

S. SEGAL.
LOCK.

APPLICATION FILED AUG. 3, 1915.

1,188,846.

Patented June 27, 1916.

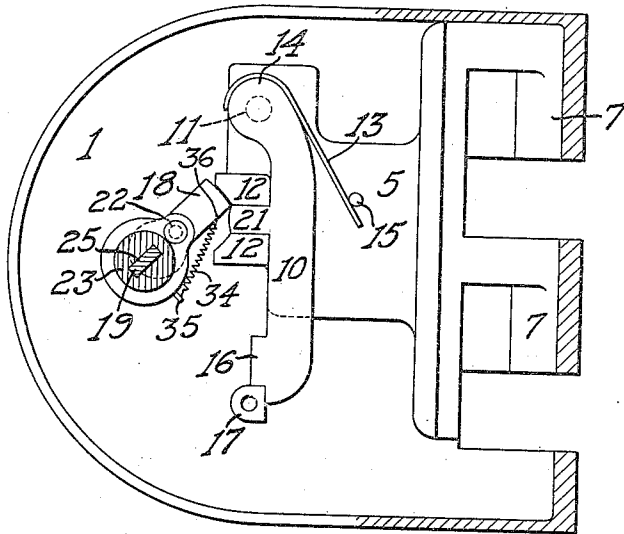


Fig. 1.

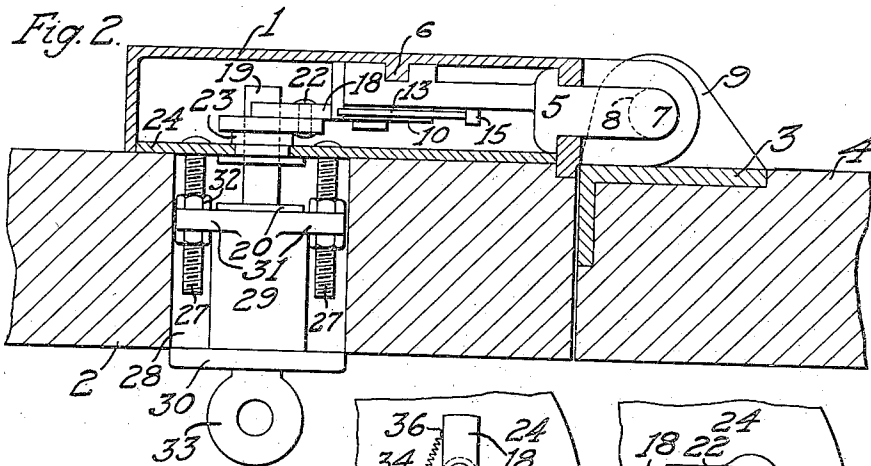


Fig. 2.

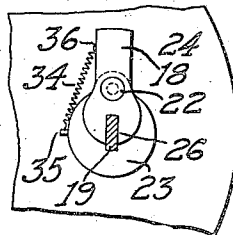


Fig. 3.

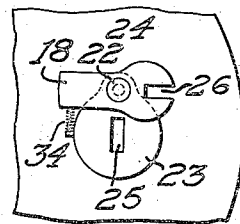


Fig. 4.

Witness

Chas. W. LaRue

Inventor
Samuel Segal.
By his Attorney
Benjamin P. Moran.

UNITED STATES PATENT OFFICE.

SAMUEL SEGAL, OF NEW YORK, N. Y., ASSIGNOR TO BURGLAR PROOF LOCK AND HARDWARE CORPORATION, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

LOCK.

1,188,846.

Specification of Letters Patent. Patented June 27, 1916.

Application filed August 3, 1915. Serial No. 43,408.

To all whom it may concern:

Be it known that I, SAMUEL SEGAL, a citizen of the United States, and resident of the city of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Locks, of which the following is a specification.

This invention relates to locks.

In locks of the "Yale" or similar type the casing containing the tumbler-barrel is fastened to the lock-body and to the door by means of bolts extending through the door from a back-plate of the lock and ears upon said casing passing over said bolts and being securely held thereto with nuts. A spindle connected to the tumbler-barrel passes through a rotatable sleeve and said back-plate, which sleeve is provided with a cam for operating the locking mechanism. Turning of the tumbler-barrel with a key inserted therein rotates said spindle with the sleeve and revolves the cam to operate the locking mechanism to throw the lock-bolt for locking and unlocking the door.

It has been found that burglars frequently succeed in unlocking the door and breaking in through the expediency of tearing out the tumbler-barrel casing and the spindle with a jimmy. When the barrel is torn out it either causes said bolts to break away from the back-plate, or breaking of the bolts themselves, or tearing of said bolts off the bolt-threads. After thus tearing out the tumbler-barrel the burglar inserts the end of a screw driver into the rectangular opening usually provided in said sleeve for said spindle to slide therethrough, and with the aid of the screw driver he readily rotates said sleeve and cam to operate the locking-mechanism to unlock the door.

The principal object of my invention is to provide a lock with simple, inexpensive, and reliable means for preventing unlocking of the door and breaking in, through the aid of the above mentioned expediency of tearing out the tumbler-barrel.

In carrying out the invention the cam is pivoted to the sleeve and the spindle passing through said sleeve normally engages the cam and maintains it in operative state. Upon the barrel being torn out from said sleeve a spring draws said cam about its pivot and swings it to an inoperative state whereby any rotation thereafter of the

sleeve and cam with the aid of a screw driver does not effect the locking-mechanism and the locking bolt, and unlocking of the door is thus frustrated.

Other objects and advantages will hereinafter appear.

In the accompanying drawings,—Figure 1 is a sectional elevation of the lock, showing the disposition of its bolt when in unlocked state. Fig. 2 is a sectional plan view of the lock shown in Fig. 1. Fig. 3 is a detail view showing the bolt-operating cam in operative state. Fig. 4 is a view of the bolt-operating cam showing it converted into inoperative state.

A metal casing 1 containing the locking mechanism and constituting the lock-body proper is secured to the door 2, and a keeper 3 for the lock is fastened to the door-frame 4. Within the casing 1 is located a bolt 5 which is guided at 6 to travel vertically, whereby throwing of the bolt downwardly causes cylindrical portions 7 thereof to enter into locking engagement with openings 8 in ears 9 of the keeper 3 and shifting of the bolt upwardly to the elevated position shown in Fig. 1 removes the locking portions 7 from said ears and unlocks the lock from its keeper 3. Upon the bolt 5 is pivoted a pawl 10 at 11 from where it extends vertically downward and bears against projections 12 formed upon the bolt, toward which projections said pawl is normally pressed by a leaf-spring 13 fixed to its pivot-head 14 and bearing against a pin 15 on bolt 5. The lower part of the pawl 10 is provided with a ledge 16 which abuts against a lug 17 of the casing-barrel and maintains the bolt 5 in its elevated state shown in Fig. 1. In order to throw the bolt downwardly and lock it to its keeper, a cam 18 adaptable to be revolved by a spindle 19 of a tumbler-barrel 20 is turned in a clockwise direction, as viewed in Fig. 1. This movement of said cam causes it to enter between the projections 12, and while progressing on its stroke the cam strikes the pawl 10 against a projection 21 thereof, thereby causing the pawl to swing toward the right and to become released from the lug 17. And simultaneously, the cam 18 carries the bolt 5 downwardly and locks its cylindrical portions 7 within the keeper-ears 9. Upon revolving of the cam 18 in an anti-clockwise direction the opposite oper-

ation takes place and the bolt 5 is unlocked from its keeper and is caused to rise and to become disposed in its elevated state, Fig. 1.

The cam 18 is pivoted at 22 to a sleeve 23 which is rotatably mounted in the back-plate 24 of the lock-casing 1. Said sleeve is provided with a central rectangular opening 25 through which the spindle 19 passes and engages the cam 18, by means of a slotted end 26 of the cam embracing the spindle. Bolts 27 secured to the back-plate 24 extend within an opening 28 cut in the door 2, for locating the operating mechanism for the cam 18 therewithin. The casing 29 containing the tumbler-barrel 20 of this mechanism is provided with an outer flange 30 that closes the opening 28 and with ears 31 that pass over the bolts 27 and are secured thereto by means of nuts 32. Turning of the key 33 leading into the tumbler-barrel 20 renders the spindle 19 rotatable and the cam 18 revoluble, and with said key the bolt 5 may be thrown to lock it with and unlock it from the keeper 3 in the above described manner. Removal of the key 33 upon locking of the door disposes the cam 18, spindle 19, and sleeve 23 to the position shown in Fig. 3 and locks these parts against turning or dislocation from this position, except by means of utilizing the key to rotate the barrel 20.

Should the barrel-casing 29 be torn out and the spindle 19 therewith removed from the lock, in an attempt at breaking in, the cam 18 would be rendered at once inoperative by means of a spring 34, secured at one end 35 to sleeve 23 and at its other end 36 to said cam, drawing the cam and swinging it to a position shown in Fig. 4, which position is rightangular to its normal operative position shown in Fig. 3. And it will be evident that any further rotating thereafter of the sleeve 23 with the inoperative cam 18, by such means as inserting the end of a screw-driver into the rectangular opening 25, would be entirely useless, and the breaking in by a burglar through the expediency of tearing out the tumbler-barrel would be thereby completely frustrated.

Variations may be resorted to within the scope of the invention.

Having thus described my invention, I claim:—

1. A lock having the combination of a bolt, means for actuating said bolt, key operated mechanism for operating said actuating means, and means to render said actuating means inoperative upon removal of said key operated mechanism.

2. A lock having the combination of a bolt, means for actuating said bolt, key operated mechanism for operating said actuating means, and means to actuate said actuating means to render it inoperative upon removal of said key operated mechanism.

3. A lock having the combination of a bolt, means for actuating said bolt, mechanism for operating said actuating means, a spindle connecting said mechanism with said actuating means, and means to render said actuating means inoperative upon withdrawing of said mechanism and spindle from the lock.

4. A lock having the combination of a bolt, a rotatable sleeve, means carried by said sleeve to actuate said bolt, mechanism for rotating said sleeve and operating said actuating means, a spindle connected to said mechanism passing through said sleeve and connecting with said actuating means, and means to render said actuating means inoperative upon withdrawing of said mechanism and spindle from the lock.

5. A lock having the combination of a bolt, a rotatable sleeve, means carried by said sleeve to actuate said bolt, mechanism for rotating said sleeve and operating said actuating means, a spindle connected to said mechanism passing through said sleeve and connecting with said actuating means, and means to actuate said actuating means to render it inoperative upon removal of said mechanism and spindle from the lock.

6. A lock having the combination of a bolt, a rotatable sleeve, a cam pivotally joined to said sleeve to actuate said bolt, mechanism for rotating said sleeve and operating said cam, a spindle connected to said mechanism passing through said sleeve and engaging said cam to maintain it in operative state, and a spring for swinging said cam about its pivot to render it inoperative upon withdrawing of said mechanism and spindle from the lock.

7. A lock having the combination of a bolt, a rotatable sleeve, a cam upon said sleeve to actuate said bolt, mechanism for rotating said sleeve and operating said cam, a spindle connected to said mechanism passing through said sleeve and engaging said cam to maintain it in operative state, and means to render said cam inoperative upon withdrawing of said mechanism and spindle from the lock.

8. A lock having the combination of a bolt, a rotatable sleeve, a cam upon said sleeve to actuate said bolt, mechanism for rotating said sleeve and operating said cam, a spindle connected to said mechanism passing through said sleeve and engaging said cam to maintain it in operative state, and means to actuate said cam to render it inoperative upon removal of said mechanism and spindle from the lock.

9. A lock having the combination of a bolt, a rotatable sleeve, a cam upon said sleeve to actuate said bolt, mechanism for rotating said sleeve and operating said cam, a spindle connected to said mechanism passing through said sleeve and engaging said

cam to maintain it in operative state, and a spring for withdrawing said cam from operative state to render it inoperative upon removal of said mechanism and spindle from
5 the lock.

10 10. A lock having the combination of a bolt, a rotatable sleeve, a cam pivotally joined to said sleeve to actuate said bolt, mechanism for rotating said sleeve and operating said cam, a spindle connected to
said mechanism passing through said sleeve and engaging said cam to maintain it in

operative state, and a spring connected to said sleeve and to said cam for swinging
said cam about its pivot to render it inop- 15
erative upon withdrawing said mechanism and spindle from the lock.

Signed at the city of New York, in the county of New York, and State of New York, this 2nd day of August, A. D. 1915. 20

SAMUEL SEGAL.

Witness:

B. ROMAN.