

No. 830,780.

PATENTED SEPT. 11, 1906.

A. GLASS.
CIRCUIT CLOSER FOR LOCKS.
APPLICATION FILED JAN. 31, 1906.

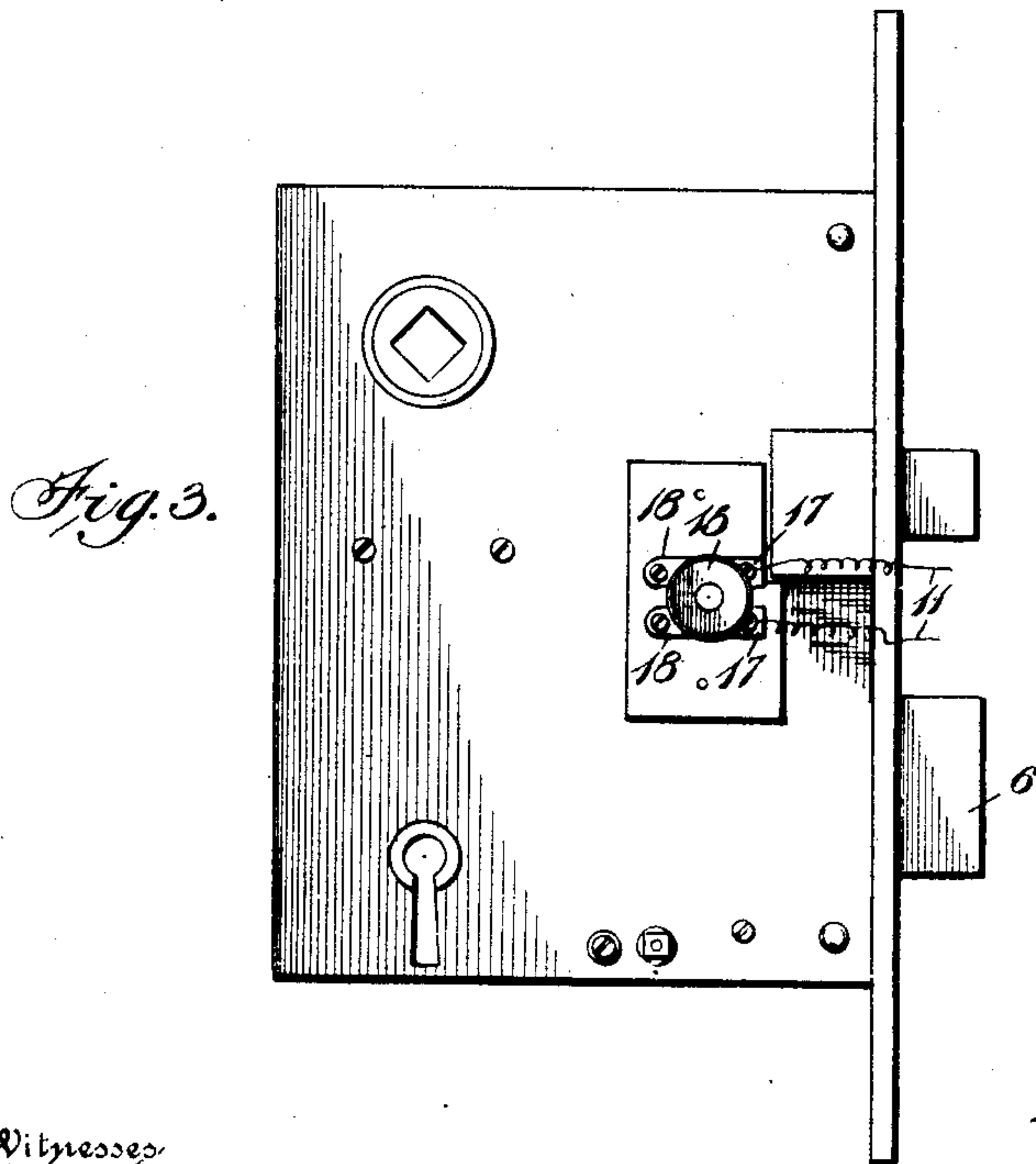
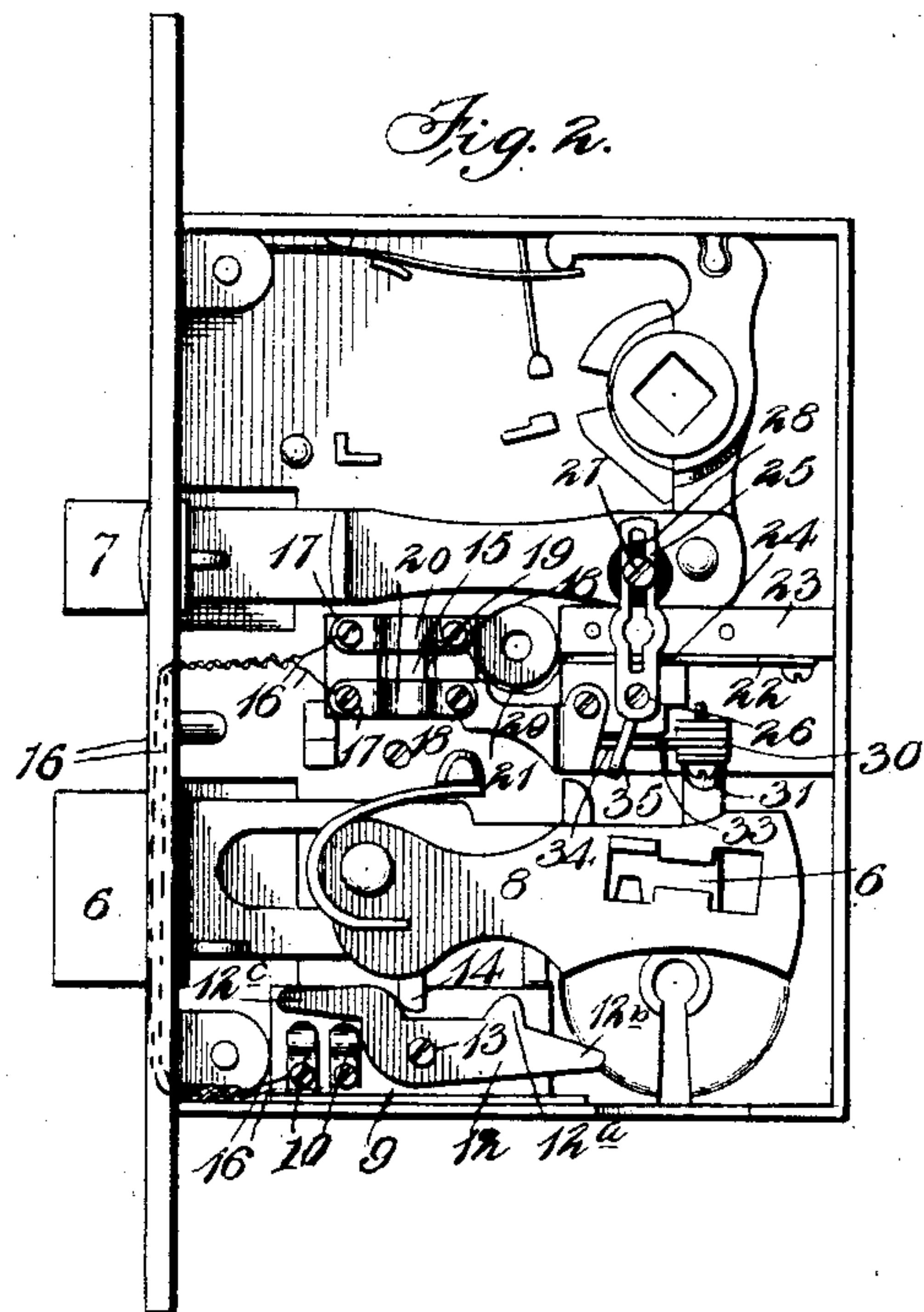
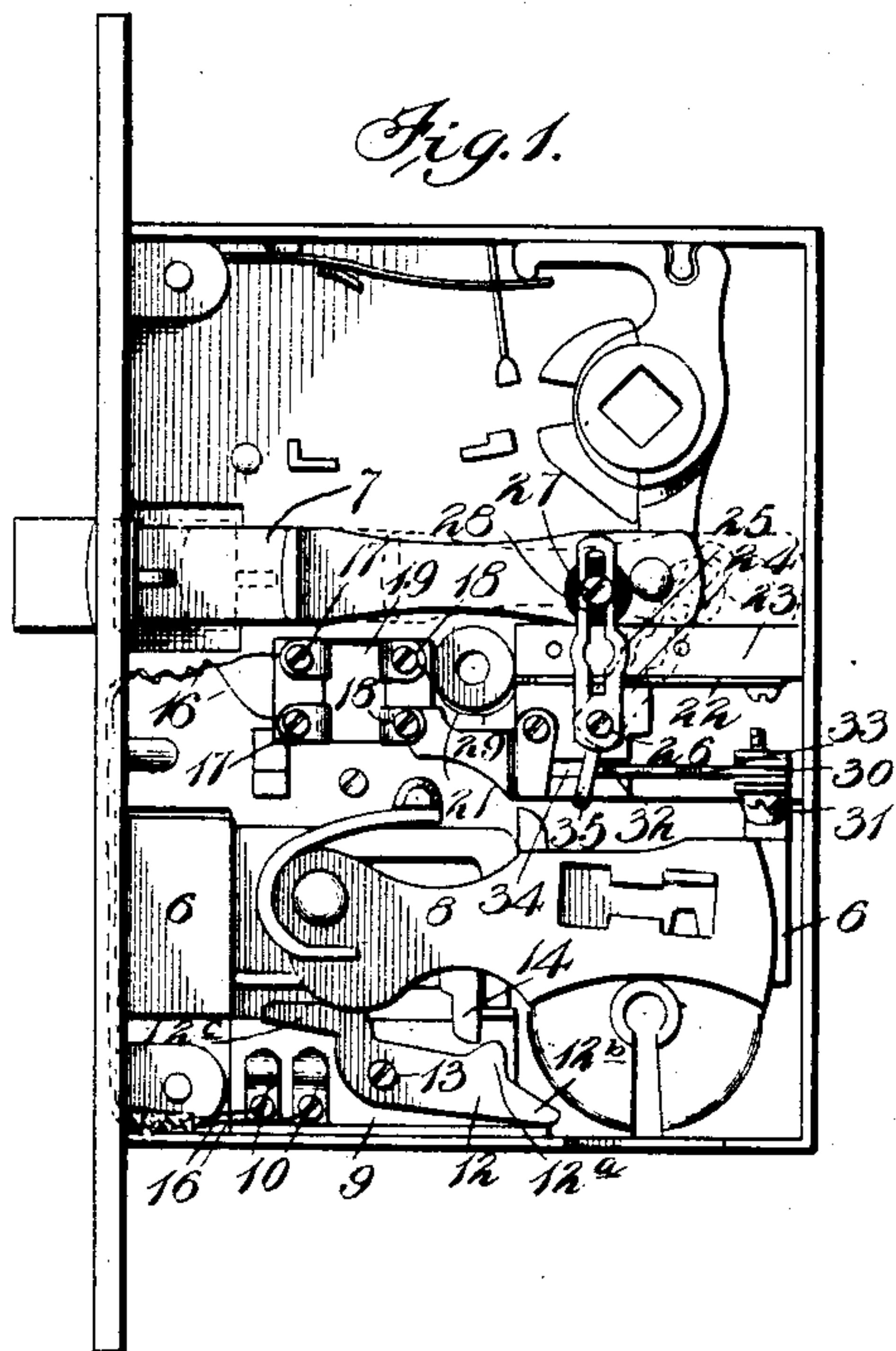
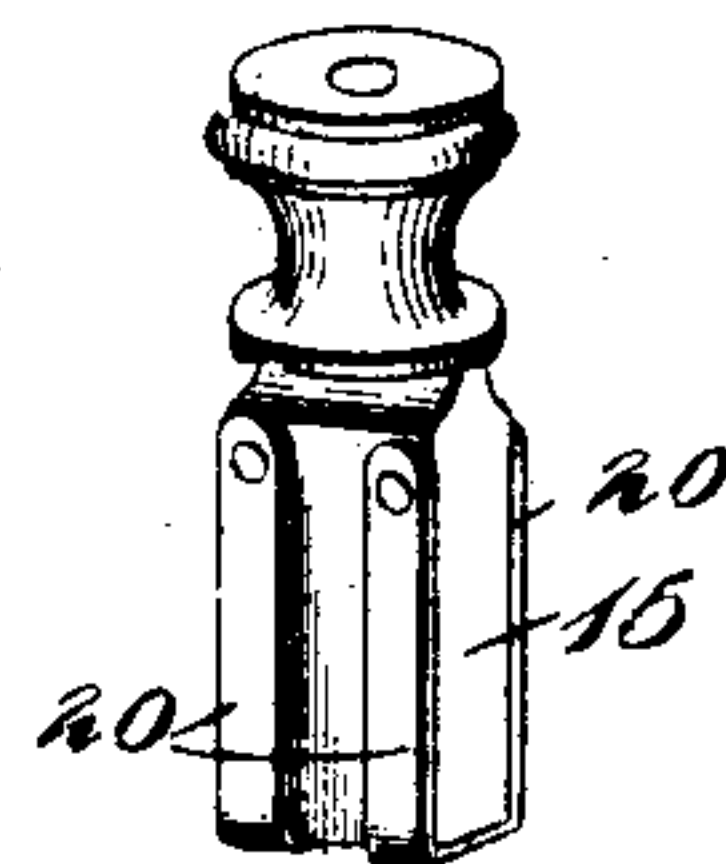


Fig. 4.



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UNITED STATES PATENT OFFICE.

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CIRCUIT-CLOSER FOR LOCKS.

No. 830,780.

Specification of Letters Patent.

Patented Sept. 11, 1906.

Application filed January 31, 1906. Serial No. 298,787.

To all whom it may concern:

Be it known that I, ANTHONY GLASS, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented new and useful Improvements in Circuit-Closers for Locks, of which the following is a specification.

This invention is a circuit-closer applied in combination with a lock for the purpose of sounding an alarm or signal when the lock is tampered with. It includes devices for closing the circuit when the door-knob is turned or when a wrong key is used in an effort to withdraw the lock-bolt.

The accompanying drawings show a lock provided with the invention.

Figure 1 is a plan view showing the interior of the lock with the parts in one position, and Fig. 2 is a similar view of the parts in another position. Fig. 3 is a plan view of the outside of the lock. Fig. 4 is a perspective view of a plug for setting the alarm devices.

Referring specifically to the drawings, 6 indicates the lock-bolt, and 7 the latch-bolt.

8 is the tumbler of the lock-bolt.

The devices which are actuated when an attempt is made to unlock the lock-bolt consist of the following: 9 is a block of insulation fastened to the back plate of the lock-casing. This has mounted thereon a pair of contacts 10, connected by wires 16 to a pair of terminals 17, to which the leading-in wires 11 are connected. These wires are in circuit with an electric battery and a signal device, such as a bell, in a manner common to this class of devices. 12 indicates a piece of copper or other conducting material, which is pivoted at 13 upon the piece of insulation 9 and is arranged so that the head end 12^a may be moved in or out of contact with the contact-clips 10. On the upper side of the other end it has a projection 12^a, which is located in the path of a projecting piece 14, which is carried by the lock-bolt 6, and the tail 12^b of the pivoted piece 12 further extends, so that when the device is set it projects in the path of the bit of the key. When the bolt is retracted, as shown in Fig. 1, the projection 14 strikes the projection 12^a and lifts the head 12^c, so that the tail 12^b is thrown down out of the way of the key-bit. When the bolt is shot, as shown in Fig. 2, the projection 14 strikes the head of the piece 12 and throws said head down almost to contact with the pieces 10 and also lifts the tail 12^b into the path of the key-bit. If now a

wrong key be inserted in the keyhole and turned in the direction to unlock the bolt, it will strike the tail 12^b and lift the same and throw the head 12^c across the two pieces 10, thereby closing the circuit and sounding the alarm.

The latch-bolt device is so arranged that it can be connected or disconnected by means of a plug 15, which is insertible through a hole 19 in the lock-plate. On the opposite side of the hole to the terminals 17 is a pair of terminals 18. The plug 15 carries conducting-strips 20, which when the plug is inserted connect the terminals 17 and 18, and so put the latch devices in circuit. One of the terminals 18 is connected by a wire 21 to a strip 22, which sits edgewise in a plug of insulation 23, secured to the lock-plate. This strip has a raised or projecting portion 24, so located that it will be struck by a pivoted piece of metal 25. This piece is pivoted at 26 and is connected at its upper end by an insulated screw 27 to the latch-bolt 7. Said screw works in the slot 28 in the swinging piece 25. When the latch-bolt is retracted, it swings the piece 25 against the projection 24 on the plate 22. The other terminal 18 is connected to a contact plate or piece of conducting material 29, which is arranged in the path of a strip 30, carried by an arm 31, projecting upwardly from the rear end of the lock-bolt 6. The upper edge of the piece 30 has two projecting portions 32 and 33, and it slides in a guide-slot 34, formed in the block of insulation 23. The projection 32 is arranged to come in contact with the conducting-piece 29, and the projection 33 is arranged to come in contact with a conducting-piece 35, which is in electrical contact with the swinging piece 25. When the lock-bolt 6 is retracted, the connection of the alarm with the latch-bolt is broken by the withdrawal of the plate 30 from the contact-pieces 29 and 35, as shown in Fig. 1; but when the lock-bolt is advanced and the plug 15 inserted the connection is closed from one of the strips 18 through the plate 29, projection 32, plate 30, projection 33, and finger 35 to the swinging plate 25. If now the door-knob be turned and the latch-bolt retracted, the piece 25 will swing to contact with the projection 24, which will close the circuit through the plate 22, wire 21, and terminal 18 to the bell. It will thus be seen that the lock device is set whenever the lock-bolt is advanced. The latch-bolt device is set whenever the plug is

inserted and the lock-bolt is advanced. When the parts are so set, the movement of the latch-bolt or an attempt to use a key on the lock-bolt will result in closing the circuit, and thus sounding the alarm. The bit of the right key will have a notch, which will allow the part 12^b to pass, so that the alarm will not be sounded when the lock is legitimately operated.

10 I claim—

1. A circuit-closer for locks, comprising contact-terminals, and a movable connecting-piece arranged to connect said terminals and having a portion movable into and out of the path of the lock-key by the movement of the lock-bolt.

2. A circuit-closer for locks, comprising contact-terminals, a lock-bolt having a projection, a pivoted connecting-piece arranged to be struck and turned by said projection, one end of the piece being movable by the key-bit to connect said terminals and the other end being movable into and out of the path of the key-bit.

25 3. A circuit-closer for locks, comprising contact-terminals, one of which is connected

to and movable to set position by the lock-bolt, and the other of which is connected to and movable to close the circuit by the latch-bolt.

4. A circuit-closer for locks, comprising a circuit ending in contact-terminals, and means actuated by the lock-bolt and key to close the same, and a branch of the circuit ending in contact-terminals and provided with a switch to connect or disconnect the same, and means actuated by the latch-bolt to close the contact-terminals of the branch.

5. A circuit-closer for locks, comprising contact-terminals, a movable connecting-piece therefor, means actuated by the lock-bolt to move said connecting-piece into "set" position, and means actuated by the key to move the piece so set into closed position.

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

ANTHONY GLASS.

Witnesses:

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