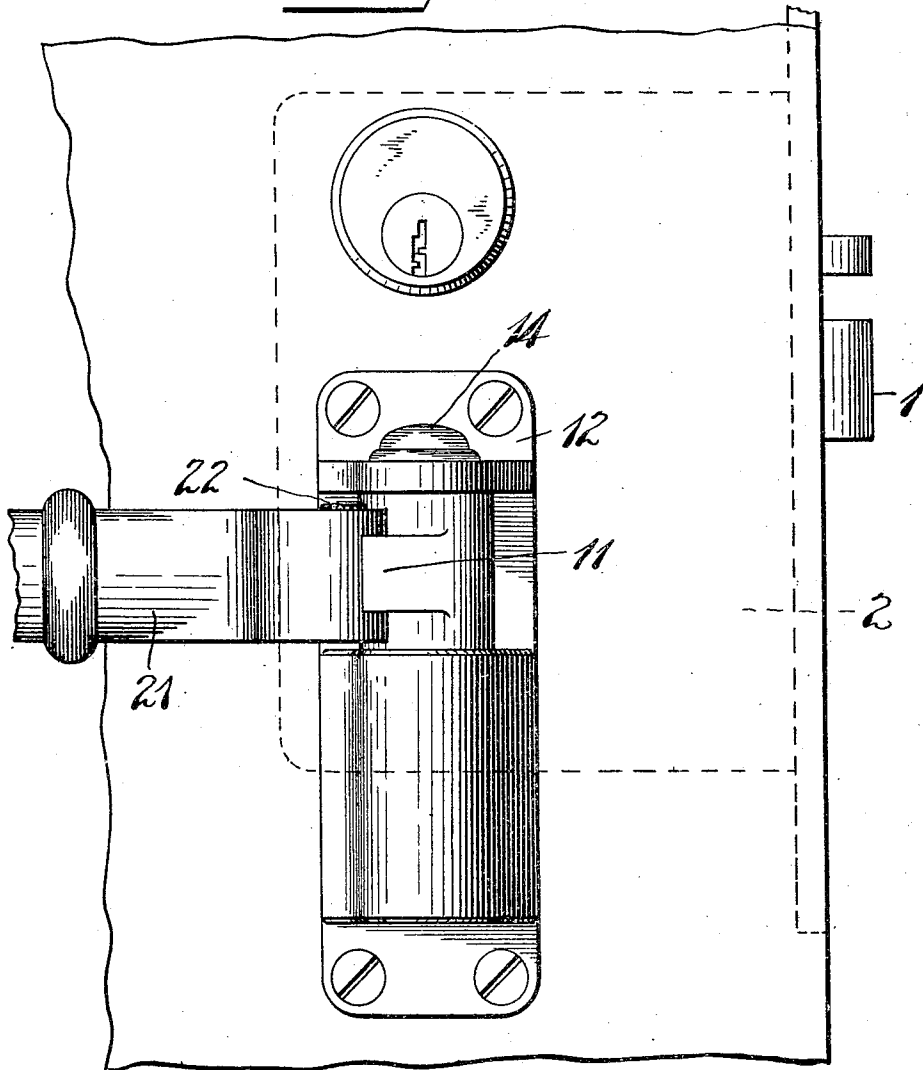


APPLICATION FILED JAN. 4, 1910.

3 SHEETS—SHEET 1.

Fig. 1.



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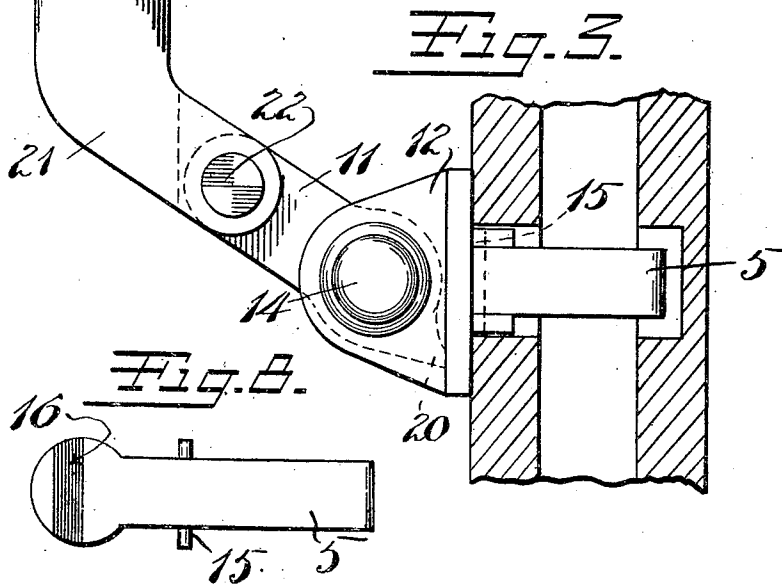
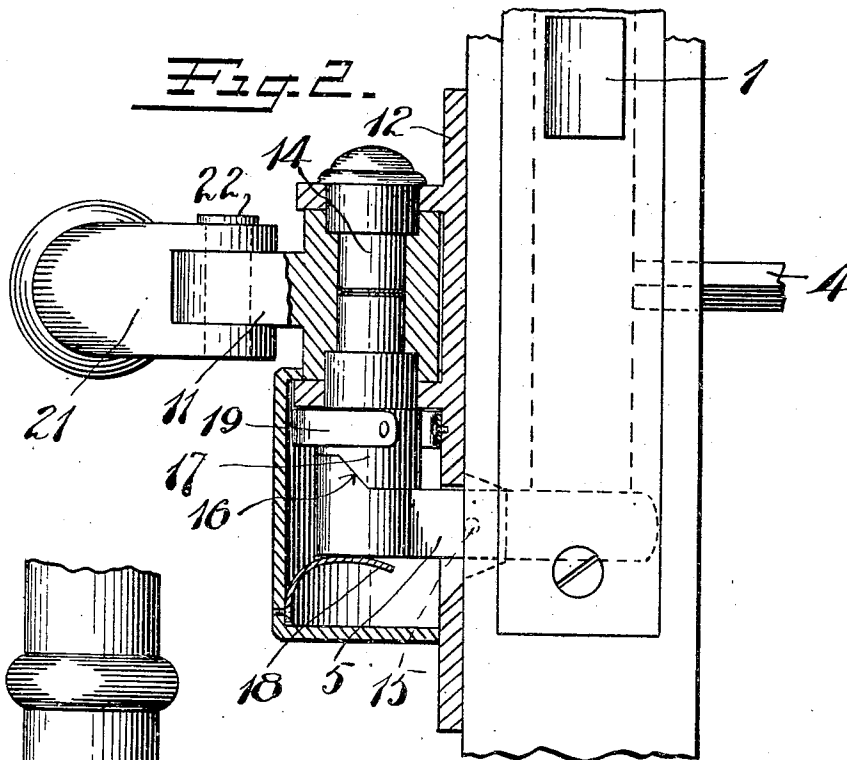
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PANIC BOLT.
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961,092.

Patented June 14, 1910.

3 SHEETS—SHEET 2.



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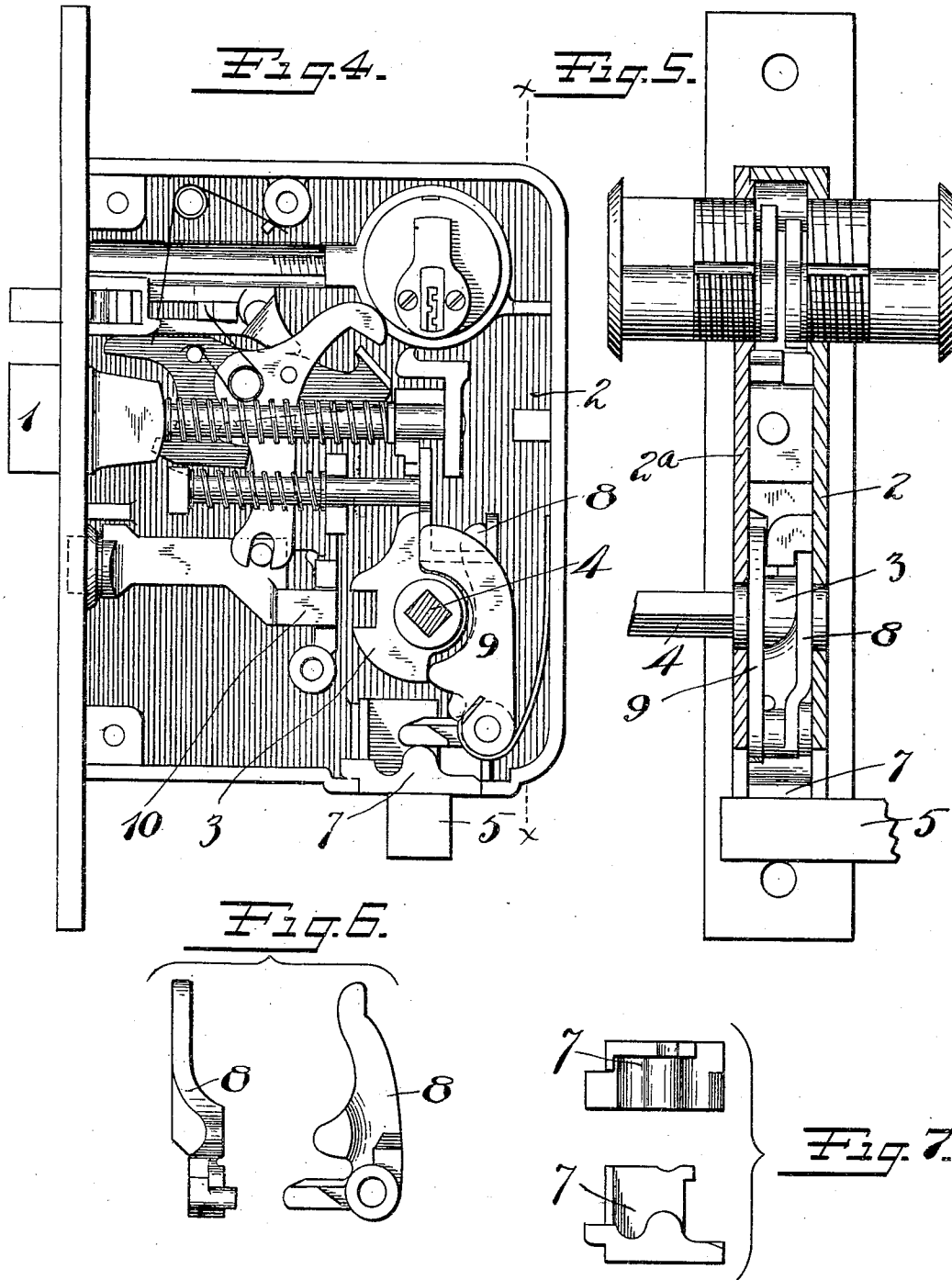
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

AUGUST ARENS AND ERNEST L. TEICH, OF NEW BRITAIN, CONNECTICUT, ASSIGNORS
TO P. & F. CORBIN, OF NEW BRITAIN, CONNECTICUT, A CORPORATION OF CON-
NECTICUT.

PANIC-BOLT.

961,092.

Specification of Letters Patent.

Patented June 14, 1910.

Application filed January 4, 1910. Serial No. 536,262.

To all whom it may concern:

Be it known that we, AUGUST ARENS and ERNEST L. TEICH, citizens of the United States, residing at New Britain, county of Hartford, State of Connecticut, respectively, have invented certain new and useful Improvements in Panic-Bolts, of which the following is a full, clear, and exact description.

Our invention relates to latch mechanism particularly adapted to exit doors, the object of the invention being to provide improvements in construction whereby various features of advantage are attained, including easy and quick releasing of the latch mechanism whereby the door may freely open in the event of panic, one of the main features of the mechanical improvement relating to the construction of the means for operating the latch from the inner side of the door.

In the accompanying drawings Figure 1 is a view of a portion of the inner side of a door equipped with our invention. Fig. 2 is a front edge view of the parts shown in Fig. 1, said view being partly in section. Fig. 3 is a plan view of the parts shown in Fig. 2, said view also being partly in section. Fig. 4 is a view of the latch mechanism detached, the cap plate being removed. Fig. 5 is a section on the line $x-x$ of Fig. 4. Fig. 6 illustrates an edge and side elevation of one of the details detached. Fig. 7 illustrates a plan and side elevation of another detail. Fig. 8 is a plan view of a detached detail.

First referring to Fig. 4 it will be seen that the latch mechanism employed is of the usual mortise type and contains a spring advanced latch bolt 1 mounted in a case 2. 2^a is a cap for said case. 3 is a roll-back operatively connected with the tail of the latch bolt 1 in any suitable manner, said roll-back 3 being operable by a spindle 4 which is arranged to project outwardly relatively to the lock to carry at its outer end an ordinary latch operating device such as the well-known knob (not shown). 5 is a tilting lever (independent of the roll-back 3) which engages a lifter 7 arranged to operatively engage a bell crank lever 8 mounted in the case, which lever is also arranged to engage the tail of the latch bolt. The roll-back is restored to its normal position (Fig. 4) by a spring pressed lever 9. 10 is a dogging

device for the roll-back 3. This dogging device may be actuated in any desirable manner, the purpose of the same being to prevent the operation of the latch 1 by the roll-back 3, but leaving the latch always free to be operated by the indoor operating mechanism.

The means for operating the latch mechanism from the inner side of the door is preferably constructed as follows: 11 is a lever pivoted at 14 to swing on a horizontal plane, the mounting for said lever comprising a bracket 12 arranged to be secured to the inner side of the door. The tilting lever 5 is pivotally mounted at 15 to said bracket, said mounting being intermediate the length of said lever 5, so that the forwardly projecting end of the same may operate under the lifter 7 of the latch. A suitable clearance notch is of course provided in the material of the door to permit the forward end of the lever 5 to tilt up and down without obstruction. The rear of the lever 5 is provided with a cam 16 (or equivalent means). 17 is a hub rotated by the swinging lever 11 and constructed to coöperate with said cam 16, so that when said hub 17 is swung, said lever 5 will be tilted. A suitable spring 18 may be employed to return the tilting lever 5 to its normal position (indicated in Fig. 2). 19 is a return spring for the member 17, said spring 19 being anchored at one end of the bracket 12 and secured at its other end to said rotatable member 17. 20 is a stop for limiting the return movement of the swinging lever 11. 21 is one end of a cross-bar arranged to extend in a substantially horizontal plane across the inside of the door to which the latch is applied. One end of this cross-bar 21 is pivoted at 22 to the swinging lever 11, while the other end is connected in any well known manner to the door to which the latch is to be applied, said mounting permitting the cross-bar 21 to partake of said movement in a horizontal plane.

It will now be seen that pressure applied toward the inner side of the door is bound to encounter the cross-bar 21, and will, by reason of the fact that said bar is mounted to swing in a horizontal plane, cause said bar to move toward the door. This movement will swing the lever 11 and will there-

by cause the hub 17 to operate upon the cam 16 of the lever 5, thereby tilting the latter so as to move its inner end up against the lifter 7 to retract the latch through the medium of the bell-crank 8. The moment the latch is retracted, the same pressure causes the door to move outwardly and open. By this simple means, safety to the occupants of a building is guaranteed, and means is furnished, entirely independent from the usual latch operating means, namely, the knob and knob spindle and the roll-back mechanism adapted thereto, whereby the latch may be retracted with certainty at any time by force or pressure applied toward the door from the inside. In this connection, it will, of course, be understood that the exit doors to which we have referred open outwardly so that in the event of panic on the inside of the building, hasty exit may be had.

From the foregoing it will be seen that the mechanism may be easily applied to a door in the same manner as an ordinary mortise lock, that part of the door cut away to admit the lever 5 and to afford sufficient freedom for operation being covered by the back-plate of the bracket 12, which may be of any suitable pattern to produce any desired escutcheon effect. In the event the latch mechanism is of the ordinary mortise type, in order to adapt it for use with this operative device, all that is required is the substitution of a suitable latch mechanism to permit the same to be operated by the lever 5, one specimen of such a latch mechanism being illustrated in detail in Fig. 4.

What we claim is:

1. In a latch mechanism, a latch bolt, means attached to said mechanism for operating said latch bolt from the outside of a door to which the latch is applied, and means independent thereof for operating the latch bolt from the inner side of the door, said second mentioned operating means comprising a forwardly projecting vertically tilting latch operating member projecting into the door to which the latch is applied, a cam on the rear end thereof, and a manually operable horizontally swinging lever arranged for coöperation with said cam for imparting motion thereto when said manually operable member is moved.

2. In a latch mechanism, a latch bolt, means for operating said latch bolt from the outside of a door to which the latch is applied, and means independent thereof for operating the latch bolt from the inner side of the door, said second mentioned operating means comprising a forwardly projecting vertically tilting latch operating member, a cam on the rear end thereof, and a manually operable horizontally swinging lever arranged for coöperation with said cam for imparting motion thereto when said manually operable member is moved, said manu-

ally operable member including a rotatable hub portion and a cam thereon for engagement with the first mentioned cam.

3. In a latch mechanism, a latch bolt, means for operating said latch bolt from the outside of a door to which the latch is applied, and means independent thereof for operating the latch bolt from the inner side of the door, said second mentioned operating means including a vertically tilting lever, a cam associated therewith, and an oscillating member arranged for coöperation with said cam for imparting motion thereto when oscillated, said oscillating member including a hub portion and a horizontally swinging lever arm and a horizontally extending bar pivotally connected to said lever arm.

4. In a panic door latch, a latch, means for operating the same comprising a vertically tilting lever with connections between said lever and latch, an operating lever arranged to swing in a horizontal plane with means for securing the same to the surface of the door to which the latch is to be applied and a cam connection between the pivoted end of said swinging lever and the rear end of the tilting lever for transmitting the movement of the former to the latter.

5. In a panic door latch, a latch, means for operating the same comprising a vertically tilting lever with connections between said lever and latch, an operating lever arranged to swing in a horizontal plane with means for securing the same to the surface of the door to which the latch is to be applied and a cam connection between the pivoted end of said swinging lever and the rear end of the tilting lever for transmitting the movement of the former to the latter, a vertical pivotal mounting for said operating lever and a horizontal pivotal mounting for said tilting levers said mountings being connected whereby the parts may be bodily applied to a door.

6. In a panic door bolt, a latch, means for operating the same comprising a vertically tilting lever with connections between said lever and latch, an operating lever arranged to swing in a horizontal plane with means for securing the same to the surface of the door to which the latch is to be applied and a cam connection between the pivoted end of said swinging lever and rear end of the tilting lever for transmitting the movement of the former to the latter, a pivotal mounting for said tilting lever and a pivotal mounting for said operating lever, said pivotal mountings being arranged at substantially right angles to each other and being connected whereby the parts may be bodily applied to a door.

7. In a panic door bolt, a latch, a vertically sliding latch retracting member, a swinging operating device mounted to turn

upon a vertical axis, and including a bar arranged to extend horizontally across a door to which the mechanism is applied, operative means of connection between the pivoted end of said swinging operating device and the sliding latch retracting member, operative means of connection between said latch retracting member and said latch, and a support in common to all of said parts excepting the latch and the connections between the latch retracting member and said latch. 10

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