J. E. HANKINS.

EMERGENCY EXIT DOOR FASTENER.

APPLICATION FILED AUG. 19, 1909.

936,718. Patented Oct. 12, 1909.

Fig. 1.

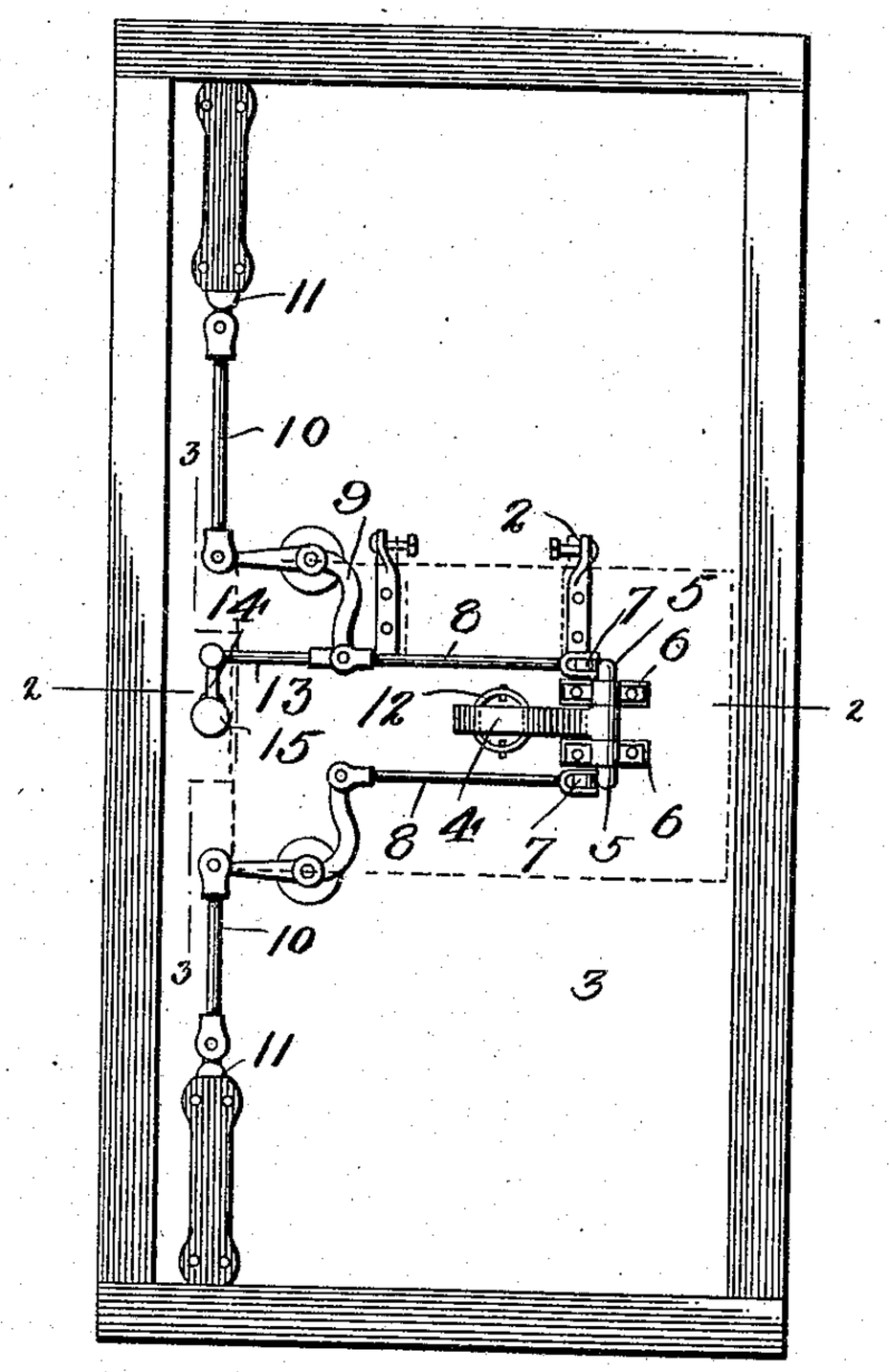


Fig. 2.

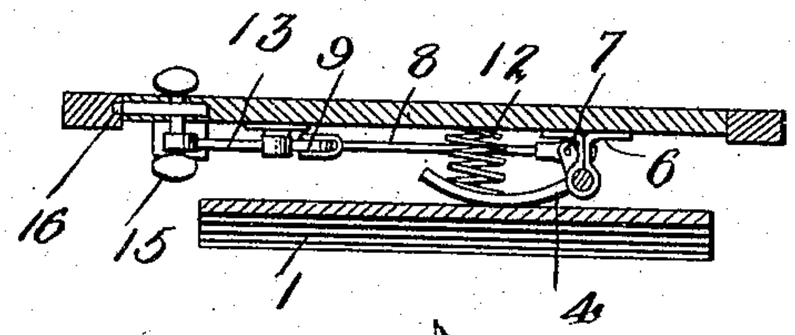
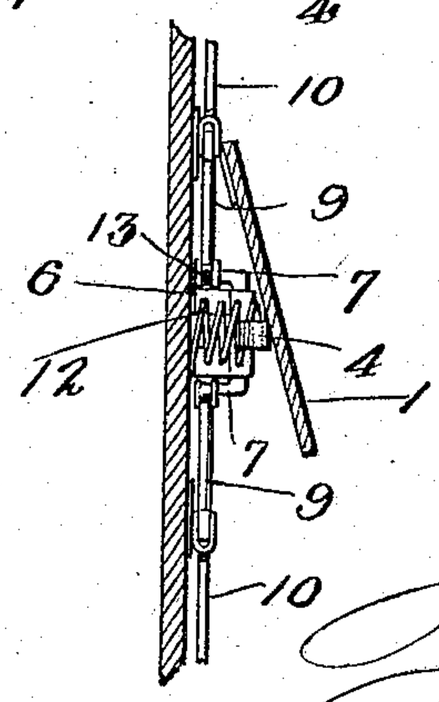


Fig. 3.



Witnesses
Jos. F. Collins.
N. Z. Kent.

Inventor
J. E. Hankins
By Bellamy & Cobb
Attorneys

UNITED STATES PATENT OFFICE.

JAMES E. HANKINS, OF DELTA, IOWA, ASSIGNOR OF ONE-HALF TO HARRY ENGLEHART, OF DAVENPORT, IOWA.

EMERGENCY-EXIT-DOOR FASTENER.

936,718. Specification of Letters Patent. Patented Oct. 12, 1909.

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To all whom it may concern:

Be it known that I, JAMES E. HANKINS, a citizen of the United States, residing at Delta, in the county of Keokuk and State of Iowa, have invented certain new and useful Improvements in Emergency-Exit-Door Fasteners, of which the following is a specification.

The object of this invention is to provide a simple but effective means applied to doors, for automatically unlocking or unlatching the same when pressure is exerted against the inside thereof.

The invention is especially designed for use on doors of schools, theaters, or the like, to facilitate opening of the same in case of fire or panic.

The detailed features of the door releasing or unlocking means will appear more clearly upon reference to the following description, and accompanying drawings, in which:

Figure 1 is a front elevation of a door having the invention applied thereto, the pressure plate being shown in dotted lines; Fig. 2 is a horizontal sectional view on the line 2—2 of Fig. 1, and Fig. 3 is a fragmentary section taken about on the line 3—3 of Fig. 1.

Throughout the following description and on the several figures of the drawings similar parts are referred to by like reference characters.

Specifically describing the invention the numeral 1 designates a pressure plate which is pivotally mounted, as shown at 2, on the middle or lower portion of the door 3, and at the inner side of the latter. The door 3 is designed to be moved outwardly in opening the same and the pressure plate 1 at its inner side rests against an arm 4 projecting from the middle portion of a shaft 5 mounted in bearings in suitable brackets 6 affixed to the door 3. The shaft 5 has cranks 7 projecting inwardly from its ends, said cranks being connected by rods 8 with bell crank levers 9. The bell crank levers 9 are connected with rods 10, which in turn are connected with sliding locking bolts 11 mounted in any suitable manner on the door so as to lock the same closed. Normally the arm 4 on the shaft 5 inclines outwardly from the door being held in such position by a suitable spring of any type shown at 12.

It will be apparent that should any undue pressure be exerted against the pressure plate 1 the arm 4 will be moved toward the door tilting the crank arms 7 of the shaft 5 in a direction opposite the crank arms 9. The above operation will release the latch bolts 11 from the door frame and permit the door to readily swing open.

When the invention is applied to a door having the usual door knob, the devices as above described are intended to operate the door knob in the following manner: Connected with the upper lever 9 by means of a rod 13 is an arm 14 attached to the door knob 15 so that when the pressure plate 1 is forced toward the door 3 the movement of the lever 9 will exert a pull on the rod 13 and the arm 14, thereby turning the knob 15 and disengaging the latch bolt 16 of the door permitting the latter to open.

Having thus described the invention what is claimed as new is:

1. In combination with a door, a crank shaft mounted on said door and having crank arms at its opposite ends, an arm projecting from the middle portion of said shaft and adapted for yielding movement toward the door, a spring for holding the said arm in a predetermined position, a pressure plate pivoted to the door and adapted for contact with the yielding arm, latch bolts mounted on the door, and means connecting the latch bolts with the crank arms.

2. In combination with a door, a crank shaft mounted on said door and having crank arms at its opposite ends, an arm projecting from the middle portion of said shaft and adapted for yielding movement toward the door, a spring for holding the said arm in a predetermined position, a pressure plate pivoted to the door and adapted for contact with the yielding arm, latch bolts mounted on the door, means connecting the latch bolts with the crank arms, locking mechanism on the door including a door knob and means connecting said door knob with the crank shaft to effect turning movement of the knob.

3. In combination with a door, a crank shaft mounted on the door, a yielding arm connected with said crank shaft, a crank arm projecting from the crank shaft, a locking bolt on the door, means connecting the crank arm and the locking bolt, a pressure plate movably mounted on the door and adapted to bear against the yielding arm aforesaid, locking mechanism on the door

including a door knob, and means connecting said door knob with the crank shaft to effect turning movement of the knob.

4. In combination with a door, a crank shaft mounted on said door and having crank arms at its opposite ends, an arm projecting from the middle portion of said shaft and adapted for yielding movement toward the door, a spring for holding the said arm in a predetermined position, a pressure plate pivoted to the door and adapted for contact with the yielding arm, latch bolts mounted on the door, means connecting the latch bolts with the crank arms, locking mechanism on the door including a door knob, an arm projecting from said door knob, and connecting means between said arm and the shaft for turning the door knob when the shaft is actuated.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES E. HANKINS.

Witnesses:
E. D. HEWITT,
W. E. RICHARDSON.