F. IUCOLANO.

LOCK.

APPLICATION FILED MAY 9, 1916.

1,199,554.

Patented Sept. 26, 1916.

2 SHEETS—SHEET 1.

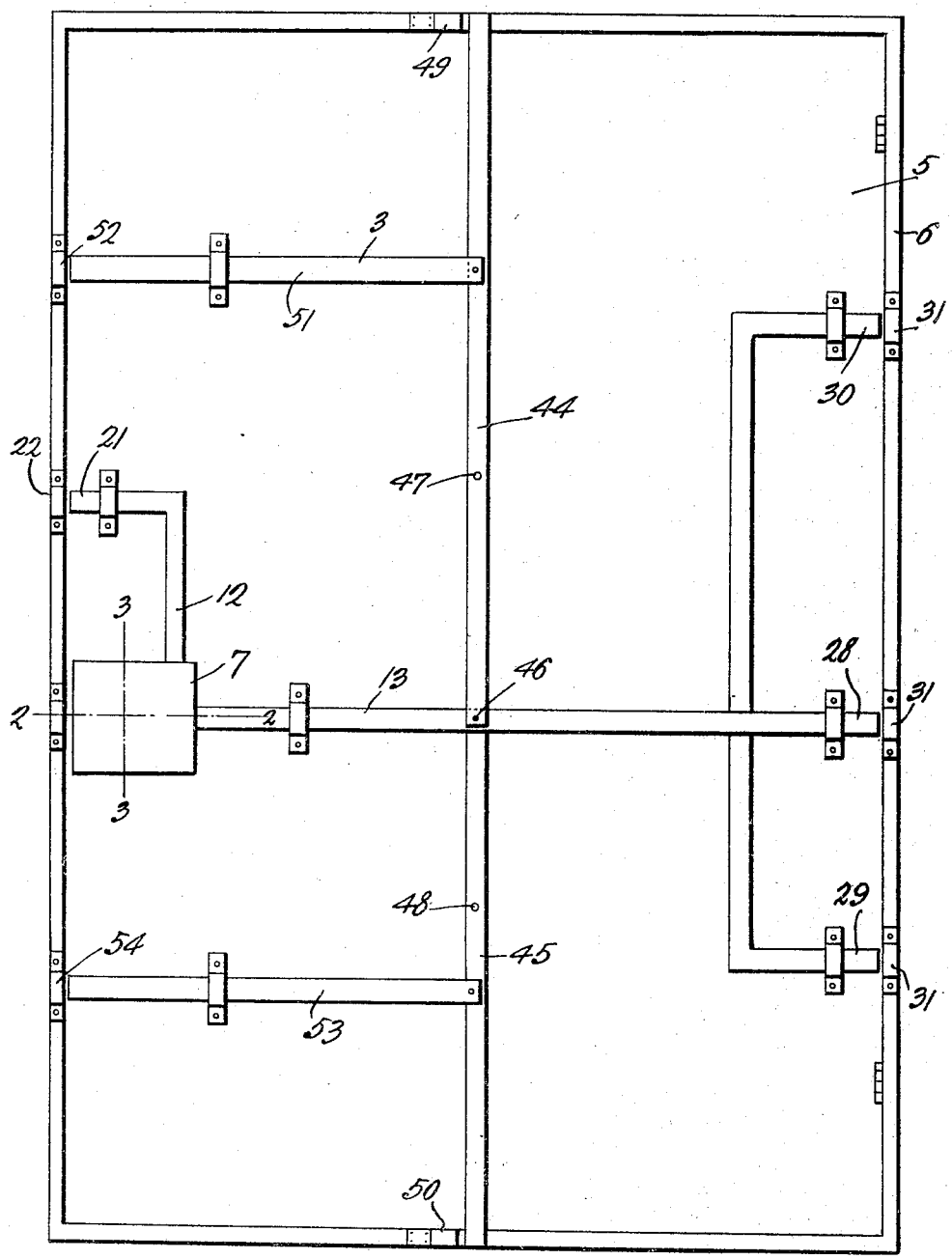


Fig. 1.

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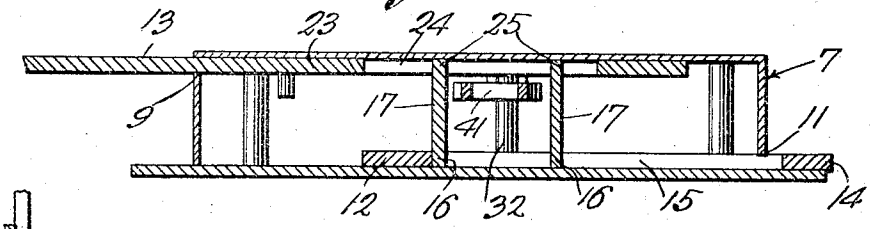
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2 SHEETS—SHEET 2.

Fig. 2.



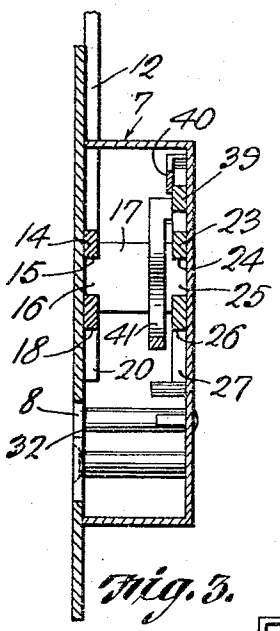


Fig. 3.

Fig. 5.

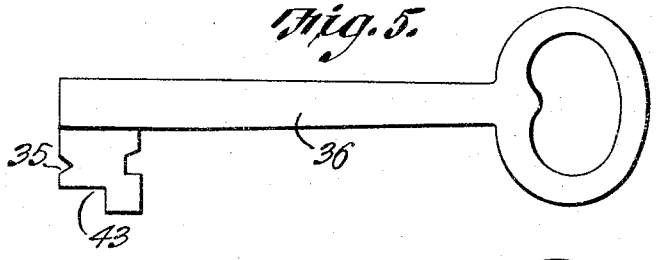
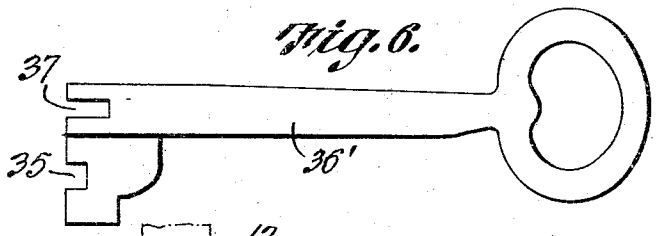


Fig. 6.



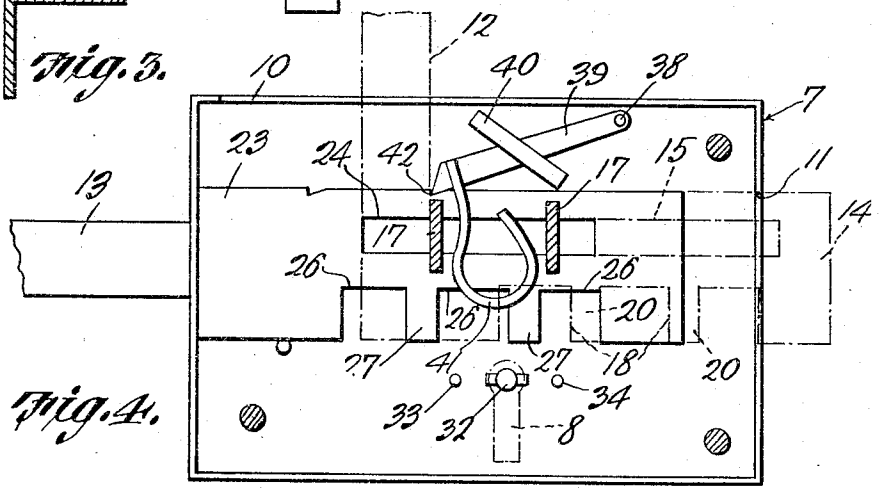


Fig. 4.

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UNITED STATES PATENT OFFICE.

FRANCESCO IUCOLANO, OF NEW YORK, N. Y.

LOCK.

1,199,554. Specification of Letters Patent. Patented Sept. 26, 1916.

Application filed May 9, 1916. Serial No. 96,340.

To all whom it may concern:

Be it known that I, FRANCESCO IUCOLANO, a subject of the Kingdom of Italy, residing at New York city, county of New York, and State of New York, have invented certain new and useful Improvements in Locks; and I do hereby declare the following to be a clear and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in locks, one object of the invention being the provision of a lock in which the tumbler or sliding members, two in number, require each an independent key, so that to operate the complete lock, two keys are employed, and such keys must be operated in the proper sequence to manipulate the lock.

A further object of this invention is the provision of a novel arrangement of bolts which are operably connected to the two sliding members of the lock so that a door may be secured firmly at all four edges to the casing, thus making the present lock especially adapted for use upon loft doors and the like.

In the accompanying drawings:—Figure 1 is a rear elevation of a door and casing provided with the present lock structure. Fig. 2 is a cross section taken on line 2—2 of Fig. 1. Fig. 3 is a cross section taken on line 3—3 of Fig. 1. Fig. 4 is a plan view of the sliding members of the lock with the outer casing or front portion removed. Figs. 5 and 6 are plan views of the two keys.

Referring to the drawings, the numeral 5 designates the door, and 6 the casing.

Attached to the door upon the inside thereof is a casing 7 provided with the key hole 8 and having the slots 9, 10, and 11 for the proper projection therethrough of the inverted L-shaped locking bolt 12 and the horizontally slidable locking bolt 13.

Connected to the member 12 is a sliding plate 14 having the longitudinal slot 15 which fits upon the reduced ends 16 of the spacing members 17, there being provided upon the lower edge thereof the key receiving notches 18, which provide the two projections 20. By this means, when the projections 20 are engaged by the key, the plate 14 is reciprocated, and consequently reciprocates the bolt 12, so that its locking terminal 21 may be moved into and out of engagement with the strap 22 carried by the casing 6. Also mounted within the casing at the opposite side to the plate 14 is a plate 23 which is connected to the bar 13 and is provided with the elongated slot 24 which fits astride of the reduced ends 25 of the spacing members 17. Thus, the plate 23 is mounted for reciprocation and is guided in its straight line movement by this arrangement. This lower edge is provided with a plurality of recesses or notches 26 providing the key receiving projections or teeth 27, which, when acted upon by the key, reciprocate the bolt 13 which in turn operates the three integral locking terminals 28, 29, and 30, which coöperate with the respective straps 31 to lock the door at the hinge side thereof.

Mounted in the casing 7 adjacent the key hole is the key guiding member 32, while disposed at opposite sides thereof are the two pins 33 and 34 which are adapted to register with the notches 35 of the keys 36 and 36′, each one of which is adapted to fit upon the stem, one to be oscillated upon the reduced portion thereof, while the other has its oppositely disposed recesses 37 fitting astride thereof, so that the key guiding stem may be bodily rotated as the key is rotated to engage the teeth 27 to manipulate the bolt 13. Also mounted in the casing for swinging movement upon the pin 38 is a pawl 39 which is guided by the strap 40 and carries the depending and releasing loop 41 which is disposed in the path to be engaged by the end of the key, so that when the key is oscillated, the depending loop is engaged, and the pawl is released from one of the notches 42 of the plate 23. Thus, the key 36′ for manipulating the plate 23 must seat fully upon the guiding pintle, so that when oscillated in the proper direction to withdraw the bolt 13, the pawl will be released simultaneously with the withdrawal of the plate 23, the movement in the opposite direction projecting the bolt 13 and permitting the pawl to engage one of the notches and thus hold the bolt from retrograde movement. The remaining key 36 is provided with the edge recess 43 and is permitted limited movement upon the guiding pin, so that when the key is oscillated, the recess 43 will aline with and pass without engaging the pawl actuating loop 41. In manipulating the lock, this key 36 must be inserted

first, and the bolt 12 actuated, the second key 36′ then being inserted and manipulated to withdraw the bolt 13.

In order that the bolt 13 may operate a plurality of casement engaging members, the links 44 and 45 are pivotally connected to the bolt 13, as at 46, and are themselves pivoted as at 47 and 48 to the door 5, their free ends in this instance being disposed to engage the respective cleats 49 and 50. Pivotally connected to the lever 44 is a sliding bolt 51 for coöperation with the strap 52, while pivotally connected to the lever 45 is a similar bolt 53 for coöperation with the strap 54. It will thus be seen that the sliding movement of the bolt 13 actuates the members 28, 29, and 30, 44 and 45, and 51 and 53 simultaneously.

From the foregoing description taken in connection with the drawings, it is evident that I have provided a simple construction of lock for, and one which is readily attached to the inside of a door for manipulation exteriorly thereof, and which will require the operation in proper sequence of two keys to properly release and project the bolts.

What I claim as new is:—

1. A lock, including a casing, two spacing members mounted therein and having oppositely disposed reduced ends, two sliding plates mounted in parallel and each provided with an elongated slot for receiving the respective reduced ends of the spacing members, key receiving portions carried by each of the plates, a bolt operably connected to each plate, one of said plates being provided with ratchet teeth upon the upper edge thereof, a swingingly mounted pawl disposed in the casing for engagement with one of the teeth at a time, and means carried by said pawl and disposed to be engaged by a key when retracting said plate.

2. A lock, including a casing, two spacing members mounted therein and having oppositely disposed reduced ends, two sliding plates mounted in parallel and each provided with an elongated slot for receiving the respective reduced ends of the spacing members, key receiving portions carried by each of the plates, a bolt having a single terminal carried by one of said plates, a bolt having a plurality of terminals carried by the other of said plates, two oppositely disposed levers having the inner ends thereof pivotally connected to the last bolt intermediate of the ends thereof, the terminals of said levers constituting locking terminals, and a sliding bolt operably connected to each of said levers.

3. A lock, including a casing, two spacing members mounted therein and having oppositely disposed reduced ends, two sliding plates mounted in parallel and each provided with an elongated slot for receiving the respective reduced ends of the spacing members, key receiving portions carried by each of the plates, an L-shaped bolt connected to one of said plates, a bolt having three parallel terminals connected to the other plate, two oppositely disposed levers having their inner ends pivoted to a common point of the last bolt, the free ends thereof constituting locking terminals, and two sliding bolts pivotally connected one to each of said levers.

FRANCESCO IUCOLANO.

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