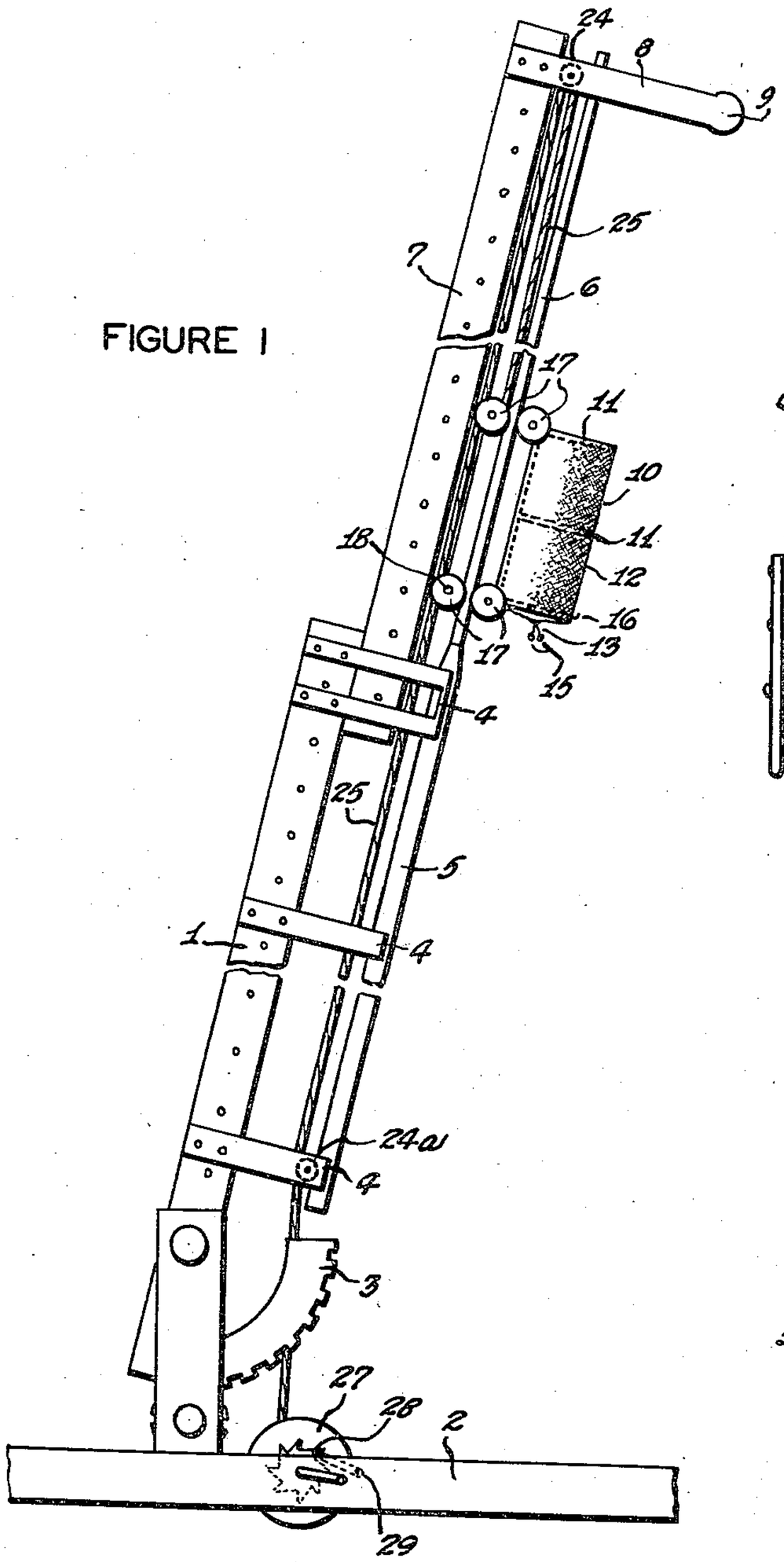
Dec. 19, 1939. L. ANDROSIGLIO 2,183,953

FIRE ESCAPE DEVICE

Filed Dec. 20, 1938

FIGURE I



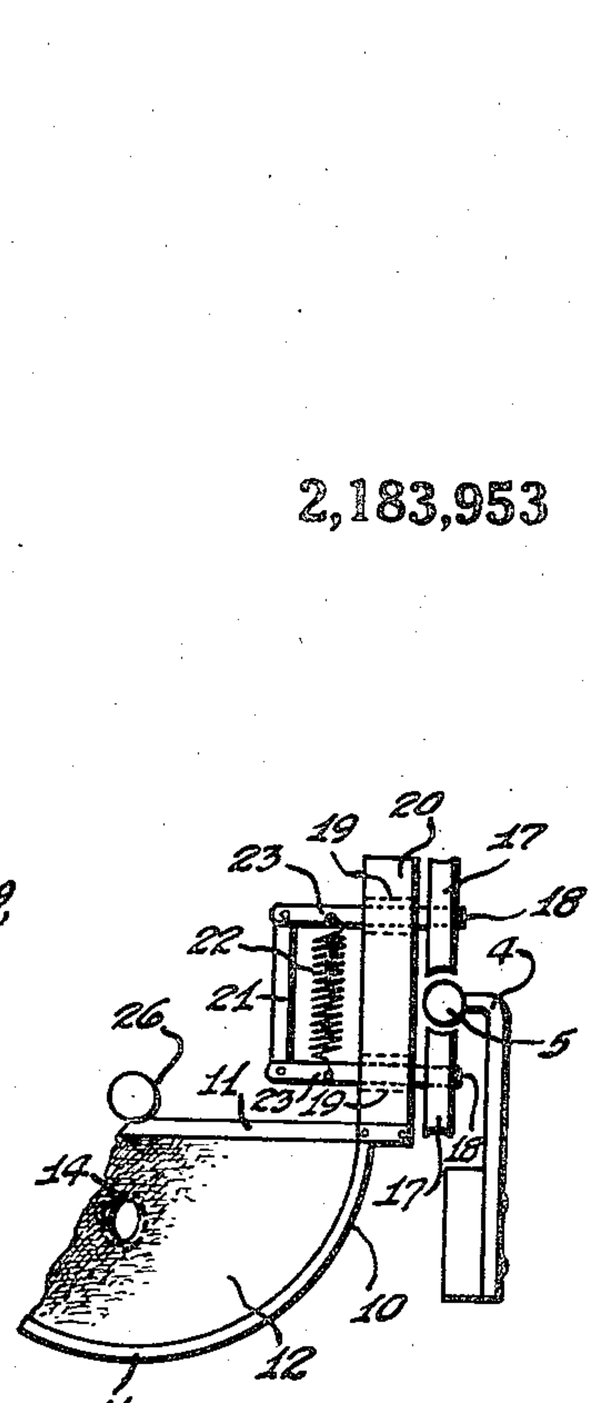


FIGURE II

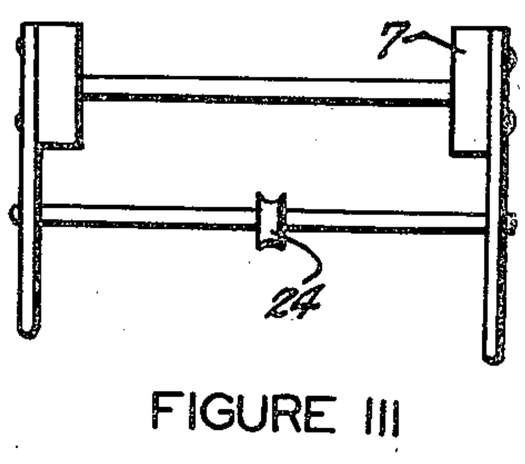


FIGURE III

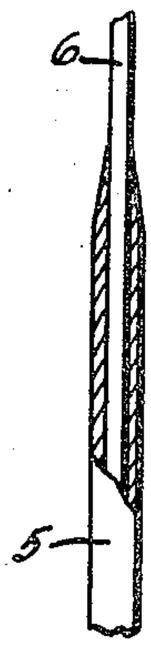


FIGURE IV

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Patented Dec. 19, 1939 2,183,953

UNITED STATES PATENT OFFICE

2,183,953

FIRE ESCAPE DEVICE

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Application December 20, 1938, Serial No. 246,777

14 Claims. (Cl. 227—8)

This invention relates to fire escape devices, more particularly to elevator cars used in connection with fire ladders. An object of my invention is to provide a rapid and safe means for firemen to remove entrapped persons from burning buildings. A further object is to provide such a means which may be used in conjunction with other apparatus, that does not necessitate any separate equipment, and while being used as an adjunct to such other equipment, will not interfere with the ordinary and efficient use of such equipment, but will aid its more efficient operation. A further object of this invention is also to provide means of removing property as well as persons from the danger of fire. A still further object is to provide a means for removing persons and property from burning buildings which will, at the same time, effectively protect such persons or property while being removed from the danger of being burned. These objects and many other objects and advantages are attained by the mechanism illustrated in the accompanying drawing in which:

Figure I is a side view of the device extended for use.

Figure II is a top view of the car frame, wheel mechanism, rails, and bottom closure.

Figure III is a view of the top ladder spacing member and pulley.

Figure IV is a view of the fixed and extensible tracks.

Similar numerals will hereinafter refer to similar parts throughout the several views.

Referring now to the figures, this device is used in connection with fire ladders of either the extensible multisectional variety or of the single section type. The fire ladder 1 shown for purposes of illustration in Figure I is of the extention type and is indicated in an erect position. Such ladders are usually permanently mounted on a fire truck 2 and equipped with an erecting device 3. From the bottom of the ladder a bracket 4 extends on which is mounted a hollow tubular track 5. Similar brackets serve to support the track at intervals along the lengths of the fixed ladder 1. The brackets 4 serve to support the track as appears in Figure II. The connection between the bracket 4 and the track 5 is made in the narrowest possible space so as not to interfere with the passage of the wheels of the car hereinafter referred to. With a single section ladder, the track 5 may be solid instead of hollow. When the device is to be used in connection with an extensible ladder, the track 5 is hollow as indicated in Figure IV and serves to accommodate within itself, as a sliding extension track 6. The extensible section of the ladder 7 is connected with the sliding track 6 by a bracket 8 which fastens the track 6 to the extensible section of the ladder 7 at its extreme end. Thus the bracket 8 serves to compel the extension track 6 to follow the course of extension of the ladder. A spacing member 9 in the form of a prolongation of this bracket 8 serves to keep the ladder 7 at a proper distance from a building and to prevent the car 10 from being operated in close proximity to the building. Thus the member 9 acts to brace the ladder and also to keep it and the car 10 at a proper operating distance from the building. The car or carrier 10 is a metallic frame 11 covered with fireproof canvas 12. The bottom of the car 10 may have the canvas 12 drawn together by a draw string 13 serving to form a tight closure 14. The draw string 13 may be provided with rings 15 adapted to be slipped over a hook 16 to keep the closure 14 taut. The frame 11 serves also to mount four pairs of diametrically opposed grooved wheels 17 adapted to run on the track 5 and the extension track 6. Since the track 5 and the extension track 6 are of necessity of slightly different diameters, the wheels 17 are of slightly variable adjustment to enable the wheels to adapt their position to the several diameters of the tracks 5 and 6. This adaptability is effected by introducing the axles 18 through slightly elongated axle holes or slots 19 in the frame 11 where it is extended 20 to accommodate the wheels 17. The axles 18 are pivotally connected to a spacing member 21. A spring 22 fastened to the axles 18 at the holes 23 serves to draw the wheels 17 in close contact with the tracks 5 and 6 as aforementioned. At the extreme upper limit of the extension ladder, a pulley 24 is mounted as in Figure II. A rope or cable 25 is fastened to the car by a ring bolt 26. The rope 25 passes over the pulleys 24 and 24*a* and down to a winch 27. A ratchet wheel 28 and a ratchet 29 will keep the car 10 in any desired position.

The operation of the device is as follows: When the fire ladder is erected and extended to the proper height, the extension section 7 has drawn the extensible track 6 out of the fixed track 5. The car 10 is then raised by the winch 27 to the proper height. The spacing member 9 braces the ladder 7 against the building and also prevents too close an approach which might damage the car 10. During the operation of the invention, the ladders are free to use in the conventional fashion. When the car 10 reaches the topmost point, presumably opposite a window or roof, per-

sons in danger may be assisted into it. They need not experience terror at having to climb or be carried down a ladder from a great height as is usual. Such trips are dangerous and difficult. When such person is in the car, it is lowered by the winch. The car is made of fireproof canvas in its preferred form, and it provides ample protection from flames to its passengers or contents. When it reaches the level of the truck 2, the draw string 13 is released and the person within the car is easily assisted to the body of the fire truck. Convenient hand grips may be provided if desired within the body of the car, as well as means for releasing a fire extinguishing fluid within the car, if its contents should be on fire, thereby serving to extinguish flaming clothing, etc.

It is obvious that this invention may be effectuated by many variations in its form as a whole and in its component members as, for example, making the second track 6 hollow and placing another extensible track within so that it will extend with a third or even fourth section of the ladder, etc. The inventor therefore does not wish to be limited to the specific form herein set forth but intends his specification and drawings to be interpreted broadly as merely illustrating and not as limiting the invention, as many changes may be made without departing from the spirit of the invention.

I claim:

1. In a fire escape device, a ladder, an extensible section of ladder, the extensible section of ladder mounted on the said ladder, a hollow track, said track affixed to the ladder, an extensible track, said extensible track affixed at one end to the extensible ladder and adapted to slide within the hollow track when the extensible ladder is retracted or extended, a car, wheels, said wheels mounted on the car and adapted to run on the track and extensible track, a spring, said spring adapted to adjust the distance between the wheels to the diameter of the track and the extension track, a cable, said cable attached to the car, a pulley at the top of the extension ladder, the cable passing over the said pulley, a winch, the said winch adapted to wind and unwind the cable, a spacing member so adapted to brace the ladder against a building.

2. In a fire escape device, a ladder, a track, said track affixed to the ladder, an extensible section of the ladder, the extensible section affixed to the ladder, an extensible section of the track, the extensible section of the track being affixed to the extensible section of the ladder, a car, diametrically opposed wheels, said wheels being pivotally connected to the car and adapted to run on the track, a spring, said spring maintaining the wheels in close contact with the track, means for raising and lowering the car.

3. In a fire escape device, a ladder, a track, said track affixed to the ladder, an extensible section of the ladder, the extensible section affixed to the ladder, an extensible section of the track, the extensible section of track affixed to the extensble section of ladder, a car, said car adapted to run on said track under the ladder, means for raising and lowering the car substantially as described.

4. In a fire escape device, a ladder, a track, said track affixed to the ladder, an extensible section of the ladder, the extensible section affixed to the ladder, an extensible section of track, the extensible section of track affixed to the extensible section of ladder, a car, said car adapted to run on said track under the ladder, means for raising and lowering the car.

5. In a fire escape device, an extensible ladder, an extensible track, means for retaining to each other the extensible ladder and extensible track, a car, said car slideably mounted on said track under the ladder, means for raising and lowering the car.

6. In a fire escape device, a ladder, a track, said track affixed to the ladder, an extensible section of the ladder, the extensible section affixed to the ladder, an extensible section of track, the extensible section of track affixed to the extensible section of ladder and adapted to slide within the track affixed to the ladder, a car, said car adapted to run on said track under the ladder, means for raising and lowering the car.

7. In a fire escape device, a ladder, a track, said track affixed to the ladder, an extensible section of the ladder, the extensible section affixed to the ladder, an extensible section of track, the extensible section of track affixed to the extensible section of ladder, a car, said car of fireproof material and adapted to run on said track under the ladder, means for raising and lowering the car.

8. In a fire escape device, a ladder, a track, said track affixed to the ladder, an extensible section of the ladder, the extensible section affixed to the ladder, an extensible section of track, the extensible section of track affixed to the extensible section of ladder, a car, said car covered with fireproof material and adapted to run on said track under the ladder, means for raising and lowering the car.

9. In a fire escape device, a ladder, a track, said track affixed to the ladder, an extensible section of the ladder, the extensible section affixed to the ladder, an extensible section of track, the extensible section of track affixed to the extensible section of ladder, brackets, said brackets connected to the track longitudinally in a narrow band and affixing it to the ladder, a car, said car adapted to run on said track under the ladder, means for raising and lowering the car.

10. In a fire escape device, a ladder, a track, said track affixed to the ladder, an extensible section of the ladder, the extensible section affixed to the ladder, an extensible section of track, the extensible section of track affixed to the extensible section of ladder, a car, said car adapted to run on said track, means for raising and lowering the car, axles, wheels, said wheels being mounted on the axles in diametrical opposition and said axles passing through the frame of the car, holes in the frame substantially larger than the axles, a spring whereby the said axles are drawn together thereby serving to draw the wheels together in contact with the track.

11. In a fire escape device, an extensible ladder, extensible rails attached thereto, an underslung car adapted to run on the rails whereby the use of the climbing surface is uninterfered with, means for raising and lowering the car.

12. In a fire escape device, the combination with an extensible ladder and extensible rails attached thereto, of a car adapted to run under the ladder on the rails and means for raising and lowering the car.

13. In a fire escape device a ladder, a track, said track affixed to the ladder, an extensible section of the ladder, the extensible section affixed to the ladder, an extensible section of the track, the extensible section of the track affixed to the

extensible section of the ladder, a car, said car of fire-resistant material and adapted to run on the said track under the ladder, means for raising and lowering the car.

14. In a fire escape device a ladder, a track, said track affixed to the ladder, an extensible section of the ladder, the extensible section affixed to the ladder, an extensible section of the track, the extensible section of the track affixed to the extensible section of the ladder, a car, said car adapted to run on the said track under the ladder, means for raising and lowering the car.

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