

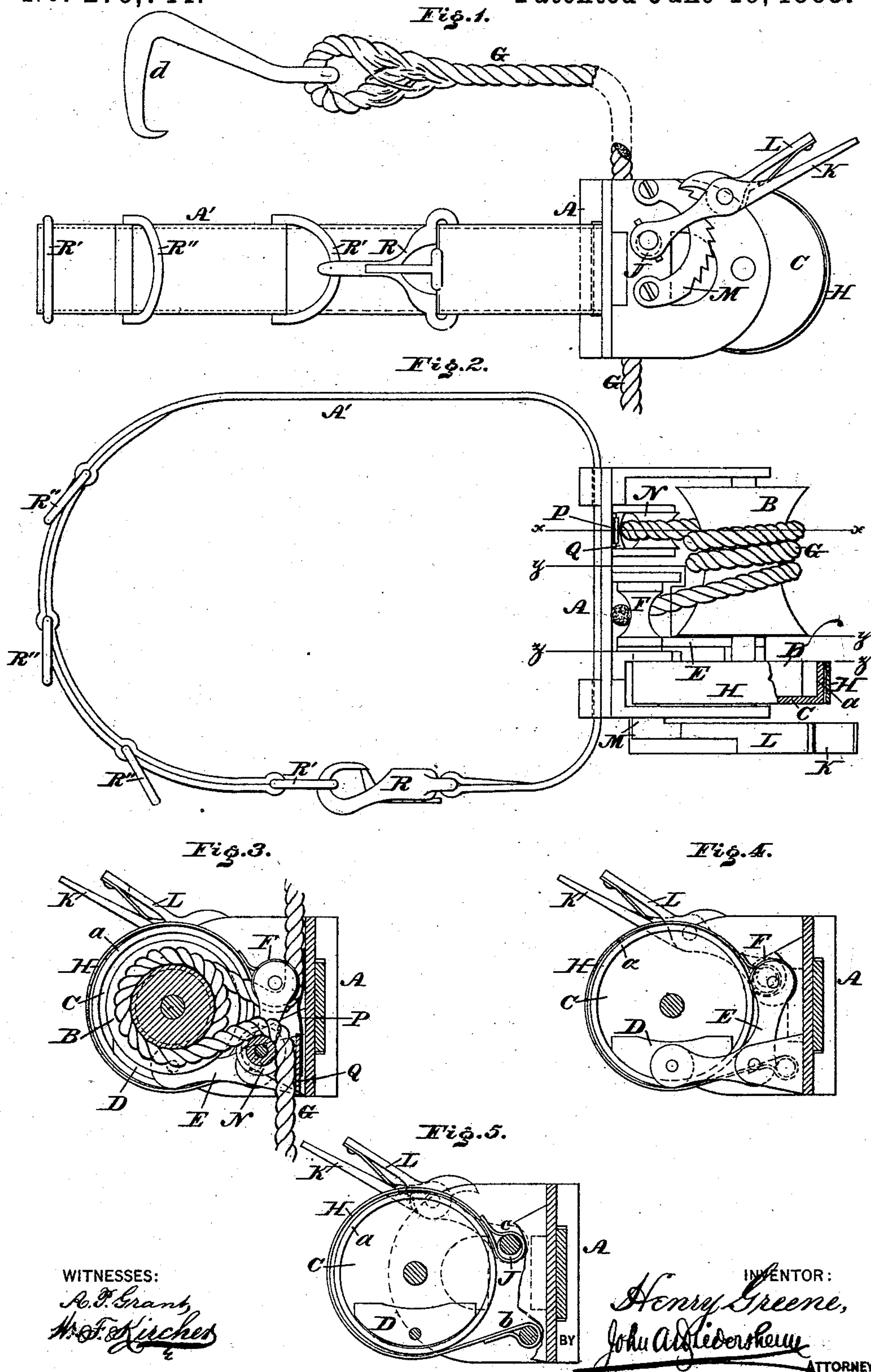
(No Model.)

H. GREENE.

FIRE ESCAPE.

No. 279,744.

Patented June 19, 1883.



UNITED STATES PATENT OFFICE.

HENRY GREENE, OF PHILADELPHIA, PENNSYLVANIA.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 279,744, dated June 19, 1883.

Application filed February 13, 1883. (No model.)

To all whom it may concern:

Be it known that I, HENRY GREENE, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Fire-Escapes, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a side elevation of the fire-escape embodying my invention. Fig. 2 is a top or plan view thereof. Fig. 3 is a vertical section thereof in line *x x*, Fig. 2. Fig. 4 is a vertical section thereof in line *y y*, Fig. 2. Fig. 5 is a vertical section thereof in line *z z*, Fig. 2.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists of improvements in fire-escapes, as will be hereinafter fully described and definitely claimed.

Referring to the drawings, A represents a frame or box, to which a waist strap or sling is attached for connection with the body of the person using the escape.

B represents a roller, which is mounted on the sides of the frame A, and has secured to it a wheel, C, formed with a peripheral flange, *a*, on the inner face of which bears a brake-shoe, D, which is hung on one limb of an elbow-lever, E, the other end whereof carries a roller, F, said lever being pivoted to the frame A, and so disposed that the rope G of the escape, after passing around the roller B, passes under and around the roller F, thus serving, when the escape is in use, to force the brake D against the wheel C.

H represents a friction strap or band, which encircles the wheel C, and has one end connected with the frame A, as at *b*, and the other end formed with an eye or loop, *c*, in which is fitted an eccentric roller, J, whose journals are mounted on the frame A, and one of them has secured to it a lever, K, which is provided with a pawl, L, for engagement with a circular ratchet or toothed segment, M, which is fixed to the side of the frame A; it being noticed that the rotation of the eccentric roller J by means of the lever K tightens the strap H against the wheel C or relieves it therefrom, so that said wheel and consequently the roller

B may be controlled during the descent of the fire-escape.

Secured to the frame A at the portion where the rope G enters said frame is a guide-roller, N, against which said rope is primarily brought into contact; and in order to hold said rope against said roller, I interpose between the roller and back of the frame a block, P, which is forced against the rope by the action of a spring, Q, secured to the frame and bearing against said block, whereby provision is made for preventing slipping of the rope on the guide-roller, and displacement of said rope from said roller, the block furthermore yielding and conforming to inequalities in the thickness of the rope, and creating a uniform friction or tension on the rope at the place of contact with the guide-roller. After the rope enters the frame A from below it passes around and over the roller N, then around the roller B, next under and around the roller F, and, finally, out at the top of the frame, the upper end of the rope having a hook, *d*, or means of attachment with the building from which escape is to be made. When the person descends, the pressure of the rope forces the brake D against the wheel C and prevents the rapid descent of the frame and its appurtenances. Should, however, the descent be too rapid, the lever K is operated so as to turn the eccentric roller J, thus pressing the strap H against the wheel C, and checking the wheel, and consequently the roller B. By a further operation of the lever K the rotation of the roller J is to such extent that the strap H is forced against the wheel C, so as to completely stop the same, and consequently prevent descent of the frame and connected parts. The waist belt, strap, or sling A' has secured to it at one end a snap-hook, R, and at the other end a ring or loop, R'. Intermediate of the ends of the strap are secured at intervals metallic rings or loops R'', whereby provision is made for adjusting the belt to waists of different sizes and firmly securing it in position.

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

1. A roller and a connected wheel having a peripheral flange, a brake-shoe bearing against

the inner face of said flange, a lever carrying said shoe, a roller mounted on said lever, and a rope bearing against said roller, combined and operating substantially as and for the purpose set forth.

2. In a fire-escape, the wheel C, the friction-strap H, and eccentric roller J, in combination with the lever K, pawl L, and toothed segment M, substantially as and for the purpose set forth.

3. In a fire-escape, the rope and roller, in combination with a guide-roller, friction-block,

and spring, the latter bearing against the rope, substantially as and for the purpose set forth.

4. The combination of roller and rope, guide-roller, friction-block and spring, automatically-operated brake-shoe, friction strap or band, eccentric roller and its operating-lever, and the locking pawl and ratchet, substantially as and for the purpose set forth.

HENRY GREENE.

Witnesses:

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