T. A. STEVENSON & I. E. MORGAN.

MEANS FOR AUTOMATICALLY OPENING THE DOORS OF PUBLIC BUILDINGS.

APPLICATION FILED APR. 14, 1908.

911,175. Patented Feb. 2, 1909.

Fig. 1.

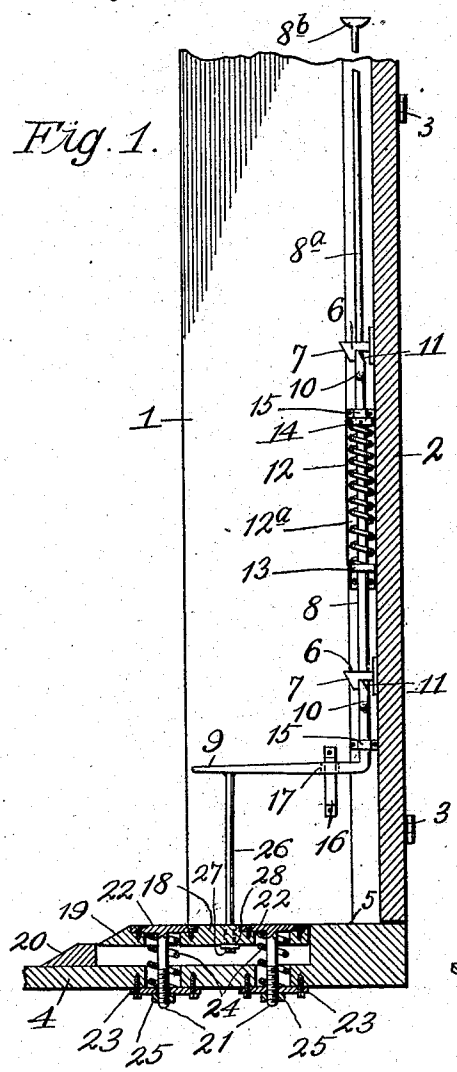
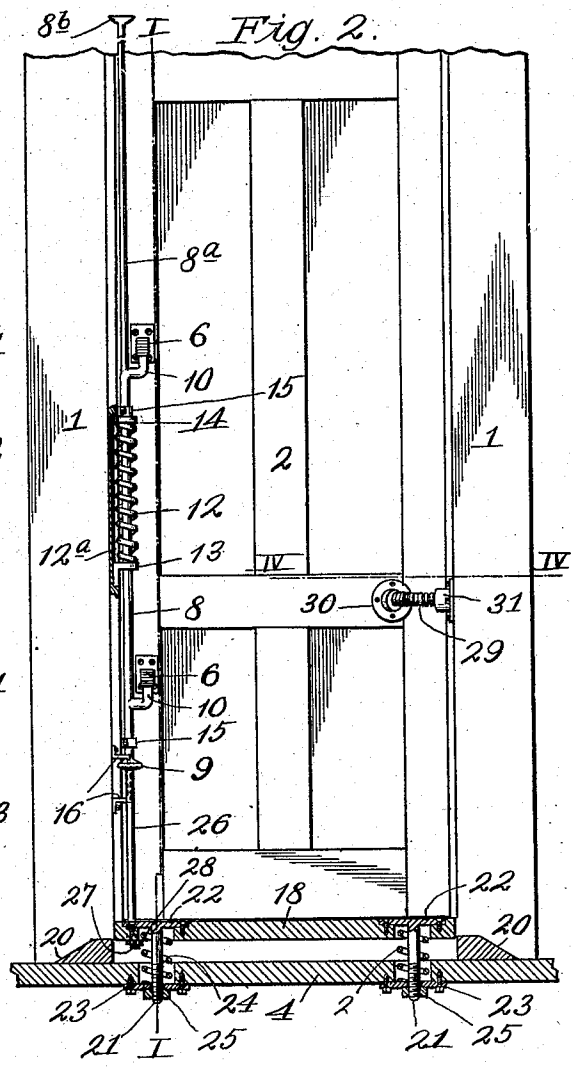


Fig. 2.



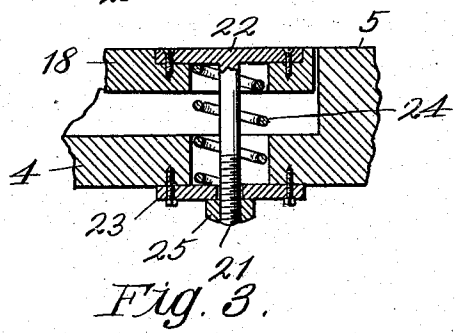


Fig. 3.

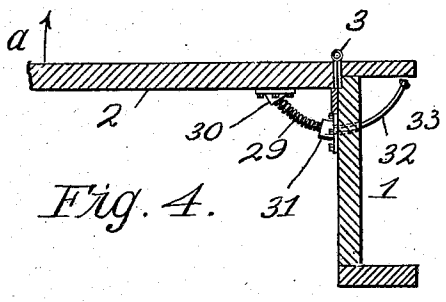


Fig. 4.

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THEODORE A. STEVENSON, OF LANSING, KANSAS, AND ISAAC E. MORGAN, OF KANSAS CITY, MISSOURI.

MEANS FOR AUTOMATICALLY OPENING THE DOORS OF PUBLIC BUILDINGS.

No. 911,175. Specification of Letters Patent. Patented Feb. 2, 1909.

Application filed April 14, 1908. Serial No. 426,933.

To all whom it may concern:

Be it known that we, THEODORE A. STEVENSON and ISAAC E. MORGAN, citizens of the United States, and residents of Lansing and Kansas City, in the counties of Leavenworth and Jackson and States of Kansas and Missouri, respectively, have invented certain new and useful Improvements in Means for Automatically Opening the Doors of Public Buildings, of which the following is a specification.

Our invention relates to means for automatically unlocking and opening the doors of school buildings, theaters, churches, and all other buildings wherein large numbers of people congregate; and our object is to provide means for preventing the congregation from becoming entrapped by locked doors in case of fire.

Doors equipped with the invention may be locked with perfect safety while the congregation occupies the building, and attendants need not be posted at said doors to open the same in case of fire, as this operation is automatically performed when the doors are approached by the congregation.

In order that the invention may be fully understood, reference will now be made to the accompanying drawing, in which:

Figure 1 is a vertical section on line I—I of Fig. 2, of a door equipped with our invention. Fig. 2 represents an elevation of the inner side of a door provided with our invention. Fig. 3 is an enlarged broken section showing a portion of a platform employed in carrying out the invention. Fig. 4 is a broken horizontal section on line IV—IV of Fig. 2.

1 designates a door-casing; 2 designates a door secured to the casing by hinges 3 so that it may be opened outward as indicated by arrow *a*, Fig. 4; 4 designates a floor, and 5 designates the threshold of the door. Door 2 is provided at its inner side with a plurality of hooks or keepers 6 having beveled front sides 7.

8 designates a latch-bar provided with a handle 9 and terminals 10 which latter are adapted to engage the keepers 6 and lock the door in a closed position. Terminals 10 have beveled rear sides 11 so they may be automatically engaged by the keepers 6 when it is desired to close the door from the outside. For instance, when the door is pushed to a closed position the beveled ends 7 of the keepers will engage the beveled ends 11 of the terminals, and push the latch-bar down until the keepers pass over the terminals 10 to the position shown in Fig. 1. When this occurs the latch-bar is immediately pushed upward by an expansion-spring 12 bearing at its lower end against a bracket 13, projecting from the adjacent side of the door-casing, and bearing at its upper end against a collar 14 secured to the latch-bar. One side of spring 12 extends into a recess 12^a in the adjacent side of the casing, this arrangement permitting the latch-bar to be placed close to the casing so that it will not project very far into the doorway and thus be in the way of persons passing in and out. The latch-bar is movably mounted in a plurality of guides 15 secured to the adjacent side of the door-casing, and one of which acts as a stop for collar 14 to abut against for the purpose of preventing the latch-bar from moving upward too high to be engaged and depressed by the keepers when the door is pushed to a closed position. The latch-bar is prevented from turning in guides 15 and thus throwing the terminals 10 out of line with keepers 6 by means of a bracket 16 which extends up through an opening 17 in handle 9 and is secured to the adjacent side of the door-casing, see Figs. 1 and 2.

18 designates a movable platform which is arranged a slight distance above the floor and on a level with the threshold 5. The front edge 19 of the platform is beveled to prevent persons from tripping over the same, and in order to prevent them from catching their feet beneath the platform we provide guard-strips 20 which are secured to the floor at the front and sides of the platform.

21 designates a plurality of bolts provided with disk-like heads 22 which are secured to the upper portion of the platform. Said bolts extend downward through openings in a plurality of disks 23 secured to the underside of the floor for the purpose of supporting expansion-springs 24 embracing the bolts and abutting at their ends against disks 22 23 for the purpose of pushing the platform upward after it has been depressed. The upward movement of the platform is limited by retaining-nuts 25 engaging the lower threaded ends of the bolts.

26 designates a rod secured at its upper

end to handle 9 and extending loosely through an opening in the platform, so that handle 9 may be depressed to disengage the latch-bar from the keepers without depressing the platform. In order, however, that the platform, when depressed, may disengage the latch-bar from the keepers, we provide the lower end of rod 26 with a retaining-nut 27 and a washer 28, which engage the underside of the platform, hence when the latter is depressed it will also draw the latch-bar down therewith so that the door may be opened.

From the above description it will be understood that the latch-bar may be disengaged from the keepers by either depressing handle 9 with the hand or the platform 18 by stepping thereon. The latch-bar may also be disengaged from the keepers by a rod 8^a extending upwardly therefrom and provided with a foot-piece 8^b. This rod is desirable in school buildings as it may be extended upward to the second story so that it can be depressed to open the outside door on the first floor before the school children reach the same. When the latch-bar is disengaged from the keepers, the door is swung open by an expansion-spring 29 abutting at its ends against sockets 30 31. Socket 31 is secured to the adajcent side of the door-casing and socket 30 is secured to the inner side of the door and provided with a segmental rod 32 which extends through openings in the socket 31 and in the door-casing, as shown by dotted lines in Fig. 4. Rod 32 is provided at its inner end with a knob 33 adapted to contact with socket 31 and thus prevent the door from swinging open far enough to pull the spring 29 from said socket.

While we have shown the preferred form of our invention, we, of course, reserve the right to make such changes in the construction and location of parts as properly fall within the spirit and scope of the invention.

Having thus described our invention, what we claim is:

1. In combination, a door, a casing therefor, locking devices on said door, locking devices on the casing adapted to engage those on the door when the latter is closed, and a rod extending upward above the door and connected to the locking devices on the casing for disengaging the same from the locking devices on the door.

2. In combination, a door, a casing therefor, keepers on said door provided with beveled front sides, a latch-bar on the casing provided with terminals adapted to automatically engage the keepers on the door, resilient means for throwing the latch-bar into engagement with the keepers, a handle on the latch-bar for disengaging the same from the keepers.

3. In combination, a door, a casing therefor, locking-devices on said door, locking-devices on the casing adapted to engage those on the door when the latter is closed, an operable platform, and means loosely connecting the locking-devices to said platform so that said locking-devices may be disengaged without operating the platform.

4. In combination, a door, a casing therefor, locking-devices on said door, locking-devices on the casing adapted to automatically engage those on the door when the latter is closed, an operable platform, means for restoring the same to its normal position after it has been depressed, and means loosely connecting the locking-devices to the platform so that said locking-devices may be disengaged without operating the platform.

In testimony whereof we affix our signatures in the presence of two witnesses.

THEODORE A. STEVENSON.
ISAAC E. MORGAN.

Witnesses:
F. G. FISCHER,
M. COX.