M. FARCH.

LOCK MECHANISM.

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935,004.

Patented Sept. 28, 1909.

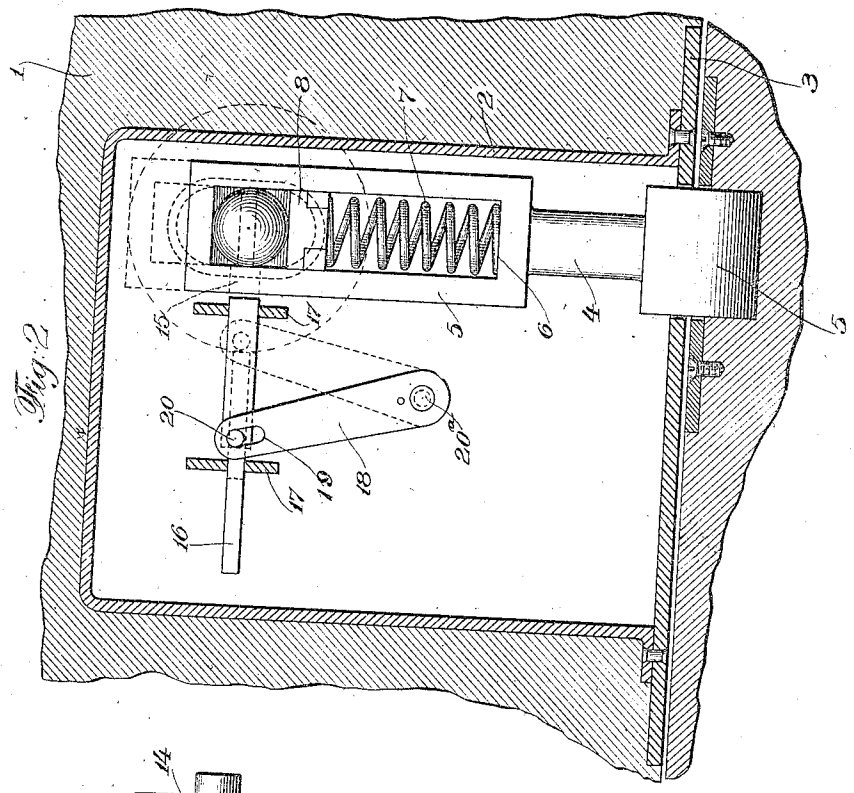

Fig. 2.

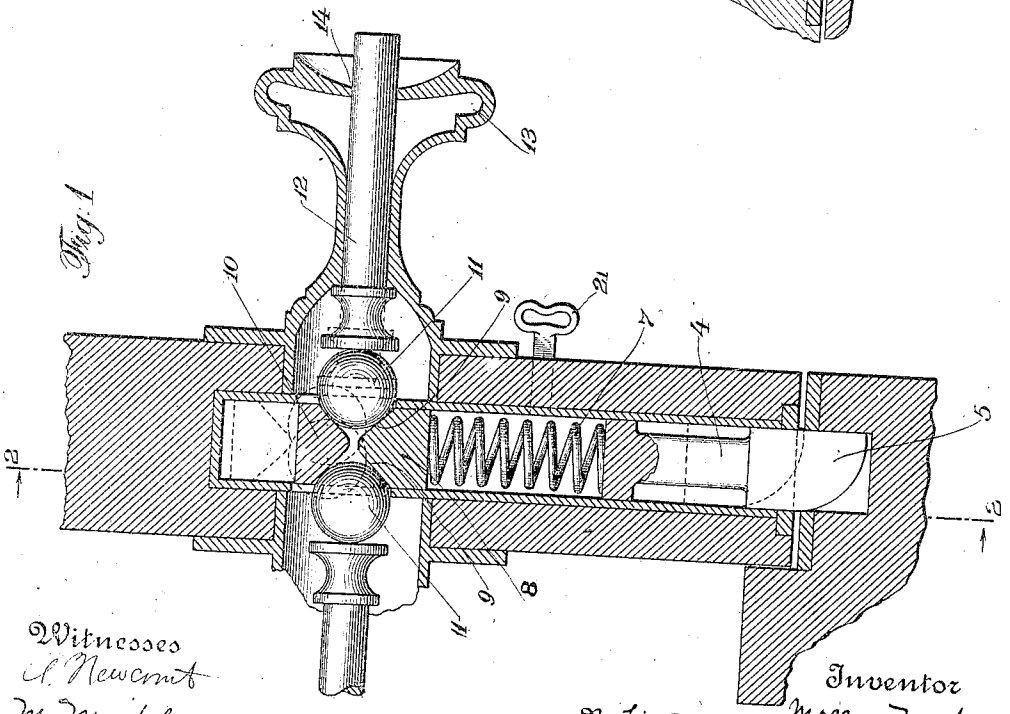

Fig. 1.

Witnesses
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UNITED STATES PATENT OFFICE.

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LOCK MECHANISM.

935,004. Specification of Letters Patent. Patented Sept. 28, 1909.

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To all whom it may concern:

Be it known that I, MOGENS FARCH, of Brooklyn, in the county of Kings and State of New York, have invented a certain new and useful Improvement in Lock Mechanism, and do hereby declare that the following is a full and exact description thereof.

My invention relates to an improvement in locks, and especially in locks which are adapted for use on doors.

My lock is so constructed that the single locking bolt therein is adapted to act both as a latch for keeping the door temporarily closed and as a permanent lock for securing the door closed for any length of time desired.

It also consists in a very convenient arrangement of latch releasing mechanism whereby the door handle is provided with a plunger which coöperates with the latch by the mere pressure of the thumb to retract the same when it is desired to open the door.

In the accompanying drawings Figure 1 shows a horizontal section of a door equipped with my lock; and Fig. 2, a vertical section of the same.

In the drawings 1 is a door provided with a lock casing 2 of the usual type, having an end plate 3 for giving the lock casing a finished appearance on the edge of the door. The end plate 3 is provided with an aperture through which the latch bolt 4 is adapted to pass. This has at its end projecting through the end plate 3 a beveled or curved surface 5, so that when the bolt 4 is being used as a latch, the door will be automatically secured in place when closed, as is usual with latches in general. The rear end of the bolt 4 is formed into a yoke 5, against the front end 6 of which a spring 7 is designed to coöperate, the rear end of the spring 7 abutting against a stationary support 8 secured within the lock casing 2. The rear side of the stationary support 8 is beveled so as to produce two beveled surfaces 9. Similar, though oppositely directed beveled surfaces 10 are located at the rear end of the yoke 5.

In the operative position of the bolt 4 as shown in Fig. 1, the said beveled surfaces 9 and 10 form two pockets, one on either side of the lock casing, and coöperating therewith there are two balls 11, one for either pocket located on either side of the lock bolt. The latter are designed to be pushed inwardly when it is desired to release the latch 5 by means of the plungers 12 located within the door knobs 13 and extending through the ends thereof at the points 14.

In Fig. 1 I have shown the knob and plunger located on one side only of the door, but it is to be understood that the door knob and plunger on the other side are constructed in exactly the same manner. It will also be seen, however, that my invention will work equally well, if such a construction be found desirable, by placing a door knob and plunger on one side of the door only. In order to use the bolt 4 not only as a latch but also as a lock, I provide one side of the yoke 5 with an aperture 15 which is of the proper size and so located as to receive the end of a slide bolt 16 held in position by the guides 17. I actuate the bolt 16 by means of a lever 18 having a slot 19 in its end which cooperates with a pin 20 located upon the bolt 16. The lever 18 is pivoted to the lock casing 2 at the point 20^a. The lever 18 could be operated in any desired manner. I have shown it, however, as oprated by means of a small handle or thumb piece 21 projecting through the outer surface of the door. It is to be understood that instead of the thumb piece 21, I might substitute any ordinary form of lock mechanism.

In the operation of the device, ordinarily the bolt 4 will be used merely as a latch, in which case upon the closing of the door the beveled or curved edge 5 thereof will cooperate with the door casing so as to cause the latch to be pushed backwardly into the lock casing 2 until the door has become completely closed, whereupon the spring 7 pushes the bolt 4 forwardly so as to secure the door in its closed position. When now it is desired to open the door, one of the handles 13 is grasped and the plunger 14 located therein depressed. This causes the ball 11 coöperating with the plunger 12, which has been depressed, to push against the beveled surface 10 located at the rear end of the yoke 5 against the force of the spring 7 until the end of the bolt 4 is entirely withdrawn into the lock casing, which results in the release of the door and allowing it to be opened.

When it is found desirable to utilize the bolt 4 as a permanent lock for a door for any desired period of time, the thumb piece 21 or its equivalent locking mechanism is operated to move the lever 18 so as to introduce the end of the bolt 16 into the aperture 15 in the side of the yoke 5. When this has

taken place, it will be seen that the plunger and ball mechanism for retracting the bolt 4 cannot be operated so as to retract the bolt, and when it is desired to open the door it is first necessary to move the lever 18 so as to withdraw the bolt 16 from the aperture 15 in the side of the yoke 5. The removal of the bolt 16 from the aperture then permits the bolt 4 to be withdrawn in the usual manner by the plunger 12 and ball 11 coöperating therewith.

While I have described my invention above in detail, I do not wish it to be understood that I am necessarily limited thereby, but consider that my invention is a broad one and capable of many modifications and applications to different structures, without departing from the spirit thereof.

What I claim is—

1. In a device of the character described, the combination of a spring-actuated latch and a ball mechanism for retracting the same, the ball of said mechanism being adapted to withdraw the catch by pushing against it at right angles thereto.

2. In a device of the character described, the combination of a spring-actuated latch, and a plunger and ball mechanism for retracting the same, the ball portion of said mechanism being constructed to move said latch by pushing against the same at right angles thereto.

3. In a device of the character described, the combination of a spring-actuated latch having a beveled yoke, a plunger and ball mechanism for retracting the same coöperating with the beveled surface of the yoke.

4. In a device of the character described, the combination of a spring-actuated latch having a yoke, the rear end of which is beveled, a spring coöperating with the front portion thereof, and a plunger and ball mechanism for retracting the same coöperating with the beveled rear end of the yoke.

5. In a device of the character described, the combination of a spring-actuated latch having a beveled yoke, a plunger and ball mechanism for retracting the same coöperating with the beveled surface of the yoke, and a locking mechanism for preventing the movement of the latch when desired.

6. In a device of the character described, the combination of a spring-actuated latch having a yoke the rear end of which is beveled and a spring coöperating with the front portion thereof, a plunger and ball mechanism for retracting the same coöperating with the beveled rear end of the yoke, and a locking mechanism for preventing the movement of the latch when desired.

7. In a device of the character described, the combination of a spring-actuated latch, a plunger for retracting the same a ball working at one side against the latch and at the other against the plunger to convey motion from the plunger to the latch and a lever and bolt locking mechanism adapted to coöperate with an aperture in the side of the latch for preventing the movement of the latch when desired.

In testimony that I claim the foregoing I have hereunto set my hand.

MOGENS FARCH.

Witnesses:

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A. Newcomb.