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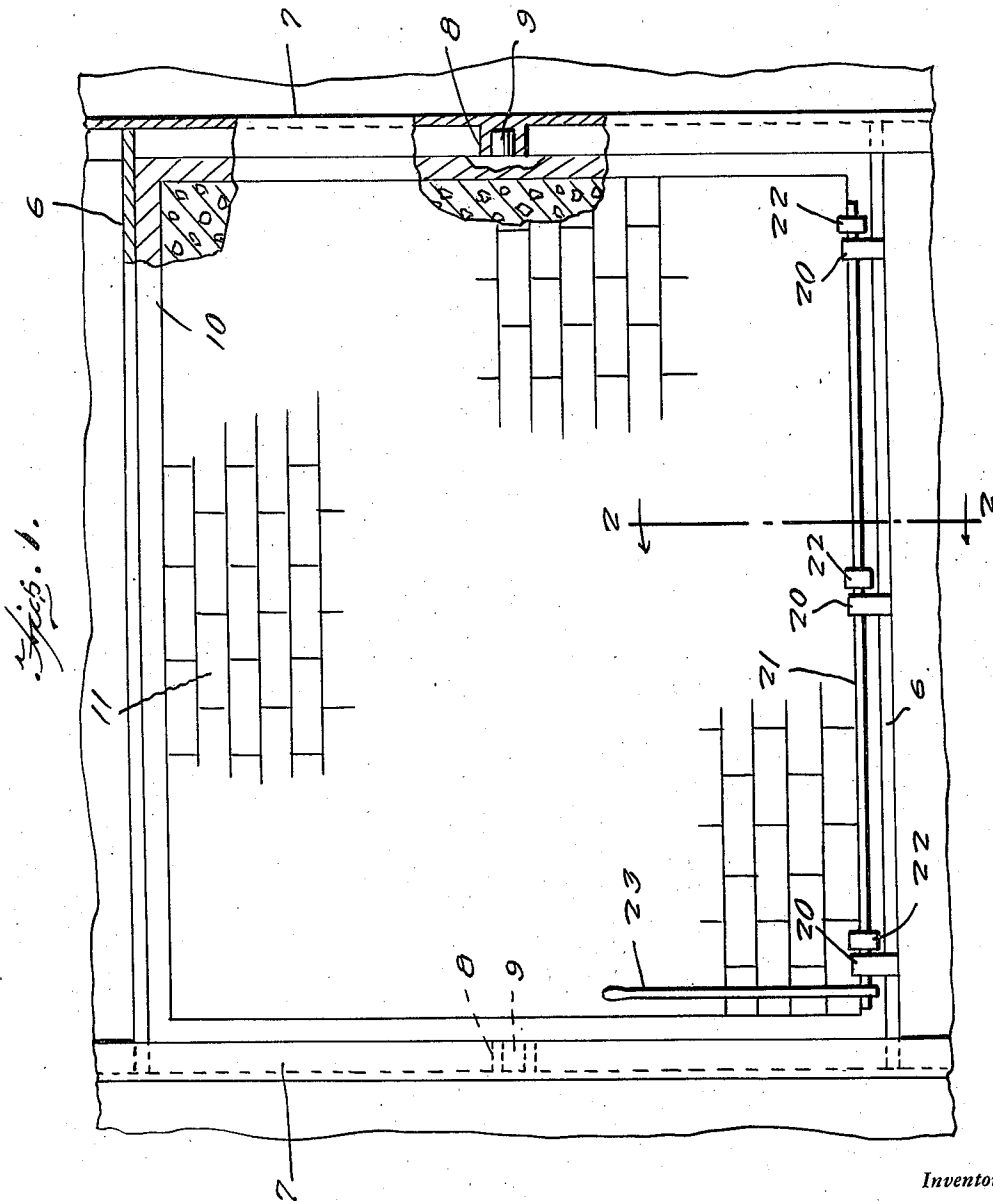
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2,424,366

STARTER AND LOCK FOR FIRE ESCAPE PANELS

Filed Oct. 18, 1944

2 Sheets-Sheet 1



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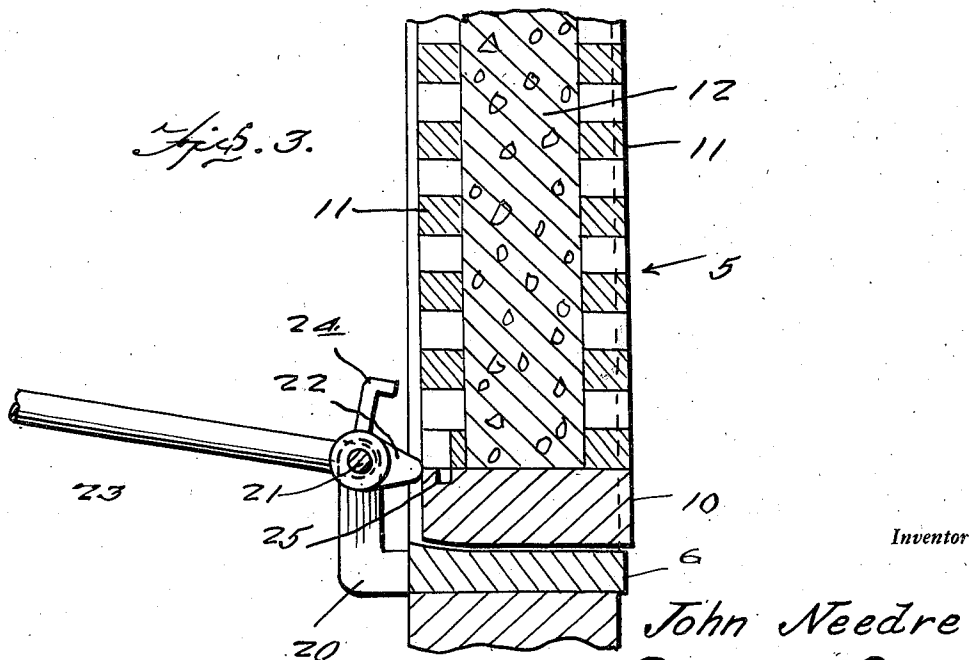
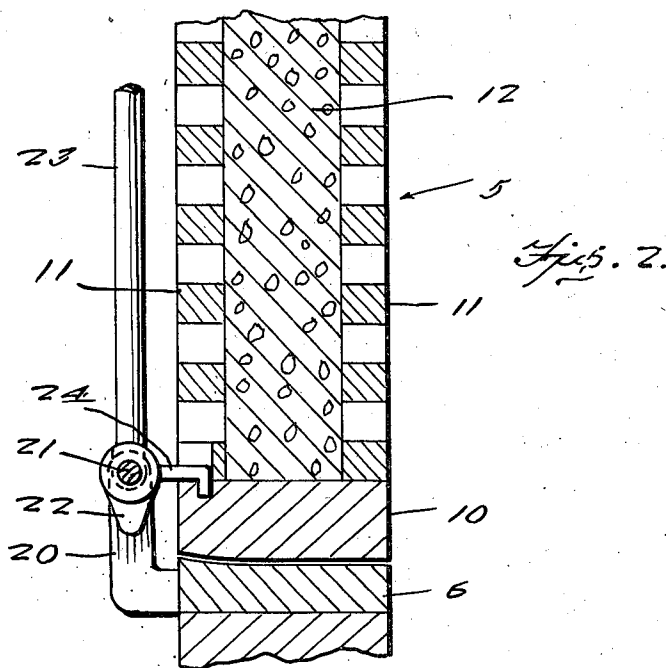
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UNITED STATES PATENT OFFICE

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STARTER AND LOCK FOR FIRE
ESCAPE PANELS

John Needre, Newport News, Va.

Application October 18, 1944. Serial No. 559,314

3 Claims. (Cl. 268—74)

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This invention relates to fire escape panels of large and heavy construction, and the invention has particular reference to novel and efficient means for starting such a panel to an open position to facilitate opening of the panel.

Another object of the invention is to provide simple and efficient means for locking the panel in closed position.

A further object of the invention is to provide a simple and efficient means that may be employed for starting the panel to an open position and for locking the panel in closed position.

The present application is a continuation, in part, of my copending application Serial No. 506,396, filed October 15, 1943, upon fire escape panel.

The exact nature and advantages of the present invention will become apparent from the following description when considered in connection with the accompanying drawings.

In the drawings, wherein like reference characters indicate corresponding parts throughout the several views:

Figure 1 is a fragmentary inside elevation of a fire escape panel and the adjacent wall structure, which panel is provided with an improved starter and lock constructed in accordance with the present invention.

Figure 2 is a fragmentary vertical section taken on line 2—2 of Figure 1, and

Figure 3 is a view similar to Figure 2, but showing the door released or unlocked and started to open position.

Referring in detail to the drawings, the fire escape panel 5 is set in an opening in a building wall, which opening has horizontal and vertical frame members 6 and 7 within the confines of which the panel 5 is operative. Within the frame members 7 are sockets 8 receiving horizontally disposed trunnions 9 projecting from a marginal rectangular frame 10 which forms part of the panel 5. Within the panel frame 10 is a wall section which makes up the rest of the panel, and this may be in the form of two tiers of brick work 11 interposed by a concrete binder or slab 12. Any suitable means may be provided for completing opening or for closing the panel, such as the hand wheels and gearing disclosed in my above-mentioned copending application.

For starting the panel to an open position or for giving the same initial movement to loosen the same from within its frame 6, 7, a plurality of bearings 20 are rigidly provided on the bottom of frame member 6 and at spaced points

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along the latter at the inner side of the panel. A shaft 21 is journaled in the bearings 20 and has a plurality of cams 22 fixed thereon in spaced relation and preferably so that one cam is located adjacent each bearing 20. The shaft 21 is provided at one end with a hand lever 23 which, when actuated, to the position shown in Figure 3, will cause the cams 22 to ride against the lower member of the frame 10 of the panel so as to loosen the latter and start the same toward open position. In this way, further opening of the panel is made easy. Upon swinging the lever 23 upwardly to the position of Figure 2, the cams 22 are moved out of the way so that complete closing of the panel is permissible. However, when the shaft 21 is provided with locking hooks, as shown, the lever 23 is only swung part way upwardly to the position of Figure 2 until after the panel is completely closed. Such hooks, which are indicated at 24, are preferably formed integral with the cams 22 and disposed at right angles to the latter. The lower member of the frame 10 is provided at intervals with sockets 25 in which the hooks 24 are adapted to engage for locking the panel in closed position when the lever 23 is swung completely to the vertical position of Figure 2. Thus, by swinging lever 23 upwardly, the cams 22 are rendered inoperative and the hooks 24 are swung outwardly and downwardly to engage the frame 10 of the panel and lock the latter in closed position. Conversely, when the lever 23 is swung downwardly, the hooks 24 are released so as to unlock the panel, whereupon further movement of lever 23 in a downward direction will cause engagement of the cams 22 with the panel frame 10 to start the panel toward open position. This constitutes a very simple and practical combination of elements for performing the dual function required. From the foregoing description, it is believed that the construction and operation, as well as the advantages, of the present invention, will be readily understood and appreciated by those skilled in the art.

What I claim is:

1. In combination with a building wall having an opening therein, a frame fixed in said opening, a relatively large and heavy fire escape panel pivotally mounted at its horizontal median within said frame, a shaft journaled on said frame inwardly of the panel and parallel with and adjacent the lower edge portion of the latter the lower portion of the panel being movable outwardly when said panel is opened, an operating lever on one end of said shaft, and cams carried by

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said shaft at spaced intervals and arranged to bear against the lower edge portion of the panel for only starting the latter toward open position upon rotation of the shaft by swinging the lever downwardly.

2. In combination with a building wall having an opening therein, a relatively large and heavy fire escape panel pivotally mounted within said opening, a shaft journaled along and parallel with an edge of the opening inwardly of the panel and adjacent an edge portion of the latter which is movable outwardly when the panel is opened, an operating lever for said shaft, cams carried by said shaft at spaced intervals and arranged to bear against the panel for starting the latter toward open position upon downward swinging of the lever, said panel having spaced sockets therein, and hooks carried by the shaft and arranged to engage in said sockets to lock the panel in closed position when the lever is swung upwardly to disengage the cams from the panel.

3. In combination, a frame fixed in a wall opening, a fire escape panel set in the frame, the panel including a frame having a horizontal rail, bearings in the first frame, trunnions carried by the second frame and journaled in said bearings, a rock shaft journaled on the first frame and extending substantially the length of said horizon-

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tal rail, means on the shaft for only starting the panel toward open position, said rail having sockets, hooks carried by the shaft for engaging said sockets to lock the panel closed, said means consisting of cams on the shaft for pushing said rail, the shaft being rotatable to release the hooks from the sockets prior to bringing the cams into action for pushing the rail, and means for locking said shaft.

JOHN NEEDRE.

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