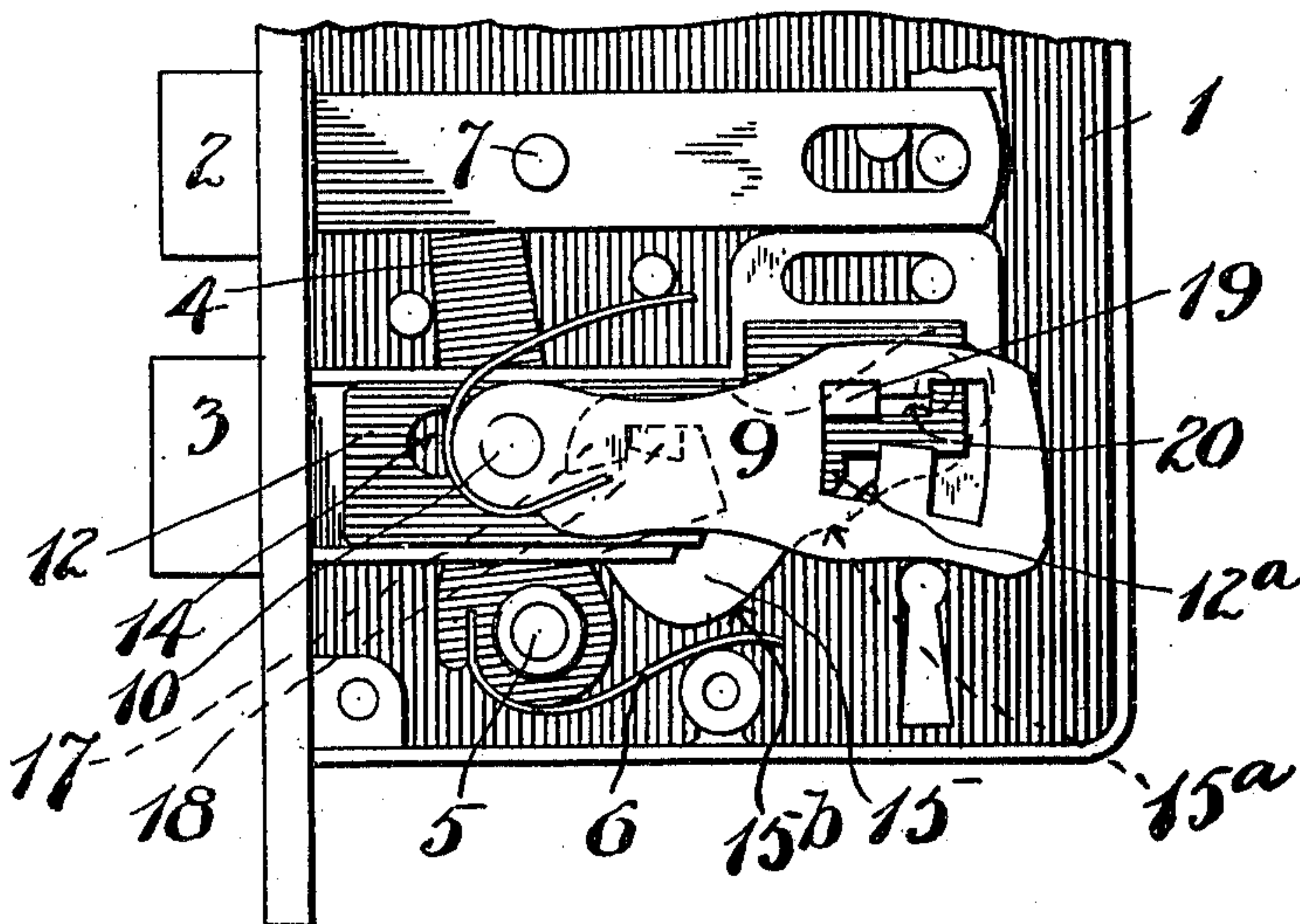


LOCK.

APPLICATION FILED JUNE 29, 1909.

Patented Apr. 26, 1910.

2 SHEETS—SHEET 1.



Witnesses:

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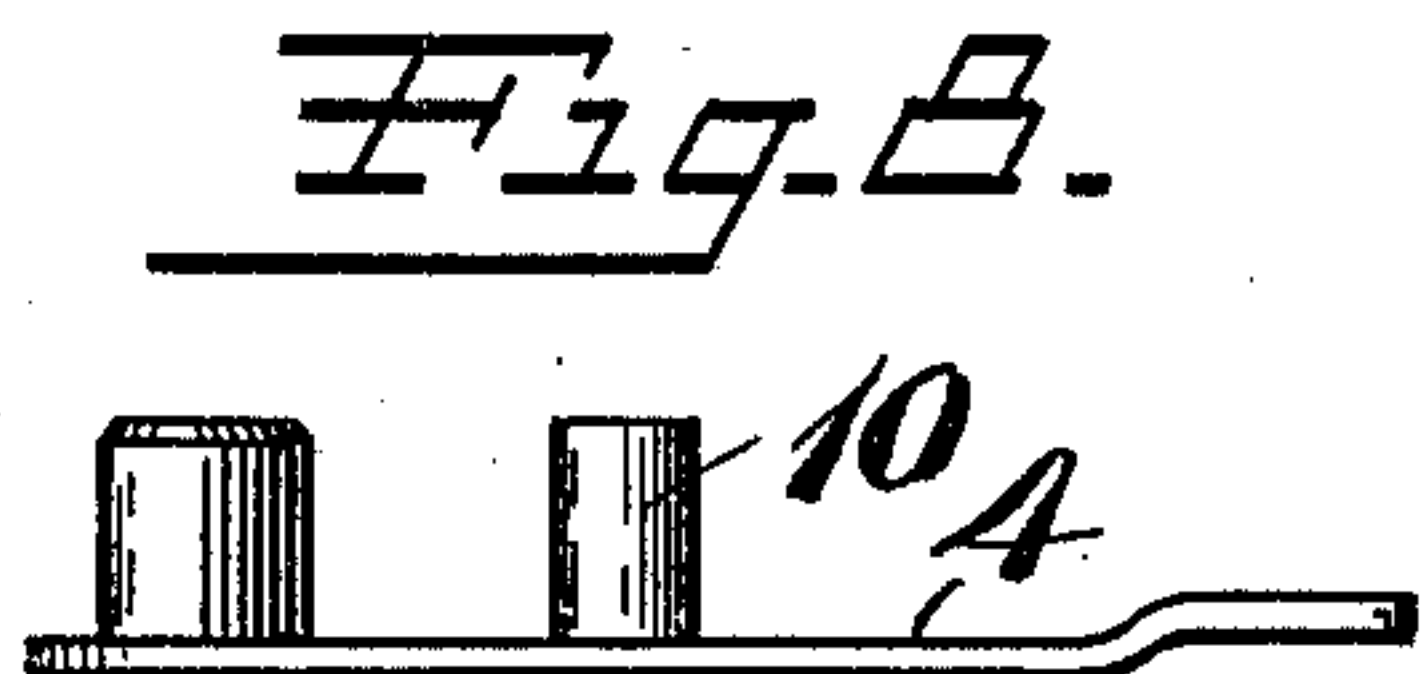
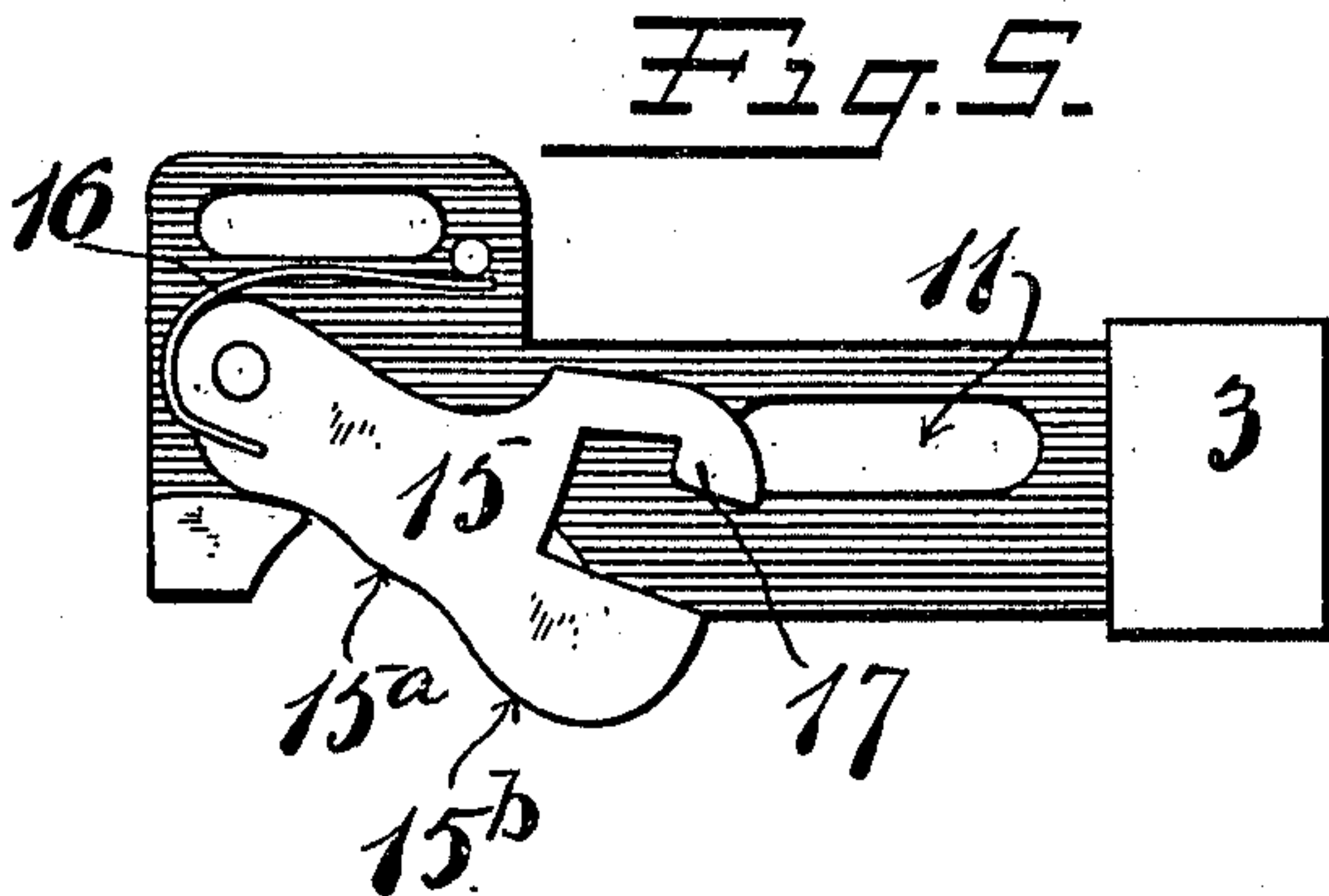
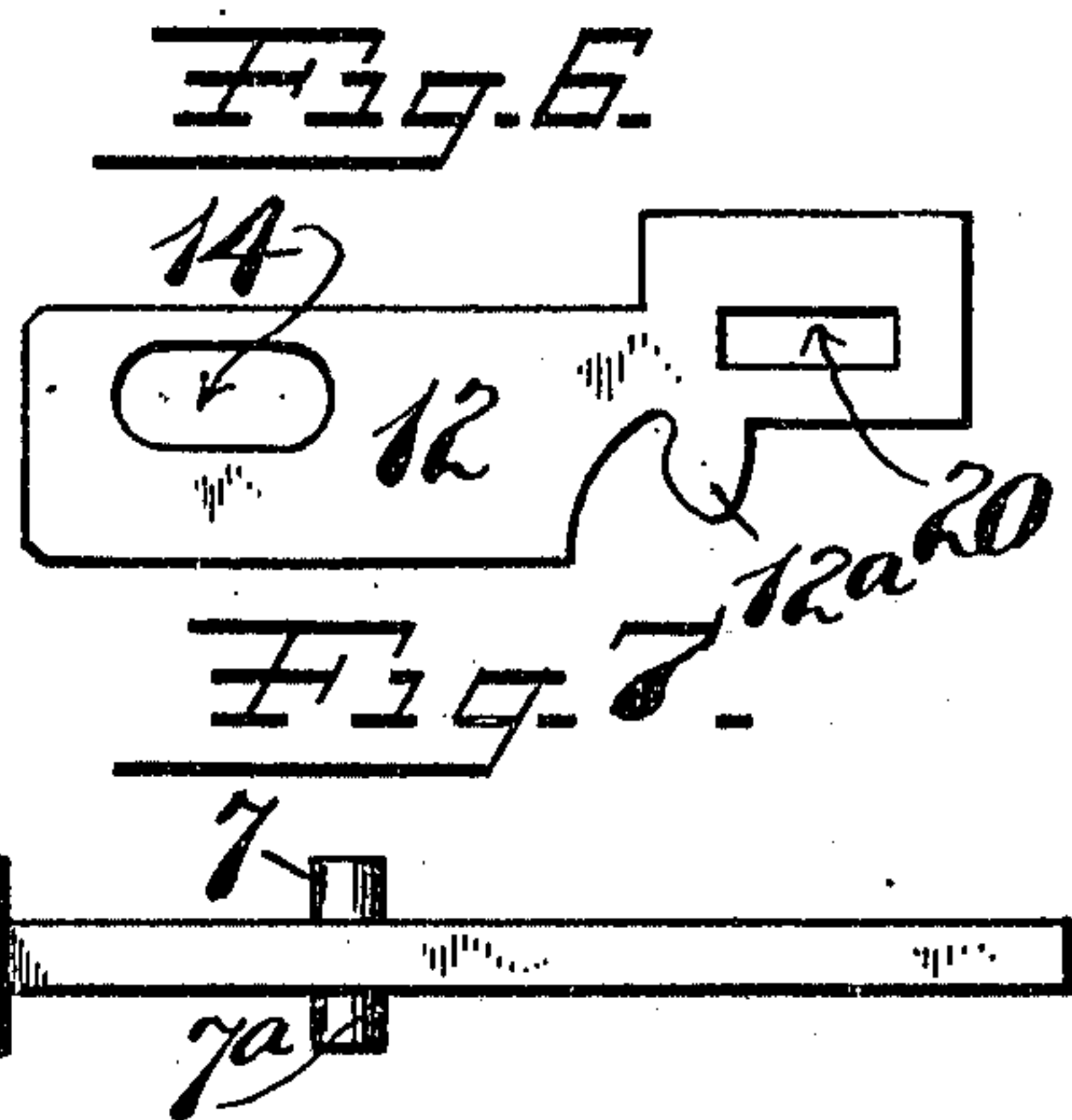
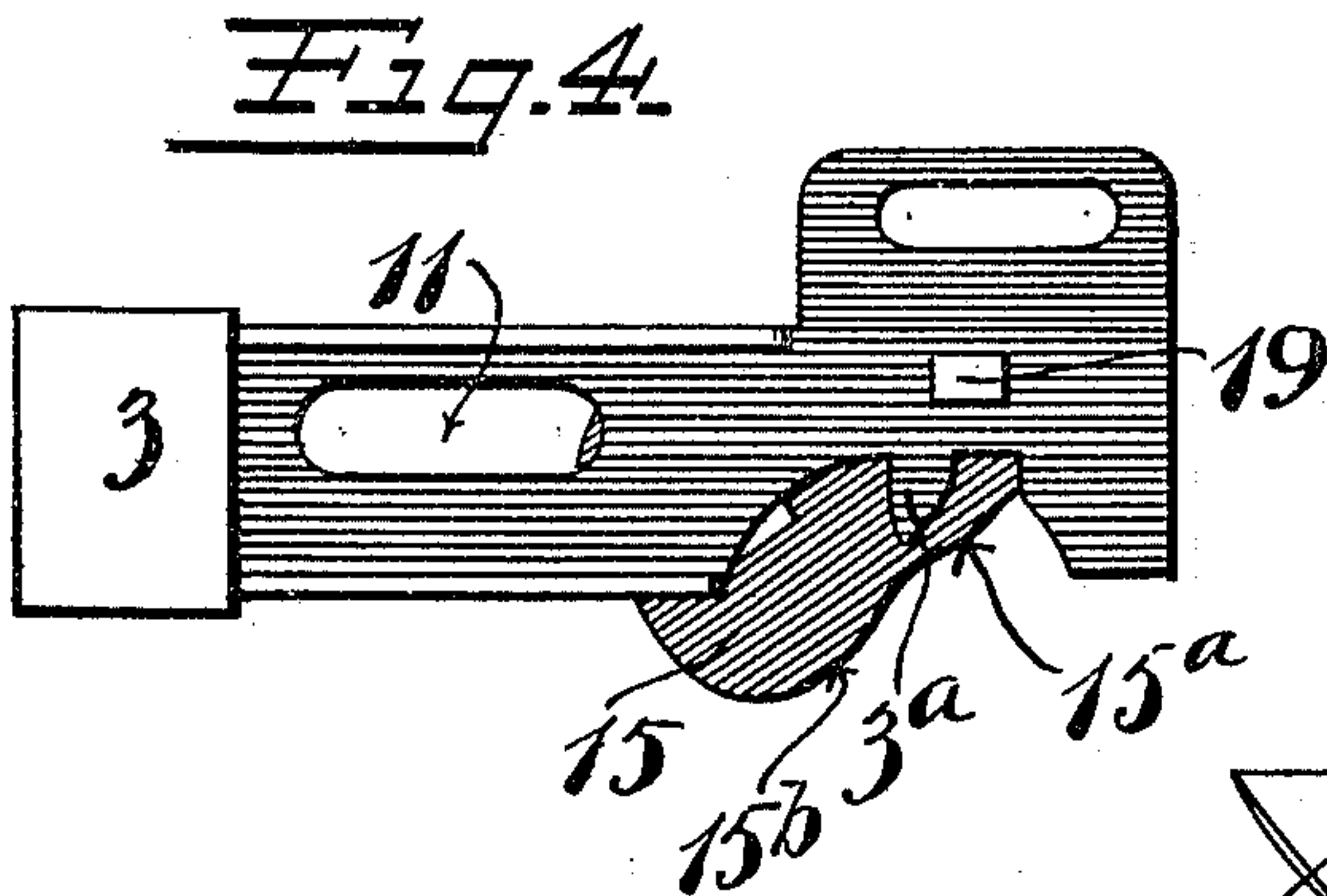
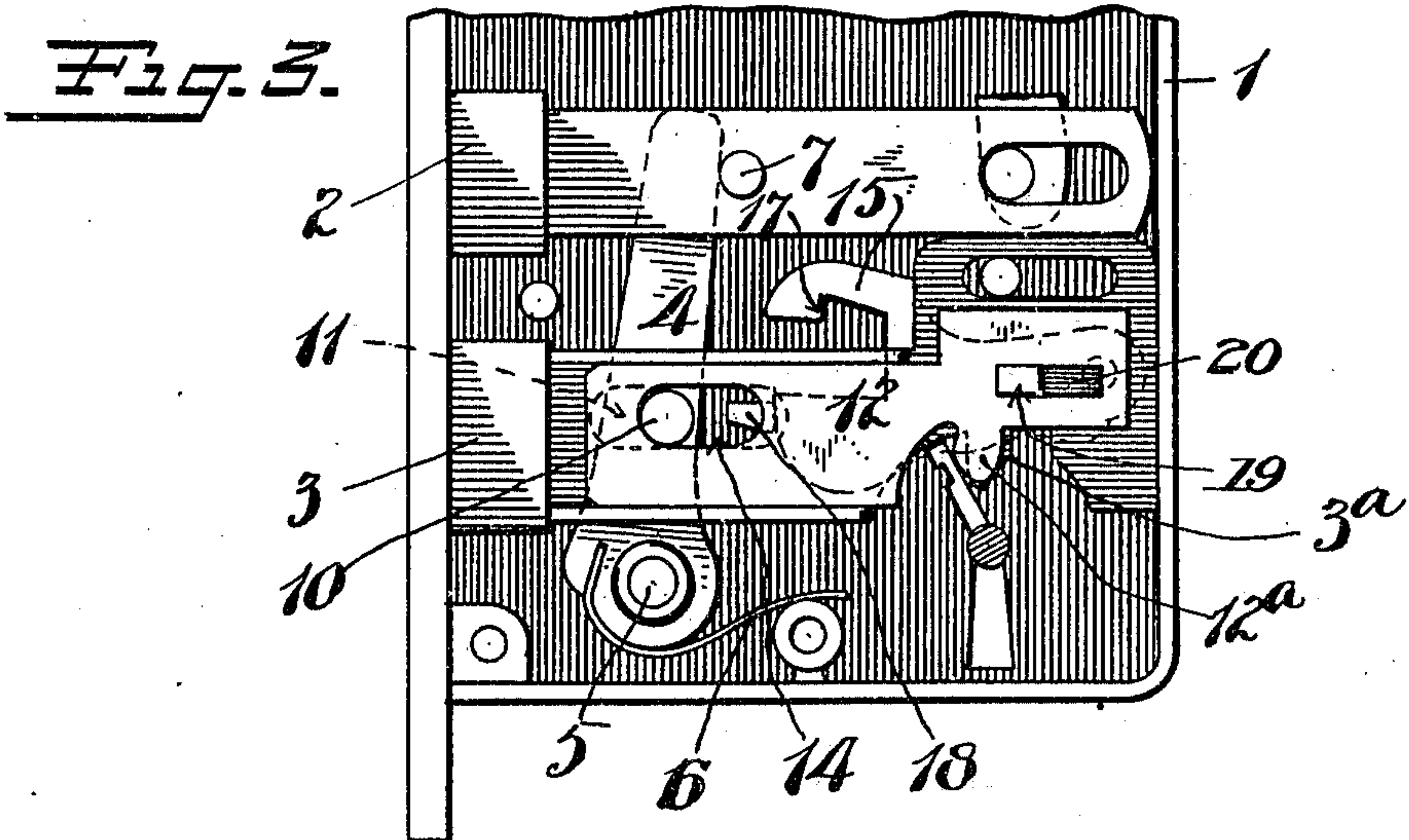
LOCK.

APPLICATION FILED JUNE 29, 1909.

956,004.

Patented Apr. 26, 1910.

2 SHEETS—SHEET 2.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

HENRY G. VOIGHT, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO RUSSELL & ERWIN MANUFACTURING COMPANY, OF NEW BRITAIN, CONNECTICUT, A CORPORATION OF CONNECTICUT.

## LOCK.

956,004.

Specification of Letters Patent.

Patented Apr. 26, 1910.

Application filed June 29, 1909. Serial No. 504,994.

*To all whom it may concern:*

Be it known that I, HENRY G. VOIGHT, a citizen of the United States, residing at New Britain, county of Hartford, State of Connecticut, have invented certain new and useful Improvements in Locks, of which the following is a full, clear, and exact description.

My invention relates to certain new and useful improvements in locks, whereby both the latch-bolt and the dead-bolt may be operated by means of a key, the object of the invention being to provide simple and effective mechanism for accomplishing this end.

In the drawings Figure 1 is a side elevation of a lock constructed to embody my invention, the cap being removed, and showing the parts in one position. Fig. 2 is a similar view, the parts being in a different position, said view being partly broken away. Fig. 3 is a similar view, the parts being in still another position. Figs. 4 and 5 are views of the opposite sides of the same details, detached. Figs. 6 and 7 are side elevations of other details. Fig. 8 is an edge view of another detail.

1 is a lock case.

2 is a latch-bolt having the usual beveled head.

3 is a dead-bolt.

4 is a latch-operating lever pivoted at 5 within the lock case.

6 is a spring therefor.

7—7<sup>a</sup> are pins on opposite sides of the latch-bolt tail. The free end of lever 4 stands in front of one or the other of said pins, depending upon the position of the beveled face of the latch-bolt head.

8 is a spring arranged to bear against the opposite side of one of the pins 7—7<sup>a</sup> for projecting the latch-bolt.

9 is a primary tumbler mounted upon a stump or post 10 carried by lever 4.

4<sup>a</sup> is a stop to check the forward swinging movement of lever 4. A slot 11 in the dead-bolt tail affords clearance for the post 10.

12 is a slide mounted upon the side of the dead-bolt tail.

14 is a clearance slot therein for the post 10.

15 is a secondary tumbler pivotally mounted on the tail of dead-bolt 3.

16 is a spring for tumbler 15.

17 is a hook carried by the tumbler 15 adjacent to the gate entrance.

18 is a stationary fence on the inside of the lock case arranged to coact with tumbler 15.

19 is a fence mounted upon the tail of the dead-bolt 3 and movable therewith.

20 is a slot in the slide 12 to give clearance for the fence 19.

Assuming the parts are in the position indicated in Fig. 1, the introduction of a suitably bitted key and a counterclockwise rotation of the same will result in the following action. The key first lifts tumbler 9 to the proper position to clear fence 19. It next engages the shoulder 3<sup>a</sup> on the tail of the dead-bolt 3, and pushes the bolt bodily ahead to the position shown in Fig. 2. During this movement the hooked end of the tumbler 15 moves over the fixed fence 18. At the end of the advance movement, however, the hooked end 17 of the tumbler 15 is caused to drop down and engage said fixed fence 18, as indicated in dotted lines, Fig. 2. A clockwise movement of the key will restore the parts to the position shown in Fig. 1, the action being as follows: The first movement of the key causes the bit to engage both tumblers 9 and 15, the former in the usual place and the latter at about the point 15<sup>a</sup>. A properly bitted key will by this movement lift the tumbler 9 so as to again free the fence 19, and will likewise lift tumbler 15 so as to clear the hook 17 from the fixed fence 18, following which the key will engage the dead-bolt and retract it to the position indicated in Fig. 1. It thus requires the coöperation of both tumblers 9 and 15 to accomplish the movement of the bolt. These tumblers being independently mounted and engaging different fences, act in such a manner as to guarantee the greatest degree of security against unlawful operation. When the parts stand in the position shown in Fig. 1, a clockwise rotation of the key will operate to withdraw the latch-bolt, said operation being as follows: The first part of the movement of the key causes the bit to engage the tumbler 15 at about the point 15<sup>b</sup>, forcing the same up until it stands in the position shown in Fig. 3, the lower side of the gating of the tumbler standing to the rear of the fixed fence 18 and thus blocking the dead-bolt from advance movement. The key bit will then engage the shoulder 12<sup>a</sup> on the slide 12, drawing the slide back to the position



indicated in Fig. 3. Since the pin 10 now rests in the forward end of slot 14 in the slide 12, it follows that the further retraction of the slide 12 will retract latch 2 5 through the medium of the lever 4 upon which the pin 10 is mounted. It is apparent, of course, that this retractive movement of the latch slide could not be effected unless the tumbler 9 is also released from 10 the position shown in Fig. 1. This releasing of the tumbler 9 occurs simultaneously with the shifting of the tumbler 15, so that when the bit engages the shoulder 12<sup>a</sup> on the latch slide, the latter will be entirely 15 free to slide back and withdraw the latch-bolt through the medium of the lever 4. During this movement, the tumbler 15 will serve to dog the dead-bolt and prevent it from moving forward. There is, therefore, 20 a dependent coöperation between both tumblers 9 and 15 in the locking and unlocking of both the dead-bolt and the latch-bolt, thereby securing the utmost degree of safety.

Suitable knob mechanism may, of course, 25 be employed for operating the latch-bolt independently of any other means, said knob mechanism being too well understood to require special description, the conventional form being shown in the drawings, Fig. 1. 30 It should also be understood that suitable guides may be provided to cause the various parts to move in the proper direction.

What I claim is:

1. In a lock, a latch-bolt, a key-operable 35 dead-bolt, means arranged to be actuated by the key for the dead-bolt for retracting the latch-bolt, and two independently mounted dependently coacting tumblers for locking said dead bolt mechanism and operating 40 said latch bolt mechanism.

2. In a lock, a latch-bolt, a key-operable dead-bolt, a slide arranged to be actuated by

the key for the dead-bolt for retracting the latch-bolt, and two independently mounted 45 dependently coacting tumblers for locking said dead bolt mechanism and operating said latch bolt mechanism.

3. In a lock, a latch-bolt, a key-operable dead-bolt, a slide mounted on said dead-bolt and movable therewith and independently 50 thereof and arranged to be operated by the same key, a connection between said slide and said latch-bolt, and tumbler mechanism for said dead-bolt and slide.

4. In a lock, a latch-bolt, a key-operable 55 dead-bolt, a slide mounted on said dead-bolt and movable therewith and independently thereof and arranged to be operated by the same key, a lever connection between said slide and said latch-bolt, and tumbler mech- 60 anism for said dead-bolt and slide, including two tumblers, a mounting for one of said tumblers on said latch-bolt lever, the mounting for the other tumbler on said dead-bolt.

5. In a lock, a latch-bolt, a key-operable 65 dead-bolt, a slide mounted on said dead-bolt and movable therewith and independently thereof and arranged to be operated by the same key, a lever connection between said slide and said latch-bolt, and tumbler mech- 70 anism for said dead-bolt and slide, including two tumblers, a mounting for one of said tumblers on said latch-bolt lever, the mounting for the other tumbler on said dead-bolt, a gate for the first mentioned tumbler, said 75 gate being mounted upon the tail of the dead-bolt, and a gate for the second mentioned tumbler, said gate being mounted on the case of the lock.

HENRY G. VOIGHT.

Witnesses:

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