

(No Model.)

J. A. EDMONDS.

FIRE ESCAPE.

No. 272,129.

Patented Feb. 13, 1883.

Fig. 2.

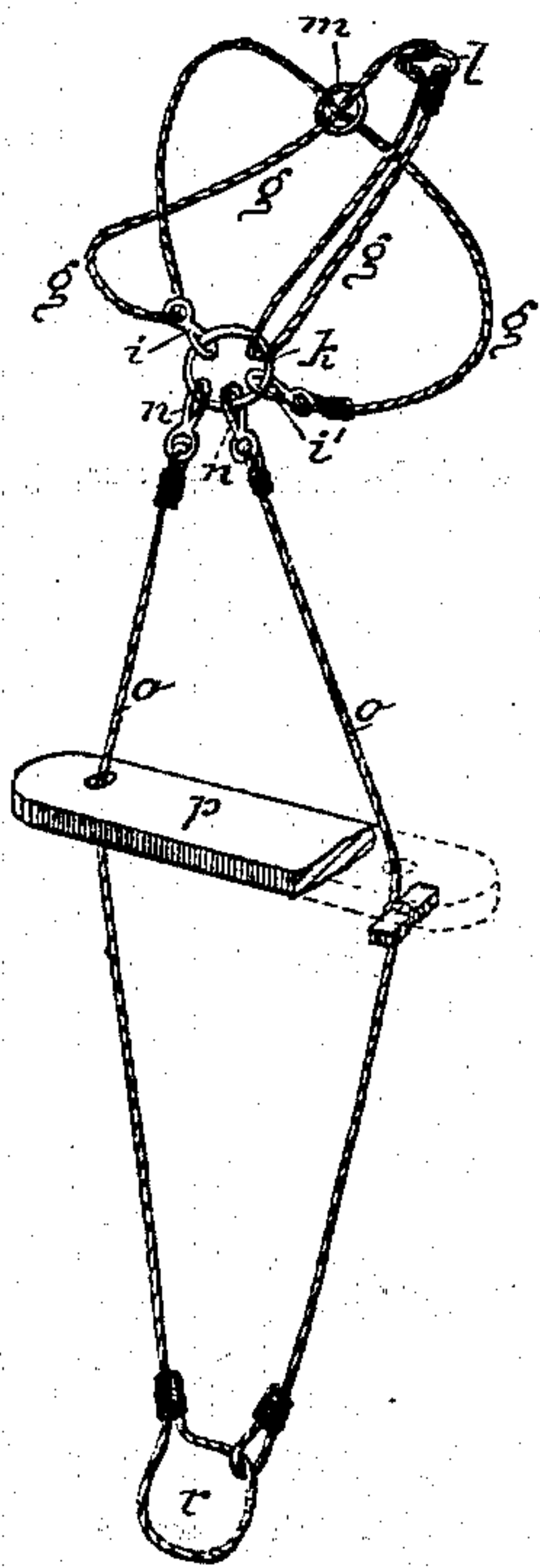


Fig. 1.



Fig. 3.

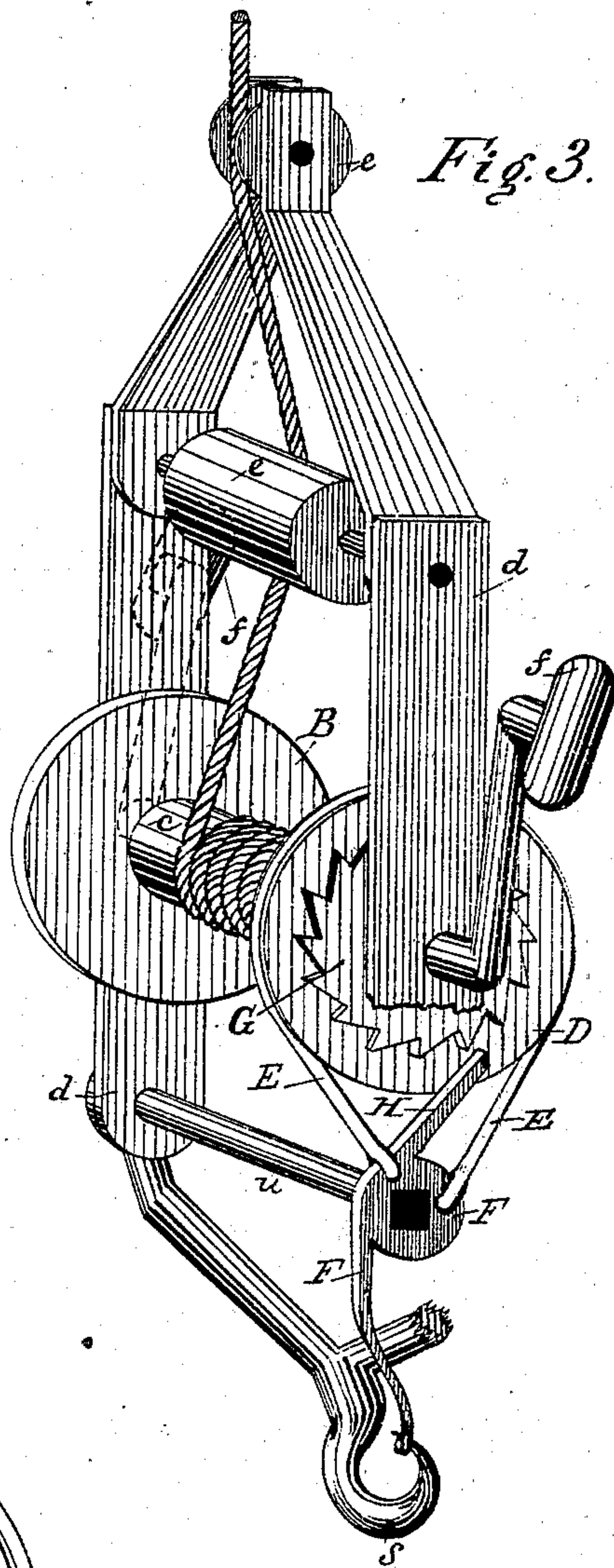
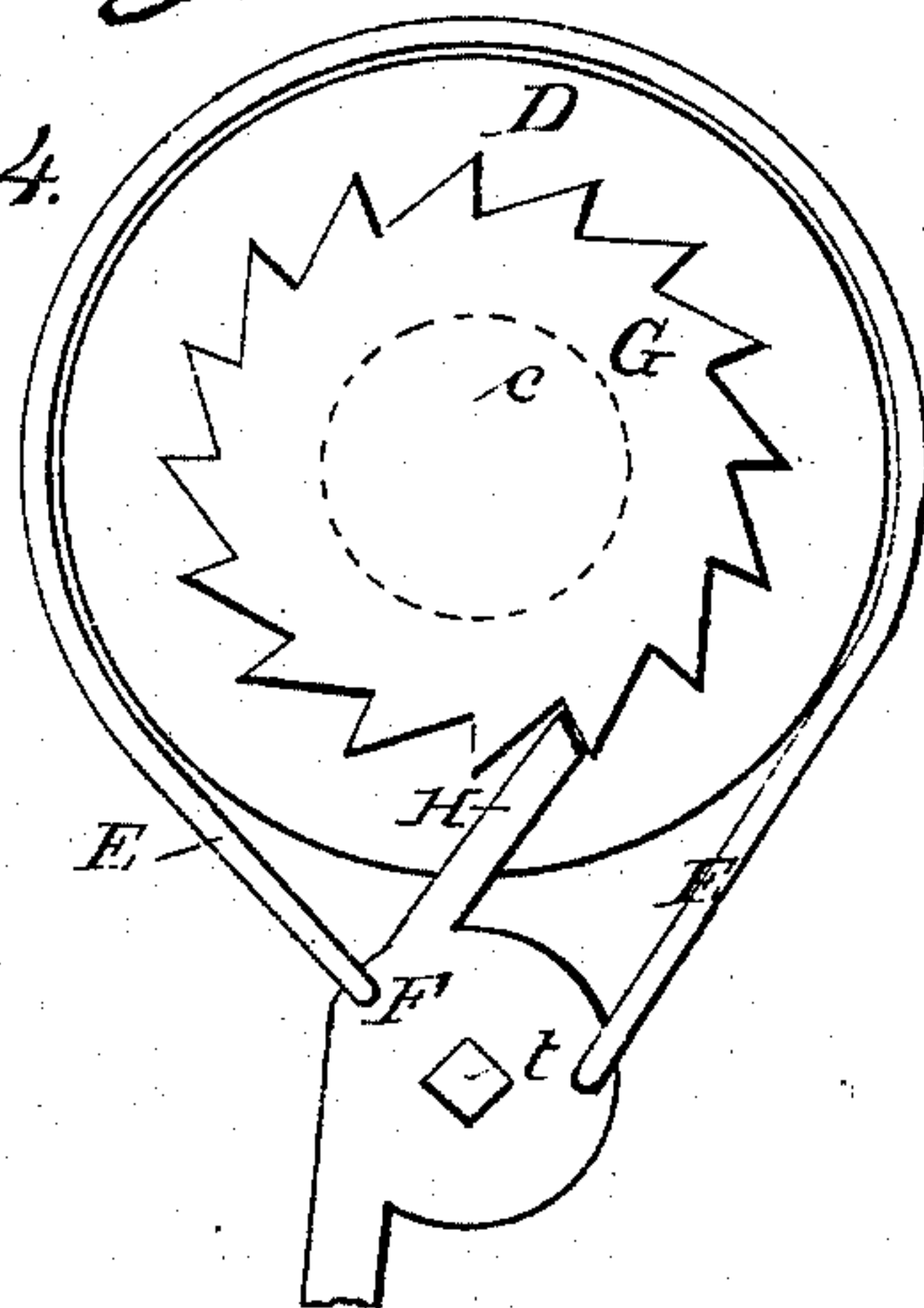


Fig. 4.



WITNESSES:

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JOHN A. EDMONDS, OF DOVER, DELAWARE.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 272,129, dated February 13, 1883.

Application filed April 8, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. EDMONDS, of Dover, in the county of Kent and State of Delaware, have invented certain new and useful Improvements in Combined Fire-Escapes and Elevators, of which the following is a full, clear, and exact description.

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 represents a view in perspective, upon a reduced scale, of my improved apparatus as in use. Fig. 2 is a similar view of a body-support composed of straps or ropes, with certain attached conveniences, designed to be used in connection with a lowering and raising rope and windlass device for controlling descent or ascent by said rope. Fig. 3 is a view in perspective, upon a larger scale, of said device, and Fig. 4 a side view of a ratchet and brake attachment to said windlass contrivance.

The object of this invention is to produce a wire or other rope fire-escape, which, while it forms a ready and safe means of escape from a burning building, subject to control by the person descending by it, and provides for the secure attachment of the person, together with other conveniences and safeguards, admits of being used as an elevator for ascending by means of the main rope to assist in the rescue of persons or recovery of property from the building, or for any other purpose that may be desired.

To these and other ends the invention consists in the peculiar construction and arrangement of parts, as hereinafter more fully set forth.

In the drawings, A is the main wire or other rope, provided with a hook, b, at its one end for fastening it onto the window-sill, or to any suitable article or structure within the room of a burning building. The opposite end and body or main portion of said rope is secured to and wound upon the barrel c of a windlass device, B, which is made up in part of a frame, d, of any suitable description, and that may have roller-guides e for directing the rope and keeping the whole contrivance in a proper position when in use. This windlass device serves for the person using the apparatus to control his

descent, or for a fireman or other individual to ascend by means of the apparatus, and to give an increased purchase the rope A, in its attachment to the building, may be passed around suitable pulleys or pulley-blocks; also, if desired, multiplying-gearing may be applied to operate the barrel c; but said barrel is here shown as being rotated by cranks f—that is, one on either end of it—similar to the cranks used in boring-machines, and arranged on opposite sides of the frame d, and on the same side of the axis of the barrel to prevent wobbling.

Suitable devices may be attached to the lower end of the frame d, whereby the person using the apparatus may stand or sit, and have the mechanism by which the lowering or raising action is effected attached to or connected with him. In the arrangement represented in the drawings this is provided for by a body support or gear, composed in part of a strap or rope, g, which is made to form a shoulder and body brace that passes over the shoulders, under the arms, crosses on the back of the body and centers in front by snap or other hooks, i i', arranged to engage with a ring, k. For this purpose the said rope g is looped or doubled within or over the ring k and fastened at its one end to a link, l, while the other doubled portion is twisted through said link l, passed through a back crossing-ring, m, from thence passed down loosely through the eye of the hook i and back through the crossing-ring m, from whence it is continued to the hook i', which engages with the front centering-ring, k.

Connected with the ring k, by snap-hooks n n or otherwise, are ropes or straps o o, provided with suitable stops, on which may rest a seat, p, for the person using the apparatus to sit upon, and which may be looped and connected at their lower ends to form a stirrup, r, in which the foot rests; or the seat-ropes o o need not be so extended. Thus equipped and provided with supporting means, the person using the apparatus attaches the lower end of the frame d of the windlass device by a hook, s, to the ring k, when, if escaping from a burning building, he is prepared to descend, the upper end of the rope A being suitably secured, as hereinbefore described. He may control his descent exclusively by the crank-handles f; but

to more perfectly do so a brake-wheel, D, is applied to either or both ends of the barrel *c*, and a spring-brake strap, E, made to encircle such wheel, and attached at its ends to a lever, F, on a shaft, *t*, that fits through a lower tubular brace, *u*, of the frame *d*, and which lever should be arranged to be within convenient reach of the operator. By means of this brake attachment the person using the apparatus may regulate the speed of his descent as required, or may wholly stop himself on the way, or return, if desired.

Upon either or both ends of the barrel, also, is a ratchet-wheel, G, with which a pawl, H, fast on the shaft *t* of the lever F, engages when the brake-strap is released, said brake-strap, by its elasticity, operating to throw the pawl into gear with the ratchet, thereby having a double function. The pawl H is thus engaged with the ratchet-wheel G to act as a stop to the windlass-barrel against back motion when working the apparatus as an elevator; and when the brake-strap E is put on the wheel D to check or control descent by the apparatus the pawl H is thrown by the same motion out of gear with the ratchet-wheel G. Thus the brake and ratchet are automatically alternate in their actions.

Instead of the lever F and pawl H being arranged on the shaft *t*, they may be pivoted on the tubular brace *u*, which then will be fitted to turn upon said shaft.

Provision may readily be made for attachment to the apparatus of additional means of escape, whereby the same rope A will answer for two or more persons to make their escape at the same time. Trunks, valises, and other articles may also be attached for removal from the burning premises.

When not required to be used the rope A may be wholly wound upon the barrel *c* and the entire contrivance packed in a small com-

pass, the frame *d* being constructed to double up, if desired, in direction of its length—that is, the two bail-like ends of it may be made to fold, and the seat *p* be constructed with a hinge to fold to save space when packing away the apparatus in a valise or elsewhere.

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

1. The combination, with the windlass, of a brake-wheel and a ratchet-wheel for controlling the motion of its barrel in reverse directions, a pawl arranged to engage with the ratchet, and a spring brake-strap having an attached operating-lever and arranged to control said pawl, whereby, when the strap is applied to the brake-wheel to control the motion of the barrel in one direction, the pawl is released from the ratchet-wheel, and when the brake-strap is released the pawl is thrown into action with its wheel to arrest the motion of the barrel in a reverse direction, substantially as specified.

2. The rope or strap *g*, provided with hooks *i i'*, in combination with the ring *k* and loop *l*, the whole forming a body brace or support that meets in front of the person for attachment to a lowering or hoisting windlass, essentially as and for the purposes set forth.

3. The combination, with the rope or strap body-support *g, i, i', k*, and *l*, of the seat rope or ropes *o o*, having attached hooks, and the seat *p*, substantially as shown and described.

4. The ropes *o o*, connected to form a stirrup or foot-rest, in combination with the seat *p*, and rope or strap body-support *g, i, i', k*, and *l*, essentially as specified.

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Witnesses:

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A. H. PRINCE.