(No Model.)

R. M. ELLIS.

FIRE ESCAPE.

No. 590,016. Patented Sept. 14, 1897.

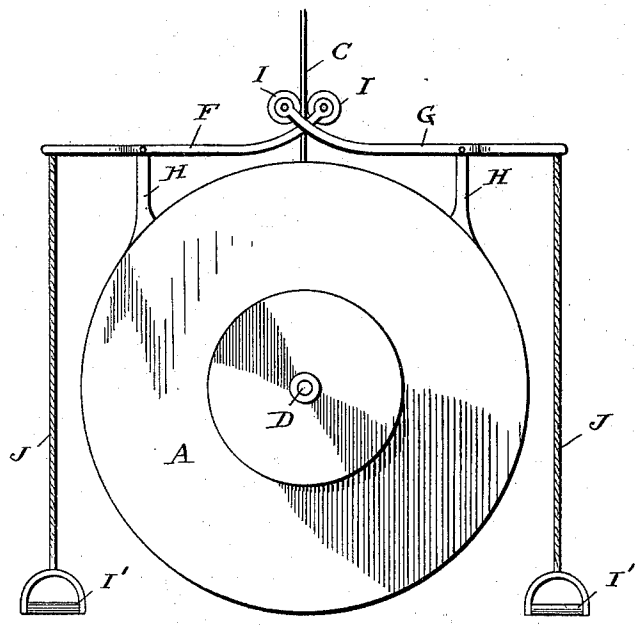


Fig. 1.

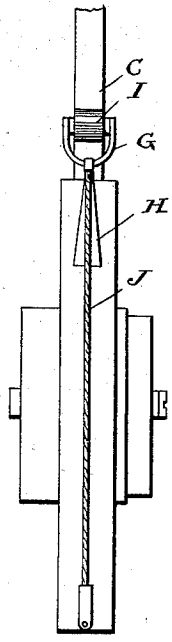


Fig. 2.

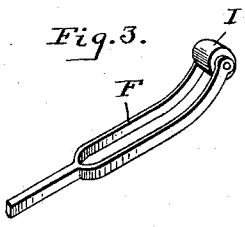


Fig. 3.

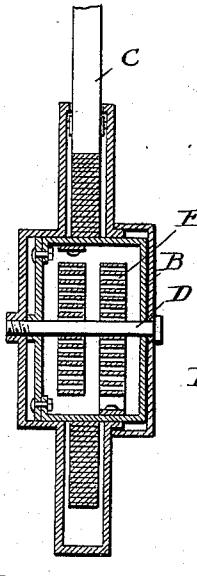


Fig. 5.

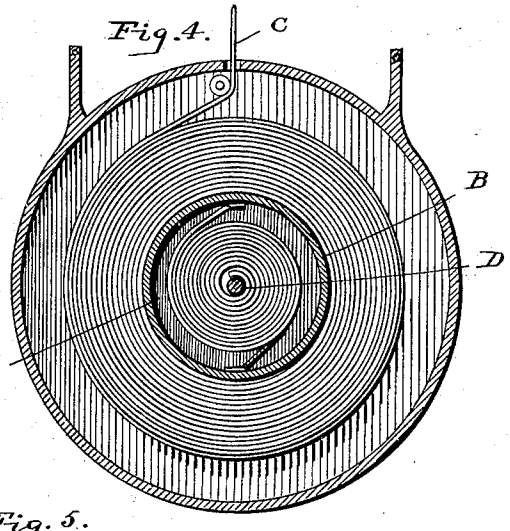


Fig. 4.

Witnesses
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FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 590,016, dated September 14, 1897.

Application filed October 10, 1896. Serial No. 608,491. (No model.)

To all whom it may concern.

Be it known that I, ROBERT M. ELLIS, a subject of the Queen of Great Britain, residing at Nanaimo, British Columbia, Canada, have invented certain new and useful Improvements in Fire-Escapes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to certain new and useful improvements in fire-escapes; and it has for its objects, among others, to provide a simple and cheap light portable fire-escape that can be quickly set up in operative position and by which a person can descend with perfect safety. It is practically an automatic escape, as it is so constructed that while the person is descending the springs are wound up so that as soon as the weight is removed the escape will rise to be used by another person in the building. It is composed of few parts, those readily assembled, not liable to get out of order, and most efficient for the purposes for which it is intended. The same construction may be employed in large stores to lower parcels from one floor to another by simply placing a light table or platform to receive the parcels.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be specifically defined by the appended claims.

The invention in this instance resides in the peculiar combinations and the construction, arrangement, and adaptation of parts, all as more fully hereinafter described, shown in the drawings, and then particularly pointed out in the claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a front elevation of the improved fire-escape. Fig. 2 is an edge view. Fig. 3 is a detail of one of the levers. Fig. 4 is a central section with the levers and their operating mechanism removed and the fulcrums thereof broken away. Fig. 5 is a central section at right angles to Fig. 4.

Like letters of reference indicate like parts throughout the several views.

Referring now to the details of the drawings by letter, A designates the casing, within which is mounted to revolve the drum B, to which is secured one end of a steel ribbon C, which passes through a slit or slot in the casing, and its other end designed to be secured to a window-sill or any other support in the room or on a building.

D is the axis of the drum, and E are two stout steel springs fastened to the said axle and wound in opposite direction to the ribbon, so that as the ribbon is unwound or drawn out by the weight of the person descending the two springs will be wound up, so that when the weight is removed the springs will unwind and carry the escape back to the point from which it is suspended, the ribbon being at the same time wound upon its drum, and the escape thus automatically flies back ready for use again.

In order to prevent too rapid descent, I provide two forked levers F and G, each hinged to a fulcrum H on the casing. Each carries a small pulley or roller I, mounted in the forked end thereof, as shown. The ribbon passes through the forks of both levers and between the rollers thereof, as shown, so that when a weight is applied to the handles I′, that are suspended from the outer ends of the levers by the wires J, it causes the rollers to press on the ribbon directly opposite each other, so that the weight of the person controls the descent, the device being automatic in this regard.

Modifications in detail may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

What is claimed as new is—

1. The combination with the casing and the drum and its axis, of the ribbon wound upon the drum, the springs wound upon the axis in the opposite direction to the ribbon, and the crossed levers pivotally mounted on the casing between their ends and carrying rollers between which the ribbon passes, as set forth.

2. The combination with the casing and the drum and its axis, of the ribbon wound on the drum, the springs wound on the axis in the opposite direction to the ribbon, the levers pivotally mounted on the casing between their ends and carrying rollers, and having their ends crossed and the handles suspended

from the outer ends of said levers, all substantially as shown and described.

3. The fire-escape herein described, comprising the casing, the drum mounted to revolve therein, a ribbon secured at one end to said drum and passed through a slot in the casing, two independent spring-ribbons fastened to the axis of the drum and wound in opposite directions to the first-mentioned ribbon, two independent forked levers fulcrumed upon opposite sides of the axial center of the drum, a roller carried in the forked end of each lever, said levers crossing each other and embracing the main ribbon, wires connected to the outer ends of the levers, and handles on the free ends of said wires, all substantially as herein shown and described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

ROBERT M. ELLIS.

Witnesses:
H. D. R. STEWART,
E. W. FREURE.