

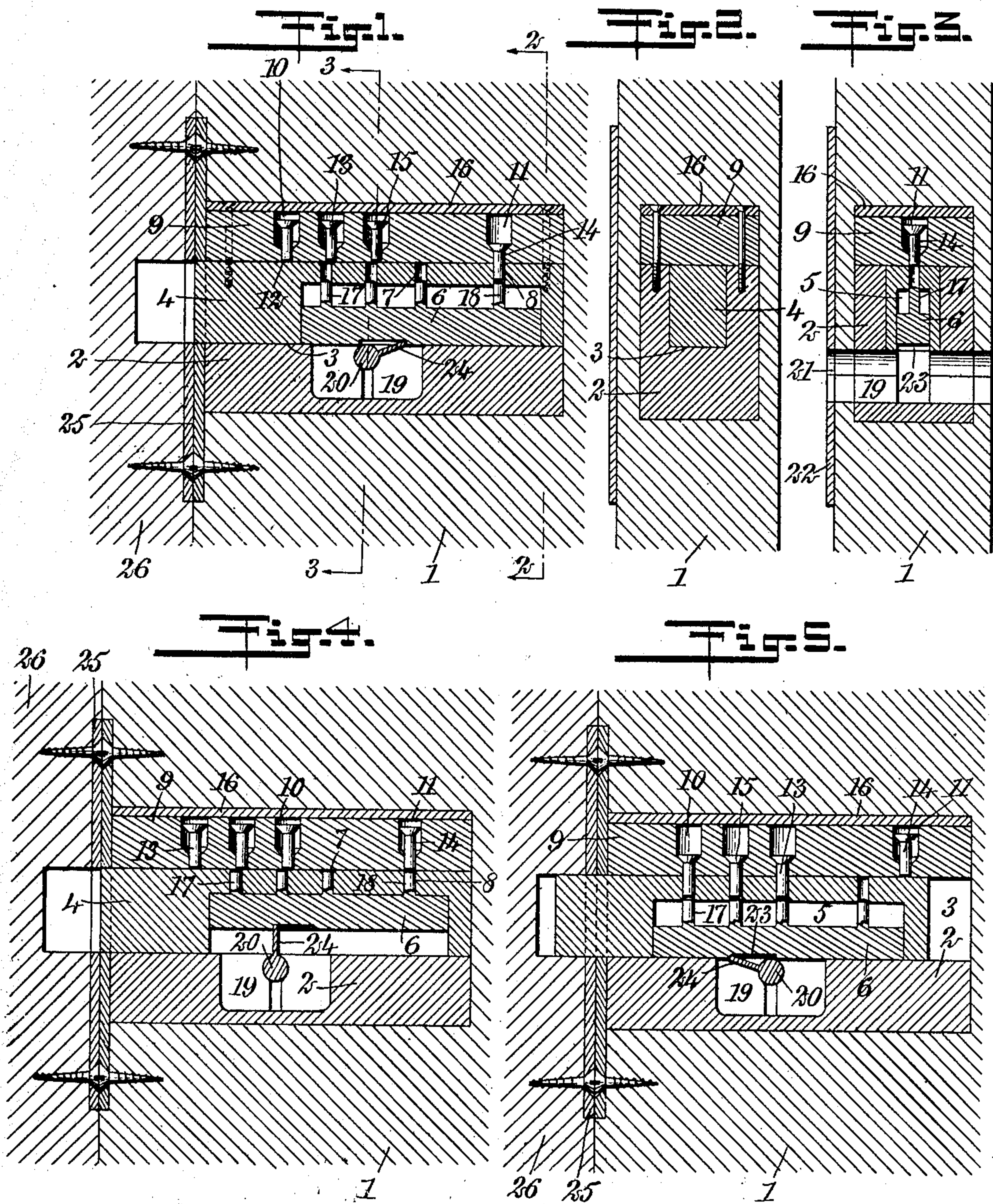
M. NADOLSKI.

LOCK.

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918,357.

Patented Apr. 13, 1909.



WITNESSES

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# UNITED STATES PATENT OFFICE.

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## LOCK.

No. 918,357.

Specification of Letters Patent.

Patented April 13, 1909.

Application filed November 27, 1908. Serial No. 464,793.

*To all whom it may concern:*

Be it known that I, MARCELL NADOLSKI, a citizen of the United States, and a resident of Jersey City, in the county of Hudson and State of New Jersey, have invented a new and Improved Lock, of which the following is a full, clear, and exact description.

This invention relates to locks such as door locks, and particularly to such as are locked or unlocked by the use of keys or similar means.

The object of the invention is to produce a lock of very simple construction which will operate in a simple manner without the use of a spring.

The invention contemplates a construction for a lock by means of which the bolt is positively held against withdrawal when in its locked position.

The invention consists in the construction and combination of parts to be more fully described hereinafter and particularly set forth in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a vertical section taken through the edge of a door to which the lock has been applied, and showing a short portion of the jamb and keeper with which the bolt of the lock coöperates, this view also showing the key in the act of being applied to lock the bolt, said key being in cross section; Fig. 2 is a vertical cross section through the lock taken on the line 2—2 of Fig. 1; Fig. 3 is a vertical cross section taken on the line 3—3 of Fig. 1; Fig. 4 is a view similar to Fig. 1, but showing the bolt in the act of being thrown or shot by the key, this view showing particularly the manner in which the bolt becomes released from the tumblers; and Fig. 5 is a view similar to Fig. 4, but showing the bolt in its locked position, and illustrating the manner in which the tumblers check the bolt against withdrawal.

Referring more particularly to the parts, 1 represents a door to which the lock is applied in the usual manner.

The lock comprises a case 2, the middle portion of which is formed with longitudinal guide-ways 3 for a sliding bolt 4. The under side and rear portion of this bolt is provided with a channel or enlarged groove 5, and in this channel there is a vertically movable

tumbler bar 6. The upper portion of the bolt is provided with vertically disposed openings 7. Three of these openings are disposed forwardly of the channel and near the middle portion of the bolt, as indicated, while near the rear end of the bolt, a similar opening 8 is provided. These openings 7 and 8 extend from the upper surface of the bolt completely through into the channel.

On the upper side of the case 2, there is seated a tumbler holder 9, and this tumbler holder is provided with three tumbler pockets 10 in the forward portion of the lock, and a single tumbler pocket 11 near the rear portion thereof. The lower ends of the tumbler pockets 10 have small openings 12 which operate as guides for tumblers 13 and 14. The tumbler 14 is disposed in the pocket 11, while the tumblers 13 are disposed in the pockets 10. These tumblers are in the form of pins, the upper ends being formed with enlarged conical heads 15 which fill the bores of the pockets and operate as guides when the pins are moved vertically. After the tumblers or pins have been inserted in their pockets, the upper side of the tumbler holder is closed by a cover plate 16.

The upper side of the tumbler bar 6 is provided with stems 17, the upper extremities of which lie in the lower parts of the openings 7, and near the rear end of the tumbler bar a similar stem 18 is provided, the upper end of which extends into the opening 8.

In the lower portion of the case a key pocket 19 is formed, into which a key 20 may be passed through a suitable keyhole 21 formed in the escutcheon 22 of the lock. On the under side of the tumbler bar 6, a recess or shallow notch 23 is formed which is directly over the key pocket 19, as shown.

Before proceeding to a description of the mode of operation of the lock, it should be stated that the three openings 7 are adapted to aline with the openings 12 when the bolt is in its locked position, but these openings are out of alinement when the bolt is in its withdrawn or unlocked position. When the bolt is in its withdrawn or unlocked position the opening 8 registers with the opening 12, as indicated in Fig. 1. When the bolt is in this position the tumbler or pin 14 descends by gravity so that its lower end projects in the opening, and in this way it checks the bolt against being advanced until this tumbler is released.



In order to throw the bolt the key 20 is inserted, as shown in Fig. 1, and is then rotated so that the bit 24 of the key engages the notch 23. As the key is rotated 5 the bit will raise the tumbler bar 6 so that the stems 17 and 18 advance in the openings in the upper part of the bolt. In this way the tumbler bar will rise into the position shown in Fig. 4. The upper end of the stem 18 at 10 this time will be flush with the upper face of the bolt so that the tumbler 14 will be pushed out of engagement with the bolt; a further rotation of the key will then advance the bolt, and as the bolt advances, the tumbler 15 bar will descend by gravity until it comes into the position shown in Fig. 5, the bolt then being in its furthestmost or locked position. The openings 12 will then aline with the openings 7, and the tumbler 13 will 20 descend by gravity into these openings and check the bolt against being withdrawn without releasing the tumblers.

It will be evident that when the tumblers are not in their locking positions they are 25 supported on the upper face of the bolt. In practice, the lower ends of the tumblers and also the upper ends of the stems will be slightly rounded so as to insure that the bolt can slide freely when the tumblers are in 30 their releasing position. The bolt cooperates with a keeper 25 which is attached to the door jamb 26, in the usual manner.

Having thus described my invention, I claim as new and desire to secure by Letters 35 Patent,—

1. In a lock, in combination, a case, a bolt mounted to slide longitudinally in said case, means for engaging said bolt to check the same against sliding, and a movable member 40 mounted loosely on said bolt and sliding transversely of said bolt, said movable member affording means for disengaging said locking means and being adapted for actuation by a key.

45 2. In a lock, in combination, a case, a bolt movably mounted therein, a plurality of tumblers adapted to engage said bolt to check the same, and a tumbler bar guided transversely on said bolt, having a plurality 50 of projections adapted to displace said tumblers, said tumbler bar having means for engaging the bit of a key and affording means for advancing said bolt after the release of said tumbler.

55 3. In a lock, in combination, a case, a bolt mounted to slide therein and having openings therein, a plurality of tumblers adapted

to engage said openings to check said bolt, and a tumbler bar movable transversely upon said bolt, having a plurality of stems extending into said openings and adapted to displace said tumblers, said tumbler bar having a notch in the edge thereof adapted to be engaged by the bit of a key.

4. In a lock, in combination, a case, a bolt 65 sliding longitudinally in said case, having a channel formed therein with openings leading from said channel to the upper face of said bolt, tumblers adapted to engage said openings to check said bolt, and a tumbler 70 bar guided to slide transversely of said bolt in said channel and having stems extending into said openings and adapted to displace said tumblers.

5. In a lock, in combination, a case, a bolt 75 guided to slide longitudinally therein and having a channel in the under side thereof, said bolt having a plurality of openings extending from said channel to the upper face of said bolt, a tumbler holder disposed over 80 said bolt, having tumblers adapted to aline with said openings, and a tumbler bar mounted in said channel and adapted to move transversely of said bolt, said tumbler bar 85 having a plurality of stems extending into said openings and adapted to displace said tumblers by an upward movement, said tumbler bar having a notch in the under side thereof adapted to be engaged by a key.

6. In a lock, in combination, a case, a bolt 90 mounted to slide in said case, having a channel in the under side thereof, said bolt extending upwardly from said channel through the upper face thereof, a tumbler holder having tumbler pockets with reduced openings 95 connecting the tumbler pockets with the lower face of said tumbler holder and adapted to aline with said openings, a plurality of tumblers consisting of pins mounted in said tumbler pockets having enlarged heads 100 guided in said pockets, said pins being adapted to descend into said first openings to check said bolt, and a tumbler bar mounted in said channel and movable therein transversely of said bolt, said tumbler bar having 105 stems extending in said first openings and adapted to displace said pins.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

MARCELL NADOLSKI.

Witnesses:

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