Oct. 18, 1932. A. L. VANASSE 1,883,849

FIRE ESCAPE

Filed Jan. 14, 1931 2 Sheets-Sheet 1

Fig. 1.

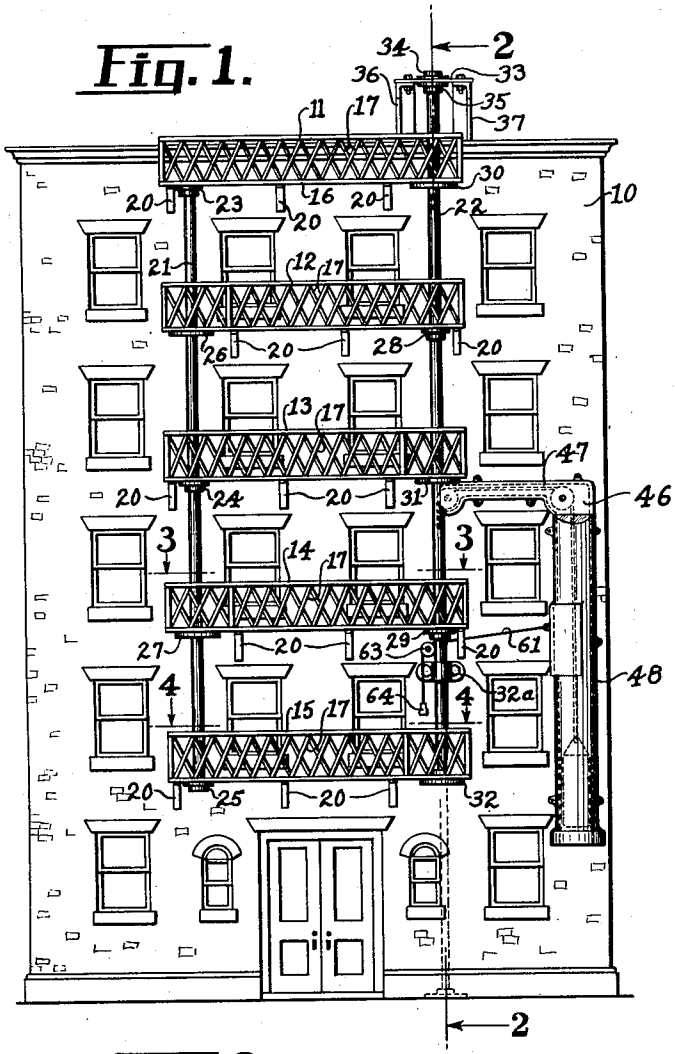


Fig. 2.

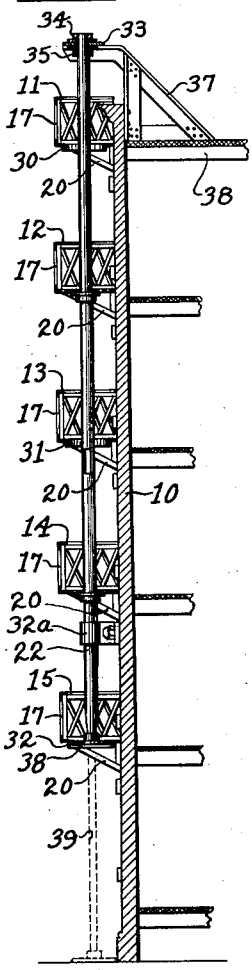


Fig. 3.

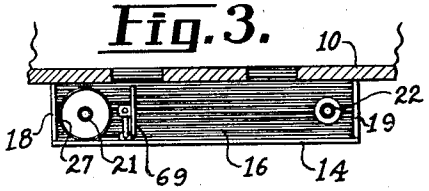
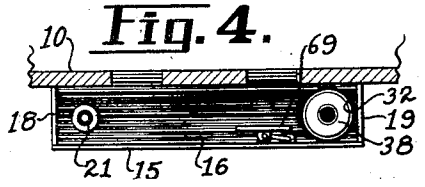


Fig. 4.



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Fig. 5.

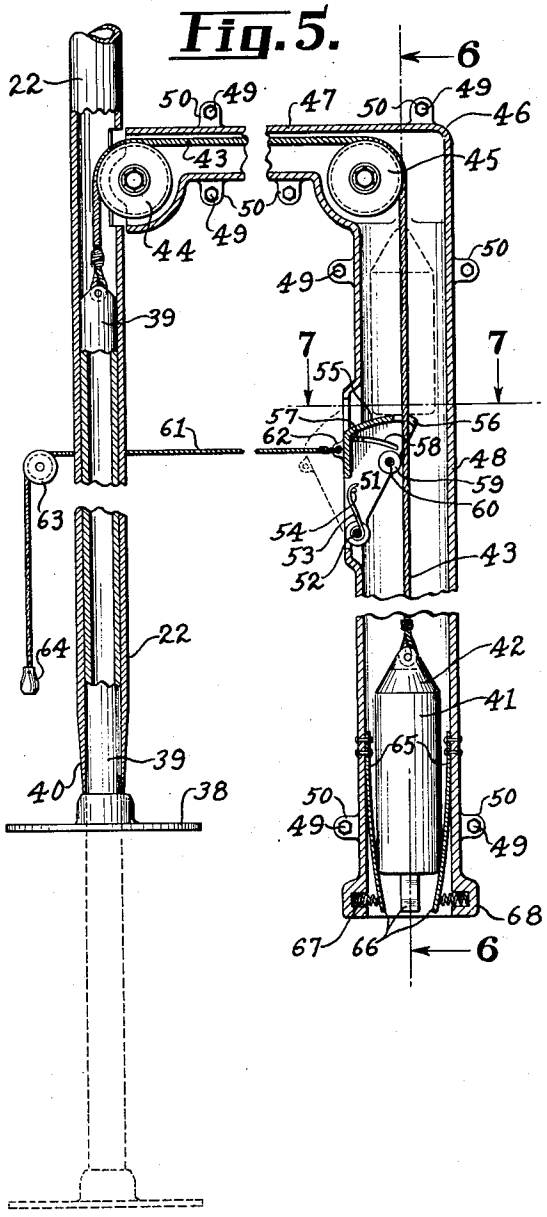


Fig. 6.

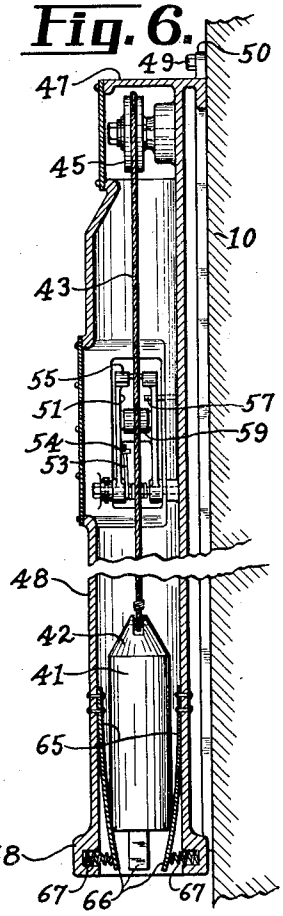
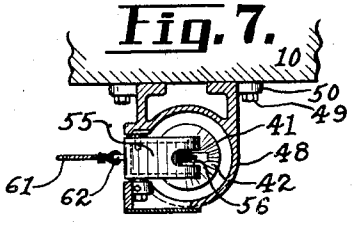


Fig. 7.



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UNITED STATES PATENT OFFICE

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FIRE ESCAPE

Application filed January 14, 1931. Serial No. 508,617.

This invention relates to a fire escape consisting of a plurality of balconies connected by sliding poles for permitting persons to easily escape from the interior of a burning building.

One object of the invention is to provide a fire escape of the above nature which will be readily accessible, not only from the roof, but also from any window along the front of the building.

A further object is to provide a fire escape of the above nature in which any of the balconies may be employed as porches when not in use as a fire escape.

A further object is to provide a fire escape of the above nature in which a person escaping from the fire may be safely conveyed from the lower balcony to the ground by means of a telescoping landing platform provided with a counterweight to slow up the rate of descent.

A further object is to provide a fire escape of the above nature having a lock to prevent the counterweight from automatically raising the landing platform to the first balcony, until desired.

A further object is to provide a fire escape of the above nature which will be simple in construction, inexpensive to manufacture, easy to install and manipulate, compact, ornamental in appearance, which will shorten the time of escape from a burning building, and which will be very efficient and durable in use.

With these and other objects in view there has been illustrated on the accompanying drawings one form in which the invention may be conveniently embodied in practice.

In the drawings:

Fig. 1 represents a front view in elevation of a building having the improved fire escape installed thereon.

Fig. 2 is an end sectional view of the same, taken along the line 2—2 of Fig. 1, looking in the direction of the arrows.

Fig. 3 is a fragmentary sectional plan view of the same, the section being taken along the line 3—3 of Fig. 1, looking down upon the second balcony.

Fig. 4 is a similar sectional plan view, taken along the line 4—4 of Fig. 1, looking down upon the first balcony.

Fig. 5 is an enlarged fragmentary vertical sectional view of the fire escape landing platform and the counter-weight mechanism connected thereto.

Fig. 6 is a vertical sectional view, taken at right-angles to the view shown in Fig. 5 along the line 6—6 thereof.

Fig. 7 is a horizontal sectional view, taken along the line 7—7 of Fig. 5.

Referring now to the drawings in which like reference numerals denote corresponding parts throughout the several views, the numeral 10 indicates a building having the improved fire escape attached to the front thereof. The fire escape comprises a plurality of horizontal balconies, five in number in this instance, as indicated by the numerals 11, 12, 13, 14 and 15.

Each of the balconies comprises an open metal floor 16, an open front metal wall 17, and a pair of end walls 18 and 19 of similar construction. Each balcony is supported upon the building 10 by a plurality of triangular angle brackets 20, three in this instance, as clearly shown in Figs. 1 and 2.

In order to permit a person desiring to escape from the fire to rapidly descend from one belcony to the next balcony below, provision is made of a pair of smooth vertical "sliding" poles 21 and 22 located at the ends of said balconies, the pole 22 being tubular. The left-hand pole 21 passes through the intermediate balconies 12, 13 and 14 and is secured to the floor 16 of the upper balcony 11, the third balcony, and the first balcony, by means of flanged plates 23, 24 and 25 respectively, said plates being attached to said floors 16 in any suitable manner as by bolts.

In order to permit the person to slide down the pole 21 from the fourth balcony to the

third balcony and from the second balcony to the first balcony respectively, said pole passes loosely through the fourth and second balconies, being surrounded by circular open hatch-ways 26 and 27, openings of sufficient size being left therebetween to accommodate said person.

The right-hand pole 22 passes through all the balconies and is similarly connected to the floors 16 of the fourth and second balconies by flanged plates 28 and 29 respectively. The pole 22 is likewise adapted to pass loosely through circular open hatchways 30, 31 and 32 located in the fifth, third and first balconies, respectively. The lower end of the pole 22 is attached to the building 10 at a point just below the second balcony 14 by means of a bracket 32*a*.

For the purpose of providing access to the fire escape from the roof of the building, the pole 22 is extended upwardly above the top balcony 11 and connected to a horizontal cross-bar 33 by means of a pair of opposed flanged plates 34 and 35. The cross-bar 33 is in turn supported at its ends by a pair of triangular brackets 36 and 37 connected to the roof 38 of the building.

When a person desires to pass from the lower or first balcony 15 to the ground, it will only be necessary for him to step upon a circular food plate 38 located within the hatchway 32 and rigidly mounted upon the bottom of a vertical rod 39 telescoping within the lower end of the tubular pole 22, the bottom of the latter being tapered as shown at 40 to provide a smooth joint, thus preventing injury to the user's hands.

In order to check the speed of descent of the foot-plate 38 under the weight of the person escaping, and also to permit said foot-plate to be automatically raised to the first balcony whenever desired, provision is made of a cylindrical counterweight 41 having a conical upper section 42 connected by a flexible cord 43 to the top of the vertical telescoping rod 39. The cord 43 is adapted to pass over a pair of pulleys 44 and 45, as shown in Fig. 5. The counterweight mechanism is adapted to be protected from the action of the weather by means of an angular housing 46 having an upper horizontal section 47 and a downwardly-extending vertical section 48, said housing being secured to the front of the building as by lag screws 49 passing through lugs 50 formed integral with said housing 46.

For the purpose of locking the counterweight 41 in its uppermost position when the foot-plate 38 has reached the ground, provision is made of a locking bracket 51 pivotally mounted in the vertical section 48 of the housing 46 by means of a horizontal rod 52. The locking bracket is adapted to be normally pressed in a clockwise direction by a spring 53 coiled around the rod 52 and having its upper end hooked over a pin 54 extending from said bracket 51. The locking bracket 51 is provided with a curved upper face 55 having a slot 56 for fitting about the cord 43, and the movement of said bracket under the influence of the spring 53 is limited by a pin 57 carried by the vertical section 48 of the casing member 46 and extending through a curved slot 58 in the locking bracket 51. A roller 59 is mounted on the forward edge of the bracket 51 and is adapted to rotate about a post 60 carried by said bracket.

By means of this construction, when the counterweight 41 is rising, the conical portion 42 thereof will strike the roller 59 forcing the locking bracket 51 to move about its pivot from the full line to the dotted line position shown in Fig. 5, and permitting the counterweight to be moved by the weight of the person standing on the foot-plate 38 to the upper position shown in said figure, whereupon the locking bracket 51 will be forced to the right by the spring 53, thereby locking the counterweight in the raised position shown by dotted lines.

For the purpose of releasing the locking bracket 51 to permit the counterweight to fall from the dotted to the full line position shown in Fig. 5 whenever desired, provision is made of a cable 61 attached to an eye 62 on the bracket 51 and passing over a pulley 63. The cable 61 has a handle 64 at its lower extremity, preferably located above the first balcony where it may be conveniently manipulated.

The bottom of the vertical section 48 of the housing 46 is provided with a plurality, four in this instance, of curved leaf-springs 65 having their lower ends 66 curved inwardly and cushioned by the same number of coiled springs 67 seated in an enlarged annular flange 68 at the lower end of said section 48.

If desired, each balcony may be provided with a gate 69, as shown in Figs. 3 and 4, for detachably closing off the open hatchways and permitting the safe use of the balcony as a porch except in case of fire.

Operation

In operation, assuming that a person desires to escape from the roof of a burning building, he will first gain access to the top balcony 11, run to the right-hand end thereof and slide down the upper portion of the pole 22 through the hatchway 30 to the fourth balcony. He will then run to the left-hand end of this balcony and slide down the pole 21 through the hatchway 26 to the third balcony, and so on until he reaches the first balcony 15. Upon reaching this balcony, he will first run to the right and step upon the foot-plate 38 which is flush with the floor of said balcony. The foot-plate 38 and the tele-

scoping rod 39 attached thereto will then slide down slowly toward the ground, the speed thereof being regulated by the counterweight 41.

When the foot-plate 38 reaches the ground, it will be automatically locked in this position by the movement of the spring-pressed pivoted bracket 51 underneath the counterweight 41 to the locked position shown in Fig. 5. The landing platform will thus be caused to remain on the ground until all of the occupants of the building have escaped. The counterweight 41 may then be readily released merely by pulling upon the handle 64, whereupon the foot-plate 38 will rise from the dotted to the full line position shown in Figs. 1, 2 and 5.

During the upward movement of the foot-plate 38 just described, the downward motion of the counterweight 41 will be retarded and cushioned by the inwardly-extending leaf-springs 65 and coiled springs 67 located at the bottom of the vertical casing section 48.

While there has been disclosed in this specification one form in which the invention may be embodied, it is to be understood that this form is shown for the purpose of illustration only, and that the invention is not to be limited to the specific disclosure but may be modified and embodied in various other forms without departing from its spirit. In short, the invention includes all the modifications and embodiments coming within the scope of the following claims.

Having thus fully described the invention, what is claimed as new, and for which it is desired to secure Letters Patent, is:

1. In a fire escape, a plurality of vertically spaced horizontal balconies located alongside a building, a pair of vertical poles near the ends of said balconies and passing therethrough, each of said balconies having a circular open hatchway surrounding one of said poles only, said hatchways being alternately on the right and left-hand ends of successive balconies, one of said poles being extended above the upper balcony and connected to the roof of the building, a slidable rod telescoping into the lower end of one of said poles and having a foot-plate secured thereto for permitting a person to escape from the lower balcony to the ground, a counterweight, and means operatively connecting said counterweight to the top of said slidable rod for checking the fall of said rod and automatically returning said foot-plate to its normal position at the lower balcony when the weight of the person is removed therefrom.

2. In a fire escape, a plurality of vertically spaced horizontal balconies located alongside a building, a pair of vertical poles near the ends of said balconies and passing therethrough, each of said balconies having a circular open hatchway surrounding one of said poles only, said hatchways being alternately on the right and left-hand ends of successive balconies, one of said poles being extended above the upper balcony and connected to the roof of the building, a slidable rod telescoping into the lower end of one of said poles and having a foot-plate secured thereto for permitting a person to escape from the lower balcony to the ground, and means for temporarily locking said foot-plate in its lowermost position at the ground level.

3. In a fire escape, a plurality of vertically spaced horizontal balconies located alongside a building, a pair of vertical poles near the ends of said balconies and passing therethrough, each of said balconies having a circular open hatchway surrounding one of said poles only, said hatchways being alternately on the right and left-hand ends of successive balconies, one of said poles being extended above the upper balcony and connected to the roof of the building, a slidable rod telescoping into the lower end of one of said poles and having a foot-plate secured thereto for permitting a person to escape from the lower balcony to the ground, a counterweight connected to the top of said slidable rod for checking the fall of said rod and automatically returning said foot-plate to its normal position at the lower balcony, and means for temporarily locking said foot-plate in its lowermost position at the ground level.

4. In a fire escape, a plurality of vertically spaced horizontal balconies located alongside a building, a pair of vertical poles near the ends of said balconies and passing therethrough, each of said balconies having a circular open hatchway surrounding one of said poles only, said hatchways being alternately on the right and left-hand ends of successive balconies, one of said poles being extended above the upper balcony and connected to the roof of the building, a slidable rod telescoping into the lower end of one of said poles and having a foot-plate secured thereto for permitting a person to escape from the lower balcony to the ground, means for temporarily locking said foot-plate in its lowermost position at the ground level, and means for unlocking said locking means.

5. In a fire escape for buildings, a balcony, a hollow pole supported in vertical position alongside the building and passing through said balcony, a slidable rod telescoping into the bottom of said pole, a foot-plate secured to said rod, a counterweight for raising said foot plate to the balcony when released, means for locking said counterweight in its upper position, a pulley-supported cord for connecting said rod to said counterweight, and a weather-proof housing for said cord and counterweight.

6. In a fire escape for buildings, a balcony, a hollow pole supported in vertical position alongside the building and passing through said balcony, a slidable rod telescoping into

the bottom of said pole, a foot-plate secured to said rod, a counterweight for raising said foot plate to the balcony when released, means for locking said counterweight in its upper position, a pulley-supported cord for connecting said rod to said counterweight, and means for releasing said counterweight.

7. In a fire escape for buildings, a hollow pole supported in vertical position alongside the building, a slidable rod telescoping into the bottom of said pole, a foot-plate secured to said rod, a counterweight, a pulley-supported cord for connecting said rod with said counterweight, a weather-proof housing for said cord and counterweight, and means at the bottom of said housing for retarding and cushioning the fall of said counterweight.

8. In a first escape for buildings, a hollow pole supported in vertical position alongside the building, a slidable rod telescoping into the bottom of said pole, a foot-plate secured to said rod, a counterweight, a pulley-supported cord for connecting said rod with said counterweight, a weather-proof housing for said cord and counterweight, and means at the bottom of said housing for retarding and cushioning the fall of said counterweight, said last-mentioned means comprising a plurality of inwardly spring-pressed, curved metal strips located within said housing.

9. In a fire-escape for buildings, a hollow pole supported alongside the building, a slidable rod telescoping into said pole and having a foot-plate secured to its lower end, a counterweight, a pulley-supported cord connecting said rod with said counterweight, a spring-pressed pivoted locking bracket located in the path of said counterweight, said bracket being adapted to be moved to one side by the upward movement of said counterweight and to snap underneath said counterweight when it passes above said bracket, whereby said counterweight will be locked in its uppermost position.

10. In a fire escape for buildings, a hollow pole supported alongside the building, a slidable rod telescoping into said pole and having a foot-plate secured to its lower end, a counterweight, a pulley-supported cord connecting said rod with said counterweight, a spring-pressed pivoted locking bracket located in the path of said counterweight, said bracket being adapted to be moved to one side by the upward movement of said counterweight and to snap underneath said counterweight when it passes above said bracket, whereby said counterweight will be locked in its uppermost position, and a manually-operated cord connected to said locking bracket for moving it out from under said counterweight to permit the latter to automatically raise the foot-plate to its uppermost position.

11. In a fire escape, a plurality of vertically spaced horizontal balconies located alongside a building, a pair of vertical poles near the ends of said balconies and passing therethrough, each of said balconies having a circular open hatchway surrounding one of said poles only, said hatchways being alternately on the right and left-hand ends of successive balconies, and temporarily locked gates located on each balcony to prevent access to said hatchways except at the time of a fire.

In testimony whereof, I have affixed my signature to this specification.

ARCHIE L. VANASSE.