July 22, 1924. 1,501,991

F. GIUDICE

FIRE ESCAPE

Filed Feb. 27, 1924 2 Sheets-Sheet 1

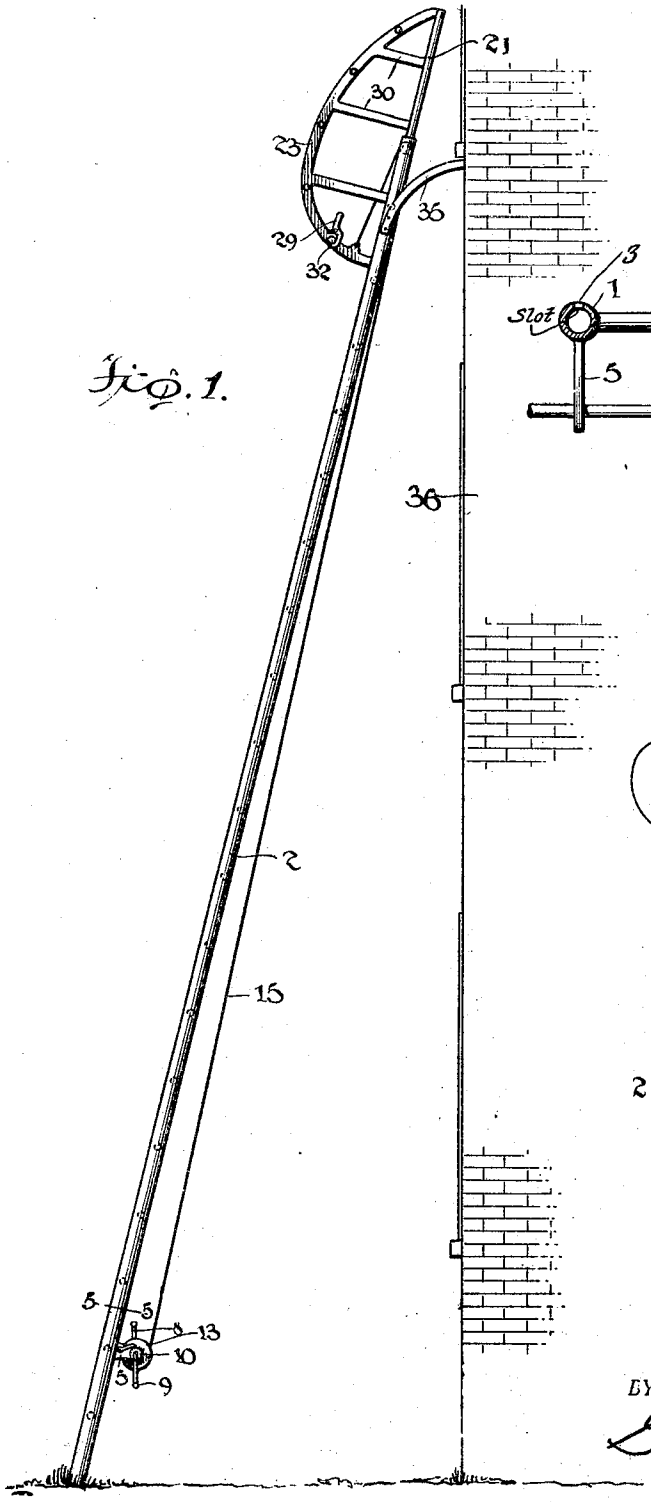


Fig. 1.

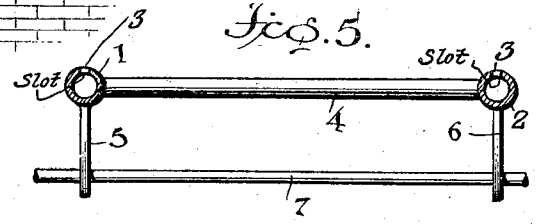


Fig. 5.

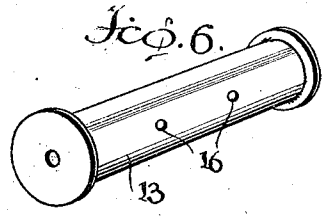


Fig. 6.

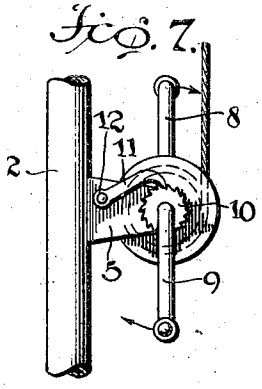


Fig. 7.

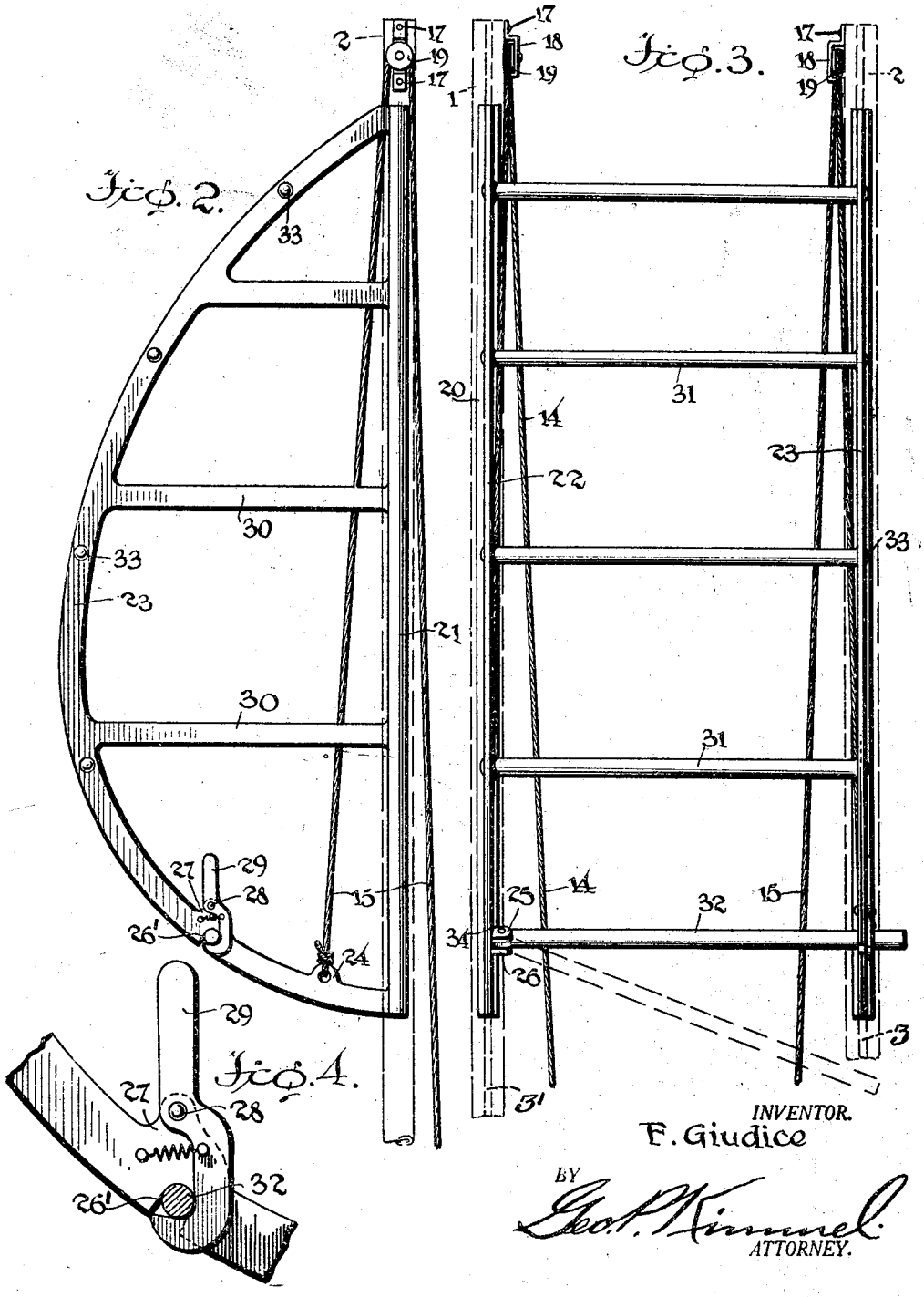
INVENTOR.
F. Giudice,
BY
Geo. P. Kimmel
ATTORNEY.

July 22, 1924. 1,501,991

F. GIUDICE

FIRE ESCAPE

Filed Feb. 27, 1924 2 Sheets-Sheet 2



INVENTOR.
F. Giudice
BY
Geo. P. Kimmel
ATTORNEY.

Patented July 22, 1924. 1,501,991

UNITED STATES PATENT OFFICE.

FRANK GIUDICE, OF NEW YORK, N. Y.

FIRE ESCAPE.

Application filed February 27, 1924. Serial No. 695,505.

To all whom it may concern:

Be it known that I, FRANK GIUDICE, a subject of the King of Italy, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Fire Escapes, of which the following is a specification.

This invention relates to fire escapes, and has for its object to provide a device of such class, in a manner as hereinafter set forth, with means for lowering persons in safety from the upper end to the lower end of a ladder or other support, as well as insuring the safety of firemen or others who attempt to rescue persons from an elevated point during the course of a fire.

A further object of the invention is to provide, in a manner as hereinafter set forth, a fire escape including a vertically shiftable cage for the reception of a rescued person at a fire and furthermore to insure the safety of a fireman or other person who is performing the rescue, and with the cage so set up as to enable the persons therein to leave the cage at any point desired.

Further objects of the invention are to provide a fire escape, in a manner as hereinafter set forth, which is simple in its construction and arrangement, strong, durable, thoroughly efficient and convenient in its use, readily set up and comparatively inexpensive.

With the foregoing and other objects in view, the invention consists of the novel construction, combination and arrangement of parts, as hereinafter more specifically described and illustrated in the accompanying drawings, wherein is shown an embodiment of the invention, but it is to be understood that changes, variations and modifications can be resorted to which come within the scope of the claim hereunto appended.

In the drawings wherein like reference characters denote corresponding parts throughout the several views:—

Figure 1 is a side elevation of a fire escape in accordance with this invention.

Figure 2 is a fragmentary view upon an enlarged scale, and showing the cage in side elevation.

Figure 3 is a view similar to Figure 2 and showing the cage in front elevation.

Figure 4 is a fragmentary view of the cage.

Figure 5 is a section on line 5—5, Figure 1, with the drum removed.

Figure 6 is a perspective view of the winding drum.

Figure 7 is a fragmentary view illustrating one end of the winding drum and locking device therefor.

A fire escape in accordance with this invention comprises a support in the form of a ladder, a vertically shiftable cage, and means for elevating and lowering the cage. The ladder may be of any suitable length desired and extensible, although as illustrated, the ladder is not of the extensible type, but when extensible the cage is carried by the upper section thereof.

The ladder consists of a pair of tubular side bars 1, 2, having the front thereof slotted throughout, as at 3. The side bars 1, 2, are connected together by spaced rounds 4. The side bars 1, 2, are constructed of metallic material of the necessary rigidity. Projecting rearwardly from the side bars or rails 1, 2, near the lower ends thereof, is a pair of supports 5, 6, and journaled in the said supports is a winding drum shaft 7, provided at one end with a crank handle 8 and at its other end with a crank handle 9. The handles 8, 9, are oppositely disposed with respect to each other. Fixed to the shaft 7, exteriorly of the support 5, is a ratchet 10, with which engages a locking dog 11, the latter being pivoted, as at 12 to the support 5. Fixed to the shaft 7 and arranged between the supports 5, 6, is a winding drum 13 for a pair of cables 14, 15. Openings 16 are provided in the drum 13 for securing the lower end of the cables 14, 15 therewith.

The inner face of the side bar or rail 1, as well as the inner face of the side bar or rail 2, at the upper end thereof, has secured therewith, by the hold-fast devices 17, a bracket 18, in which is journalled a grooved pulley 19. The cable 14 travels over one of the pulleys 19 and the cable 15 travels over the other pulley 19.

The cage consists of a pair of cylindrical rods 20, 21 which are solid and of substantial length. The rod 20 is mounted in the side bar or rail 1, and the rod 21 in the side bar or rail 2. The rods 20, 21 are of a di-

ameter to snugly engage the inner face of the bars or rails 1, 2, but the engagement is such as not to prevent an easy sliding movement of the rods relative to the rails when the cage is elevated or lowered.

Formed integral with the lower end of each of said rods is the lower end of a curved side bar, and formed integral with the upper end of each of said rods is the upper end of the curved side bar. The curved side bars project outwardly from the rods. The curved side bar which has its ends formed integral with the rod 20 is indicated at 22, and the curved side bar which has its ends formed integral with the ends of the bar 21, is indicated at 23.

Each of the curved side bars, in proximity to its lower end, is formed with an upwardly extending apertured lug, as at 24 in Figure 2. The upper end of each of the curved side bars and the lower end of each of said bars extend through a slot 3, in a side bar or rail of the ladder.

The curved side bar 23, in proximity to its lower end and spaced from the lug 24 on said bar, is formed with a pair of inwardly extending spaced ears 25, 26. The curved side bar 23, in proximity to its lower end but spaced from its lug 24, is provided with an opening 26′, in the outer edge thereof and directly above said opening the said side bar 23 is offset, as at 27. Pivotally connected, as at 28, to the offset portion 27, is a spring controlled locking member 29 and the function of the latter will be presently referred to.

Formed integral with the inner edges of each of the curved side bars is a plurality of spaced brace bars 30, which extend through the slot 3 and are formed integral with the rod 20 or 21.

The front of the cage is formed from a series of spaced transversely extending bars 31 and a transversely extending bar 32. The bars 31 have their ends fixedly secured to the curved side bars 22 and 23, as at 33. The bar 32 has one end pivotally connected to the ears 25, 26, as at 34, and said bar 32 is adapted to be positioned in the opening 26′ and retained in position through the medium of the spring controlled locking member 29. The bar 32 can be swung outwardly on its pivot to provide for a person to leave the cage when desired.

The cable 14 is connected to the lug 24 of the curved side bar 22, and the cable 15 is connected to the apertured lug 24 of the curved side bar 23.

Secured with the side bar or rail 1, as well as the side bar or rail 2, at the upper end thereof, is a rearwardly extending combined spacing and bracing member 35 of substantial length and which is of curved contour, and the said members 35 are adapted to abut against the building 36 to space the upper portion of the ladder therefrom.

When the cage is in the position shown in Figure 1, a person can enter the same from over the top of the ladder or a fireman can stand in the cage and assist in the rescuing of a person from the building without any danger of falling. After a person has entered the cage or been placed in the cage by a rescuer, the cage is lowered by operating the drum 13. When the cage arrives at the lower portion of the ladder, the bar 32 is swung outwardly and the person can leave the cage or be removed therefrom. The rod 32 can be shifted outwardly when the cage is at any desired point on the ladder so that a person can leave the cage and descend on the ladder.

It is thought that the many advantages of a fire escape set up in the manner as hereinbefore described, can be fully understood from the foregoing description taken in connection with the accompanying drawings, and although the preferred embodiment of the invention is as illustrated and described, yet changes in the details of construction can be had which will fall within the scope of the invention as claimed.

What I claim is:—

In a fire escape a vertically shiftable cage consisting of a pair of rods of substantial length, a curved side bar having its ends secured to the ends of each of said rods and projecting outwardly therefrom, spaced bracing means integral with each side bar and respective rod, a series of transversely extending bars forming the front of the cage and fixedly secured to said side bars, a transversely extending bar arranged at the bottom of the front of the cage and pivotally connected to one of said side bars and removably engaging in the other of said side bars, means carried by one of said side bars and engaging with said pivoted bars for detachably securing it in closed position, a support having said rods slidably mounted therein, and means connected with the support and cage for vertically shifting the latter.

In testimony whereof, I affix my signature hereto.

FRANK GIUDICE.