(No Model.) 2 Sheets—Sheet 1.

J. C. STODDARD.

FIRE ESCAPE.

No. 303,337. Patented Aug. 12, 1884.

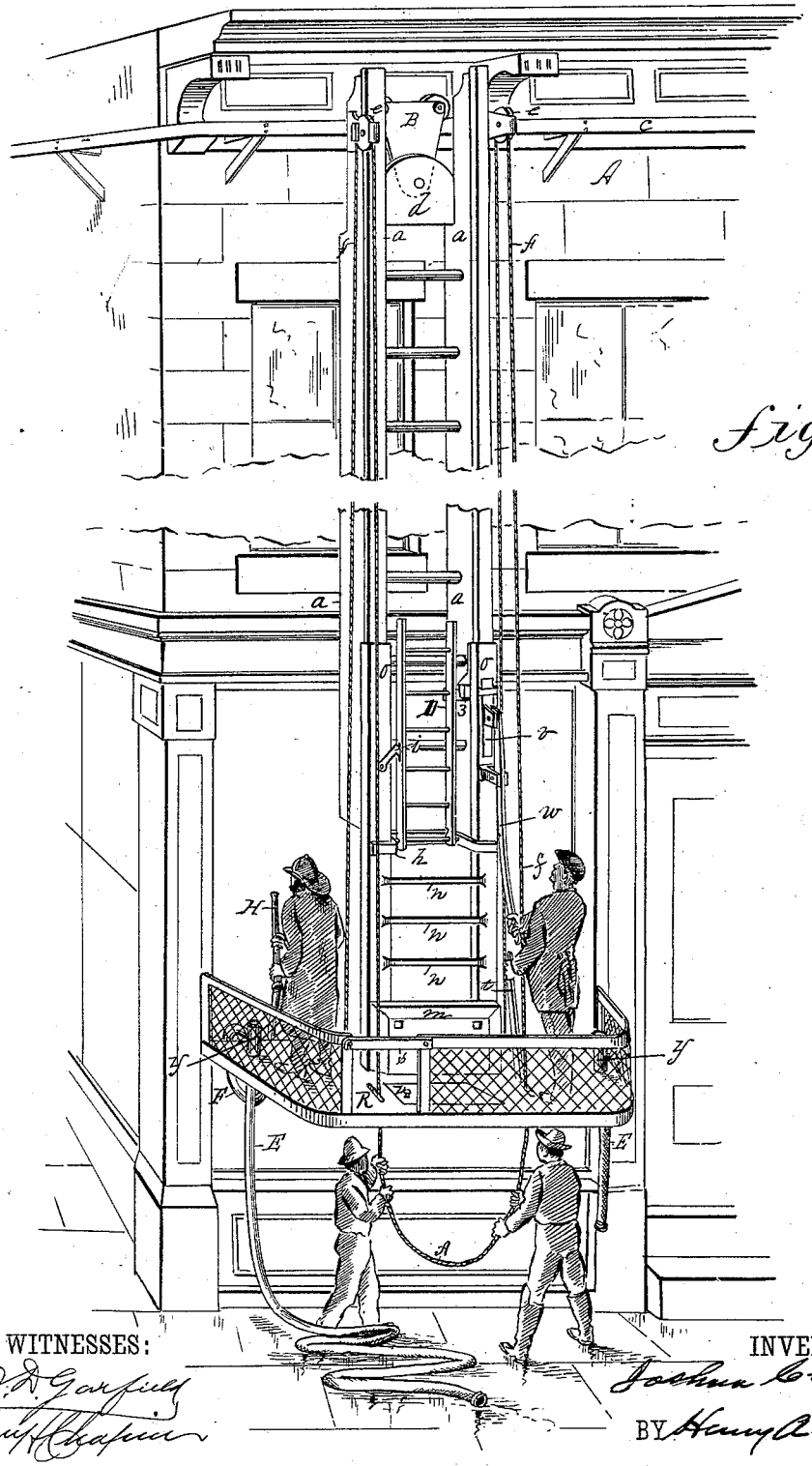

Fig 1

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(No Model.) 2 Sheets—Sheet 2.

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Fig 2

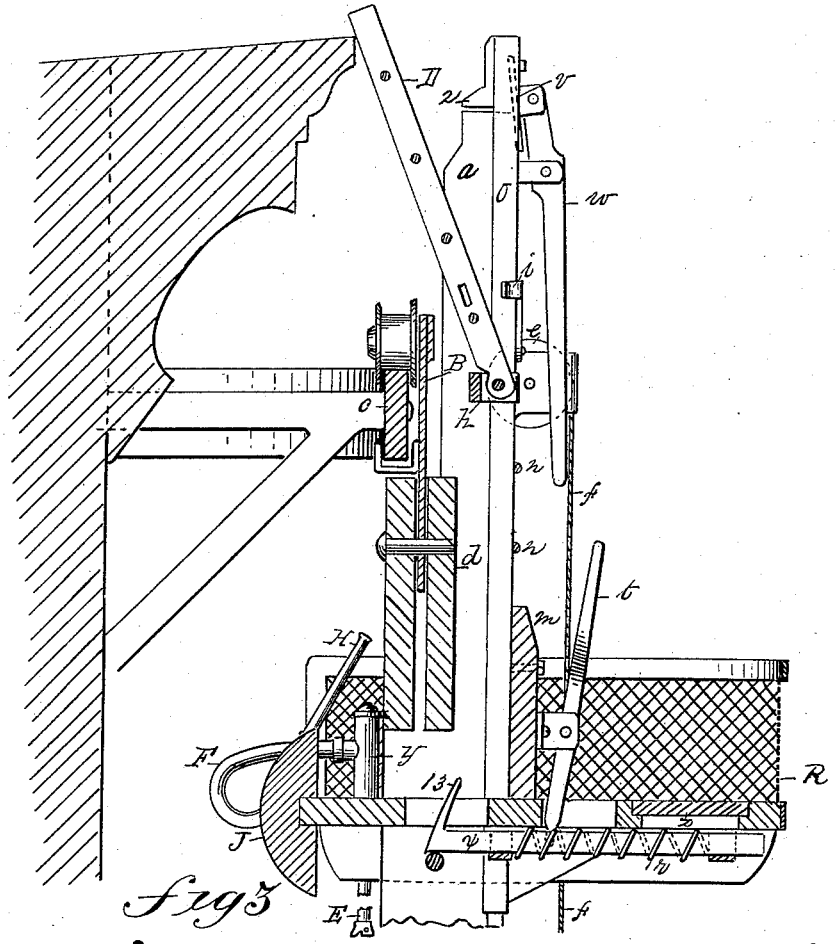
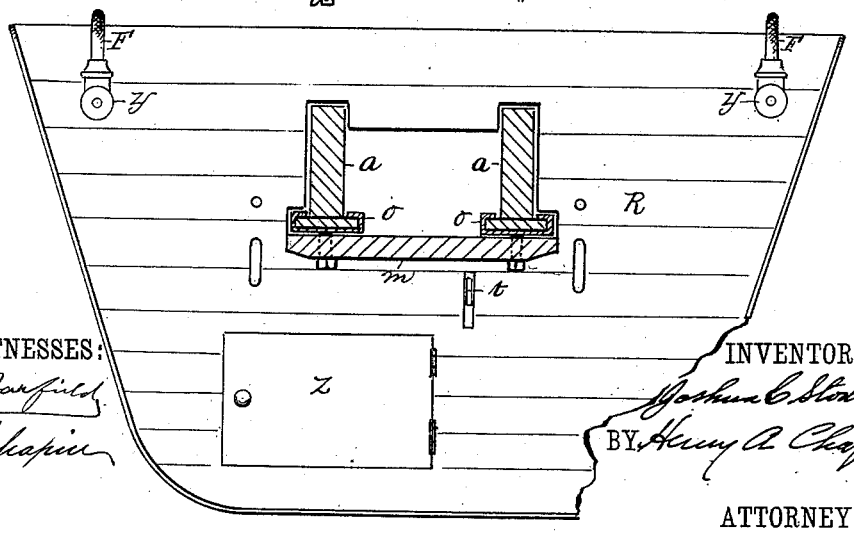


Fig 3



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UNITED STATES PATENT OFFICE.

JOSHUA C. STODDARD, OF SPRINGFIELD, MASSACHUSETTS.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 303,337, dated August 12, 1884.

Application filed January 15, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOSHUA C. STODDARD, a citizen of the United States, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Combined Fire-Escape and Fireman's Elevator, of which the following is a specification.

This invention relates to improvements in fire-escapes and in firemen's elevators combined, the object being to provide a fire-escape ladder which is adapted to be moved on a track secured to the face of a building, with an improved passenger-cage, an extension-ladder moving with, and providing means for entering, the cage from the roof of the building, and with suitable hose-stands with which receiving and delivering hose is connected, and whereby firemen may be carried up and down and laterally in front of a building using said hose for throwing water onto and into the building while moving along; and, furthermore, to provide a passenger-cage for a ladder fire-escape provided with improved means of egress and appliances for controlling its up and down movements.

In the drawings forming part of this specification, Figure 1 illustrates a part of the front of a building having attached thereto a fire-escape and fireman's elevator embodying my improvements. Fig. 2 is a view of the cornice part of the building, partly in section, showing the upper end of the fire-escape and the elevator-cage partly in section, the latter being raised to its extreme height. Fig. 3 is a plan view of the cage, showing the ladder-rails in section.

In the drawings, A indicates the building. *c* is the projecting track on the latter, upon which the fire-escape ladder is hung by roller connections in a well-known way, and upon which it is moved to different positions before the walls of the building. A cross-piece, *d*, is secured to the rear side of the ladder-rails *a*, near their upper ends, and to said cross-piece is pivoted the roller-head B, to which are hung grooved rollers, as shown, which are adapted to roll on the track *c*. The usual ladder-rungs are interposed between the rails *a*, as shown, and the latter are made T shape in transverse section, as shown in Fig. 3.

Upon the front edges of the ladder-rails *a a* are loosely fitted long metallic cage-shoes *o*, which are adapted to slide on said rails, and said shoes are provided with rungs *n* above the cage R, thereby forming a short ladder outside of the main one. The passenger-cage R is firmly secured to a block, *m*, and the latter is bolted to the shoes *o o*, so that the cage and said short ladder have a simultaneous movement on the main ladder. About midway between the cage and the upper end of said short ladder a brace, *h*, is secured across the latter, between the parallel sides of which is pivoted the lower end of a third ladder, D, which is held in line with the before-mentioned two ladders by a catch, *i*, which is pivoted to one of the shoes *o*, and enters a slot in one of the rails of ladder D. One of the shoes *o* is slotted, and has a brake-plate, *v*, fitted therein to bear against one of the rails *a* thereunder. The said brake-plate *v* is pivoted to the end of a brake-lever, *w*, which is pivoted in a proper support on one of shoes *o*. A hook, 2, on one of shoes *o* strikes a stop-block, 3, on one of the rails *a*, when the cage is quite down, as in Fig. 1, and stops the cage at that point. A hoisting-rope, *f*, has its ends passed through the bottom of the cage R, up over the rollers *e* on each side of the main ladder at the top, and back to the cage, where they are secured to the bottom of the latter. The cage R has a wire-netting guard around its border, or is otherwise arranged for the safety of its occupants; and at one corner is hung a closing-bar, *s*, which may be opened and shut. A trap-door, *z*, is provided in the bottom of cage to permit persons to pass from the main ladder through the cage, and vice versa.

Near the rear edge of the cage, each side of the main ladder, are secured two fire-hose stand-pipes *y*, to the lower end of each of which is secured a line of receiving-hose, *e*, and near the upper end of each is secured a suitable length of delivery-hose and a hose-pipe, which are lettered, respectively, F and H. A stop-bolt, *x*, worked by a lever, *t*, and a spring, *r*, is supported under the floor of the cage R, and is adapted to slide back as the cage moves up, and to engage with one of the rungs of the main ladder, to prevent the cage from moving downward. The curved arm 13 on bolt

x is carried against the rungs of the main ladder as the cage moves up, and thereby the bolt is driven back.

It will be seen that the ladder formed by the metallic shoes o o and the rungs n constitute an extension-ladder adapted to slide on and let the cage R drop below the lower end of the main ladder, and that the ladder D constitutes an extension-ladder reaching from its pivoted point on the intermediate or auxiliary sliding ladder to the cornice or roof of the building.

The operation of my improvements is as follows: In case of a fire in a building provided with my improved apparatus, the latter is moved on the track c to the most serviceable position. Connection is made with the hose E, either from a hydrant or fire-engine. One or more firemen or other persons take their places in the cage—one in position to operate the levers t and w, and one or more to manipulate the hose-pipe H, to throw water where it may be required. Access to the cage from the ground may be had by opening the bar s, or through the trap-door z. A convex-shaped bunter-piece, J, is secured to the rear of the cage, to receive the force of the blow should the latter be swung against the building. Persons stationed on the ground now draw upon the rope f, carrying the cage upward as far as desired, so that the firemen may throw water into the burning building, or by mounting ladder D, onto the roof thereof, or by arresting the cage, when desired, persons can enter it from the building or from its roof.

With sufficient length of hose F a fireman may leave the cage and stand upon the main ladder while the cage is employed for carrying persons down.

The person charged with operating the lever w (while he keeps bolt x drawn back) can govern the down movement of the cage by forcing the brake-plate v against the rail a.

What I claim as my invention is—

1. The combination, in a fire-escape, of a main ladder, substantially as described, hung upon rollers on a track projecting from a building, an auxiliary ladder adapted to slide upon the side rails of the main ladder, a passenger-cage secured to said auxiliary ladder, a third ladder pivoted to the latter, adapted to be held in a line with the main and auxiliary ladders, or to be swung to an inclined position against the building, and means, substantially as described, for raising and lowering said cage, and the ladders connected therewith on the main ladder, substantially as set forth.

2. In combination, a main ladder, substantially as described, suspended on a track projecting from a building, a passenger-cage arranged to be hoisted and lowered on said ladder by means substantially as described, and hose stand-pipes secured to said cage, adapted to have receiving and delivering hose connected thereto, substantially as set forth.

3. In combination, a main ladder, substantially as described, suspended on a track projecting from a building, below the cornice thereof, an auxiliary ladder arranged to be moved on the main ladder by means substantially as described, having a passenger-cage secured thereto, and a third ladder pivoted to said auxiliary ladder, and adapted to reach above the end of the main ladder and swing against and rest upon said cornice, substantially as set forth.

4. In combination, the main ladder having the rollers e e on opposite sides thereof, the cage R, the shoes o o, the brake-plate v, lever w, the bolt x, having the curved arm 13 thereon, lever t, spring r, and the cord f, substantially as set forth.

5. In combination, the main ladder, the cage R, having the door z in the bottom thereof, the auxiliary ladder consisting of the shoes o o, and the rungs n, the ladder D, the stop i, rollers e e, and the rope f, substantially as set forth.

JOSHUA C. STODDARD.

Witnesses:
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