(No Model.)

S. BOTT.

FIRE ESCAPE.

No. 304,603. Patented Sept. 2, 1884.

Fig. 1.

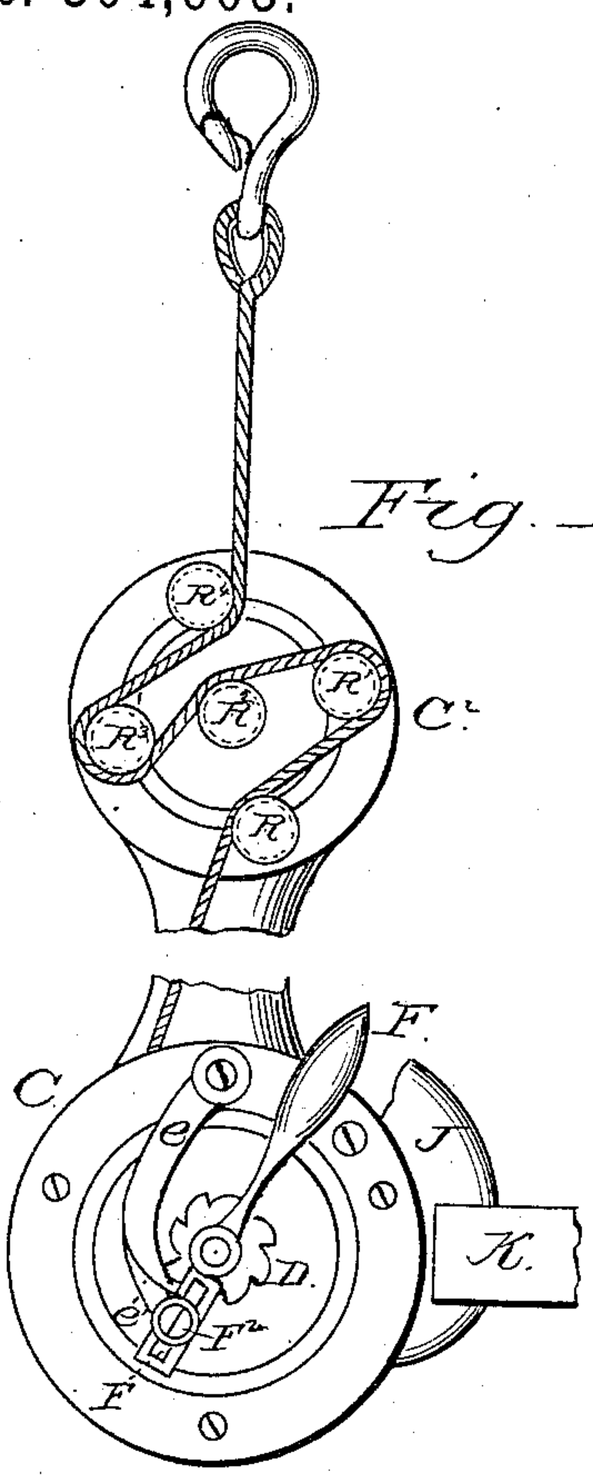


Fig. 2.

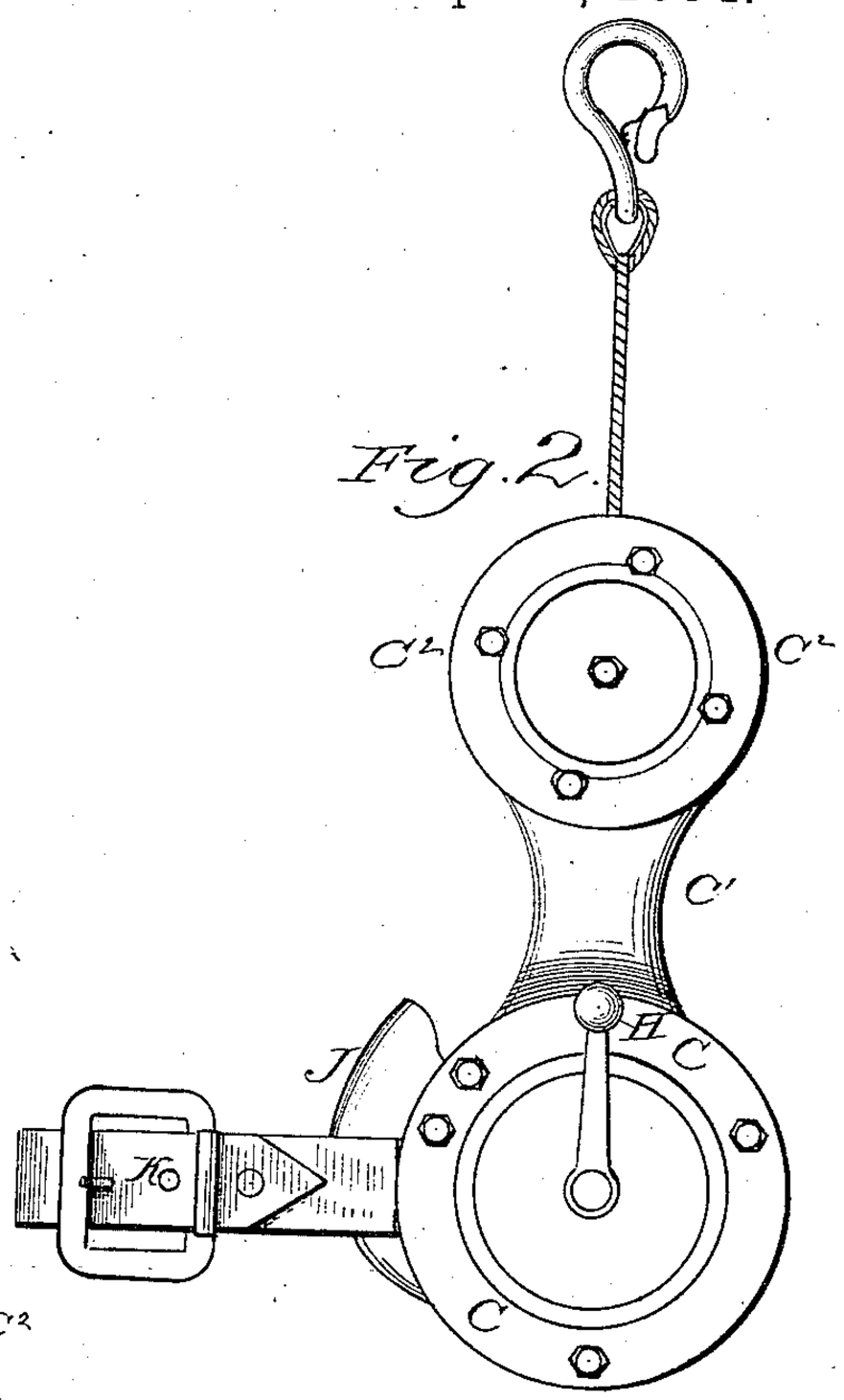
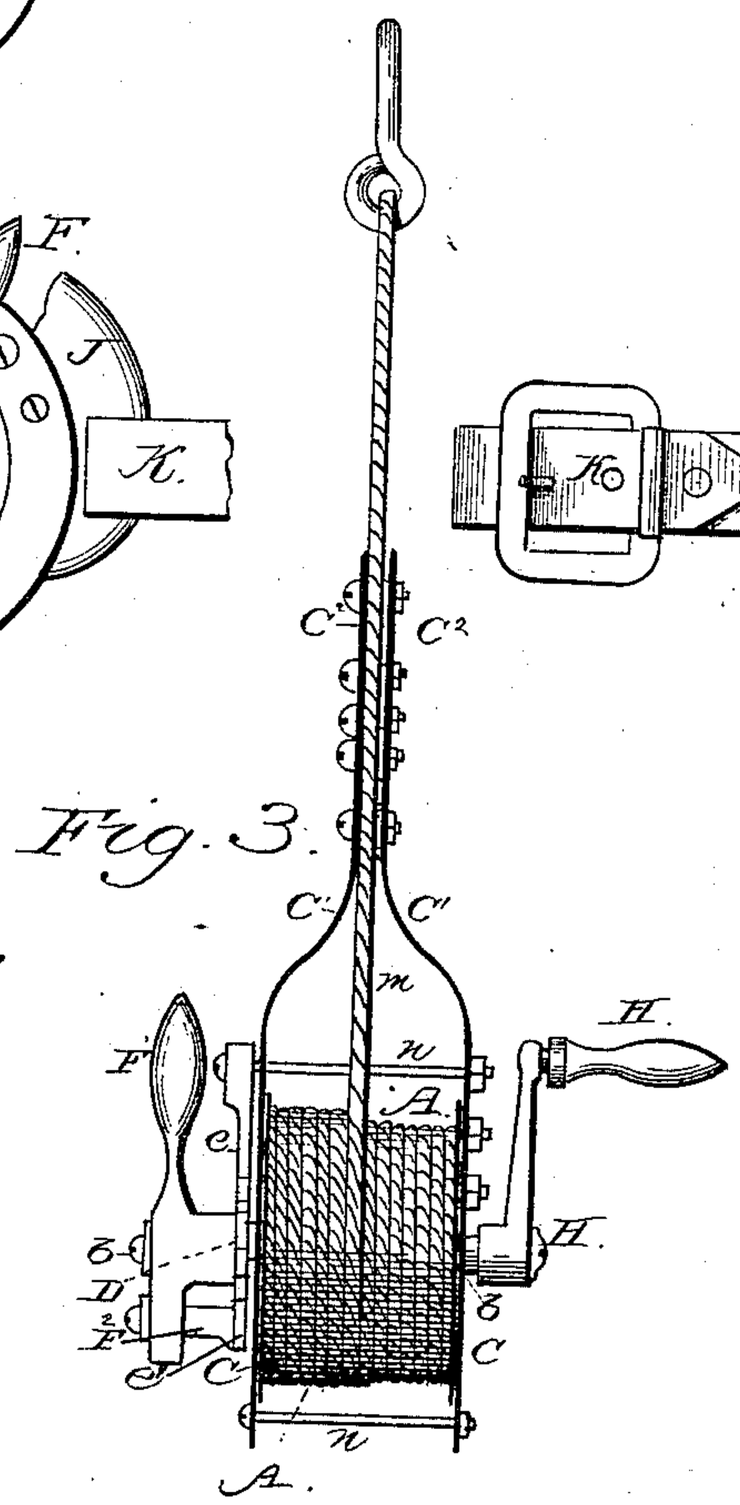


Fig. 3.



WITNESSES:

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SAMUEL BOTT, OF BIRMINGHAM, COUNTY OF WARWICK, ENGLAND, ASSIGNOR TO WILLIAM FIELD, OF SAME PLACE.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 304,603, dated September 2, 1884.

Application filed June 20, 1883. (No model.)

To all whom it may concern.

Be it known that I, SAMUEL BOTT, of Birmingham, in the county of Warwick, England, have invented a new and useful Fire-Escape or Domestic Machine for Saving Life, which will meet the need of the public in its widest sense by placing within the reach of nearly all a small appliance to be kept at the upper portions of dwelling-houses and other buildings, so that the inmates may at very short notice let themselves down from the highest buildings with safety and comparative ease, of which the following is a specification.

One of the first features of my apparatus is the perfect control of the apparatus afforded to the person or persons using the escape while in the act of escaping from fire, and indeed during the whole of the descent from any building.

I will now describe one of my machines or apparatus as adapted for the escape of one, two, or more persons weighing, say, from one hundred to five hundred pounds, though I do not confine myself to any particular weight, as the machine may be made suitable for any weight; but they will vary somewhat in size, according to the height of the building.

The first part of my machine consists in a drum or barrel, A, Figs. 1 and 3, hung upon suitable pivots, *b*, in the side plates C, around which an iron wire, or steel or other rope or cord or connection is wound. The spindle *b* of this drum A projects through the side plates, C, on both sides, the pivot upon the left side being fitted with the ratchet-wheel D, co-operating with the pawl *e*, and handle F, for locking and liberating the drum, as more clearly seen in Fig. 3, left side part elevation. The ratchet D turns with drum A. The pawl *e* is hung at its upper end to one of the pillars *n*, passing through plates C C. The point of pawl *e* normally engages with said ratchet, and locks said drum. Said pawl is provided with an extension, *e'*, which is connected to the operating end of handle or liberating lever F, by means of a stud, F^2, which extends from said part *e'* to a longitudinal slot, F', in said lever. This lever is sleeved upon the spindle of the drum, so that it may turn independently of the latter. A screw and washer prevent said slotted lever from separating from said stud. The slot F' allows sufficient play to prevent binding. When the handle of said lever F is turned down to the right, the other end of said lever operates against said stud to free said pawl from said ratchet and allow the rotation of said drum. The reverse movement of said handle draws said pawl into engagement with said ratchet, thereby locking said drum.

To the spindle *b*, projecting at the right side of the machine, is attached a handle, H, or hand friction wheel or brake, which is controlled by the right hand.

To the front of the drum-case a suitable pad or cushion, J, is attached to protect the body of the person descending from being injured by the edges of plates C, as also the stout body-strap K to the side plates, C, in the most secure manner, as seen in Fig. 2. The drum may have, when desired, a projecting or guard plate partly incasing it, the upper part only being open for the wire or other rope, *m*, to pass freely through. In other cases, I use distance-pillars *n*, to keep the plates C a proper distance apart, of which there may be two, three, or more around the outer circle of the plate C.

A short distance above the drum is a very important portion of my apparatus, which may be connected to the lower portion either by slings or connecting-rods, cranked outward, or the plates C may continue upward sufficiently to form complete sides for the top and bottom, as is the case in the machine illustrated in the accompanying drawings. This upper portion C^2, connected by the neck or cranked portion C' to the lower portion C, is stamped out of one plate for the sake of stability and strength, and carries in this particular case five friction-rollers, R R' R^2 R^3 R^4, as seen more clearly at Fig. 1, where the plate C^2 is removed from one side, thus showing how the wire rope passes upward, bearing upon pulley R, then partly round R' and over R^2, and under and partly round R^3, and out of the upper part C^2 or controller, where the rope is securely fastened to an eye and safety hook or other suitable attachment. These friction-wheels R, in the controller or upper

part are carried on suitable spindles in the side plates C^2, or the cord may be lapped around a plain or grooved barrel several times to act as a controller. These plates may also have distance-bars when necessary to keep the plates firmly a set distance apart.

The working of the machine is as follows: The body-strap K is buckled around the waist with the drum immediately at the front of the body, and the handle H on the right hand. The safety hook or other connection is made fast to a bedstead or to a ring or other fastening fixed near a window for the purpose. One or two other persons may be fixed by supplemental straps to the drum or back of the first-mentioned strap K. The persons wishing to escape slip over the window-sill, keeping the machine by preference toward the building. Immediately the weight comes upon the rope, the pawl upon the left side may be thrown out of the wheel by the handle F, with the left hand, when the person or persons will be lowered with more or less velocity, according to the amount of extra resistance produced over and above the controller C^2 by the handle H or other extra brake or friction arrangement by the right hand of the person upon the machine.

In adapting buildings specially to this machine—such as hotels and other public buildings—small brackets may be placed outside the upper windows convenient to hand, to which the machine may be quickly attached, and thus any projections in the building would be more easily passed in descending.

For the purpose of lightness, the machine and its parts are made of the best and strongest metals.

Having now described my invention, what I claim is—

1. A drum, A, and its cord *m*, in combination with a ratchet-wheel turning with said drum, a pawl adapted to engage and lock said ratchet-wheel, and a liberating lever or handle having a stud-and-slot connection with said pawl, for the purpose set forth.

2. The plates C, the drum A, journaled therein, and a suspension-cord, *m*, in combination with the strap K, for attaching the person to said devices, cushion J, for preventing injury to the person from said plates, and handle H, attached to the spindle of said drum, for the purpose of enabling said person to regulate the speed of his descent, substantially as set forth.

In testimony that I claim the foregoing as my own I affix my signature in the presence of two witnesses.

SAMUEL BOTT.

Witnesses:
FREDERICK HARCOURT BAKER,
GEORGE BARKER.