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P. PAPENFOTH.
LOCK AND LATCH.
APPLICATION FILED FEB. 18, 1905.

Fig. 1.

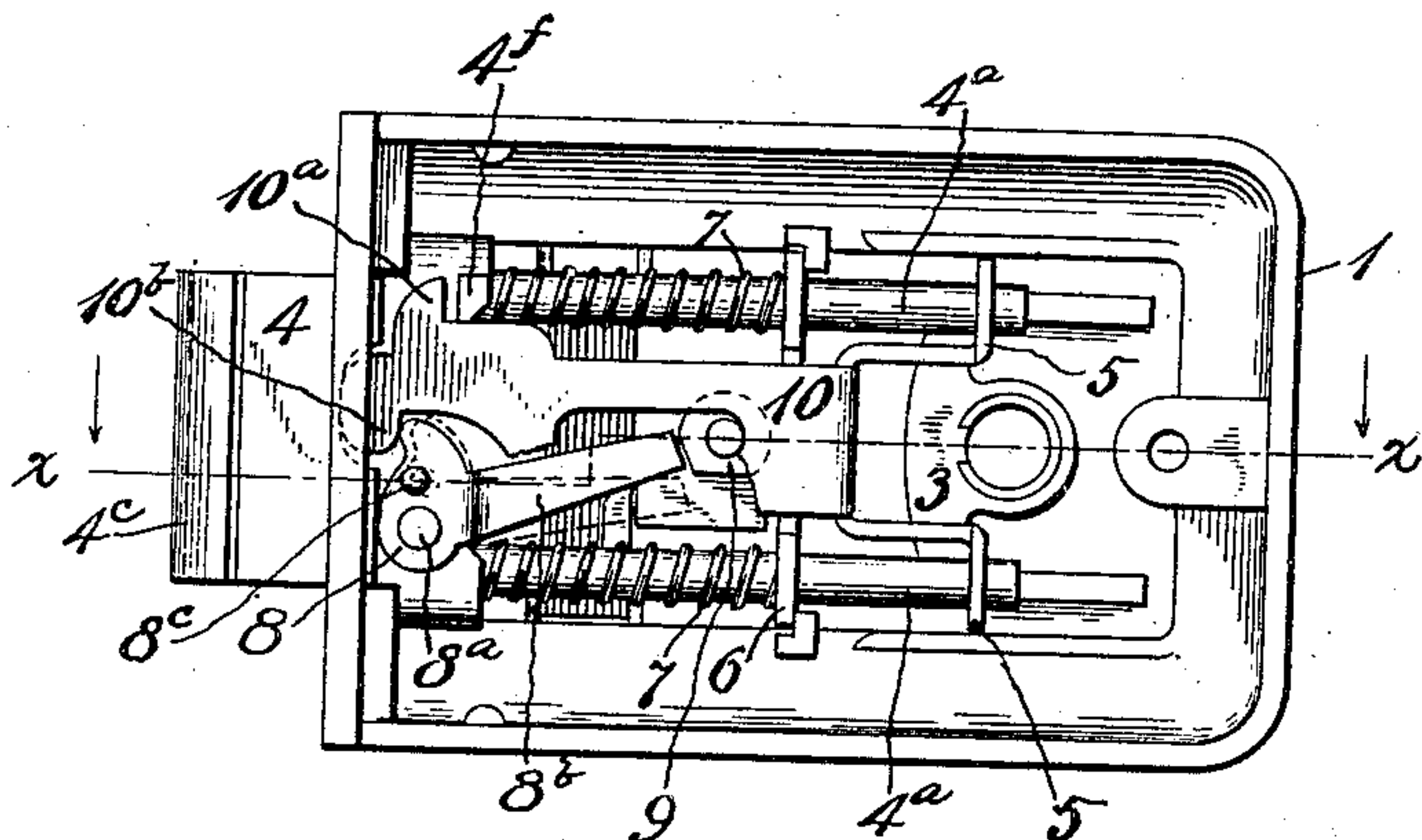


Fig. 2.

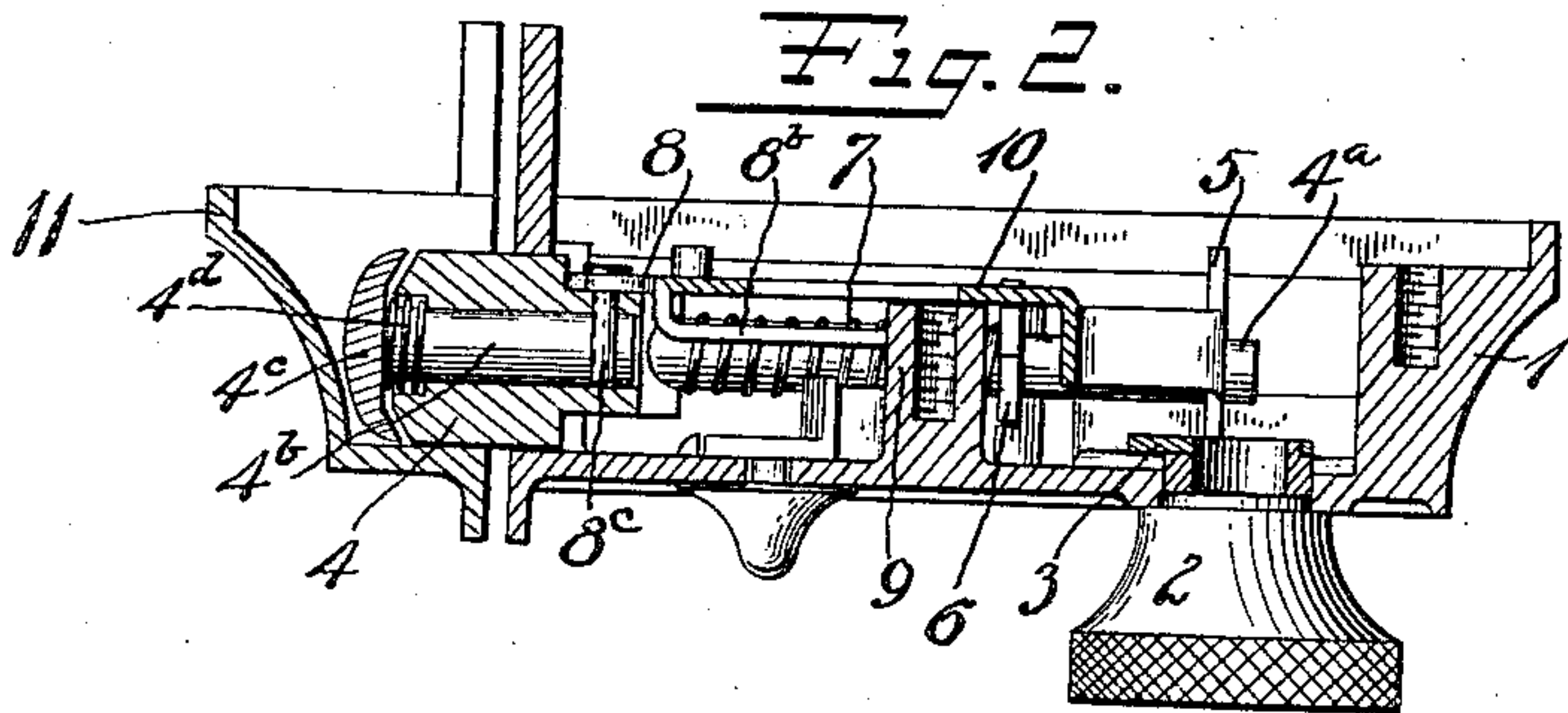


Fig. 3.

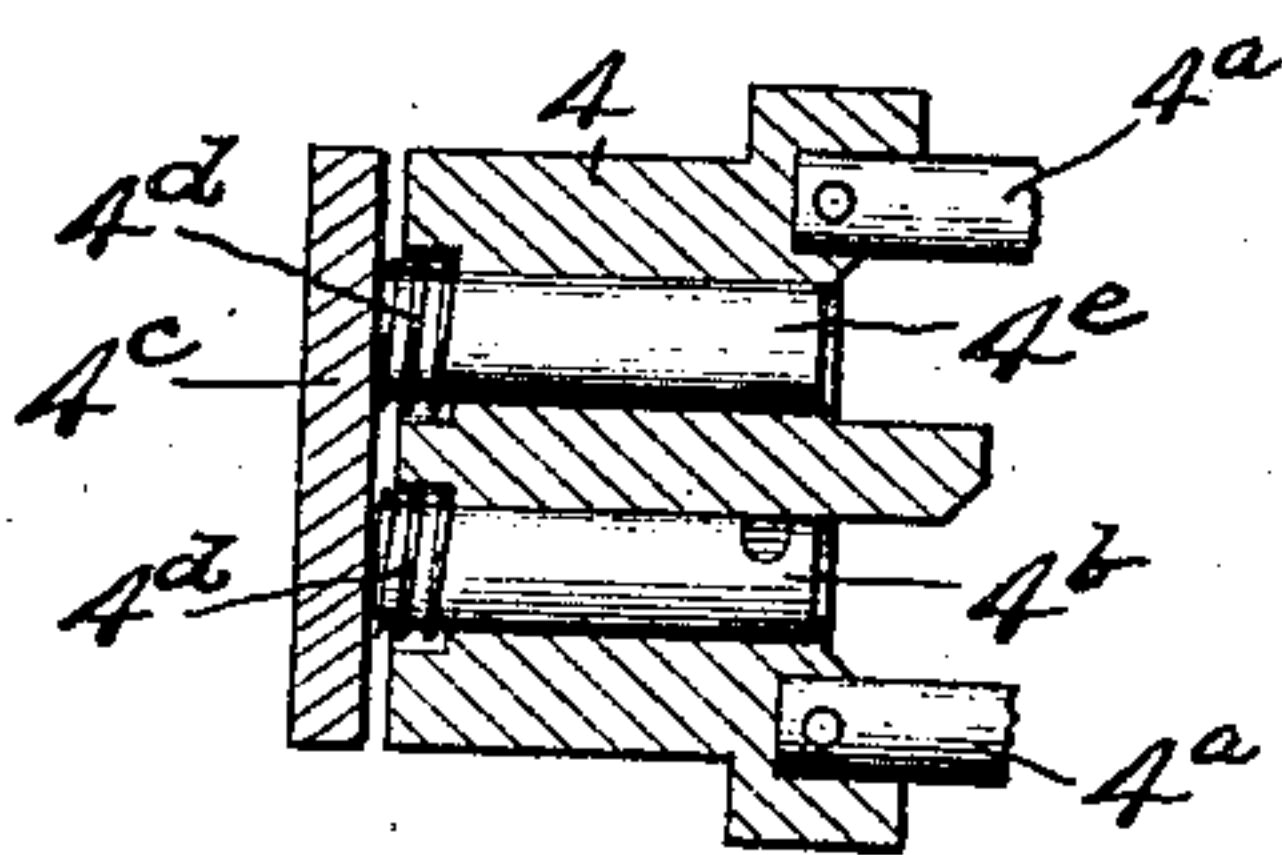
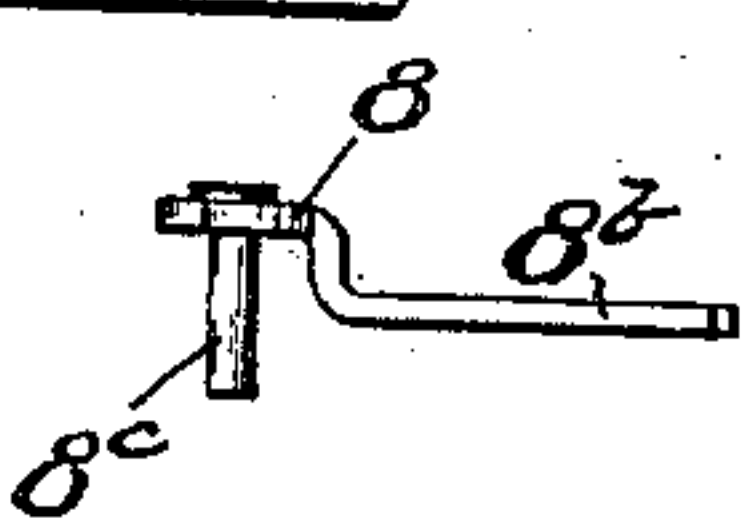


Fig. 4.



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LOCK AND LATCH.

No. 812,871.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, PAUL PAPENFOTH, a citizen of the United States, residing at New Britain, Connecticut, have invented certain new and useful Improvements in Locks and Latches, of which the following is a full, clear, and exact description.

My invention relates to locks and latches, and particularly to a safety means whereby the bolt or latch member of a lock cannot be pushed back by means of a sharp instrument inserted between the lock and the keeper-plate when the bolt is in its home position.

The object of the invention is to provide simple, effective, and inexpensive mechanism for locking the bolt against the above method of operation.

In the drawings, Figure 1 is a view of the inside of a lock of one type constructed to embody my invention. Fig. 2 is a longitudinal section of the same on the line $x x$, Fig. 1, looking in the direction of the arrow. Fig. 3 is a sectional view of a detached detail. Fig. 4 is a plan view of a detached detail.

The particular lock shown in the drawings is what is termed a "rim-lock;" but it is obvious that my invention is not necessarily confined thereto.

In the drawings, 1 is the lock-case.

2 represents the knob for retracting the latch.

3 is a roll-back, operable by means of the knob.

4 is the latch-bolt.

4^a 4^a are tailpieces or guide-pins projecting rearwardly from said bolt.

5 is the cross-head. The roll-back 3 operates on the cross-head 5 to retract the bolt 4 in the manner hereinafter described.

6 is a plate which constitutes an abutment for the springs 7 7, the forward ends of which project against the rear end of the bolt to force it forward into its normally advanced position.

8 is a dogging device pivotally mounted at 8^a upon the latch-bolt 4. The tail 8^b of the dogging device normally stands with its end in front of a stationary abutment 9, and when it stands in this position it is obvious from an inspection of Fig. 1 that the latch-bolt 4 cannot be pushed rearwardly.

8^c is a pin or connection carried by the dogging device 8 and located eccentric to its

pivot 8^a. This pin 8^c makes connection with the sliding guide-pin 4^b of a movable end piece 4^c of the bolt 4. This movable end piece 4^c partakes of a slight independent longitudinal movement relatively to the bolt 4 and normally stands spaced apart slightly therefrom, as indicated in the several views. Any means may be provided to cause said parts to normally assume this position, one convenient means comprising a spring or springs 4^d.

4^e is a guide similar to the guide 4^b, excepting that the dogging device 8 makes no connection therewith in this particular case.

From the foregoing it will be seen that when the end piece 4^c is moved back against the end of the bolt 4 it will swing the dogging device 8, so that the tail 8^b will stand in the position indicated in dotted lines in Fig. 1 free of the abutment 9, in which position the bolt 4 may be retracted or pushed back. Obviously the knob 2 could not operate the bolt 4 unless suitable means of connection be provided between the knob and the dogging device, so that the former would first release the dogging device. To that end, therefore, I provide the part 10, which constitutes the latch-slide proper, the same being connected to the cross-head 5. On one side of the latch-slide 10 I provide a projection 10^a, which is arranged to engage with the shoulder 4^f on the latch-bolt after said slide has moved a short distance. I also provide a shoulder 10^b which engages with the eccentric portion of the dogging device 8. This shoulder 10^b moves the dogging device on the first part of its rearward excursion, whereby said dogging device will be released before the shoulder 10^a engages with the shoulder 4^f. When this occurs, the continued rearward excursion of the latch-slide 10 will draw the bolt, the latter being then free to retract.

11 is the keeper-plate, into which the bolt is projected when the lock is in operation.

From the foregoing it will be seen that a sharp instrument inserted between the lock and the keeper-plate cannot be successfully employed to push back the bolt, because normally the dog 8 stands in front of the stationary abutment 9.

I have shown my invention in its preferred form; but manifestly it may be employed in various ways without departing from the

spirit and scope thereof. For example, it is not essential that the end piece 4° should project beyond the end of the bolt 4, it being merely essential that it should be so located or placed as to be inaccessible to anyone who should attempt to push the bolt back by inserting a thin instrument between the edge of the door and the door-casing.

What I claim is—

- 10 1. In a device of the character described, a movable bolt, an independently - movable piece carried thereby, a dogging device carried by said bolt and operable by said independently-movable piece, a manually-operative device, a connection between the same and said bolt, said connection also operating said dogging device,
- 15 2. In a device of the character described, a movable bolt, a dogging device carried thereby, an independently-movable member carried by said bolt and engaging said dogging device to operate the same, and a latch-slide operatively connected with said dogging device and said bolt.
- 20 3. In a device of the character described, a movable bolt, a dogging device carried thereby, an independently-movable member carried by said bolt and engaging said dogging device to operate the same, a latch-slide op-
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eratively connected with said dogging device 30 and said bolt, and means to cause said latch-slide to operate said dogging device in advance of said bolt.

4. In a device of the character described, a movable bolt, an independently - movable 35 piece carried at the end thereof, and normally spaced apart slightly therefrom, a dogging device connected to said independently-movable piece, a manually-controllable operating device, a connection between said operating device and said bolt and dogging device, whereby said dogging device may be released and the bolt retracted.

5. In a device of the character described, a movable bolt, an end piece carried thereby, 45 a dogging device carried by said bolt, a connection between said dogging device and said end piece, means for normally moving the end piece in a direction to set the dogging device, a manually-controllable slide operatively 50 connected with both the bolt and said dogging device whereby the latter may be released and the former retracted.

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