W. H. NIEMEYER.

THEFT ALARM FOR AUTOMOBILES.

APPLICATION FILED JUNE 25, 1917.

1,301,493. Patented Apr. 22, 1919.

Fig. 1.

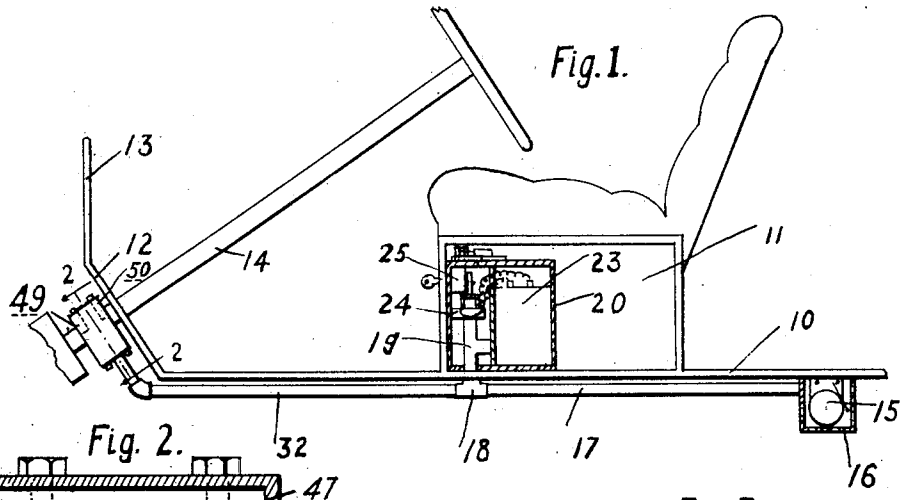


Fig. 2.

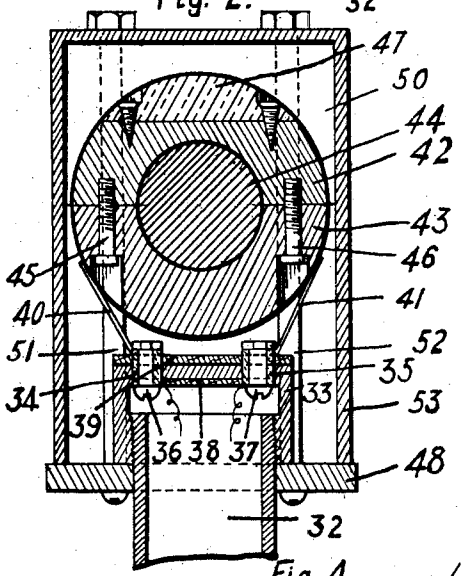


Fig. 3.

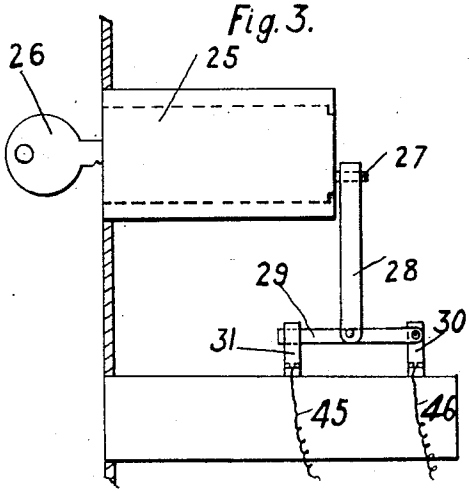


Fig. 4.

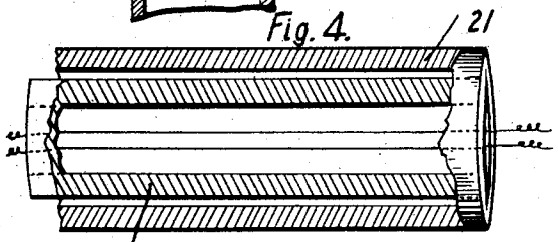
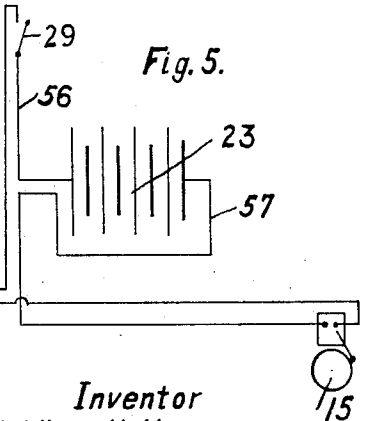


Fig. 5.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

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THEFT-ALARM FOR AUTOMOBILES.

1,301,493. Specification of Letters Patent. Patented Apr. 22, 1919.

Application filed June 25, 1917. Serial No. 176,910.

To all whom it may concern:

Be it known that I, WILLIAM HENRY NIEMEYER, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Theft-Alarms for Automobiles, of which the following is a specification.

My object is to make a theft alarm for automobiles and the like which may be set so that any movement of the steering post shaft will operate the alarm.

The invention is illustrated, by way of example, in the accompanying drawings in which:

Figure 1 is a view in section and elevation illustrating the application of the invention to the body and steering column of a motor vehicle.

Fig. 2 is a view in transverse section as seen on the line 2—2 of Fig. 1.

Fig. 3 is a view in section and elevation illustrating the lock controlled switch.

Fig. 4 is an enlarged view in section and elevation illustrating the telescoped conduit in which the electric conductors are placed.

Fig. 5 is a wiring diagram illustrating the electric support included within the apparatus.

Referring more particularly to the drawings, 10 indicates the floor of a vehicle body upon which is mounted a seat 11. This floor is formed with an inclined footboard 12 at its forward end and a dash 13. Through the footboard extends a steering column 14 by which the direction of travel of the vehicle is determined. It is the object of this invention to provide means whereby movement of the steering mechanism by an unauthorized person will produce an alarm. This object is attained by the use of a bell 15 mounted within a metal case 16. The walls of this case are perforated to permit the bell to be easily heard. The case 16 is provided with a tubular electric conduit 17 which extends beneath the floor of the vehicle and terminates within a T pipe fitting 18. This fitting is secured at the lower end of a conduit 19 which extends up into a battery box 20. The conduit is of special construction, as shown in Fig. 4, it having an outer casing 21 fixed against movement, and an inner tubular member 22 free to rotate within the outer casing, thus providing a double wall conduit which cannot be broken into without difficulty.

The battery box incloses a battery 23, a switch 24 and an operating lock 25. The lock is preferably of the pin cylinder type and is operated by a key 26. The rotatable lock cylinder has a pin 27 which engages a downwardly connecting link 28. This link, in turn, is pivotally secured to a switch plate 29 adapted to establish and discontinue electrical communication between contact members 30 and 31. In this manner actuation of the lock will cause the switch to be opened and closed, as will be understood.

The pipe T 18 is also provided with a forwardly extending conduit 32 which passes beneath the floor of the vehicle and is upturned beneath the footboard. A contact cap 33 covers the end of this pipe and is formed with two holes in its end which are fitted with insulating bushings 34 and 35. These bushings are adapted to receive binding posts 36 and 37, the heads of which bear against an insulating plate 38 within the cap and their nuts against an insulating plate 39 on the outside of the cap. The nuts of the binding posts hold resilient contact fingers or brushes 40 and 41 which are adapted to bear against the periphery of a drum. As particularly illustrated in Fig. 2, this drum has two halves 42 and 43 which are secured to each other and around the steering shaft 44 by screws 45 and 46. The drum sections are arcuate in contour and the drum has a cut-away portion on which an insulating block 47 is secured. This block is arcuate and forms a continuation of the circular face of the drum. A shield is provided for the drum and pipe end and is connected by extending the pipe 32 through an opening in a clamping plate 48, and thereafter clamping this plate to yoke blocks 49 and 50 by means of sets of bolts 51 and 52. These bolts also hold a U-shaped cover plate 53 in position around the drum and act to substantially close the drum against manipulation.

The contact fingers are supplied with electrical conductors 54 and 55. The conductor 54 leads to one terminal of the bell 15, while the conductor 55 leads to the terminal 31 of the switch 29. The other terminal of the switch is connected by a conductor 56 with one pole of the battery 23, the opposite pole of this battery being connected by a conductor 57 with the remaining terminal of the bell. In this manner the initial closing of the switch 29 will close a circuit which

will thereafter be controlled by contact of the members 40 and 41 with the metallic portion of the drum.

In operation, the parts are assembled and wired, as described. When it is desired to set the device to alarm, the steering shaft 44 is rotated until the insulating segment 47 of the drum bears upon a contact 40 or 41. The key 26 is then inserted within the lock 25 and turned to swing the switch plate 29 down into contact with the member 31. The apparatus is thus set for operation. When the key 26 is removed the switch cannot be opened and when the steering column is rotated to move the insulating member 47 from contact with the fingers 40 and 41 they will bear upon the metallic drum and will complete a circuit through the conductor 54 to the bell and then along conductor 57 to the battery, through the battery along conductor 56 to the switch and thence returning along conductor 55 to the metallic drum. The completion of this circuit will cause the bell to ring and it will be impossible to discontinue the ringing of the bell unless the steering shaft is rotated to insulate the contacts 40 and 41 from each other. Due to the fact that the conductors are inclosed within double walled conduits it will be practically impossible for them to be disconnected and thus an alarm will be sounded which will attract attention and give notice that the vehicle is being used by an unauthorized person.

It will thus be seen that the apparatus here disclosed is simple in its construction, will positively operate to produce an alarm and is so designed as to prevent its being rendered inoperative, while the alarm is sounding.

While I have shown the preferred construction of my theft alarm for automobiles as now known to me, it is evident that various changes in the combination, construction and arrangement of parts may be made by those skilled in the art without departing from the spirit of my invention.

I claim:

In a theft alarm for automobiles and the like, a contact cap, insulating bushings mounted through the cap, binding posts extending through the bushings, resilient contact fingers having ends inserted under the nuts of the binding posts, and a drum adapted to be clamped upon a steering post shaft; said drum comprising two halves, screws connecting the two halves together; the drum having a cut-away portion; and an insulating block screwed in the cut-away portion; the periphery of the drum being circular and the drum being electrifiable except the insulating portion; so that a circuit may flow through the contact fingers and through the drum except when the insulating portion is in contact with one of the fingers.

In testimony whereof I have signed my name to this specification.

WM. H. NIEMEYER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."