E. A. BONE.

AUTOMATIC RELEASE FOR FIRE ESCAPES.

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1,087,434.

Patented Feb. 17, 1914.

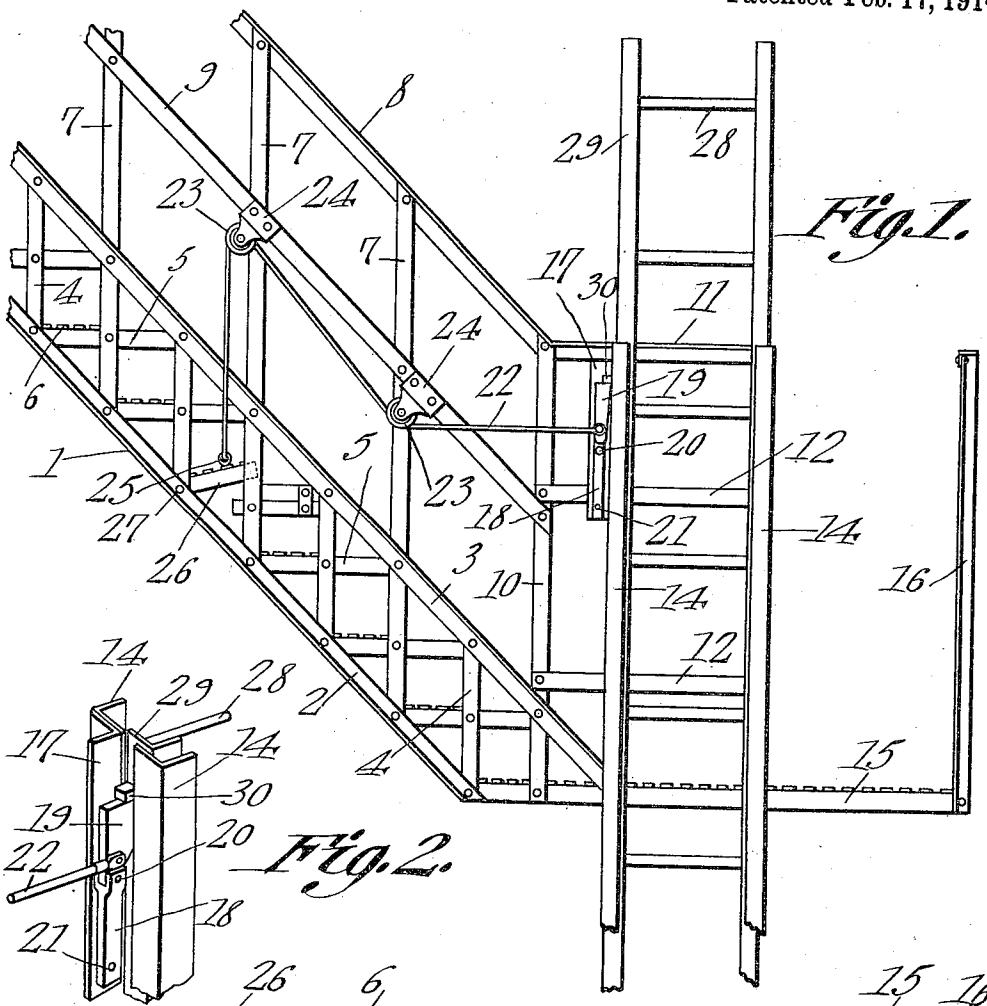


Fig. 1.

Fig. 2.

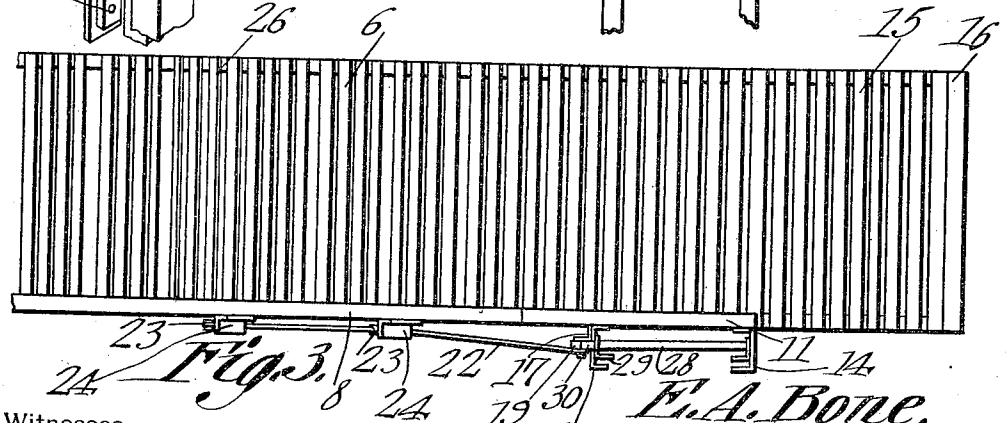


Fig. 3.

Witnesses

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AUTOMATIC RELEASE FOR FIRE-ESCAPES.

1,087,434. Specification of Letters Patent. Patented Feb. 17, 1914.

Application filed June 16, 1913. Serial No. 774,020.

To all whom it may concern:

Be it known that I, EDGAR A. BONE, a citizen of the United States, residing at Lebanon, in the county of Warren and State of Ohio, have invented a new and useful Automatic Release for Fire-Escapes, of which the following is a specification.

The device forming the subject matter of this application is a fire escape, and the invention aims to provide novel means whereby, when a person descends the fire escape, a ladder will be automatically released, to bridge the space between the fixed portion of the fire escape and the ground.

It is within the scope of the invention to improve generally and to enhance the utility of, devices of that type to which the present invention appertains.

With the above and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the drawing:—Figure 1 shows the invention in side elevation; Fig. 2 is a perspective of the ladder holding latch and attendant mechanism; Fig. 3 is a top plan of the structure shown in Fig. 1.

In carrying out the invention there is provided a stairway denoted generally by the numeral 1 and comprising side bars 2 and 3 connected by vertical bars 4 and by horizontal bars 5, the bars 4 and 5 preferably being disposed in intersecting relation. The bars 5 support the fixed treads 6 of the stairway 1.

Certain of the vertical bars 4 are prolonged as indicated at 7 and support inclined bars 8 and 9 constituting a hand rail. A post 10 is erected at the bottom of the stairway 1 and is connected with the bars 8 and 9. The upper bar 8 of the hand rail is prolonged horizontally as indicated at 11 and supports 12 project from the post 10.

The portion 11 of the hand rail and the supports 12 uphold guides 14 disposed in pairs, the guides being secured to a platform 15 located at the bottom of the stairway, the platform 15 being provided with a hand rail 16.

To one of the guides 14 is secured a bracket 17. A latch mechanism is connected with the bracket 17, the latch mechanism comprising bars 18 and 19 which are pivotally connected at 20, the bar 18 being pivotally secured to the bracket 17 as indicated at 21. An actuating member, preferably taking the form of a cord, chain or cable 22 is secured to the block or bar 19 and extends over sheaves 23 supported for rotation upon brackets 24 attached to the bar 9 of the hand rail, one end of the flexible actuating member 22 being secured as indicated at 25 to a movable step 26 pivoted as indicated at 27 to the lower bar 2 of the stairway 1.

A ladder 28 is mounted to slide vertically in the guides 14 and upon one of the stiles 29 of the ladder 28 there is a projection 30, adapted to engage the upper end of the block or bar 19.

Under normal conditions, the parts appear as shown in Figs. 1 and 2, the movable tread or step 26 being uplifted at its free edge, the pivotally connected members 19 and 18 being disposed in alinement, and the member 19 being engaged beneath the lug or projection 30 to hold the ladder 28 uplifted.

When a person descends the stairway 1 and treads upon the movable step 26, the same will be depressed, exerting a tension upon the actuating member 22, the same moving over the sheaves 23 and exerting a pull upon the latch mechanism 19—18, the constituent members of which will knuckle outwardly, withdrawing the upper end of the member 19 from beneath the lug or projection 30, whereupon the ladder 28 will drop downwardly.

Having thus described the invention, what is claimed is:—

1. In a fire escape, a frame including an inclined stairway having a movable tread located intermediate the top and the bottom of the stairway, a platform at the lower end of the stairway, and a guide located adjacent the platform; a ladder slidable in the guide and accessible from the platform for rising; a latch mechanism supported by the frame and coöperating with the ladder to hold the same in raised position, the latch mechanism being accessible from the platform; and a connecting means operatively uniting the latch mechanism with

the tread and extended along the side of the stairway above the same for manual manipulation.

2. In a fire escape, a frame including an inclined stairway having a hinged tread; a ladder mounted to slide on the frame adjacent the bottom of the stairway; a latch comprising pivotally connected parts, one of which parts is engaged with the ladder, the other of which parts is pivoted to the frame, said parts having shoulders which engage with each other to hold said parts in alinement and in ladder supporting position; a flexible element connected with part of the latch and with the tread; and a direction changing support upon the frame and engaging the intermediate portion of the flexible element.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

EDGAR A. BONE.

Witnesses:
FLETCHER HAWK,
PHILIP SPENCE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."