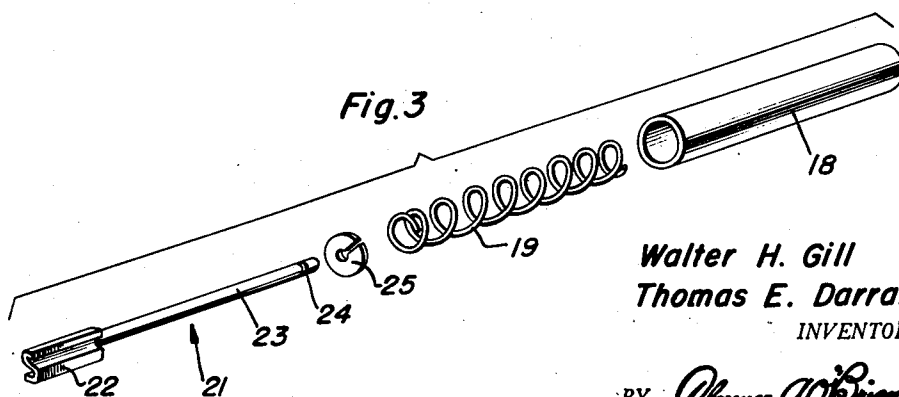
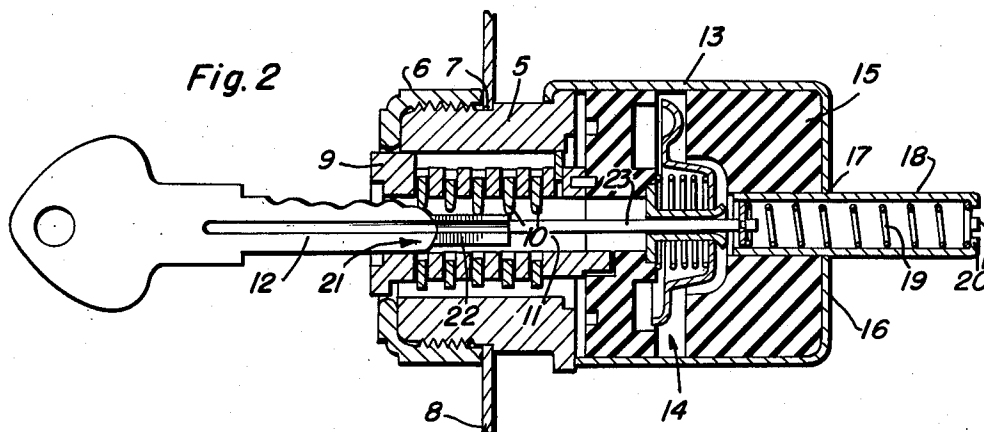
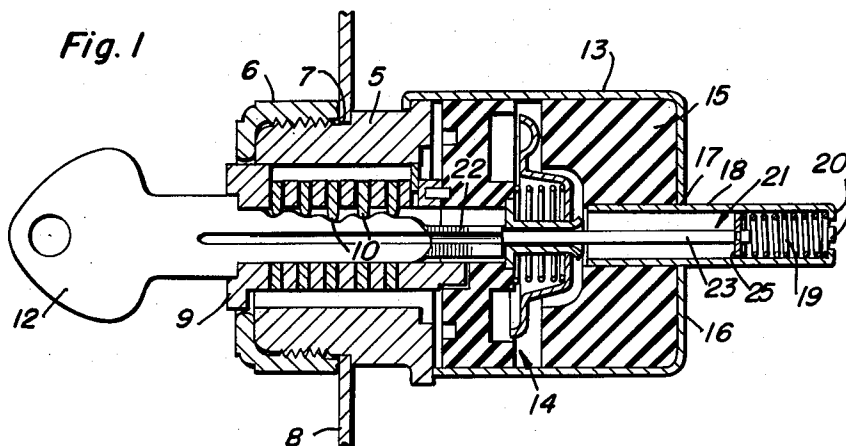


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LOCK WITH KEY EJECTOR
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LOCK WITH KEY EJECTOR

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1 Claim. (Cl. 70-388)

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The present invention relates to new and useful improvements in locks particularly for the ignition systems of automobile engines, although it will be understood, of course, that a lock in accordance with this invention may be used in any other manner or for any purpose for which it may be found adapted and desirable.

The primary object of the invention is to provide, in the manner as hereinafter set forth, a lock of the aforementioned character comprising unique means for automatically ejecting the key when the lock is in operative position or locked.

Other objects of the invention are to provide a lock of the character described which will be comparatively simple in construction, strong, durable, highly efficient and reliable in use, compact, light in weight and which may be manufactured at low cost.

All of the foregoing and still further objects and advantages of the invention will become apparent from a study of the following specification, taken in connection with the accompanying drawing wherein like characters of reference designate corresponding parts throughout the several views, and wherein:

Figure 1 is a view in vertical longitudinal section through a lock constructed in accordance with the present invention, showing the key inserted.

Figure 2 is a sectional view similar to Figure 1 but with the key ejected.

Figure 3 is a group perspective of the ejector elements.

Referring now to the drawing in detail, it will be seen that reference numeral 5 designates a fixed cylinder which, as usual, is secured by a ring or nut 6 in an opening 7 which is provided therefor in a suitable support such, for instance, as the instrument panel 8 of a motor vehicle. Journaled for rotation in the cylinder 5 is a conventional barrel 9 in which the usual tumblers 10 are mounted. The barrel has formed therein a suitable keyway 11 which receives a key 12 for engagement with the tumblers 10.

Mounted on the inner or forward end portion of the cylinder 5 is a casing 13 which encloses the elements of the switch assembly 14, including a block 15 of insulating material.

The end wall 16 of the casing 13 has formed centrally therein an opening 17 which accommodates a tubular housing 18 which is mounted in the insulating block 15 and which projects forwardly from said wall 16. The tubular housing 18, which is open at both ends, encloses a coil

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spring 19. The forward end of the tubular housing 18 is provided with inturned lugs or ears 20 which the adjacent end of the coil spring 19 abuts.

The coil spring 19 actuates an ejector 21 comprising a bar or head 22 which is slidable in the keyway 11 and which conforms in transverse section to the shape thereof. The ejector bar or head 22 is fixed on one end of a rod 23 the other end portion of which projects into the tubular spring housing 18 and has formed therein a circumferential groove or channel 24 in which a split washer 25 is mounted. The spring 19 is engaged with the collar 25.

It is thought that the operation of the device will be readily apparent after a consideration of the foregoing. Briefly, the key 12 is inserted in the usual manner in the keyway 11 of the ignition lock and said key engages the ejector bar 22 of the ejector 21 and forces said ejector inwardly or forwardly to the position shown in Figure 1 of the drawing, thus compressing the coil spring 19. After insertion, the key 12 is turned in the usual manner for closing the ignition switch and the ejector 21 is thus retained in its forward or inner position. When the key 12 is turned in the opposite direction for opening the circuit and locking the ignition lock, coil spring 19 actuates the ejector 21 for automatically ejecting said key.

It is believed that the many advantages of the lock embodying the present invention will be readily understood and although a preferred embodiment of the device is as illustrated and described, it is to be understood that changes in the details of construction and in the combination and arrangement of parts may be resorted to which will fall within the scope of the invention as claimed.

Having described the invention, what is claimed as new is:

A lock of the character described comprising a fixed cylinder, a barrel operable in the cylinder and having a keyway therein, a switch unit mounted on the cylinder and operatively connected to the barrel, a tubular housing mounted in the switch unit and projecting therefrom, said tubular housing being open at both ends, an ejector comprising a bar slidable in the keyway for engagement with a key, a rod fixed longitudinally on one end of the bar extending into the tubular housing, said rod having a circumferential groove in its free end portion, a washer mounted in the groove and operable in the tubular housing, inturned ears on the outer end

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of the tubular housing, and a coil spring mounted in said tubular housing and having one end engaged with the ears and its other end engaged with the washer for actuating the rod and the bar for ejecting a key from the keyway. 5

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