Dec. 25, 1923. 1,478,850

A. F. H. DAVIS

AUTOMOBILE LOCK

Filed April 14, 1920

Fig. 1.

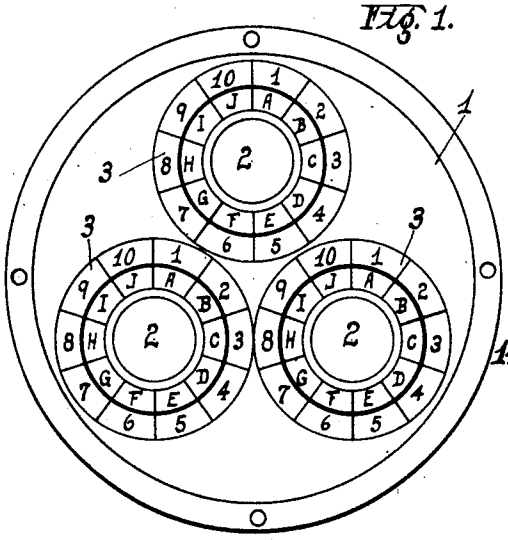


Fig. 2.

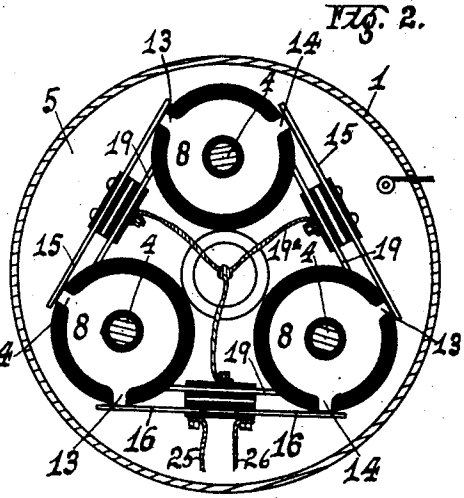


Fig. 3.

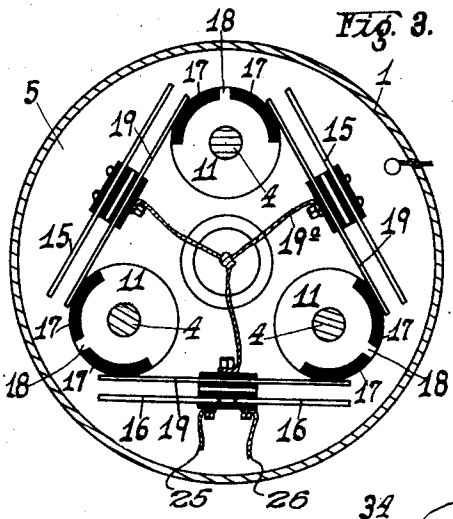


Fig. 4.

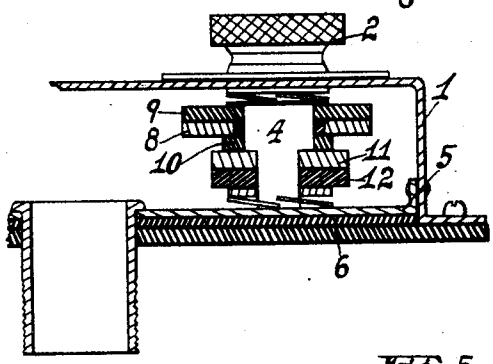


Fig. 5.

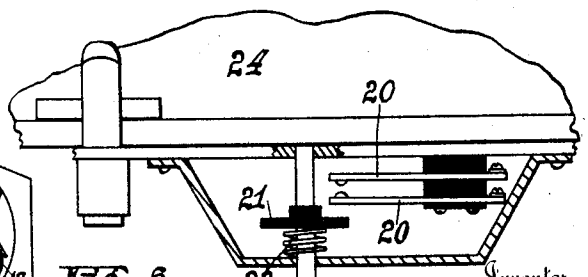
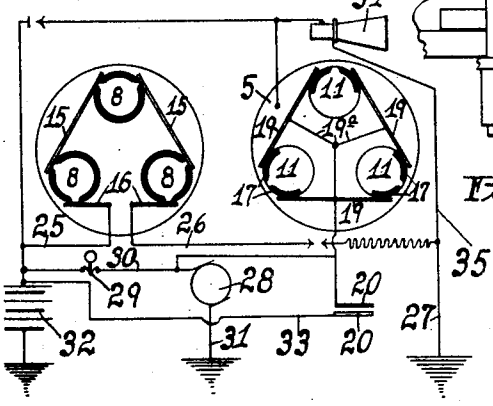


Fig. 6.



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Patented Dec. 25, 1923. 1,478,850

UNITED STATES PATENT OFFICE.

ABNER F. H. DAVIS, OF OAKLAND, CALIFORNIA.

AUTOMOBILE LOCK.

Application filed April 14, 1920. Serial No. 373,802.

To all whom it may concern:

Be it known that I, ABNER F. H. DAVIS, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, have invented certain new and useful Improvements in Automobile Locks, of which the following is a specification.

This invention relates to improvements in automobile locks, which are provided in various styles to prevent the theft of the vehicle either by preventing the starting of the engine or the car.

Most of such locks are not adequate or efficient because they may easily be tampered with and rendered inoperative. A wheel or transmission lock will not prevent the engine from being started.

The principal object of my invention is to provide an effective means for opening the ignition circuit of the engine when the owner so desires, and for preventing any other person from readily closing the same again, without the use of a switch key, which easily becomes misplaced and as easily duplicated.

I have also provided a means, controlled by the switch-opening mechanism at the will of the owner of the car, for setting an alarm circuit so that if the starting motor of the engine were run, or the engine hood lifted, an audible signal would at once be given.

In the drawings accompanying this specification, similar characters of reference indicate corresponding parts in the several views, in which:

Figure 1 is a plan view of the lock.

Figure 2 is a horizontal sectional view of the lock showing the upper contact plates.

Figure 3 is a horizontal sectional view of the lock showing the lower contact plates.

Figure 4 is a fragmentary sectional view through one of the tumblers.

Figure 5 is a fragmentary side view partly in section of the hood contacts.

Figure 6 is the wiring diagram.

Referring to the numerals of reference on the drawings, the numeral 1 denotes the casing of the lock, on the outer face of which are mounted three tumblers 2, preferably arranged in triangular order. Suitable combinations are arranged in connection with the tumblers and when suitably combined in any predetermined setting denote and control the "open" position of the lock, or the closing of the engine-ignition circuit. These combinations may each have an individual setting or arrangement, or they may be all the same, as desired.

The tumblers are fixed to shafts 4 journaled in a plate 5 spaced from the casing 1. This plate and casing are insulated from the ground by a fibre plate 6. On the shafts 4 are contact discs 8, above and below which are insulating washers 9 and 10. Below the washers 10 are discs 11, below which are fibre washers 12. The plate 8 have each a pair of peripheral contact lugs 13 and 14. Bus bars 15 are tangentially positioned adjacent two of the discs 8 and contact with corresponding ones of the lugs 13 and 14 on such discs when the combinations of the tumblers are in "open-lock" positions.

A similar bar 16 contacts with the remaining contact lugs 13 and 14, but is broken and spaced in the middle. The discs 11 have peripheral insulating segments 17, while contact lugs 18 separate the same and project therebetween. Bus bars 19 form a continuous conducting means between the lugs on these three discs, being joined by a branched lead 19^a, the other terminal being on the plate 5. The engine-hood contact comprises a pair of spring-clips 20, a washer 21 mounted on a shaft 22, about which is a spring 23 adapted to force the washer 21 against one of the clips to form a contact. When the hood 24 is down in place, the shaft 22 is depressed and the washer 21 is held away from the clips 20. If the hood is raised, the spring 23 raises the shaft and makes the clips contact as described.

When all the lugs 13 and 14 form a contact with the bars 15 and 16 as described, the engine ignition circuit is closed through leads 25, 26, from the bars 16 and lead 27, or the starting motor 28 may be run through button 29 and leads 30 and 31. When this circuit is opened the second circuit through any one of the plates 11 may be closed by turning the corresponding tumbler, and a theft alarm is set, which will be actuated when either the motor 28 is started, or the hood 24 is raised. In the latter case, the circuit is closed from the grounded battery 32, lead 33, clips 20, lead 19^a, any bar 19 and plate 11, thence through plate 5 to a horn 34 and from there through a lead 35 to the ground.

As previously stated, this lock takes the place of the ordinary switch and must be locked when it is desired to stop the engine. That is, any one of the tumblers must be turned to break the circuit through the plates 11 and bars 15.

Of course, in order to absolutely prevent tampering with all the combinations should be thrown out, which while easy enough for the owner to replace, would be a hard task for a thief not knowing the proper combinations.

Having thus described my invention, what I claim as new and useful and desire to secure by Letters Patent is:

1. A device of the character disclosed including a plurality of independent shafts, two sets of disks including a pair of disks on each of said shafts, two sets of bus bars, one set of bus bars engaging one set of the disks on said shafts, the other set of bus bars engaging the other set of disks, contact lugs on each disk for engaging a bus bar, each set of bus bars being included in a circuit, the lugs on said disks being arranged so that when the lugs of one set of disks engages a set of bus bars, the lugs on the other disks are out of engagement with the other bus bars, the arrangement of one set of discs and bus bars being such that upon rotation of any member of said set the circuit for said set will be set to be closed.

2. A device of the character described including a plurality of tumblers, two circuits, means operated by said tumblers for closing or opening said circuits so that by rotating all of said tumblers to predetermined points one circuit is opened and the other circuit is closed and by rotating any one of the tumblers to another predetermined point the first circuit is set to be closed and the second circuit is open.

In testimony whereof I affix my signature.

ABNER F. H. DAVIS.