

(No Model.)

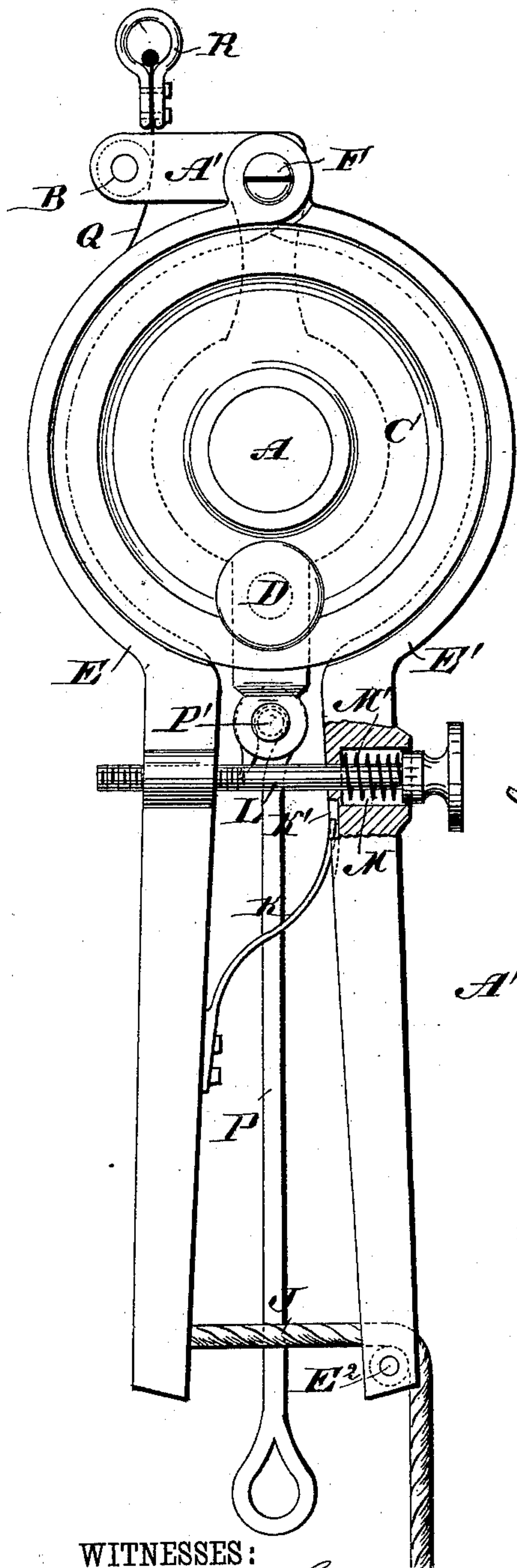
R. C. RUTHERFORD.

FIRE ESCAPE.

No. 297,089.

Patented Apr. 15, 1884.

Fig. 1.



WITNESSES:  
*Wm Beyer*  
*C. Sedgwick*

Fig. 4.

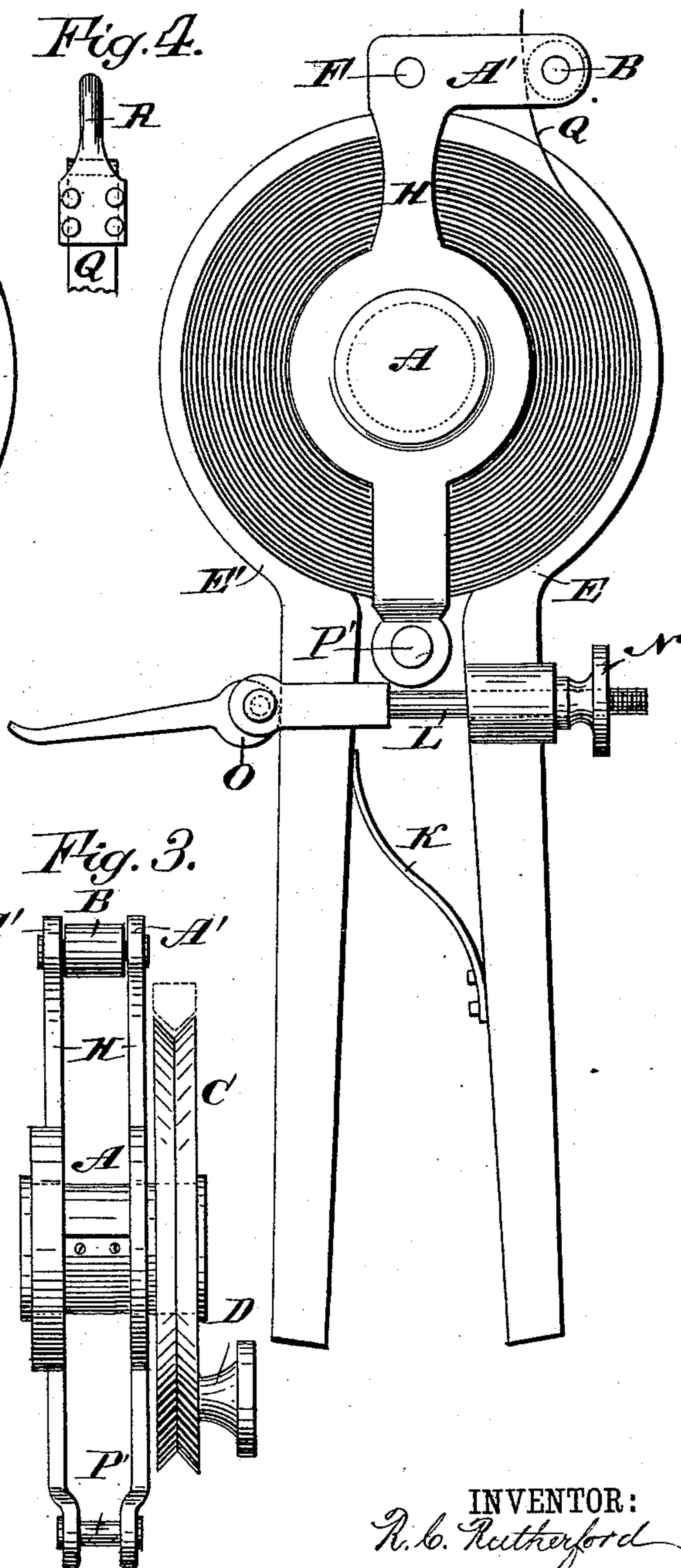
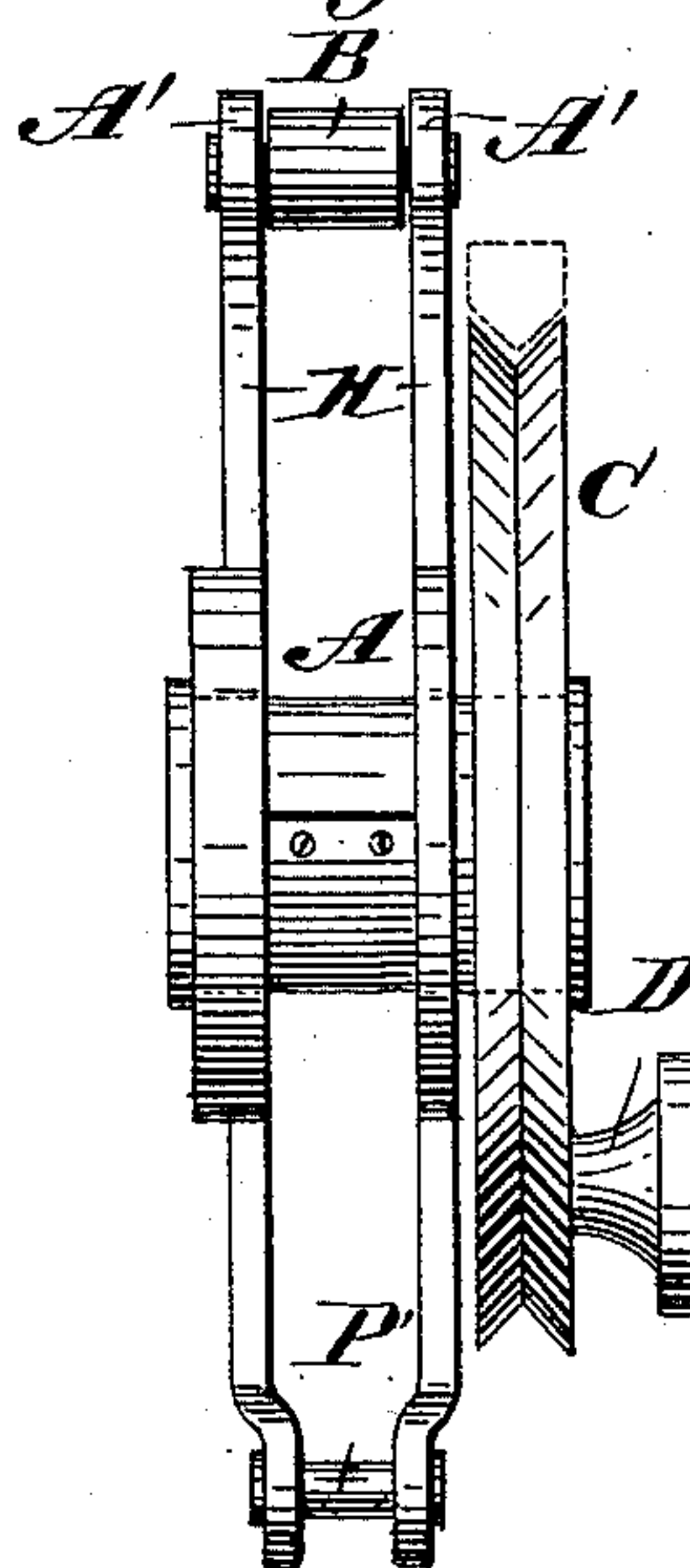


Fig. 3.



INVENTOR:  
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BY *Munn & Co*  
ATTORNEYS.



# UNITED STATES PATENT OFFICE.

REUBEN C. RUTHERFORD, OF QUINCY, ILLINOIS, ASSIGNOR OF ONE-THIRD  
TO JAMES WOODRUFF, OF SAME PLACE.

## FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 297,089, dated April 15, 1884.

Application filed August 16, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, REUBEN C. RUTHERFORD, of Quincy, in the county of Adams and State of Illinois, have invented a new and Improved Fire-Escape, of which the following is a full, clear, and exact description.

This invention relates to that class of fire-escapes in which a metallic band, wire, or cable is wound on a drum held in a device provided with means for suspending a person.

The invention relates to improvements in fire-escapes; and it consists of the several combinations of parts substantially as hereinafter fully set forth and claimed.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side view of my improved fire-escape, parts being broken out and others being shown in section. Fig. 2 is a side view of the same, showing a modified construction. Fig. 3 is an end view of the same. Fig. 4 is an end view of the eye on the upper end of the band or cable.

A shaft or arbor, A, is journaled in two side pieces or plates, H, united at the top and bottom, each being provided at the upper end with an angular arm, A', in the ends of which a roller, B, is journaled.

On one end of the arbor A a brake-wheel, C, is rigidly mounted which has a groove in its edge. The brake-wheel C is provided with a handle-knob, D, or with a folding crank-handle like those of tape lines. Two brake-levers, E E', having their upper ends curved semicircularly and adapted to fit in the groove of the brake-wheel, are pivoted on the pintle F, passing through the upper ends of the side pieces or plates, H. A rope or cord, J, is fastened to the lower end of the lever E and passes over a pulley, E<sup>2</sup>, on the lower end of the other lever, E', and is provided at its lower end with a stirrup or loop for receiving the foot, whereby, by pressing down on the said stirrup or loop the rope J, will draw the lower ends of the levers together and will press the curved parts of the levers against the rim of the brake-wheel C. A spring, K, is fastened at one end to the inner side of the lever E,

and its free end rests in a recess, K', in the inner side of the lever E', which spring presses the levers apart and from the rim of the brake-wheel. A screw-pintle, L, is passed loosely through the lever E', and is screwed into a threaded aperture in the lever E. A spiral spring, M, contained in a cavity, M', in the lever E', presses against the inner end of the head of the screw-pintle L. If desired, a nut, N, can be screwed on the threaded end of the pintle, and the opposite end of the pintle is then forked, the lever E' passing between the shanks of the fork. A cam-lever, O, is pivoted to the ends of the shanks, as shown in Fig. 2. A hook-shank, P, is hung on a pintle, P', uniting the frame or side plates, A, at the bottom, and to an eye formed on the lower end of the hook-shank a belt of leather or webbing is fastened, which belt is passed around the body of the person to be rescued. A metallic band, Q, or a wire or cable, is securely fastened to the arbor or shaft A on which it is wound. An eye, R, is riveted or otherwise fastened to the outer end of the band Q or cable, through which eye a hook can be passed. The eye R clamps the end of the band Q between its shanks, and rivets are passed through the said shanks and the end of the band.

The operation is as follows: The eye R is hooked on a suitable hook on the window-sill, wall, &c., and the belt P is passed around the person, and the device is swung out of the window and begins to descend, the weight of the person drawing it downward. The speed is checked by pressing the brake-levers E E' against the brake-wheel C with more or less force. This is accomplished by means of the rope J, or by pressing the levers E E' together by hand, or by turning the screw L, to draw the two levers together, or by turning down the cam-lever O and turning the nut N. By means of the screw the levers E E' can be adjusted before descending, so as to produce sufficient friction for a certain desired speed. The band or cable Q runs over the pulley B.

The apparatus can be stopped and started at will whenever and wherever desired by simply pressing the brake-levers together.

The device can be suspended by the hook-



rod P, and a person can be suspended from the loop R at the free end of the band, and can be lowered by some one from a window, controlling the brakes. After all persons have  
5 been lowered, the apparatus is reversed—that is, suspended by the loop R—and the person that has lowered the others then lowers himself, in the manner described above.

The instrument is very light and strong,  
10 and operates very rapidly.

In place of a belt a bag or pouch may be provided.

The band, wire, or cable can be made any desired length.

15 Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a fire-escape, the combination, with the angular frame H, of the roller B, the arbor A, the metal band, wire, or cable Q, the  
20 brake-wheel C, rigidly mounted on one end of the arbor, the brake-levers E E', the spring K, fastened to the lever E, and having its free end in a recess, K', in the lever E', and means for holding or pressing the brake-le-  
25 vers together, substantially as herein shown and described.

2. In a fire-escape, the combination, with the frame H, of the arbor A, the metal band, wire, or cable Q, the brake-wheel C on the arbor, the brake-levers E E', pivoted to the  
30 frame H, and the rope J, fastened to the lower end of the lever E, and passing over a pulley in the lower end of the lever E', substantially as herein shown and described.

3. In a fire-escape, the combination, with  
35 the frame H, of the arbor A, the metal band, wire, or cable Q, the brake-wheel C, the brake-levers E E', the screw-pintle L, the nut N, and the cam-lever O, substantially as herein shown and described.  
40

4. In a fire-escape, the combination, with the plates H, having arms A', of the roller B, the arbor A, journaled in the plates H, the metallic band, cable, or wire Q, the brake-  
45 wheel C, and the brake-levers E E', substantially as herein shown and described.

REUBEN C. RUTHERFORD.

Witnesses:

E. H. HEAD,  
W. T. HEAD.