

(No Model.)

2 Sheets—Sheet 1.

F. W. MIX.
LOCK.

No. 551,684.

Patented Dec. 17, 1895

Fig. 1.

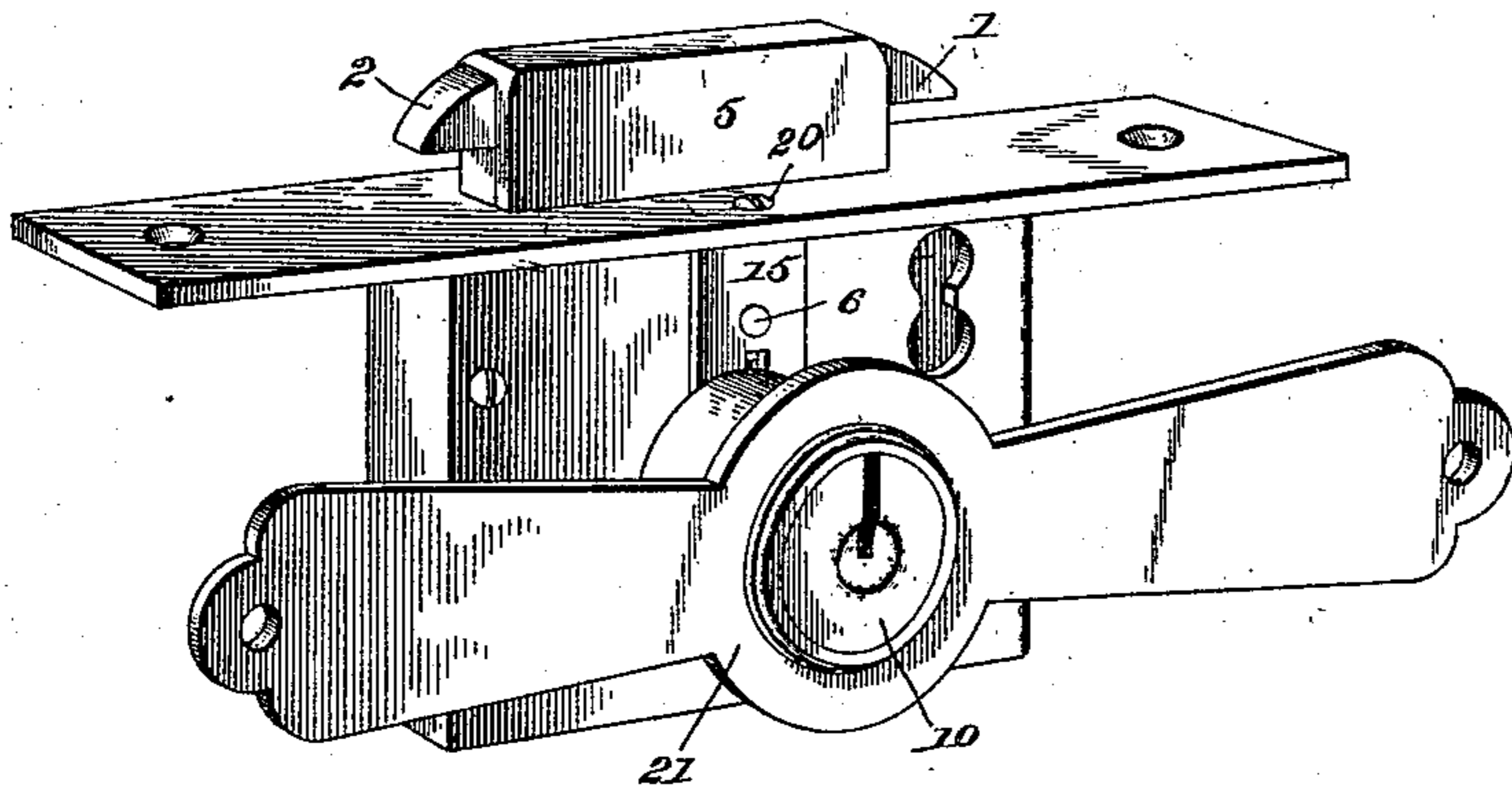


Fig. 2.

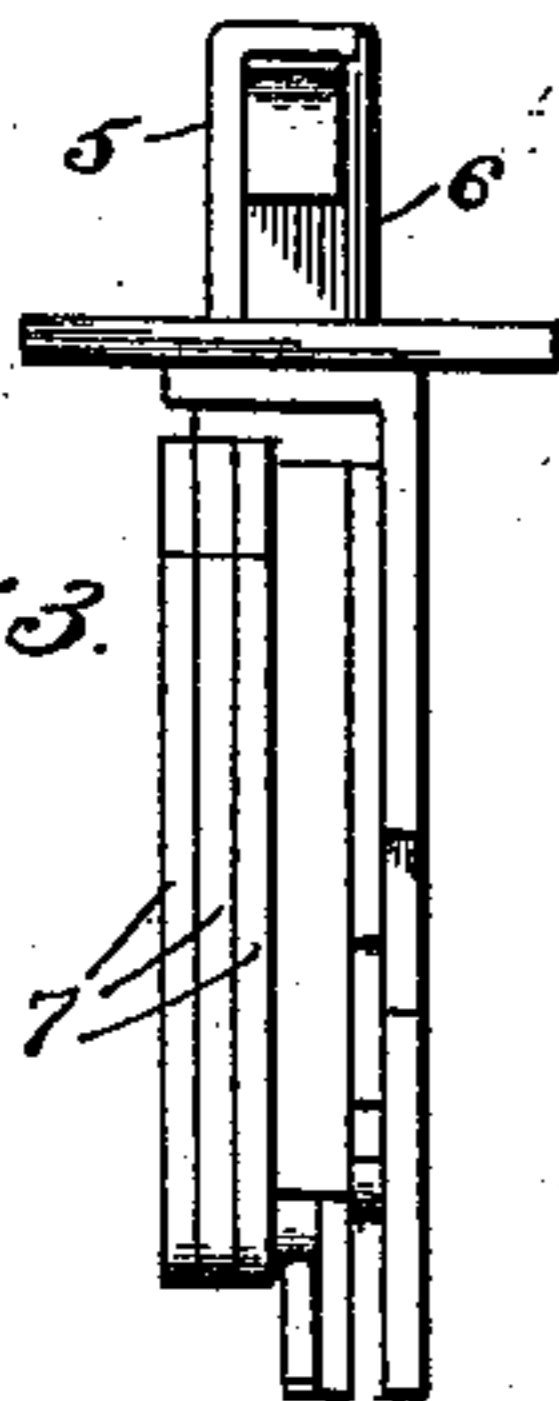
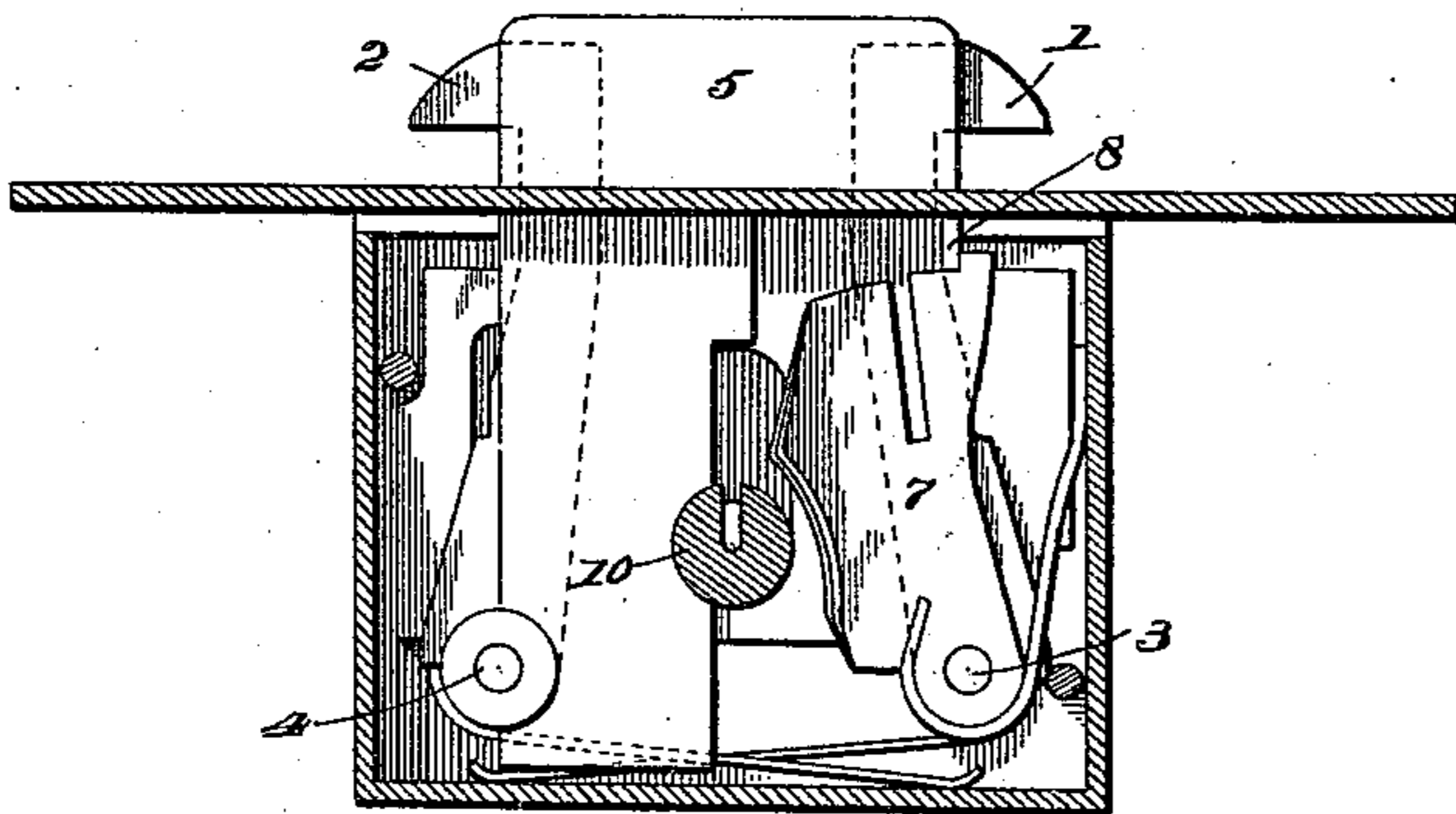


Fig. 3.

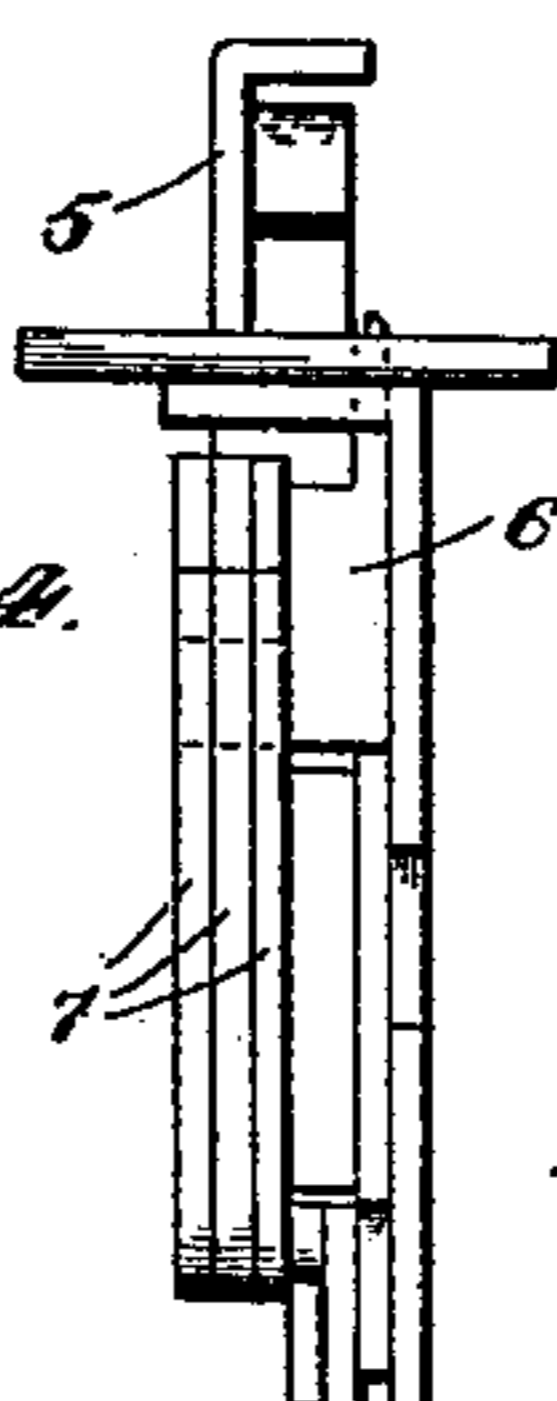


Fig. 4.

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Fig. 5.

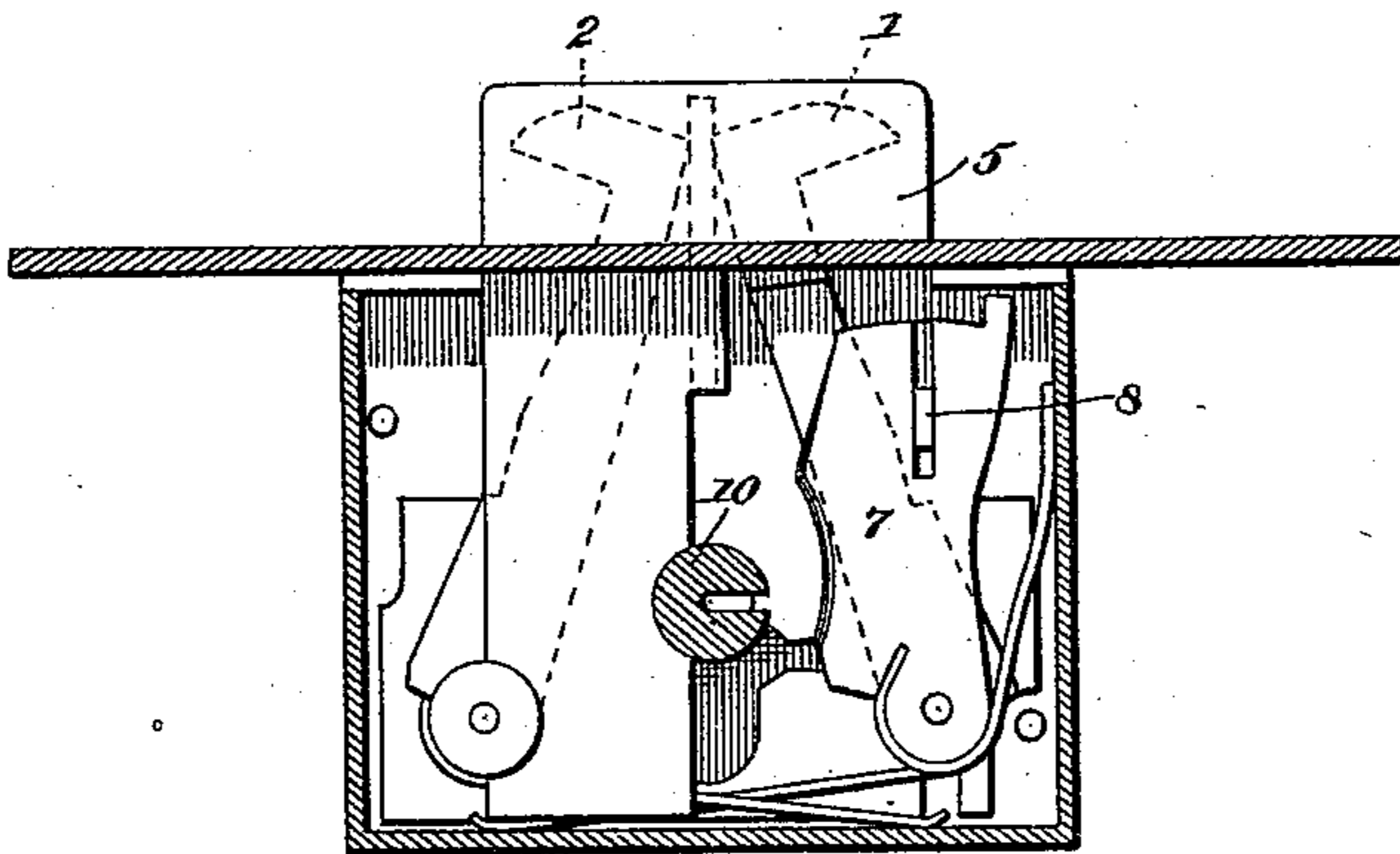


Fig. 6.

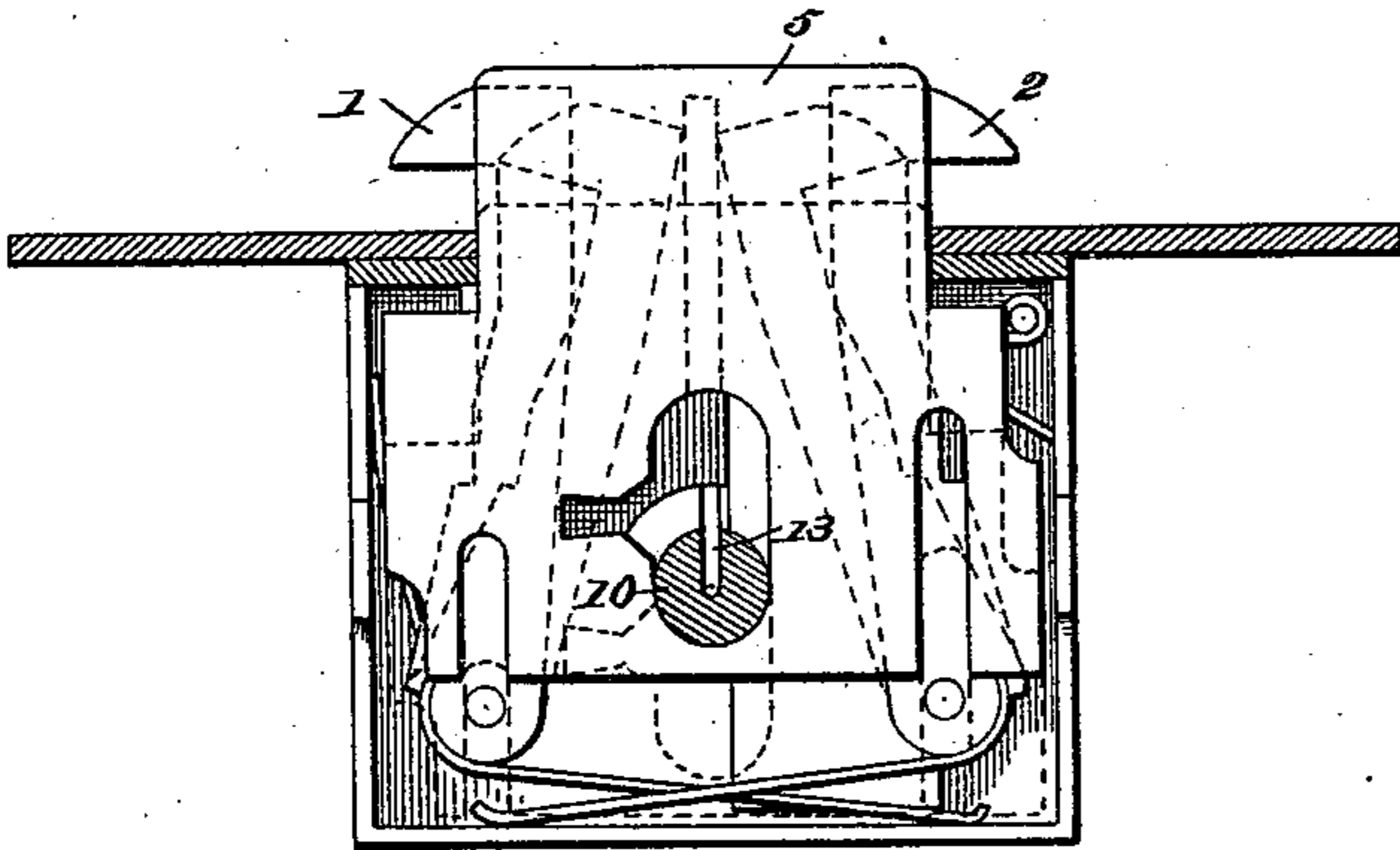


Fig. 7.

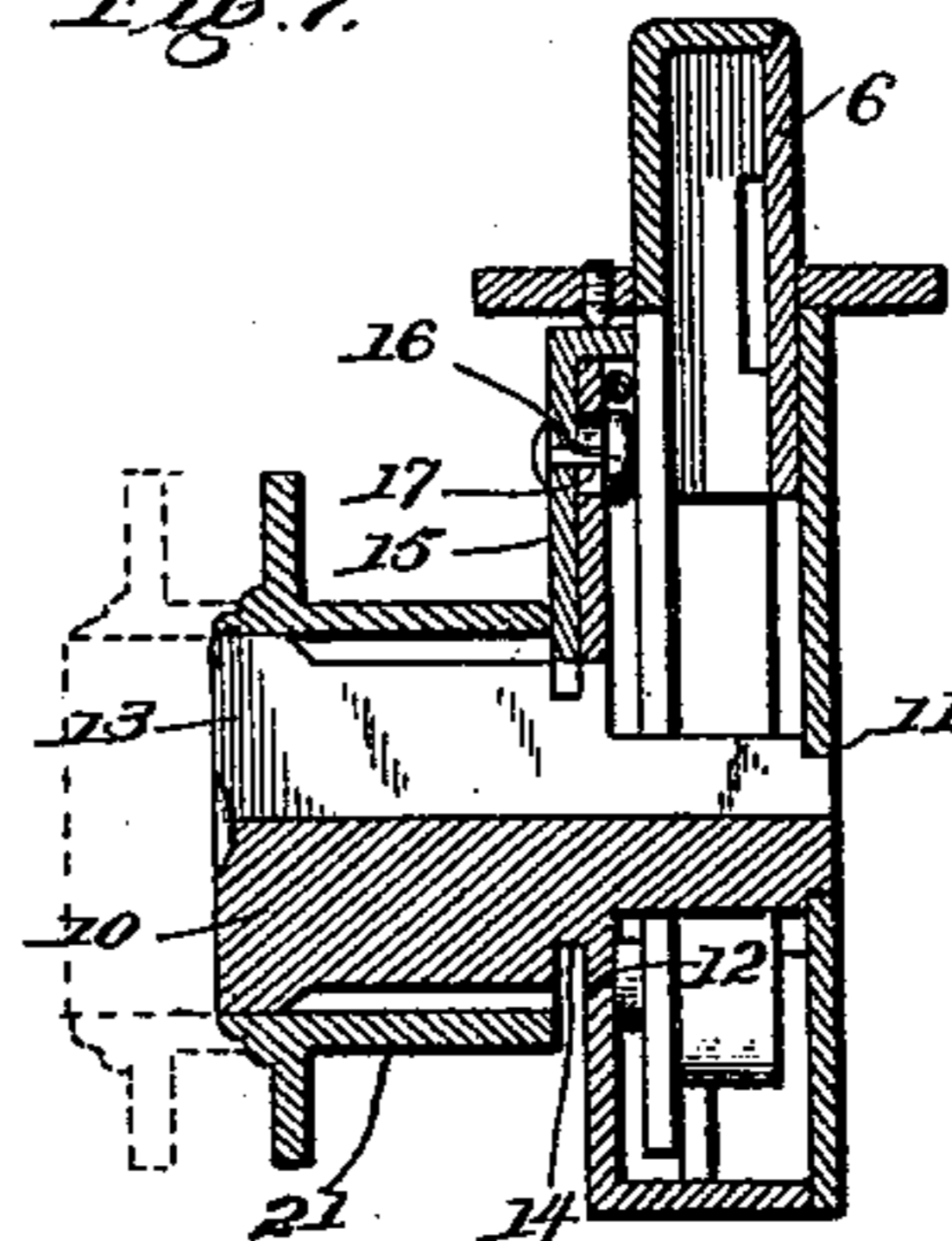
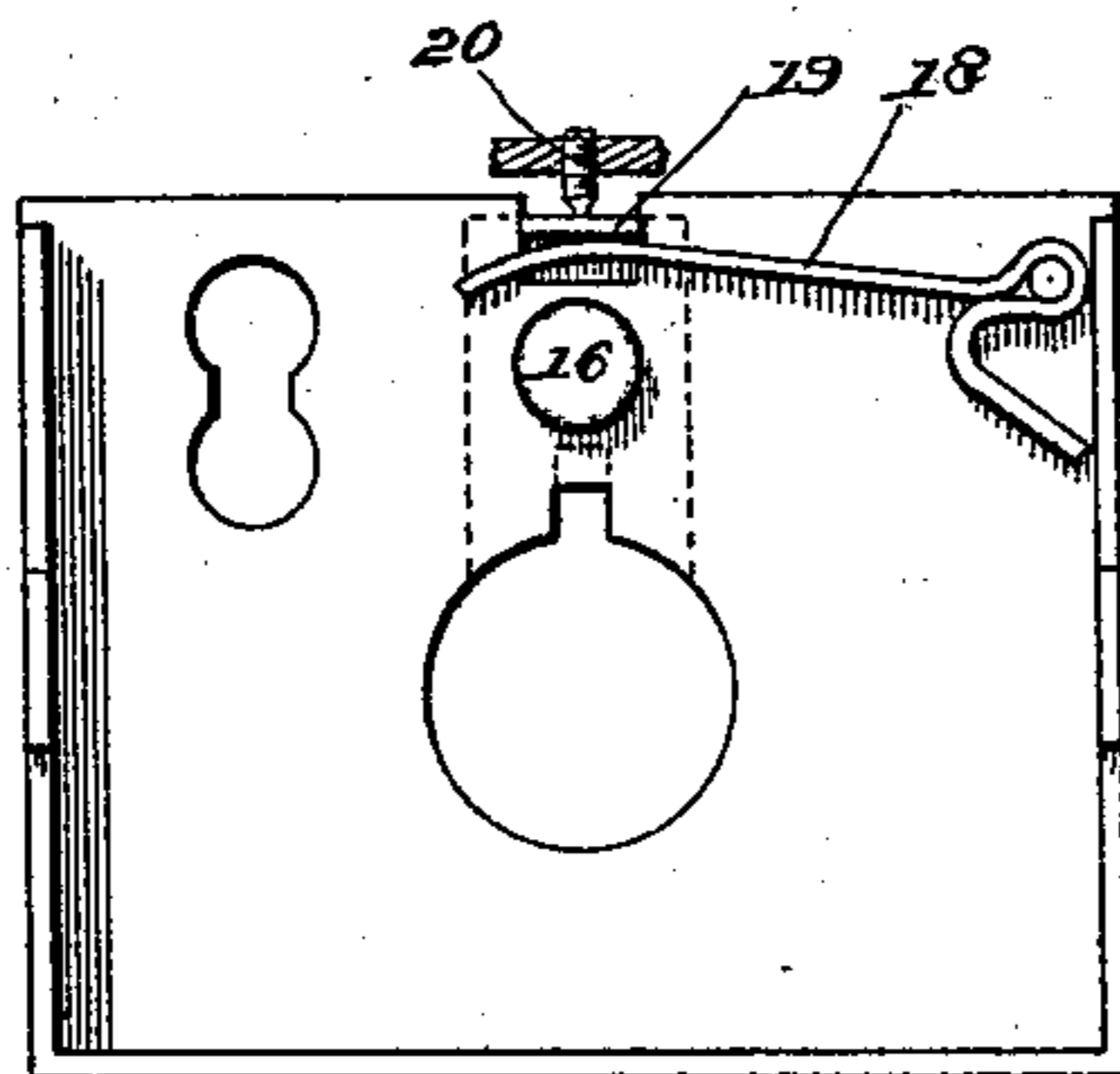


Fig. 8.



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UNITED STATES PATENT OFFICE.

FRANK W. MIX, OF STAMFORD, CONNECTICUT, ASSIGNOR TO THE YALE & TOWNE MANUFACTURING COMPANY, OF SAME PLACE.

LOCK.

SPECIFICATION forming part of Letters Patent No. 551,684, dated December 17, 1895.

Application filed February 2, 1894. Serial No. 498,864. (No model.)

To all whom it may concern:

Be it known that I, FRANK W. MIX, a citizen of the United States, residing at Stamford, in the county of Fairfield and State of Connecticut, have invented a certain new and useful Improvement in Locks, of which the following specification is a full, clear, and exact description.

My invention relates to mortise-locks provided with a revoluble plug for guiding the key.

In my invention the revoluble key-plug is separable from the lock-case in which the locking mechanism is contained, and has an inner bearing in said lock-case and an outer bearing in an independent escutcheon or sleeve, as hereinafter described.

My invention also relates to means for adjusting the key-plug to different thicknesses of wood without detracting from the appearance of the lock when it is in place. Heretofore adjustability has been obtained by an escutcheon containing an inner cylinder which is provided with a guide or bearing extending into and sometimes through the lock-case. In such locks the key-cylinder or guide was attached to the escutcheon so that when the escutcheon was removed the entire cylinder came out and left a large hole directly into the lock-case, which materially decreased the security of the lock.

My present improvements provide a support and guide for the key which can be attached to mortise-locks even where the tumbler mechanism is contained within the lock-case, and an exterior escutcheon which may project slightly beyond the key-plug or be flush with it.

In order that my invention may be fully understood I will first describe the same with reference to the accompanying drawings, and afterward more particularly point out the novelty in the annexed claims.

In the drawings I have shown my improvements applied to a peculiar construction of mortise-locks, but it is obvious that the size, style or purpose of the lock has nothing to do with the scope of the invention.

In said drawings, Figure 1 is a front perspective view of a lock having my improvements applied. Fig. 2 is a front view of the

internal lock mechanism having the front plate of the lock-case removed. Figs. 3 and 4 are detail end views showing the lock in locked and unlocked position. Fig. 5 is a view similar to Fig. 2, showing the parts in unlocked position. Fig. 6 is a view taken on the reverse side from Fig. 5, showing the parts in locked position. Fig. 7 is a transverse sectional view showing the construction of the key-plug and escutcheon. Fig. 8 is a detail view of the front plate of the lock-case, showing the means for securing the detachable key-plug in position.

1 and 2 are spring-locking hooks journaled upon the posts 3 and 4.

5 is the stationary mortise-bolt projecting from the lock-case, and 6 is the movable actuating slide which retracts the hooks 1 and 2 when the spring-tumblers 7 are moved into position to receive the stump 8 carried by the slide.

10 is the improved key-plug consisting of a cylindrical body having a bearing 11 in the rear plate of the lock-case and a bearing 12 in the front plate of the lock-case.

13 is the slot for the reception of the key.

14 is an annular groove just outside of the front plate of the lock-case, and 15 is a slide-plate provided with a pin 16, which projects through the slot 17 of the lock-case for guiding the plate in its movement. The pin 16 is headed to keep it in position. 18 is a spring secured to the lock-case and engaging the inner turned lip 19 of the slide so as to give it an outward tendency.

20 is a screw seated in the edge plate of the lock-case and engaging the lip 19 of the slide. The slide is adapted to engage in the groove 14 of the plug for holding the plug in place after it is inserted in the lock. These details of construction may be varied without departing from the spirit of my invention.

As a finish, and to give the plug adjustability to different thicknesses of wood, I provide an exterior escutcheon 21 surrounding the plug 10. The plug may project slightly beyond the face of the escutcheon or it may rest considerably inside of the face of the escutcheon without detracting from the appearance of the lock, and at the same time all of the required adjustability is obtained.

From my improved construction it is evident that the key-plug is a part of the lock-case and cannot be removed until the lock is unlocked and access is had to the set-screw.

5 I am aware that it has been proposed to attach a removable key-plug to rim-locks by means of detachable plates or keys, but in this construction it is necessary to remove the lock from the door before the key-plug can
10 be detached. I am also aware that cylinders containing the tumbler mechanism and key-plug have been detachably secured to lock-cases through suitable means operated from the edge plate; but I am not aware that it
15 has ever been proposed to provide a mortise-lock having the tumbler mechanism within the lock-case with a removable key-plug which is detachably secured directly to the lock-case and is free to revolve thereon and
20 which can be detached from the lock-case through suitable means operated from the edge plate, whereby it is only necessary to bore a small hole from one side of the door into the mortise-opening and insert the key-plug therein and secure it in place in the lock
25 by means which are operated from the edge plate.

Having thus described my invention, the following is what I claim as new therein and
30 desire to secure by Letters Patent:

1. In a mortise lock, the combination with the lock-case containing the locking mechanism of an independent revoluble key-plug removably attached to the lock-case and provided at its inner end, with a bearing for rotating in said lock-case and, at its outer end, with a bearing to engage with an independent escutcheon or sleeve, substantially as described.

40 2. In a mortise lock, the combination with the lock case containing the locking mechanism,

of an independent key plug or cylinder having bearings in the lock case and formed with an annular groove, a slide supported on the lock case and adapted to engage said
45 groove for holding the key plug in position, and means carried by the edge plate for operating the slide, substantially as set forth.

3. The combination with a lock case containing the locking mechanism of an independent key plug or cylinder having bearing
50 in the lock case, an annular groove in the key plug, a slide adapted to engage in the annular groove for holding the key plug in position, and the screw seated in the edge plate and
55 engaging the slide for holding it into engagement with the key plug, substantially as set forth.

4. The combination with a lock case containing the locking mechanism, of a key plug
60 having bearing in said lock case, an annular groove in said key plug, a slide movably attached to the lock case and adapted to engage in said annular groove for holding the key plug in position, a spring for moving the slide
65 out of engagement with the key plug, and a set-screw for holding the slide into engagement, substantially as set forth.

5. The combination with a lock case containing locking mechanism, and an independent
70 key-plug attached to said lock case, and an independent escutcheon plate loosely surrounding the key-plug and provided with a projecting sleeve which is adapted to be let into the wood and which serves as a guide for
75 the key-plug, thereby rendering the lock adjustable for different thicknesses of wood.

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Witnesses:

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