A. ANDERSON.

FIRE ESCAPE.

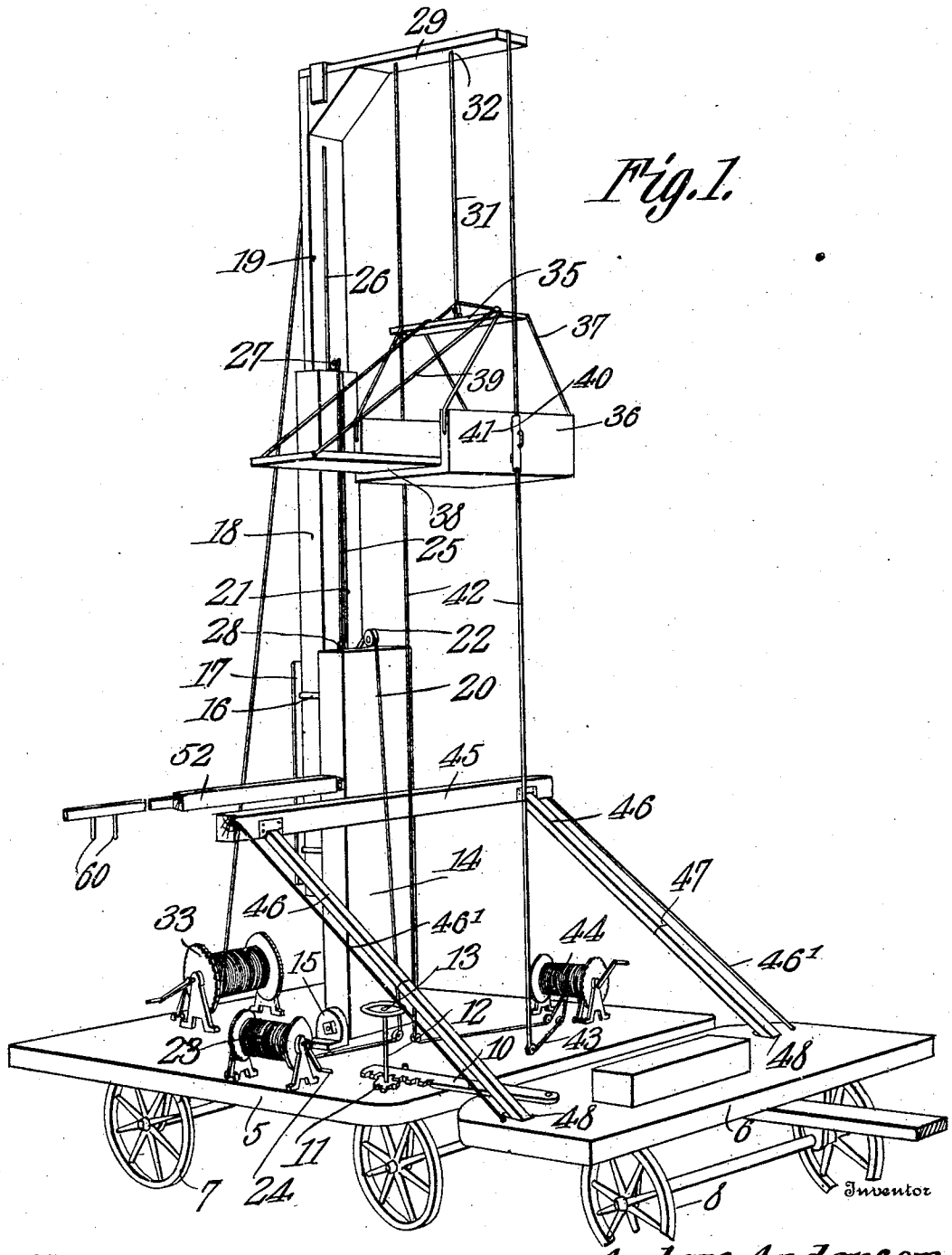
APPLICATION FILED JAN. 30, 1909.

938,625.

Patented Nov. 2, 1909.

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 2.

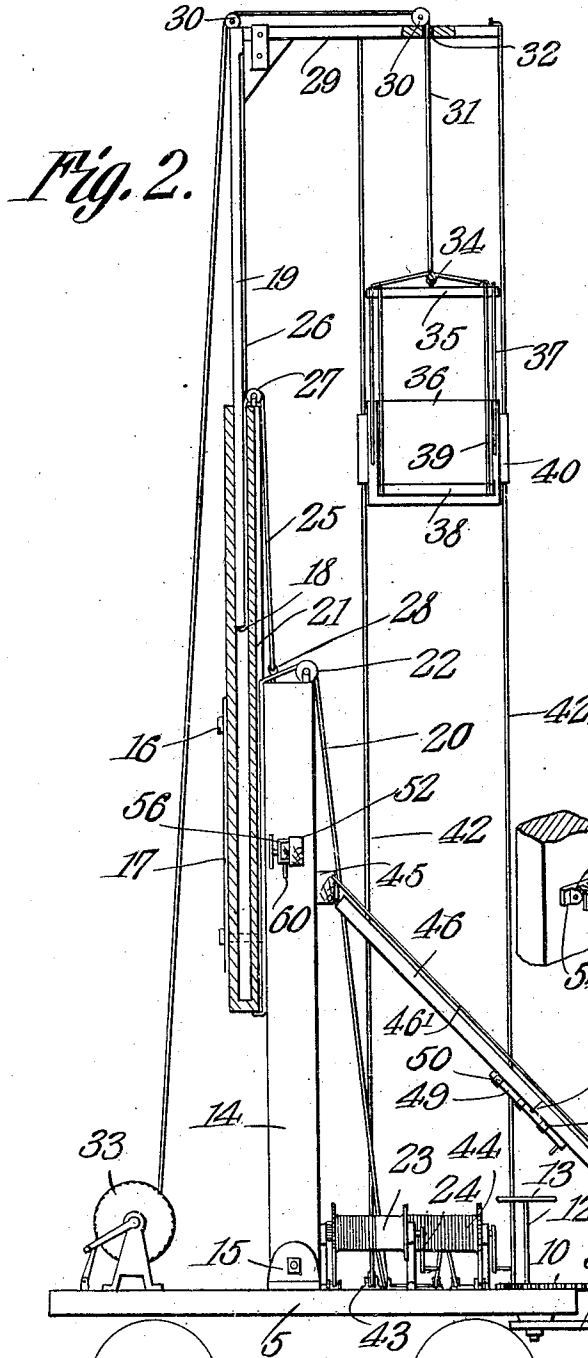


Fig. 3.

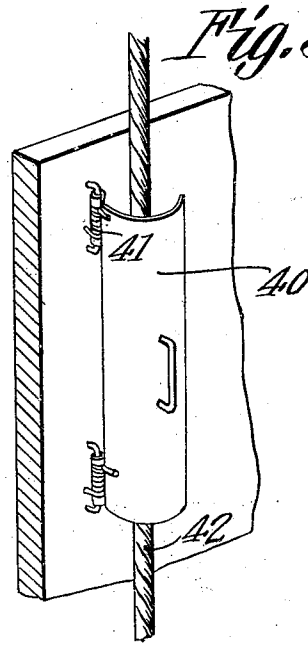
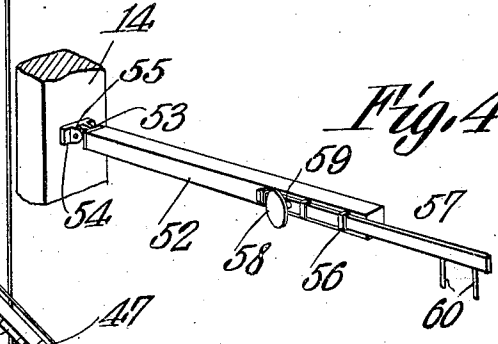


Fig. 4.



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UNITED STATES PATENT OFFICE.

ANDERS ANDERSON, OF BENKELMAN, NEBRASKA.

FIRE-ESCAPE.

938,625. Specification of Letters Patent. Patented Nov. 2, 1909.

Application filed January 30, 1909. Serial No. 475,137.

To all whom it may concern:

Be it known that I, ANDERS ANDERSON, a citizen of the United States, residing at Benkelman, in the county of Dundy and State of Nebraska, have invented a new and useful Fire-Escape, of which the following is a specification.

It is the object of the present invention to provide a portable fire escape, or, more specifically speaking, a fire escape which may be employed in connection with the usual apparatus of a fire department, and may be drawn to the fire as is the rest of the apparatus; and a further object of the invention is to provide a fire escape of this class of such construction that it may be readily set up or adjusted to position for use, and in which the carrier for the persons to be rescued may be quickly adjusted so as to be accessible from either side of the escape.

One of the novel features of the invention resides in the provision of a guiding means for the carrier of the device, this guiding means being so constructed and arranged as to permit, as stated above, of the carrier being disposed so as to be accessible from either side of the machine as a whole, and yet to positively guide the carrier in its ascent and descent, so that this movement of the carrier may be quickly had, and no time be unnecessarily lost.

With the above and other objects in view, the invention consists in the construction and arrangement of parts shown in the accompanying drawings, of which:—

Figure 1 is a perspective view of the escape as set up in position for use. Fig. 2 is a side elevation, partly in section. Fig. 3 is a detail view of one of the devices for connecting the guides detachably with the carrier. Fig. 4 is a detail perspective view of the brace for connecting the upright of the escape with the building from which the occupants are to be rescued.

As shown in the first two figures of the drawings, the mechanism of the escape embodying the invention is mounted upon a base which is in the nature of a truck comprised of a section 5, and a smaller section 6, which latter is arranged in advance of the section 5, the section 5 being supported upon two or more pairs of wheels 7, and the section 6 upon a single pair of wheels 8. A draft bar 9 connects the forward section 6 with the rear section 5 for turning movement with respect thereto, and a rack-bar 10, which is pivoted at one end upon the section 6, extends across the space between the rear edge of this section and the forward edge of the section 5 and meshes with a pinion 11 at the lower end of a steering shaft 12, which is mounted upon the said section 5 adjacent the forward end thereof, it being understood that by rotating the shaft, through the instrumentality of a hand wheel 13, the section 6 of the truck may be turned in one direction or the other, so as to guide the direction of movement or travel of the truck as a whole.

As illustrated in the drawings, the escape mechanism includes an extensible upright or standard and one section of this upright, namely, the lower section, is indicated by the numeral 14, the said section being pivoted at its lower end in a suitable bearing 15 upon the truck section 5, substantially at the middle thereof. This section 14 of the upright of the escape may be in the nature of a solid or hollow beam, as here shown in the drawings, or may be of tubular construction, or in the nature of a ladder, if found expedient; and secured upon the said section 14, but spaced therefrom by means of bolts 16, is a plate 17, between which and the rear side of the said section 14, is received and guided the intermediate section of the upright, indicated by the numeral 18. It will be understood, of course, from the foregoing, that the section 18 is slidable upon the section 14 by reason of its engagement between this section and the plate 17.

As clearly shown in Fig. 2 of the drawings, the section 18 of the upright is of tubular construction and receives a third section, which completes the upright and is indicated by the numeral 19, the said section 19 being of course slidable in the section 18.

In order that the section 18 may be elevated with respect to the section 14, a cable 20 is connected to the lower end of the said section 18 and is led vertically through a groove 21, formed in the forward face of the said section 18 and between the said section and the section 14, and over a pulley 22, which is mounted upon the section 14 at the upper end thereof, the cable being finally connected to a winding drum 23, which may be rotated, through the medium of a

crank handle 24, for the purpose of winding or unwinding the cable, to raise or lower the section 18 with respect to the section 14.

In order to provide for automatic elevation of the section 19 of the upright simultaneously with the elevation of the section 18 thereof, a cable 25 is connected at one end to the lower end of the section 19 and extends upward into a groove 26, formed in the forward face of the said section and over a pulley 27, mounted at the upper end of the section 18. The other end of the cable is connected to the upper end of the section 14 as at 28.

From the foregoing, it will be understood that upon rotating the drum 23 to wind the cable 20 thereon, the section 18 will be elevated, owing to the pull exerted upon the cable, and that simultaneously, the section 19 will elevate, by reason of the pull upon the cable 25, so that as a result the sections of the upright may be very quickly extended to the proper height.

Extending forwardly from the upper end of the section 19 of the upright is an arm 29, upon which pulleys 30 are mounted, there being a cable 31 trained over these pulleys and downward through an opening 32 in the said arms, this cable being connected at one end to a winding drum 33, mounted upon the section 5 of the truck, rearwardly of the upright of the escape. The other end of the cable 31 has attached to it a hook 34, which connects with an eye member, carried by a cross-bar 35, from which is suspended the carrier 36 of the escape, the connection between the cross-bar and the carrier being had by means of suspension braces 37. This carrier 36 may be of any desired construction, and may be in the form of a platform or an inclosed platform, such as shown in the drawings. As shown in the drawings, a gang-plank 38 is hinged to the floor of the carrier 36 and is adapted to be swung to the position shown in Fig. 1, and to rest at its outer end upon the sill of a window through which persons are to escape, the said gang-plank being braced, when in this position, by means of suitable flexible braces 39, which are connected thereto at its outer end, and to the cross-bar 35.

Mounted upon the outer face of each side of the carrier 36 is a semi-cylindrical guide sleeve 40, the sleeve being connected with the said portion of the carrier through the medium of spring hinges 41, which serve to hold the sleeve with its longitudinal edges bearing firmly against the respective sides of the carrier. These guide sleeves 40 may of course be swung away from the respective sides of the carrier 36, and this movement is had for the purpose of permitting ready engagement and disengagement of guide cables 42 in the said guide sleeves. These guide cables 42 are connected at their upper ends permanently to the arm 29, and are trained around pulleys 43 upon the section 5 of the truck and are finally connected with and wound upon a drum 44, also mounted upon the said section of the truck.

While the sections of the upright are being extended or elevated, the ratchet mechanism which is of course employed in connection with the drum 44, is rendered inoperative, so as to permit of the cables 42 unwinding to the proper length, and, after the sections have been properly extended or elevated, the drum 44 is rotated to wind up the slack of the cables 42 and to tighten the same, so that a firm guide will be provided for the carrier 36. This engagement of the guide cables 42 with the guide sleeves 40, while it provides for the carrier 36 being held rigid and against turning, permits of the carrier being reversed, so that its gang-plank 38 may extend to either side of the machine as an entirety.

It will be understood from the foregoing that by providing a guide sleeve 40, constructed as illustrated in the drawings, the carrier may be readily reversed, so that it will be unnecessary for the machine to be turned about upon arriving at a fire, regardless of the side of the street at which the burning structure is located. In other words, the machine is driven to a position in front of the burning structure at either side of the street, and the carrier is then positioned so that its platform will project toward the burning structure.

It will be understood of course that when the escape apparatus is being drawn to a fire or is not in use, the upright is collapsed and is swung down to rest flat upon the truck, and, in order to support the upright in vertical position while in use, a transverse cleat 45 is secured upon the lower section 14 of the said upright, and has pivoted to its end brace members which are comprised each of a pair of sections 46, hinged together as at 47 so as to be foldable, and having their free ends designed to engage in seats 48, formed in the upper face of the truck section 6. As stated, the sections of the brace members are hinged or pivoted to each other, and, in order to hold them rigid while in use, a bar 49 is slidably mounted in suitable guides 50 upon the under side of the upper section of each brace member, and a guide 51 upon the under side of the lower sections of the respective brace members, it being understood of course that when the said bars 49 are in the position shown in Fig. 2 of the drawings, that is, in engagement with all of the guides 50 and 51, the respective brace members will be held rigid, or, in other words, against folding. In order to provide means for additionally bracing the upright, means is provided for attachment to the upright and for engagement with the

sill of one of the lower windows of the building, and this means is embodied in a bar 52, provided at its inner end with a pivot ear 53, which is adapted to be received between a pair of such ears 54 upon the said lower section 14 of the upright, there being a bolt or pin 55 passed through the said ears to connect the beam with the said section of the upright.

Mounted in suitable guides 56 upon the said beam 52, for sliding movement therein, is a bar 57, carrying a hand wheel 58 having a threaded stem 59 which, when the wheel is rotated in one direction, bears against the beam 52, and serves to hold the bar 57 in adjustment with respect thereto. This bar 57 carries, at its outer end, a pair of fingers 60, which are designed to engage and receive between them the sill of one of the lower windows of the building from which the persons are being rescued, it being understood that the adjustment of this bar 57 may be had to adapt the same for use, whether the side-walk in front of the building be wide or narrow. It will be understood of course that a pair of the ears 54 is provided at each side of the section 14 of the upright, so that the bracing device 52, just described, may be applied to either side of the said section of the upright.

In order to limit the downward swinging of the upright in a backward direction, guy ropes 46′ are connected at their upper ends one to each end of the beam 45 and at their lower ends to the truck section 6.

What is claimed is:—

1. In a fire escape a base, an extensible upright upon the base, a carrier suspended from the upright for up and down travel, guides extensible with the upright for holding the carrier in proper relation with respect to the upright, and hinged guides upon opposite sides of the carrier, through which the extensible guides pass, the hinged guides being movable upon their hinges away from the sides of the carrier to permit of disengagement of the extensible guides therefrom.

2. In a fire escape a base, an extensible upright upon the base, a carrier suspended from the upright for up and down travel, guides extensible with the upright for holding the carrier in proper relation with respect to the upright, semi-cylindrical guides hinged upon opposite sides of the carrier, springs normally holding the guides with their longitudinal edges against the sides of the carrier, the extensible guides being confined between the said semi-cylindrical guides and the respective sides of the carrier, the said semi-cylindrical guides being movable to position to permit of disengagement of the extensible guides.

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

ANDERS ANDERSON.

Witnesses:
F. R. Walker,
H. G. Matteson.