June 17, 1930. S. SEGAL 1,764,898

LOCK

Filed July 7, 1928

Fig. 1.

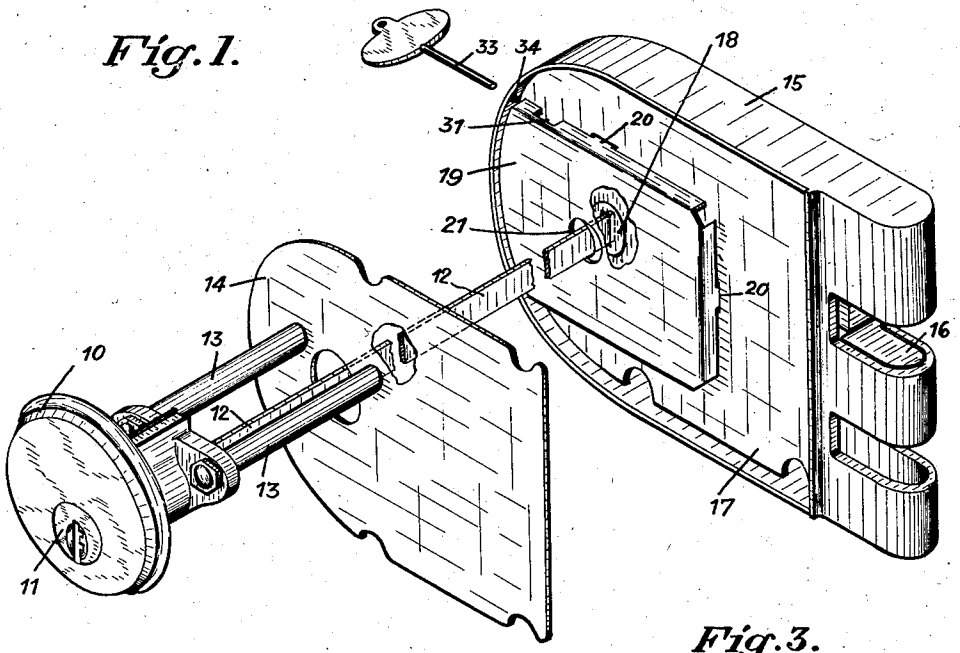


Fig. 2.

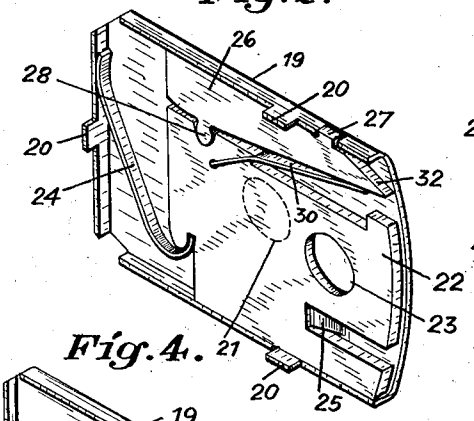


Fig. 3.

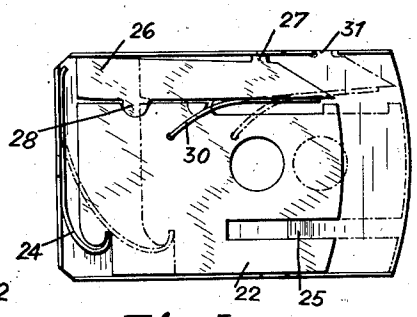


Fig. 4.

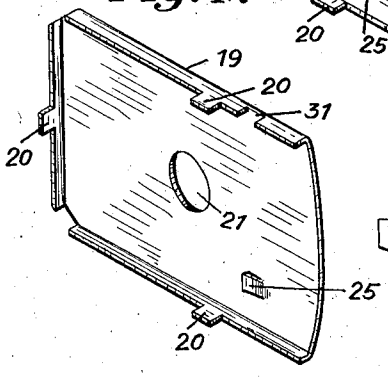


Fig. 5.

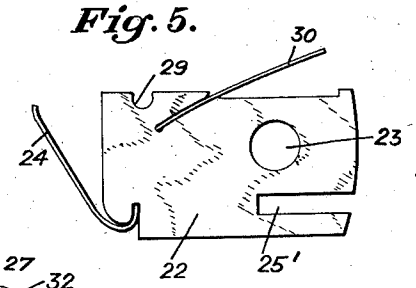
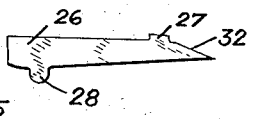


Fig. 6.



INVENTOR.
Samuel Segal
BY Dunn & Anderson
ATTORNEYS.

Patented June 17, 1930 1,764,898

UNITED STATES PATENT OFFICE

SAMUEL SEGAL, OF NEW YORK, N. Y., ASSIGNOR TO SEGAL LOCK & HARDWARE CO., INC., OF NEW YORK, N. Y., A CORPORATION OF NEW YORK

LOCK

Application filed July 7, 1928. Serial No. 291,069.

This invention relates to a lock structure and specifically aims to provide an improved mechanism of this character serving to prevent the actuation of the lock by a non-authorized person.

It is well appreciated by those skilled in the art that considerable difficulty has been experienced in connection with locks in that a burglar has quite often succeeded in actuating the lock mechanism by simply ripping the cylinder or other exposed key structure from a door and thereafter, by the use of a proper implement such as, for example, a screw driver, actuating the crank of the lock mechanism to retract the bolt of the latter.

With this in mind the present invention has, as its primary object, the provision of a novel and improved mechanism whereby the actuation of a lock in this manner will be prevented.

A further object of the invention is that of providing a mechanism which will in no way interfere with the normal operation of the lock and which mechanism, furthermore, will not interfere with the ready application of the lock to a door.

A still further object is that of furnishing a mechanism in which, when unauthorized operation is once attempted the parts will be thrown to a position at which they cannot be released by a person on the outside of a door.

Another object is that of furnishing such a mechanism in which the parts will be few in number and individually simple and rugged in construction, these parts being readily assembled and applicable to locks of any desired type and the operation of which will at all times be positive.

With these and further objects in mind reference is had to the attached sheet of drawings illustrating one practical embodiment of the invention and in which:

Figure 1 is a somewhat ideal perspective view of one form of lock showing the improved structure of the present invention associated therewith;

Fig. 2 is a perspective view showing the mechanism afore referred to, in front position;

Fig. 3 is a face view with the parts in normal or retracted position, and

Figs. 4, 5 and 6 illustrate the elements of the switch mechanism.

In these views the numeral 10 indicates a key cylinder from the plug 11 of which a tail piece 12 extends rearwardly. In accordance with the conventional construction this cylinder is secured as, for example, by bolts 13 to a mounting plate 14 provided on the inner face of the closure with which the lock is associated. The lock illustrated has been shown as including a case 15 from which a bolt structure 16 extends, the rear face of which case is closed by a cover plate 17 mounting a crank (not shown) which is secured to a rotatable plug 18 formed, in the present instance, with a slot for the reception of the end of the tail piece.

At this time it is to be understood that all of the foregoing is illustrative and that in lieu of the key mechanism, tail piece and lock shown, any desired equivalent mechanisms might be employed and that the mounting plate 14 might be dispensed with if it were desired to do so. Likewise, in connection with the structure hereinafter described, it will be appreciated that according to the type of lock in connection with which the same is employed, various changes might be made and that, aside from changes incident to the employment of the invention in connection with various types of lock, the structure of the mechanism might be varied in numerous particulars.

Thus, the numeral 19 indicates a casing which, in the present instance, is formed with outwardly extending flange portions 20 for reception by suitable openings or depressions in the cover plate 17. This casing is formed with an opening 21 for the passage of the tail piece 12 and mounted within this casing is a bolt or plate 22 formed with a similar opening 23 capable of being registered with the opening 21. However, the parts tend to shift to a position at which the openings do not register as, for example, by the use of a spring 24 having one of its ends mounted by the plate 22, its opposite end bearing against the casing 19 and in order to guide the move-

ments of the plate or bolt within the case the latter may be formed with a raised portion 24 riding within a track formed as, for example, by slotting the plate as at 25. It is thus obvious that the plate may be moved freely from one end of the case 19 to the other end thereof, and in one of its extreme positions, as shown in Fig. 3, the openings 21—23 are in alignment, while the spring 24 tends to move the plate to the position shown in Fig. 2.

With a view to dead-locking the plate in this latter position a tumbler or bolt may be employed which includes a body 26 having a raised portion 27 in one of its edges and a bearing portion 28 in its opposite edge, the latter seating within a rounded depression 29 formed in the plate 22. A spring 30 carried by the latter bears against the inner edge of the body 26 and serves to normally project the raised portion 27 into a depression or opening 31 formed in the case. It is obvious that when the parts are in this position the plate 22 may not be forced rearwardly and this position of the parts will be automatically established upon the plate being released and projected by the spring 24. However, by simply pressing against the beveled end 32 of the tumbler or bolt, as, for example, by a pin 33, the former will be swung downwardly so that the projecting portion 27 will be retracted from within the opening or depression 31 and continued pressure will result in the parts being bodily retracted to a point at which the openings 21—23 align.

In utilizing a device of this character it will be obvious that the casing 19 is mounted, for example, upon the cover plate 17. Thereafter, the door is drilled in the usual manner and the mounting plate and the cylinder are applied thereto, conceding of course, that the former is employed. The mechanic will now simply mount the lock casing 15 upon the door and at the time of the mounting will, by inserting the pin 33 through the opening 34 in the lock case, retract the tumbler and consequently the plate to the position shown in Fig. 3. Thereafter, the lock may be completely applied, exercising the usual care to have the tail piece extend within the slot of the plug 18.

The lock will now function in the usual manner, but if anyone succeeds in forcing a key mechanism as, for example, the cylinder 10 from the door, it is obvious that such movement will result in a withdrawal of the tail piece from within the slot of the plug and the openings 23—21. Consequently, the plate will snap to its closed position in which it will be retained by the dead-lock structure and a burglar will now find that the plug is inaccessible even with the cylinder and the tail piece ripped clear of the door. As afore brought out, the plate may be retracted only from the inside of the door and thus the lock-operating mechanism will continue inaccessible.

Thus, among others, the several objects specifically afore referred to are achieved and it will be understood that numerous changes in structure and rearrangement of the parts might be resorted to without departing from the spirit of the invention as defined by the claims.

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

1. In combination a bolt, means for moving the same, a key mechanism, a connecting element between said mechanism and said bolt-moving means, means operating automatically and associated with said bolt-moving means to render the latter inaccessible upon said connecting element being detached therefrom and means for preventing a subsequent operation of said last named means.

2. In combination a bolt, means for moving the same, a key mechanism, a connecting element between said mechanism and said bolt-moving means, means operating automatically and associated with said bolt-moving means to render the latter inaccessible upon said connecting element being detached therefrom and means for dead-locking said last named means.

3. In combination a bolt, means for moving the same, a key mechanism, a connecting element between said mechanism and said bolt-moving means, means operating automatically and associated with said bolt-moving means to render the latter inaccessible upon said connecting element being detached therefrom, means for dead-locking said last named means and means arranged adjacent said bolt for releasing said dead-locking means.

4. In combination a lock including a casing, bolt-operating means associated with said casing, means for covering said bolt-operating means, means associated with said bolt-operating means for actuating the same and normally maintaining said covering means in inoperative position and means associated with said lock casing for subsequently rendering said covering means inoperative.

5. A device of the character described including a casing, a plate movable within said casing, said plate and casing being formed with openings, means for normally urging said plate to a position at which said openings will be non-aligned and means for automatically locking such plate in said latter position.

6. A device of the character described including a casing, a plate movable within said casing, said plate and casing being formed with openings, means for normally urging said plate to a position at which said open-

ings will be non-aligned, means for automatically locking such plate in said latter position and means whereby said last named means may be released and said plate may be moved to a position at which the openings align.

7. A device of the character described including a casing formed with an opening, a plate also formed with an opening and movable within said casing, a spring carried by said plate and engaging said casing to urge said plate to a position at which the opening thereof does not align with said casing opening, a bolt for deadlocking such plate in the latter position and a spring carried by said plate and engaging said bolt for normally urging the same into locking position.

8. In combination a lock casing, a bolt associated therewith, a cover plate for said casing, means carried by said plate for actuating said bolt, a second casing carried by said cover plate, means within said second casing for covering said bolt-operating means and an operating element extending through said last named casing and into said bolt-operating means for normally maintaining the covering means in inoperative position.

9. A device of the character described including a casing formed with an opening, a plate movable within said casing and also formed with an opening, a bolt associated with said plate and normally cooperating with said casing to prevent a movement of the plate and means for retracting said bolt and bodily shifting said plate to a position at which the opening thereof aligns with said casing opening.

10. A device of the character described including a casing formed with an opening, a plate movable within said casing and also formed with an opening, a bolt associated with said plate and normally cooperating with said casing to prevent a movement of the plate, the end of said bolt being beveled whereby pressure applied to such end surface will result in a retraction of said bolt and a bodily shifting of the same, together with said plate, to a point at which the opening of the latter aligns with the opening of said casing.

11. A device of the character described including, in combination, a lock casing formed with an opening, a bolt, operating means within said casing for projecting and retracting said bolt, a second casing secured to said lock casing and being formed with an opening in line with the first named opening, an actuating member extending through said openings and connected to said operating means, and means within said second casing and acting automatically upon the removal of said actuating element to close the second casing opening and to render said operating means inaccessible.

12. A device of the character described including, in combination, a casing, flange portions forming a part of said casing, a plate movable within said casing, said plate and casing being formed with openings, means tending normally to project said plate to bring said openings into non-aligned condition, and means carried by said plate and cooperating with a portion of the flange of said casing to normally prevent a return of said plate to a position in which said openings are aligned.

In testimony whereof I affix my signature.

SAMUEL SEGAL.