

H. G. VOIGHT.
PANIC BOLT FOR OUTSIDE DOORS.
APPLICATION FILED FEB. 3, 1909.

920,507.

Patented May 4, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

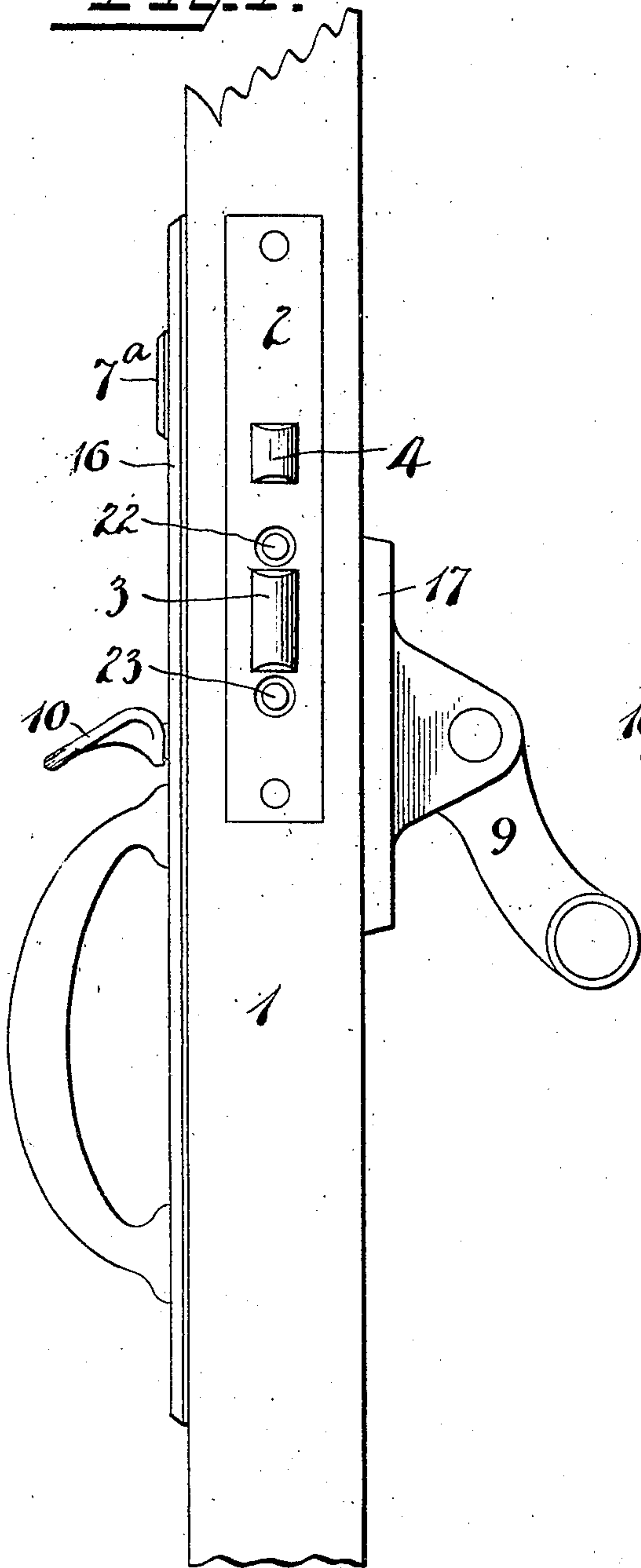
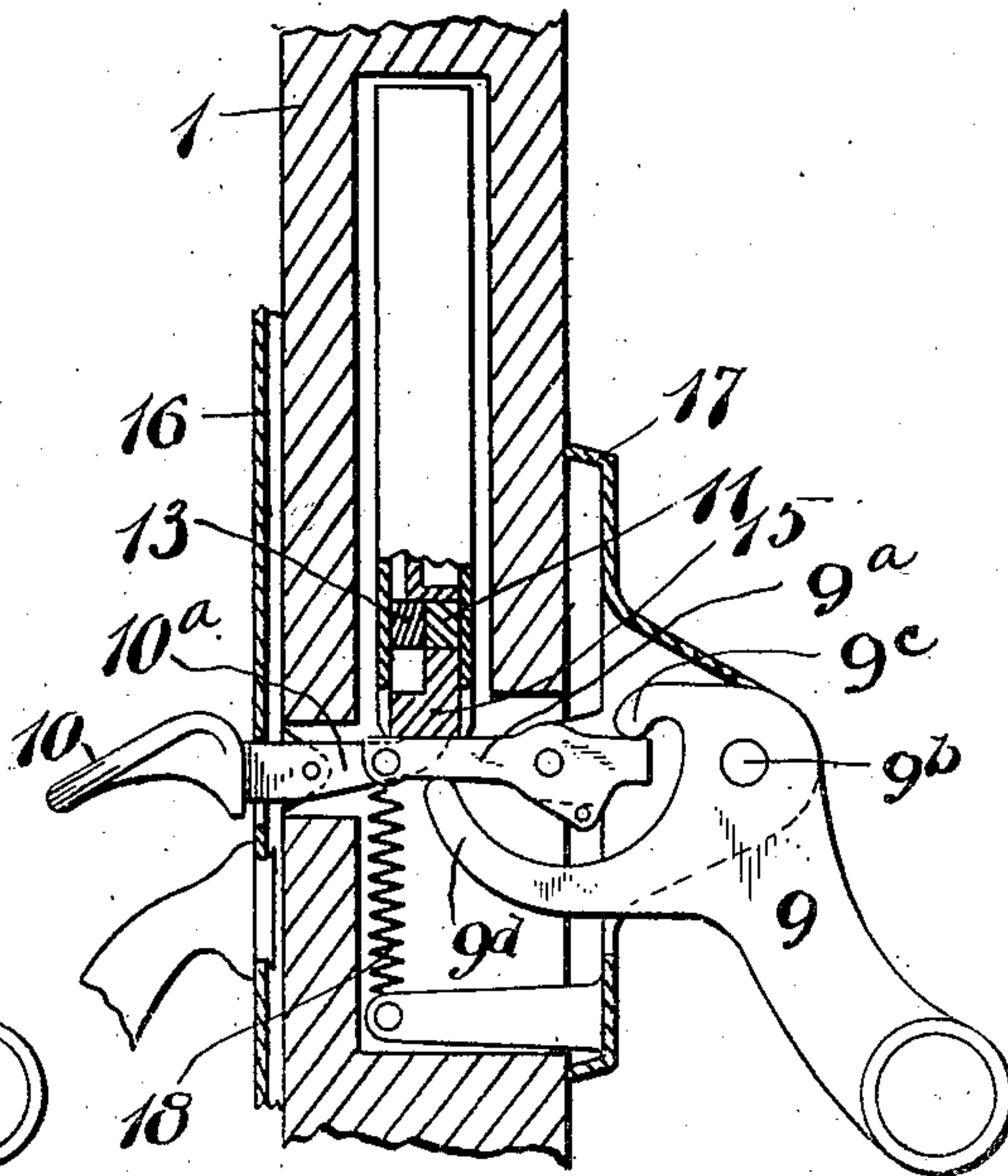


Fig. 3.



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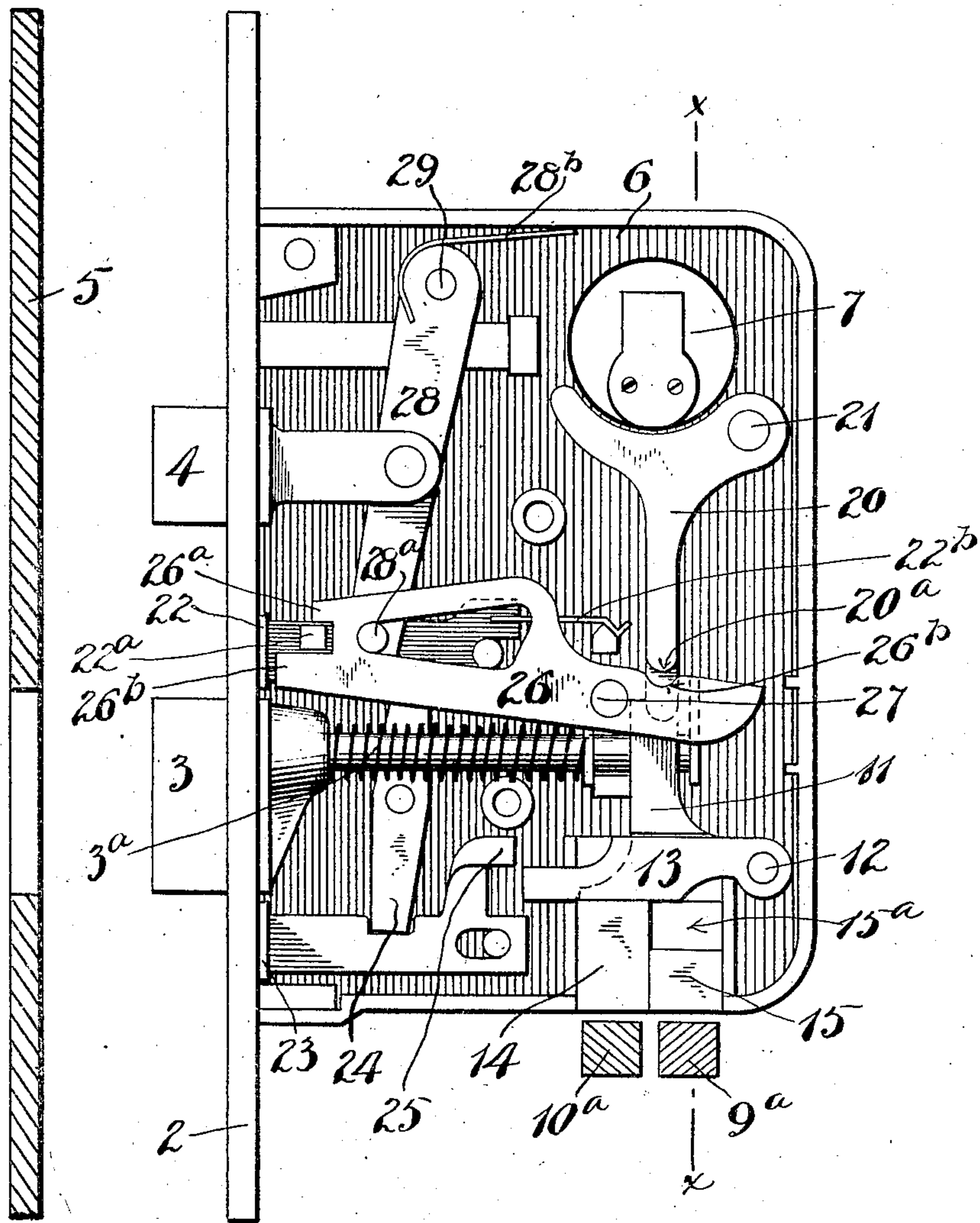
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Patented May 4, 1909.

2 SHEETS—SHEET 2.

Fig. 4.

Fig. 2.



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UNITED STATES PATENT OFFICE.

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PANIC-BOLT FOR OUTSIDE DOORS.

No. 920,507.

Specification of Letters Patent.

Patented May 4, 1909.

Application filed February 3, 1909. Serial No. 475,755.

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 Panic-Bolts for Outside Doors, of which the following is a full, clear, and exact description.

My invention relates to improvements in locks and particularly to an improvement in that type shown in my accompanying application, Serial No. 475,754, filed February 3rd, 1909, and also contains features of improvement set forth in my co-pending applications, Serial No. 441,362, filed July 1, 1908, and Serial No. 480,297, filed February 27, 1909.

The main object of the present invention is to provide means whereby the lock may always be operated from the inner side of the door by means substantially similar to that set forth in my aforesaid application; the lock construction being also such that when the door is closed, the exterior operating means may be dogged or blocked against operation save by the use of a proper key.

Other advantages will be seen by the experienced locksmith.

In the accompanying drawings, Figure 1 is an edge elevation of a portion of a door equipped with my improved lock. Fig. 2 is a relatively enlarged view of the lock case with one side removed and showing certain other details in section. Fig. 3 is a view on the same scale as Fig. 1, showing certain parts in elevation and certain other parts in section, said section being taken on the plane of the line X—X, Fig. 2. Fig. 4 is a sectional view of a strike-plate adapted to this lock.

1 represents a portion of a door to which my lock is applied.

2 represents the face plate having projecting therefrom a spring latch-bolt 3 and a dog actuator 4, the latter having a beveled forward end adapted to engage the strike-plate in the same manner as a latch, save that when the door is closed, there is no perforation in the strike-plate in front of the actuator 4. Thus, so long as the door is closed said actuator 4 will be repressed.

5 represents such a strike-plate as I have described.

6 is the lock case containing the latch mechanism.

7 is the inner end of a cylinder lock carried by the case 6, the outer end of said lock being shown at 7^a, Fig. 1.

The tail of the latch 3 is constructed in the usual manner and is adapted to be retracted by three independent means, to wit, a hand operated device 9, at the inner side of the door; a hand operating device 10 and the key operated device 7 at the outer side of the door.

11 is a lever pivoted at 12. 13 is another lever pivoted at 12 and resting under a shoulder of the lever 11, as best seen in Figs. 2 and 3.

14 is a block resting under the lever 13 and suitably guided in the case 6.

15 is a block cut away at 15^a and mounted under the lever 11, the cut away portion 15^a clearing the lever 13.

10^a is the inner end of the operating device 10, which is pivoted on the escutcheon plate 16.

9^a is a lever pivoted on the escutcheon 17, the inner end of said lever standing under the block 15, the lever being operated by the hand operated device 9 when the latter is moved in either direction toward or from the door. The operating device 9 is pivoted at 9^b to the escutcheon 17 and is provided with two hooks or horns 9^c 9^d which engage the lever 9^a at opposite ends and on opposite sides so that no matter which way the operating device 9 is moved, it will cause a movement of the lever 9^a in a direction to lift the block 15 and tilt the lever 11 so that it in turn will engage the tail of the bolt 3 and retract the same.

18 is a spring for holding the lever 9^a in its inactive position.

3^a is a spring for normally advancing the latch bolt 3.

20 is a lever pivoted at 21 in the case 6, one end of the lever engaging the tail of the latch bolt 3 so that when said lever 20 is swung back said latch bolt will be retracted. The lever 20 is moved by the roll-back of the lock 7.

From the foregoing, it will be seen how the latch 3 may be retracted by either one of the three means 7, 9 or 10.

Together with this mechanism I provide stop-work whereby the latch bolt may be locked positively against retraction by the means 10 and may be also locked against repression by the use of a thin tool inserted

between the edge of the door and the door casing. This means also includes a device for preventing the shifting of the stop-work by a thin tool inserted through this space, thereby not only locking the door but safeguarding it so that the spring latch-bolt 5 will perform satisfactorily the function of a "dead" bolt. This improved means I will now describe in its preferred form.

22—23 are the usual operating buttons of a so-called "night latch" mechanism, these projecting through the face plate 2 for operation when the door is open. These buttons 22—23 have rear slide extensions arranged within the lock-case 6. These slides are connected by the walking beam 24 so that when one button is pushed in, the other will be projected and vice-versa. The inner end of the button 23 carries a shoulder 25, which, when this button is pushed in, stands over the forward end of the lever 13 whereby it follows that said lever 13 cannot be lifted, and hence the latch 3 cannot be retracted at such time by the end 10^a and operating device 10.

When the button 23 is pushed in, the button 22 will be projected and when the door is closed a tilting dog 26 pivoted at 27 drops by gravity to a position in which a shoulder thereon 26^a stands to the rear of a stop or shoulder 22^a on the tail of button 22 to prevent its repression.

So long as the door is open, the dog 26 will stand in the position indicated in Fig. 2, irrespective of the position of the buttons 22—23. This is due to the fact that the dog actuator 4 stands projected. This dog actuator 4 is connected at its rear to a swinging lever 28 pivoted at 29. This lever 28 carries a stud 28^a, which stud projects into a recess within the dogging plate 26, as best seen in Fig. 2. The upper wall of this recess is inclined or so shaped that when the actuator 4 is pushed back, the stud 28^a will move back in said recess so as to allow the dog 26 to drop down into the position previously described.

When the door is closed and the stop-work has been set, the dog 26 also serves to block the latch bolt 3. Under such conditions, it is clear that means must be provided to still permit the door to be opened from the outside. To that end, I provide first a shoulder 20^a on the side of the lever 20. This shoulder stands above a notch 26^b in the rear upper edge of the dog 26. When the dog is in the position indicated in Fig. 2, the shoulder 20^a does not project into said notch 26, but, when the dog 26 is shifted to its dogging position it will be seen that the rear end of said dog will tilt up so that the shoulder 20^a will stand in said notch. Now, when the roll-back of lock 7 is turned so as to rock lever 20, the shoulder 20^a will ride down the incline at the rear of the recess 26^b thus lifting the forward end of the dog to the position indi-

cated in Fig. 2, first freeing the latch 3, after which, the continued rearward swinging movement of lever 20 will retract said latch bolt 3.

A suitable recess or clearance should be provided in the lock case 6 to permit the operating levers 9^a and 10^a to partake of the necessary movement whereby the blocks 14—15 may be shifted.

I have only attempted to show the invention in one of its preferred forms and have even then not attempted to show the precise design that might be adopted in forming the working parts, the drawings being illustrative rather than definitive in this respect. Various springs may be added wherever desired, for example, the spring 28^b may be employed to advance the actuator 4 through the medium of the lever 28 and a friction spring 22^b may be employed to frictionally hold the stop-work in either of its two positions.

While my invention contains certain features of improvement over the invention made the subject matter of the aforesaid application, it will also be seen to contain certain other features of improvement relative to other details.

What I claim is:

1. In a latch mechanism, a spring-actuated latch bolt, an operating device therefor, including a hinged lever arranged to move toward and from the door, an operative means of connection between said lever and said latch bolt for retracting said bolt by either movement of said lever, in combination with means for operating said latch bolt from the opposite side of the door, together with means for locking said latch bolt against repression when the door is closed and against retraction by the last mentioned operating means, but leaving said bolt free to be retracted by the first mentioned operating means.

2. In a latch mechanism, a spring-actuated latch bolt, an operating device therefor, including a hinged lever arranged to move toward and from the door, an operative means of connection between said lever and said latch bolt for retracting said bolt by either movement of said lever, in combination with means for operating said latch bolt from the opposite side of the door, together with means for locking said latch bolt against repression when the door is closed and against retraction by the last mentioned operating means, but leaving said bolt free to be retracted by the first mentioned operating means, and a third latch bolt operating means arranged externally of the door for operating said latch bolt independently of the other two means at any time.

3. A lock for outwardly opening doors comprising a spring projected latch bolt, two independent means for operating said latch

bolt from the outer side of the door, stop-work mechanism arranged to render inoperative one of said operating means, means operated by the closing of the door to prevent the reversal of the stop-work to free said operating device when said door is closed, and operating means at the inner side of the door movable toward and from said door, and connecting means between the latter and the latch bolt to retract said bolt by either movement of said operating means.

4. A lock for outwardly opening doors, comprising a spring projected latch bolt, two independent means for operating said latch bolt from the outer side of the door, stop-work mechanism arranged to render inoperative one of said operative means, means operated by the closing of the door to prevent the reversal of the stop-work to free said operating device when said door is closed, said means including an internally arranged dogging device operating to dog said stop-work and to also dog said latch bolt against retraction by one of said operating means, and a lever at the inner side of the door and means to retract said latch bolt thereby at any time by a movement of the latter toward or from the door.

5. In a door lock, a case, a latch bolt, latch mechanism within the case, an operating device entering said case from one edge to retract the latch bolt, and a second oppositely arranged operating device entering said case from the same edge, and means to render one of said operating devices inoperative while the door is closed.

6. In a lock, the combination of a bolt, means for automatically dead-locking same when the door is closed, and means for operating said bolt from one side of a door at all times, said means including a bar extending across the face of said door and movable toward and from the door.

7. In a lock, the combination of a bolt,

means for automatically dead-locking same when the door is closed, and means for operating said bolt from one side of a door at all times, said means including a bar extending across the face of said door and arranged to operate said bolt by a movement either to or from the door.

8. In a lock, the combination of a bolt, means for automatically dead-locking same when the door is closed, means for operating said bolt from one side of a door at all times, said means including a bar extending across the face of said door and movable toward and from the door, and means for operating said bolt from the other side of said door.

9. In a lock, the combination of a bolt, means for automatically dead-locking same when the door is closed, means for operating said bolt from one side of a door at all times, said means including a bar extending across the face of said door, and arranged to operate said bolt by a movement either to or from the door, means for operating said bolt from the other side of said door and means for dead-locking said last mentioned operating means.

10. In a lock, the combination of a bolt, means for automatically dead-locking same when the door is closed, means for operating said bolt from one side of a door at all times, said means including a bar extending across the face of said door, and arranged to operate said bolt by a movement either to or from the door, means for operating said bolt from the other side of said door, means for dead-locking said last mentioned operating means and means for operating said bolt when said last mentioned means is dead-locked and operating from the same side of the door.

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Witnesses:

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