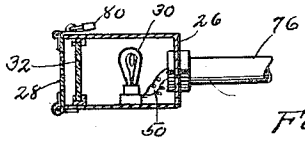


Fig. 5.

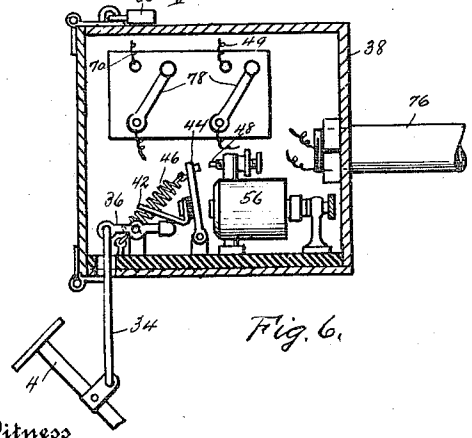


Fig. 6.

Witness

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2 SHEETS—SHEET 2.

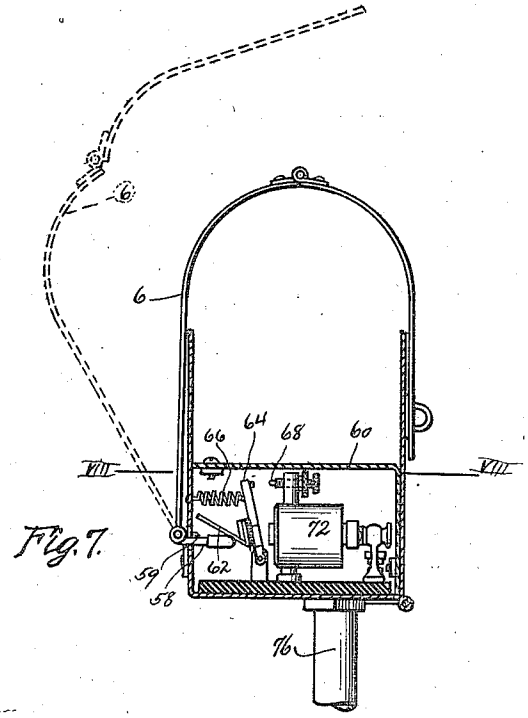


Fig. 7.

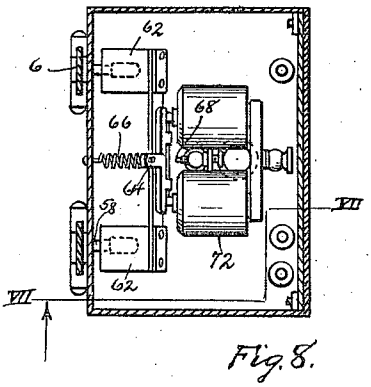


Fig. 8.

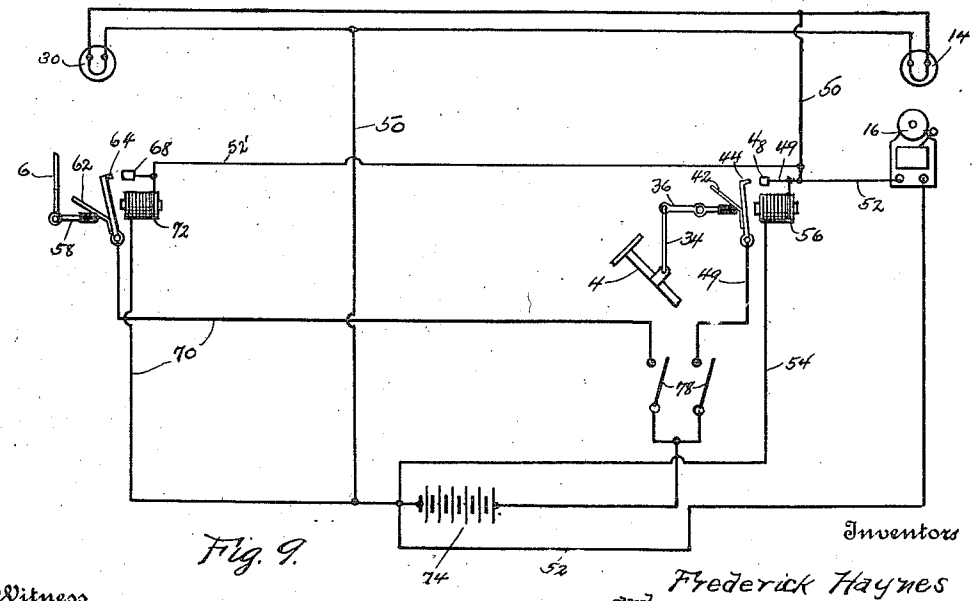


Fig. 9.

Witness

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UNITED STATES PATENT OFFICE.

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THEFT-ALARM SYSTEM FOR AUTOMOBILES.

1,284,328. Specification of Letters Patent. Patented Nov. 12, 1918.

Application filed April 22, 1916. Serial No. 92,965.

To all whom it may concern:

Be it known that we, FREDERICK HAYNES and VIRGIL F. GARVIN, citizens of the United States, residing at Kansas City and Mount Washington, respectively, in the county of Jackson and State of Missouri, have invented a certain new and useful Theft-Alarm System for Automobiles, of which the following is a full and exact specification.

This invention relates to alarm systems for automobiles and the like, and has for its principal object the provision of alarm signals, either visual or audible or both, provided with electrical connections and means whereby the circuits may be closed through said connections to actuate the signals in the event of the car being taken or of parts being removed therefrom by an unauthorized person. In carrying out this object, lamp signals are provided at the front and rear of the car, together with an electric bell or equivalent audible signal at one of said points, and each signal is electrically connected for operation by movement of the clutch lever, and also by movement of the spare-tire retaining means in case an attempt should be made to remove one of the spare tires. It is also an object to provide an extremely simple circuit arrangement for the above purpose, and a conduit for the same which will effectively protect it from being tampered with; and when the circuits have once been closed by an unauthorized person and the signals actuated, provision is made for maintaining the circuits closed and the signals in operation regardless of further manipulation of the parts through which the closure of the electric circuits was effected.

The system is also arranged to be rendered inoperative except at such intervals as the car may be left otherwise unprotected against theft.

With the foregoing general object in view, the invention will now be described with reference to the accompanying drawings illustrating one form of system embodying the same, after which those features and combinations deemed to be novel will be set forth and defined in the appended claims.

In the drawings—

Figure 1 is a side elevation of a car to which the alarm system has been applied, portions of the car being broken out to reveal the location of certain parts of the apparatus;

Fig. 2 is an elevational view of the front signal box, on a larger scale;

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

Fig. 4 is a face view of the rear signal box;

Fig. 5 is a section taken on the line V—V of Fig. 4;

Fig. 6 is a vertical sectional view of the switch and relay box which is associated with the clutch lever of the car;

Fig. 7 is a vertical sectional view through the spare-tire retaining mechanism, showing the electrical devices associated therewith, the section being taken on the line VII—VII of Fig. 8;

Fig. 8 is a horizontal section taken on the line VIII—VIII of Fig. 7; and

Fig. 9 is a wiring diagram of the electric circuits.

Referring to the drawings in detail, the system is illustrated as applied to a common type of automobile body 2 having the usual clutch lever 4 and the tire-retaining arms or hinge members 6 for holding the spare tire or tires 8. At the front of the car is mounted in any suitable manner a metallic box 10 provided with a horizontal partition 12 (see Fig. 3) dividing the box into upper and lower sections for mounting, respectively, the lamp 14 and the bell or equivalent audible signal device 16. A heavy plate of glass 18, preferably of ruby color, is secured in front of the lamp 14 and adjacent the door 20 of the box, and the upper portion of this door which extends in front of said glass is perforated to form the letters of the word "Stolen." Thus, whenever the lamp 14 glows the perforations will be illuminated and the word "Stolen" appear at the front of the car. The lower portion of the door 20 is punched with the perforations 22, forming any desired pattern, and at the rear of these perforations the door is provided with a guard plate 24 offset slightly from the door and acting to prevent any tampering with the bell or its circuit.

At the rear of the car is also mounted at any convenient point a box 26, the door 28 of which is also perforated to form the let-

ters of the word "Stolen" (see Fig. 4). Within the box is mounted a second lamp 30, between which and the door is secured a heavy ruby glass plate 32 as in the case of the box 10.

In circuit with these lamps 14 and 30, and the bell 16, through suitable wiring connections, are circuit-closing devices arranged to be actuated by means of either the tire-retainers 6 or the clutch lever 4. In the case of the clutch lever 4, the same is provided with a link 34 connecting it to a lever 36 (see Fig. 6) mounted within a strong metallic box 38 carried by the dash board 40 of the car. This lever 36 is adapted to engage the insulated arm 42 of a circuit-closing member 44 which is held normally inoperative by the spring 46, but when operated engages the contact point 48 to close the lamp circuit 50 as well as the bell circuit 52, and also a relay circuit 54, said relay circuit having a relay coil 56 mounted within said box 38 in position to attract the member 44 and hold the same in operative position for the purpose of maintaining said various circuits closed regardless of the further operation of the clutch lever 4.

A similar circuit-closing arrangement is provided for the spare-tire retaining means. One or both of the tire-retaining members 6 are provided with extensions 58 projecting inwardly (see Fig. 7) through slots 59 in the side of the metallic box 60 formed at the base of said tire-retaining means. The extensions 58 are adapted to engage the insulated arms 62 of the circuit-closing member 64 which is held normally inoperative by the spring 66, but when operated (as by movement of the tire-retaining members into the position indicated by the dotted lines in Fig. 7) said member 64 engages the contact point 68 to close—through the connections 78, 70—the lamp circuit 50 as well as the bell circuit 52 (see Fig. 9), and also a relay circuit included in the connections 70 and 52′, said relay circuit having the relay coil 72 mounted within said box 60 in position to attract the member 64 and hold the same in operative position and thereby maintain said various circuits closed regardless of the further operation of the tire-retaining members.

Any suitable source of electricity may be utilized for generating the electric current used in connection with the system, a battery box 74 being illustrated conveniently arranged beneath one of the seats of the car, and the connections between said battery and the other points of the circuits are passed through conduits 76 of metallic material suitable for securely protecting the wiring against any ordinary instruments that might be used for disturbing the circuits.

For rendering the alarm system inoperative, as when the owner is in charge of the machine, switches 78 are provided for both the clutch lever circuit and the tire-alarm circuit, and these switches may of course be located at any convenient points, such as in the box 38 convenient to the driver's seat as illustrated in Fig. 7. This box as well as the signal or alarm boxes may be provided with suitable locks 80, as shown.

It will be apparent from the foregoing that a quite simple and efficient arrangement has been devised for carrying out the purpose of the invention, and the operation of the same will be readily understood. When it is desired to place the system in condition for operation, the switches 78 are closed and the box 38 containing said switches locked, after which if an unauthorized person operates the clutch lever in an attempt to drive off with the car, he does so only by closing the alarm circuits through the device 44; and since this acts also to energize the relay 56, the alarm circuits will thereafter remain closed independently of any further manipulation of the clutch. Substantially the same result is reached through the manipulation of the tire-retaining members whereby the circuit-closing device 64 is operated to close the signal or alarm circuits and thereafter maintained closed by the action of the relay 72 independently of any subsequent movements of the tire-retaining members. Both the lamps are therefore made to illuminate the perforations spelling the word "Stolen" at both ends of the car, which will serve to indicate to others (more noticeably of course if it be night) the fact that an unauthorized party is in charge of the car or attempting to remove a spare tire therefrom, as the case may be. The loud and continuous ringing of the bell insures that attention will be attracted to the car, whether it be day or night, and obviously further attempts to disturb the car under such circumstances will probably be abandoned or the driver will be prevented from making his escape with the car. Moreover a party observing a car equipped with the above-described system and knowing the nature of the same will in all likelihood leave the same unmolested.

Opening either of the switches 78 obviously allows the corresponding circuit-closing device, if it has been actuated, to be returned to inoperative position under the action of its spring, and the system may then be placed in readiness for further operation when desired.

While the foregoing represents what is now deemed to constitute the preferred form of embodiment of the invention, the right is reserved to such formal changes and modifications as may fairly fall within the scope of the appended claims.

Claims:—

1. A theft-alarm system for automobiles, comprising, in combination with a movably-mounted spare-tire retaining member and

clutch lever, an electric circuit including an electrically operated signal, relay circuits associated with said clutch lever and retaining member and also with said first circuit, and circuit-closing means operated by the movement of either said spare-tire retaining member or said clutch lever for simultaneously closing the circuit through one of said relay circuits and said signal circuit, said relay circuits operating to maintain said relay and signal circuits closed independently of any further movement of said lever or tire-retaining member.

2. A theft-alarm system for automobiles, comprising, an electric circuit including an electrically operated signal, an electromagnet connected in parallel with said circuit, a movable member formed as a part of the conductor for said circuit and mounted in position to act as an armature for said electromagnet, said member being also provided with a circuit-closing portion for interrupting the circuit through both said signal and said electromagnet, means for holding said member normally in circuit-open position, a lever arm forming a part of the automobile equipment, and means operated by the movement of said lever arm for incidentally actuating said member into circuit-closing position, whereupon said signal circuit is maintained closed independently of any further movement of said lever arm.

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