No. 361,707. PATENTED JULY 30, 1907.

J. F. CAIN.

FIRE ESCAPE.

APPLICATION FILED FEB. 19, 1907.

Fig. 1.

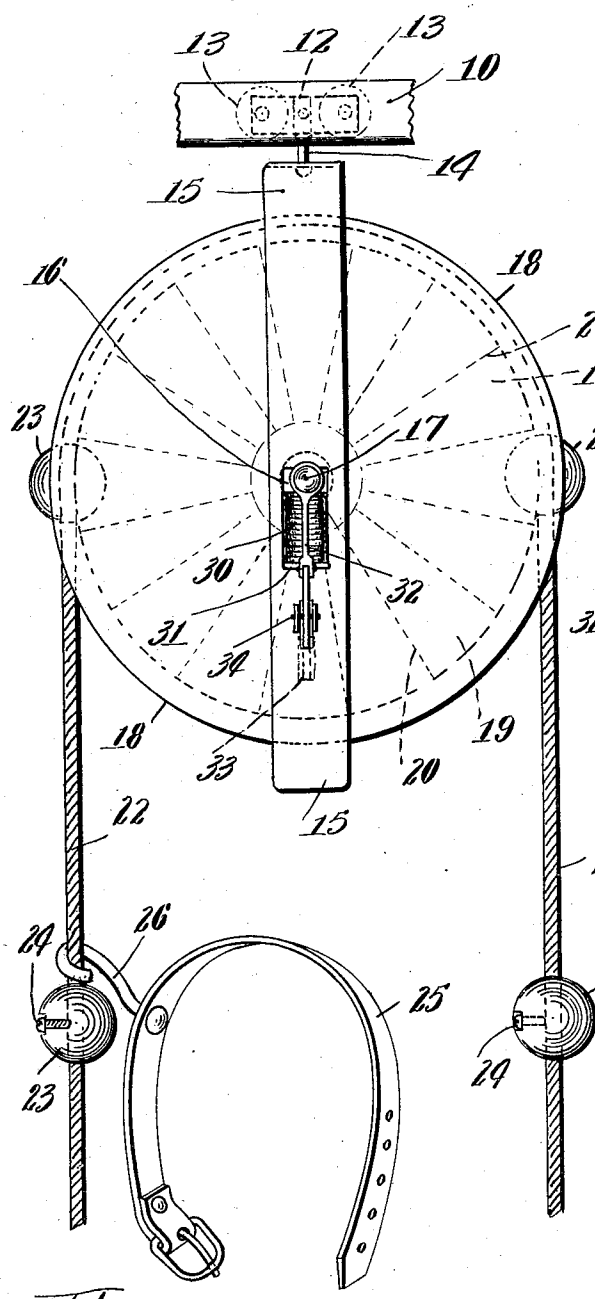
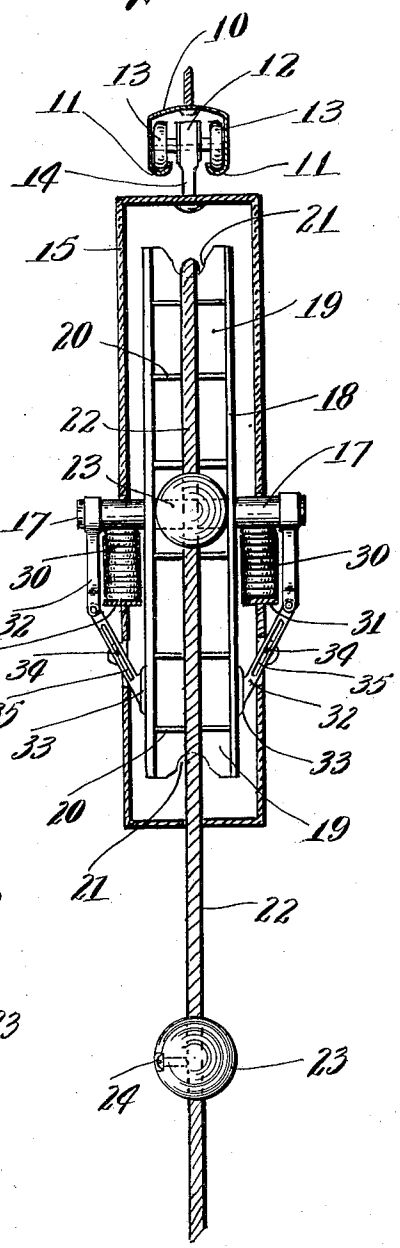



Fig. 2.




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# UNITED STATES PATENT OFFICE.

JOHN F. CAIN, OF CLINTON, MASSACHUSETTS.

## FIRE-ESCAPE.

No. 861,707. Specification of Letters Patent. Patented July 30, 1907.

Application filed February 19, 1907. Serial No. 358,205.

*To all whom it may concern:*

Be it known that I, JOHN F. CAIN, a citizen of the United States, residing at Clinton, in the county of Worcester and State of Massachusetts, have invented a new and useful Fire-Escape, of which the following is a specification.

This invention relates to a fire escape adapted to be mounted on the outside of a building, the principal objects thereof being to provide improved means whereby the fire escape may be manipulated from the ground to bring it into position for operation from any desired one of the windows of the building on any side thereof; to provide improved means whereby a person may cling to or be supported by, a flexible member in the form of a rope, chain, or cable in such a manner that his weight will cause the same to descend and at the same time apply a brake, the braking action being proportionate to the load on the cable, whereby the rapidity of descent will be retarded when the device is overloaded; to provide an improved construction of rotating wheel, bearings and brake therefor; and generally, to improve and simplify the construction of fire escapes of this character.

Reference is to be had to the accompanying drawings which illustrate a preferred form of the invention and in which,

Figure 1 is a side elevation of a portion of the track showing the operating mechanism, and Fig. 2 is an end elevation of the device showing the casing in section.

In order that the device may be movable from one part of the building to another, a track 10 is mounted on the upper part of the building, spaced somewhat therefrom and provided with curves at the corners so that the device can be used on all sides of the building. This track may be constructed in any desired way but it is preferably provided with a pair of rails 11, each projecting inwardly and having an upwardly turned flange on the inside. On this track is designed to run a small truck 12 having wheels 13 adapted to run on these rails. From the truck is suspended a pin 14 which carries a frame 15. This frame is provided with slots 16 through which passes a shaft 17 carrying a wheel or support 18. This wheel is formed with spaces 19 around its periphery located between radial vanes 20. Each of these vanes is provided with depressions 21 adapted to receive an endless flexible connection 22 in the form of a rope, chain, cable or the like.

The spaces 19 are adapted to receive supports 23 which are shown in the form of balls mounted on the cable. These balls are capable of adjustment along the cable and are secured thereto by screws 24 or in any desired manner.

The device is designed to be operated from the ground. It can be drawn along the track to any desired position on the building and when a person desires to descend, he can grasp the cable above one of the supports 23 and his weight will carry him to the ground. In addition to this, belts 25 are preferably provided, each one having a loop 26 adapted to be fastened around the cable above one of the balls 23. These belts may be carried permanently on the cable or they may be secured thereto from below, as desired, and drawn up with the cable.

The shaft 17, it will be observed, is not mounted in fixed bearings on the casing but is resiliently supported therein as by springs 30 mounted on plates 31 with which the casing is provided and preferably located in the slots 16. The object of this is to provide for permitting the wheel to yield when a weight is applied thereto and to secure a movement by which a brake may be applied so that if the device is overloaded, the rapidity of operation can be checked. For this purpose, the shaft is provided with a pair of arms 32 to each one of which is pivotally connected a brake 33 which is pivoted to the frame at a point 34 and passes through a slot 35 therein. Each of the brakes is adapted to engage the side or any other desired part of the wheel and it will be obvious that the descent of the wheel will operate to apply the brakes and the more it is depressed, the stronger will be the braking action.

While I have illustrated and described a preferred form of the invention, I am aware that modifications may be made therein without departing from the spirit of the same as expressed in the claims. Therefore, I do not wish to be limited to the particular form shown, but

What I do claim is:—

1. In a fire escape, the combination of a movable frame having perforations through its side walls, springs supported by said side walls in the perforations, a shaft carried by said springs and projecting through the perforations, a wheel on the shaft, a cable supported by and depending from the wheel, and a brake pivoted to said frame and connected with the projecting end of the shaft, said brake extending through the frame and engaging the side of the wheel.

2. In a fire escape, the combination of a frame having two sets of perforations through its side walls, springs mounted in the upper perforations, a shaft resting on said springs and projecting through the frame, an arm secured to said shaft, a pin mounted adjacent to one of the lower perforations, and a brake having a longitudinal slot through which said pin passes, said brake being pivoted to

said arm and passing through the lower perforation to engage the wheel.

3. In a fire escape, the combination of a frame having perforated side walls, a shaft passing through the perforations, a wheel on the shaft, resilient means for supporting said shaft, an arm on each end of the shaft, and a pair of brakes pivotally connected with each arm and having longitudinal slots therein, said brakes passing through the lower perforations in the casing to engage the wheel and a pin mounted on the casing and passing through said slots for pivotally supporting the brakes.

In testimony whereof I have hereunto set my hand, in the presence of two subscribing witnesses.

JOHN F. CAIN.

Witnesses:
ERNEST H. LEE,
C. S. WHITE.