C. TERRACCIANO.

LOCK AND BOLT.

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1,309,918.

Patented July 15, 1919.

Fig. 2.

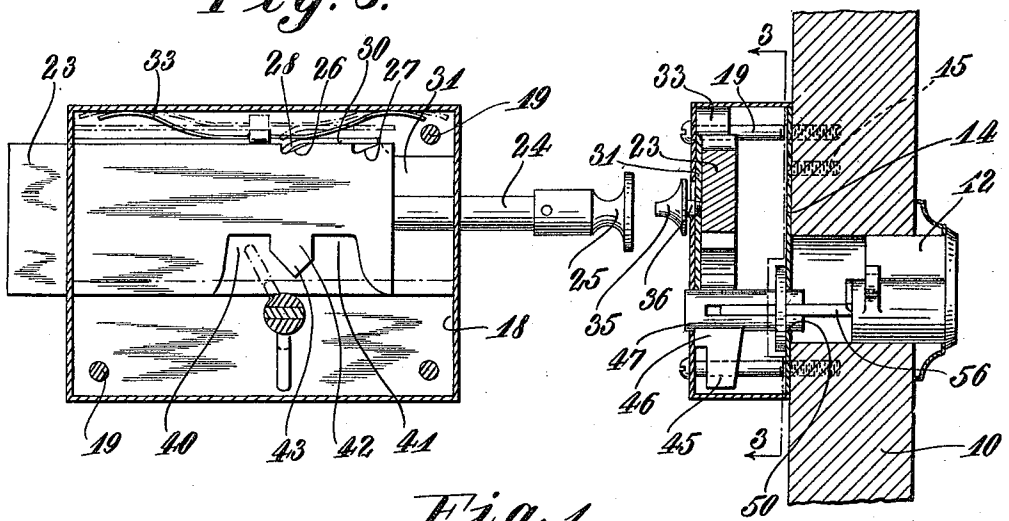


Fig. 3.

Fig. 1.

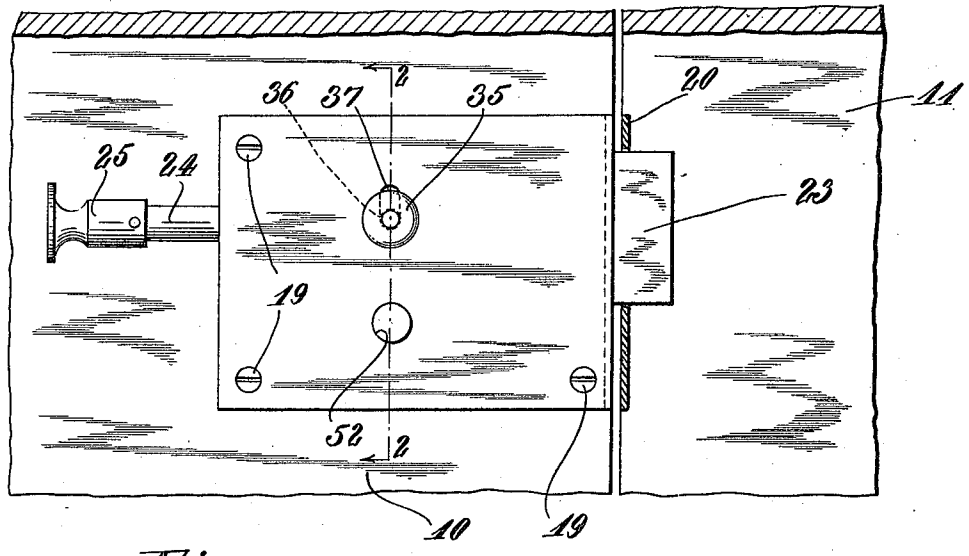
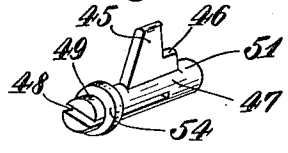


Fig. 4.



Carmine Terracciano, INVENTOR.

BY William O. Richards

his ATTORNEY

THE COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CARMINE TERRACCIANO, OF NEW YORK, N. Y.

LOCK AND BOLT.

1,309,918. Specification of Letters Patent. Patented July 15, 1919.

Application filed September 29, 1917. Serial No. 193,960.

To all whom it may concern:

Be it known that I, CARMINE TERRACCIANO, naturalized citizen of the United States, residing at 322 East 117, New York city, New York county, New York State, have invented certain new and useful Improvements in Locks and Bolts, of which the following is a specification.

This invention relates to improvements in locks, and particularly to those of the barrel type in which an element may be rotated after the insertion of a proper key, and by means of which a bolt is actuated.

An object of the present invention is to provide means, combined with the lock, whereby the bolt may be manually operated from the interior of the door.

A still further object is to provide a substantially unpickable lock, and one that can not be forced open by the use of a jimmy, and finally to provide a lock comprised of few and simple parts, all of which can be manufactured at a minimum of cost.

These and other objects of my invention are set forth in the following specification and shown in the accompanying drawings, which form a material part of this disclosure, and in which:—

Figure 1 is a side elevational view showing a lock made in accordance with the invention, looking from the inner side of a door;

Fig. 2 is a transverse sectional view taken substantially on line 2—2 of Fig. 1;

Fig. 3 is a sectional view of the lock taken on line 3—3 of Fig. 2; and,

Fig. 4 is a perspective view of the bolt actuating element.

In the drawings the numeral 10 designates the door or swinging movable part, 11 the casing or door frame, and 12 a conventional type of barrel lock.

The barrel of the lock is inserted in a cylindrically bored opening in the door 10, having attached, on the inner side, a plate 14, by the screws 15, and over which is a casing 18, held by the screws 19 in the usual manner, a keeper 20 being secured by the screws 21 to the exterior of frame immediately adjacent to the front of the lock casing.

Slidably arranged within the casing 18, is a bolt 23, enterable into the keeper 20, and having engaged at its opposite end a stem 24, provided with a manually operable knob 25, readily accessible on the inner side of the door.

Formed on the upper side of the bolt 23, are two angular detent recesses, respectively 26 and 27, engageable with which is a detent member 28, formed with the upper flanged edge 30, of a plate 31, said plate extending across the inside of the lock from side to side of the said casing and having bearing against said sides, said plate being interposed between said bolt and casing and movable vertically therebetween.

Arranged within the casing 18, and contacting with the upper side element thereof, is a flat spring 33, the same being so formed as to press the plate 31 downward or toward the bottom of the lock casing, so that the detent member 28 may be engaged in either of the transverse detent slots or recesses 26 or 27.

Formed with the flanged edge 30, and turned back over said flanged edge, is a holder 29 adapted to securely engage the spring 33 at or near its central portion, to prevent displacement of the same.

Attached to the back side of the plate 31, is an extending knob 35, the stem 36 of which is movable vertically in a slot 37 formed through the lock casing 18, and by means of which the plate 31 may be raised, opposing the spring 33, and permitting the bolt 27 to be operated by the knob 25 in the manner of an ordinary bolt.

Formed in the opposite edge of the bolt 23, are transverse openings, respectively 40 and 41, having between them an extending lug 42, formed with an angular point 43, and contactable with which is an extending ward 45, integrally formed with a sleeve 47 having a longitudinal slot 48 in the annular end 49, which is adapted to enter an opening 50 formed in the plate 14, while at the opposite end of the sleeve 47 is a similar projection 51, rotatable within an opening 52 formed in the cover plate of the casing 18, the sleeve having a raised flanged collar 54 adapted to make contact with the plate 14, by means of which longitudinal movement is prevented.

Extending inward from the barrel 12 is a thin, flat bar 56, receivable within the slot 48, and by means of which the sleeve 47 is rotated when the lock is operated by the insertion and rotation of an appropriate

key, and in order to raise the plate 31, which would otherwise prevent the bolt 23 from moving longitudinally, a minor ward 46 is formed with the main ward 45, the same making contact with the lower edge of the plate 31, raising it automatically as the sleeve is turned, while the main ward 45 enters the first recess 40, moving the lock bolt outwardly until it engages the keeper, and upon again turning the key a second time the ward 45 is caused to engage with the projection 42, again moving the end of the lock bolt outwardly in the keeper in an obvious manner, the bolt now extending outwardly beyond the keeper a sufficient distance to render the lock practically safe from the use of a jimmy, while the use of the barrel lock 12 renders it safe from picking, as the lock can only be opened from the outside by the use of the appropriate key.

In operation, the parts having been assembled as indicated, when it is desired to operate the bolt manually it is only necessary to push the bolt into the keeper by the knob 25, as the detent member 28 will override the detent recesses 26, 27, in this movement, but upon any attempt to open, the bolt will catch in said recesses and prevent the movement of the bolt until the latter has been manually released, or been operated by a key.

If it be desired to unbolt the lock the knob 35 is raised, and with it the plate 31, releasing the detent member 28 from said recesses, when the knob 25 may be pulled outwardly, bringing the bolt with it out of the keeper.

If it is desired to unlock the door from the exterior, the key is inserted in the usual manner, turned in the lock 12, causing the bar 56 to be rotated, carrying with it the sleeve 47 together with the wards, whereupon the minor ward 46 raises the plate 31, while the main ward 45 contacts with the sides of the bottom recesses 40, 41, formed in the bolt, and moves the latter in an obvious manner.

As will be seen more particularly in Fig. 2, I form the casing of my device of an integral sheet of metal, bending the same to form a rectangularly shaped structure which is open at its back. This plate has end openings to receive the bolt members 23, 24, and the detent plate lifting member 36, while the detent plate 31, and spring 33 are held in position by the bolt itself, so that all these parts are held in operative positions, when assembled, by the bolt, and without the aid of any other devices.

What I claim as new and desire to secure by Letters Patent is:—

1. A lock comprising a casing, a bolt having a rectangular cross section throughout slidable longitudinally in said casing, a flat level plate movable transversely in said casing in intimate contact with said bolt, a detent formed with said plate engageable with recesses in said bolt, an elliptic spring secured to said plate whereby said detent is held in engagement with said bolt, a barrel lock, a bar extending therefrom into said casing, a rotatable sleeve engaged on said bar, and a single lateral two stepped ward formed with said sleeve, one of the steps being engageable with said plate and the other step with said bolt.

2. A lock comprising a casing, a bolt extensible through one of the end walls of said casing, a stem fixed in the inner end of said bolt extending through the other end of said casing, a knob formed with said stem by which said bolt may be moved into an engaging position, angular recesses formed directly in said bolt, a bow spring in said casing, a plate movable transversely in said casing by said spring, a detent on said plate engageable in said recesses and means for operating said plate permitting the retraction of said bolt.

3. The combination with a panel lock, a casing secured opposite to said lock and a keeper, of a bolt slidable progressively within said casing, a stem attached to said bolt extending outwardly at the rear of said casing, an operating knob engaged with said stem, means for holding said bolt in a forward position, means operable on the outside of said casing for releasing said holding means, a sleeve engaged with the revoluble portion of said barrel lock, means formed with said sleeve for retracting said holding means, and a ward formed with said sleeve adapted to actuate said bolt in either direction.

4. The combination with a barrel lock, an opposed casing and a bolt slidable in said casing, of detent recesses formed directly in said bolt, a spring actuated detent engageable therein, a plate movable transversely to said bolt on which said detent is secured, means extending through the walls of said casing whereby said plate may be shifted to release said detent, means extending through the end of said casing whereby said bolt may be pressed outwardly, or retracted when said detent is disengaged, a bar extending into said casing from said barrel lock, a sleeve operatively engaged therewith, said sleeve being rotatable in said casing, means formed with said sleeve for shifting said plate and a ward formed with said sleeve for actuating said bolt in either direction.

5. A lock comprising a casing, a bolt slidable therein, an extension upon said bolt permitting manual protraction thereof, a plate interposed between said bolt and inner casing wall slidable transversely therebetween, spaced angular recesses in said bolt, a detent formed with said plate adapted to engage in said recesses to prevent retraction

of said bolt but to allow protraction thereof, elastic means engaging said plate normally holding said detent elements in engagement, and means for coincidently releasing said detent elements and operating said bolt.

6. A lock comprising a barrel lock, a casing, a bolt slidable in said casing, a plate slidable in said casing transversely to the movement of said bolt, a detent carried by said plate, said detent being engageable in notches formed in said bolt, a spring element for keeping said detent in operative position, a sleeve engageable with said barrel lock, a ward formed with said sleeve, said ward being engageable in recesses formed in said bolt by which it is operated, and means combined with said sleeve for raising said plate coincidently with actuating said bolt.

7. The combination with a barrel lock, a casing secured opposite to said lock, and a keeper, of a bolt progressively slidable within said casing, a stem attached to said bolt and extending outwardly at the rear end of said casing, an actuating knob engaged with said stem, means for normally holding said bolt in a forward position, operable means on the outer side of said casing for releasing said holding means, a sleeve engaged with the revoluble portion of said lock, means formed with said sleeve for liberating said holding means, and a ward formed with said sleeve adapted to actuate said bolt in either direction.

8. The combination in a door securing means of a tubular lock accessible from one side of a door, a casing upon the other side of said door, a keeper, a bolt slidably engaged within said casing, means for operating said bolt independently of said lock, an extending ward operated by the actuation of said lock, said ward operably engaging said bolt, and means combined with said ward for releasing bolt retaining means.

In testimony whereof, I have signed my name to this specification in the presence of a subscribing witness, this 13th day of August, 1917.

CARMINE TERRACCIANO.

Witness:
THOMAS HOWARD.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."