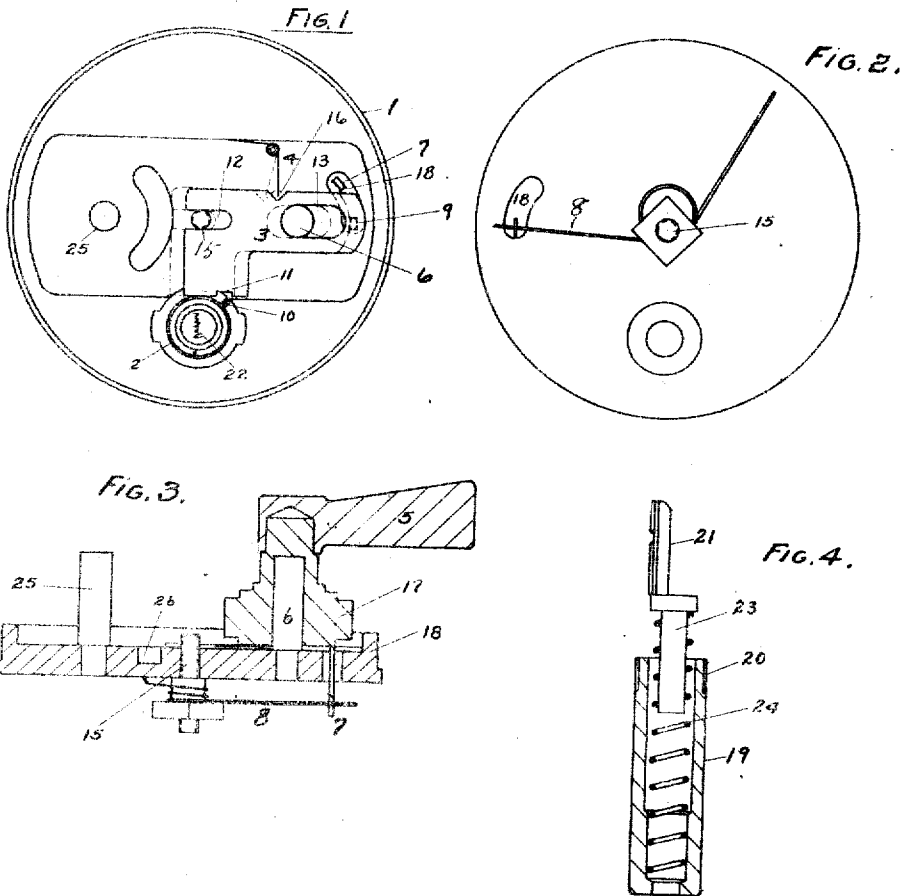


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 IGNITION LOCK FOR AUTOMOBILES.  
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# UNITED STATES PATENT OFFICE.

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IGNITION LOCK FOR AUTOMOBILES.

1,408,295.

Specification of Letters Patent. Patented Feb. 28, 1922.

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*To all whom it may concern:*

Be it known that I, CHARLES A. HERVEY, a citizen of the United States, residing at Lansing, in the county of Ingham and State of Michigan, have invented a new and useful Improvement in Ignition Locks for Automobiles, of which the following is a specification.

My invention relates to devices for locking the ignition of automobiles for their better protection, and its purposes are to make a device that can be readily constructed as a modification of an ordinary lock, but shall add to its security by making it impossible to leave the key in the lock by providing an automatic means for the rejection of the key.

I attain these purposes by the means shown in the accompanying drawings in which Fig. 1 is a diagrammatic plan view of my device, all the unessential parts and those of ordinary construction being removed. Fig. 2 is a plan view of the back of Fig. 1. Fig. 3 is a longitudinal section of the operative part of my device. Fig. 4 is a detail showing the construction of the device for rejecting the key.

Referring to the drawings, 1 is the outer case or main body of any ordinary ignition lock. I do not describe this lock in detail for the exact construction forms no part of my present invention which may be applied to a number of different locks of the electrical type. 2 is a tumbler lock of any ordinary well known construction, provided with an operating pin 10, adapted to engage with a notch 11, formed in a slide 3. The slide 3 is provided with longitudinal slots 12 and 13. The slot 12 is adapted to slide on the bolt 15, which is used to secure the front of the case in position, and the slot 13 slides on the shaft 6 of the locking lever 5. These thus serve to retain the slide 3 in position. A spring 4 engages with a notch 16 formed in the side of the slide 3 and operates to retain the bar in the locked position as shown in Fig. 1, except when drawn back by the action of the key as will be more fully described hereafter. An arm 7 extends parallel with the axis of the shaft 6, moving in a slot 18 formed in the back of the case 1 and engaging with a spring 8, the action of which is to throw

the arm 7 into the position shown at 9 in Fig. 1, when released by throwing forward the slide 3 by the action of the lock 2 as will be more fully explained in connection with the operation of the device. A tube 19 is mounted concentrically with the lock 2 on the back side of the case and secured to it in any suitable manner, as for instance, by a screw thread 20. A slide 21 is constructed to fit the key opening 22 in the lock 2 and provided with a cylindrical body 23 which is pressed outward by a spring 24 mounted in the opening of the tube 19. 25 is the shaft of the lighting mechanism which forms no part of my present invention and is, therefore, not described in detail. 26 is a slot in the back of the device which also pertains to the lighting mechanism.

The operation of my device is as follows:

As shown in Fig. 1, the device is in the position in which the car is locked by breaking or opening the circuit of the ignition mechanism in the manner well known to all those familiar with the art of constructing such locks. To unlock the car by closing the circuit, the locking pin 10 is revolved by inserting and turning the key in the key opening 22 and engages with the notch 11 throwing the slide 3 to the left and releasing the arm 7 which is then thrown forward to the position 9, by the action of the spring 8, carrying with it the lever 5 and moving the mechanism 17 of the ignition circuit into position to unlock the car by closing the ignition circuit. In this position the arm 7 stands opposite and against the end of the slide 3, which, therefore, cannot be operated by the use of the key.

To lock the car the lever 5 is moved over, carrying with it the arm 7, thus releasing the locking bar 3 which is thrown back into the position shown in Fig. 1 by the action of the spring 4.

It will be noted that in inserting the key the slide 21 must be pushed back by the key. As soon, however, as the operation of unlocking is completed, the key will be pushed out by the action of the spring 24. It is thus impossible to leave the key in the lock after use. It will also be noted that the key is not used to lock the car, but that the operation of opening the ignition circuit with the handle 5, automatically locks

the car, which can only be unlocked with the key since the slide 3 prevents the switch 17 from being operated.

I claim as my invention and desire to secure by Letters Patent:

1. The combination with a switch for opening and closing an electric circuit, and a lock for said switch provided with a locking pin adapted to be operated by said lock, of a slide adapted to be engaged with, and operated by, said pin; a stop attached to said switch and operated thereby, said slide and stop being mutually interacting; a spring acting on said stop and switch to throw them into the position for engaging with said slide, and a spring adapted to press said slide against said stop.

2. The combination with a switch for opening and closing an electric circuit, and a lock for said switch provided with a locking pin adapted to be operated by said lock, of a slide adapted to be engaged with, and operated by, said pin; a stop attached to said switch and operated thereby, said slide and stop being mutually interacting; a spring acting on said stop and switch to throw them into position for engaging with said slide; a spring adapted to press said slide against said stop, and means for automatically ejecting the key when said circuit is closed.

3. The combination with a switch for opening and closing an electric circuit and a lock for said switch provided with a locking pin adapted to be operated by said lock, of a slide adapted to be engaged with, and operated by, said pin, a stop attached to said switch and operated thereby and adapted to engage with and prevent the motion of said slide, a spring acting on said stop and switch to throw them into position for engaging with said slide, a spring adapted to press said slide against said stop, and means for automatically ejecting the key when said circuit is closed, said

means comprising a push bar slidably mounted in the key hole of said lock and a spring operated upon said push bar to force it into said key hole.

4. The combination with a switch for opening and closing an electric circuit provided with an operating handle and a lock for said switch provided with a locking pin adapted to be operated by said lock, of a slide adapted to be engaged with, and operated by, said pin; a stop attached to said switch and operated thereby and adapted to engage with and prevent the motion of said slide; a spring acting on said stop and switch to throw them into the position for engaging with said slide; a spring adapted to press said slide against said stop, and means for automatically ejecting the key when said circuit is closed, said means comprising a push bar slidably mounted in the key hole of said lock and a spring operated upon said push bar to force it into said key hole.

5. The combination with a switch for opening and closing an electric circuit provided with an operating handle and a lock for said switch provided with a locking pin adapted to be operated by said lock, said lock being provided with a key hole adapted to receive a key for operating said lock, of a slide adapted to be engaged and operated by said pin; a stop attached to said switch and operated thereby and adapted to engage with and prevent the motion of said slide; a spring acting on said stop and switch to throw them into the position for engaging with said slide; a spring adapted to press said slide against said stop, and means for automatically ejecting the key when said circuit is closed, said means comprising a push bar slidably mounted in the key hole of said lock and a spring operating upon said push bar to force it into said key hole.

CHARLES A. HERVEY.