W. H. HART & J. P. HOLTZHOUSER.

EMERGENCY EXIT DOOR FASTENER.

APPLICATION FILED JAN. 27, 1909.

1,008,463.

Patented Nov. 14, 1911.

Fig. 1.

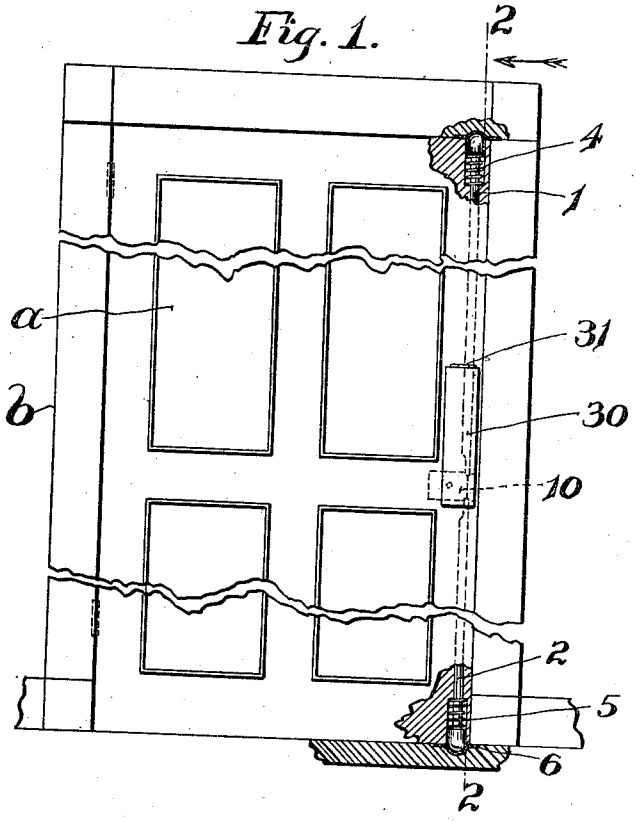


Fig. 2.

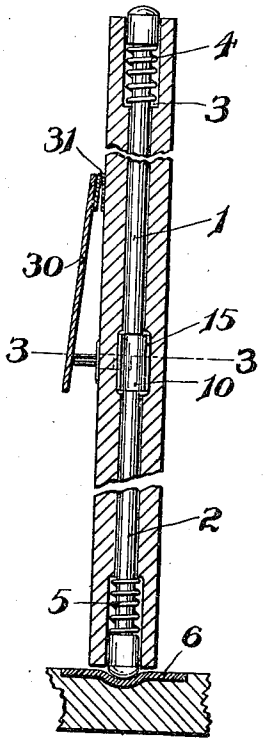


Fig. 5.

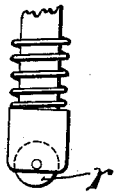


Fig. 3.

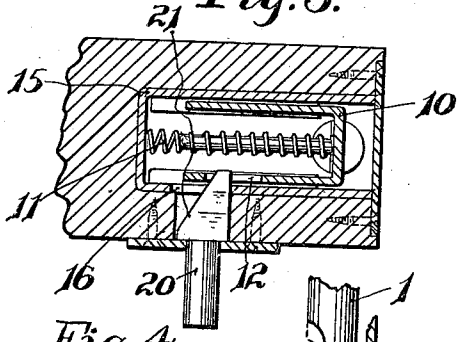
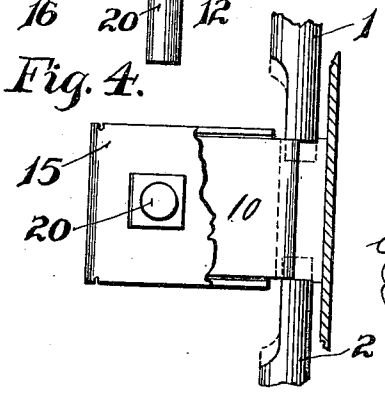


Fig. 4.



Witnesses:
R. E. Berkowitch.
D. Greenwald.

Inventors:
Walter H. Hart
Jacob P. Holtzhouser
By H. E. Hart.
their attorney

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WALTER H. HART AND JACOB P. HOLTZHOUSER, OF NEW BRITAIN, CONNECTICUT, ASSIGNORS TO THE STANLEY WORKS, OF NEW BRITAIN, CONNECTICUT, A CORPORATION OF CONNECTICUT.

EMERGENCY-EXIT-DOOR FASTENER.

1,008,463. Specification of Letters Patent. Patented Nov. 14, 1911.

Application filed January 27, 1909. Serial No. 474,375.

To all whom it may concern:

Be it known that we, WALTER H. HART and JACOB P. HOLTZHOUSER, citizens of the United States, and residents of New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Emergency-Exit-Door Fasteners, of which the following is a specification.

The object of our invention is to produce a locking device for a door of the character which normally holds the door locked in closed position and is released when pressure is exerted on the door to allow it to open.

The device is designed primarily for use in doors of public buildings, such as schools, theaters, etc., where it is desirable to lock a door but at the same time make it possible to unlock the door in what might be termed an automatic manner in case of any trouble, such as a fire or a panic of any sort.

In the drawings—Figure 1 is a general view showing our invention applied to a door, parts being broken away to show construction. Fig. 2 is a sectional view of an enlarged scale taken on the line 2—2 Fig. 1. Fig. 3 is a horizontal sectional view on the line 3—3 of Fig. 2. Fig. 4 is a side elevation of the locking member. Fig. 5 is a detailed view of the end of a bolt equipped with a roller.

Referring to the drawings *a* is the door, *b* the casing.

1—2 are a pair of bolts mounted in a groove 3 in the front edge of the door, these bolts being acted upon by springs 4—5 to normally cause them to extend beyond the upper and lower edges of the door in order to have them interlock with the locking recessed plates in the casing, one of which is shown at 6 in Fig. 2. The inner ends of the bolts 1—2 are spaced from each other and a locking member 10 is normally pressed forward by a spring 11 so as to lie between the ends of the bolts, as illustrated in Fig. 4. This locking member is guided for a sliding movement in a casing 15. The casing has an aperture 16 through one side wall and the locking member has an aperture 12 which underlies, but is normally out of alinement, with the aperture 16 through the casing. A plunger 20 having a head tapered at one side as at 21 projects through the aperture 16 in the casing 15 and its nose just engages the rear wall of the aperture 12 in the locking member 10 when it is in its normal position between the ends of the bolts, as indicated in Figs. 3 and 4. This plunger 20 extends through the door perpendicular to the surface thereof, as clearly indicated in Fig. 2. When the door is closed the springs 4—5 force the bolts into their seats in the door casing and the locking member 10 is forced forward by the spring 11 between the ends of the bolts. This makes it impossible to retract the bolts so as to open the door except by first moving the locking member to the rear. This movement of the locking member to the rear is accomplished by pressing the plunger 20, which causes it to move transversely of the casing 15 and the locking member 10, and the tapered wall 21 acting on the rear wall of the aperture 12 in the locking member withdraws the locking member from between the ends of the bolts. The bolts can now be retracted and pressure on the door will cause them to be forced inwardly by the wall of the recesses in the door casing, one of which is indicated at 6 in Fig. 2. Inasmuch as the end of the plunger 20 presents a very small area against which to press it would be advisable in many places to mount a plate 30 on a hinge joint 31 on the door, this plate overlying the end of the plunger 20. This plate can be made of any size desired and it is indicated clearly in Figs. 1 and 2 of the drawings.

If a door is locked closing in a room full of people and for any reason there is an attempt at a hasty exit from the room a crowd of people jamming against the door will force the plunger 20 in, retracting the locking member 10, and then the pressure on the door will cause the bolts 1—2 to be retracted and allow the door to swing open. It will thus be seen that a lock of this character is valuable as a fire protection. Under ordinary conditions it effectually locks the door but in case of need the very act of a crowd pressing against the door will unlock it and cause it to swing open.

In the case of double doors this lock can be inserted in the edge of each door, or if desired the locking member illustrated in Figs. 2 and 3 can be dispensed with and the ordinary lock bolt on one door can be

thrown in between the ends of the bolts 1—2 in the other door to prevent their opening until this lock bolt has been withdrawn by the usual key. Or it would be possible to locate the bolts 1—2 in the edge of one door and locate the locking member 10 in the other door.

In cases where there is no door sill and the bolts engage sockets set into the floor we equip our bolts, at least the lower one, with a roller *r* so that the door may swing open freely, the bolt having a rolling contact on the floor which permits of this and prevents scratching or marring of the floor.

We are aware that various changes can be made in the construction and manner of use of this invention and we do not wish to be understood as limiting ourselves to the exact embodiment illustrated and described herein.

We claim:

1. The combination with a door casing having a socket and a door having a bore and mounted to swing in said casing, of a bolt secured to said door within said bore and adapted for engagement with said socket, a spring normally holding said bolt in engaging position, said socket and bolt being so formed as to permit of the disengagement of said bolt from said socket under pressure exerted against said door, a locking member normally contacting one end of said bolt and holding said bolt in extended position, and a retractor extending through the face of said door and engaging said locking member, said bolt and locking member being movable independently of each other and said retractor being movable transversely of said member in the retracting operation.

2. The combination with a door casing having a socket and a door having a bore and mounted to swing in said casing, of a bolt secured to said door within said bore and adapted for engagement with said socket, a spring normally holding said bolt in engaging position, said socket and bolt being so formed as to permit of the disengagement of said bolt from said socket under pressure exerted against said door, a locking member normally contacting one end of said bolt and holding said bolt in extended position, a retractor extending through the face of said door and engaging said locking member, said bolt and locking member being movable independently of each other, and means for holding said locking member and retractor in normal position and said retractor being movable transversely of said member in the retracting operation.

3. In a device of the character described the combination with the door having its front edge provided with a bore, of a pair of bolts located in said bore and means for normally holding said bolts in extended position, the inner ends of said bolts being spaced apart, a reciprocating locking member mounted in said door, means for holding said locking member in its forward position between the inner ends of said bolt, a plunger extending through the face of said door and engaging said locking member, said plunger being movable transversely of said member to retract it, substantially as described.

4. In a device of the character described the combination with a door having its front edge provided with a bore, of a pair of bolts located in said bore and normally held in extended or locking position projecting beyond the upper and lower edges of said door, a casing mounted in said door, a locking member mounted to slide in said casing, a spring holding said locking member in its normal forward position in engagement with said bolts to hold them in their locking position, an aperture through the side of said casing, an aperture through the side wall of said locking member in alinement with the aperture in said casing, a plunger for retracting said locking member having a beveled rear edge adapted to pass through the aperture in said casing and engage the rear wall of the aperture in said locking member, said plunger being movable transversely of said casing and locking member and having a shank extending through the face of said door, substantially as described.

WALTER H. HART.
JACOB P. HOLTZHOUSER.

Witnesses:
ALBERT L. BROWN,
FRANK MARVIN.