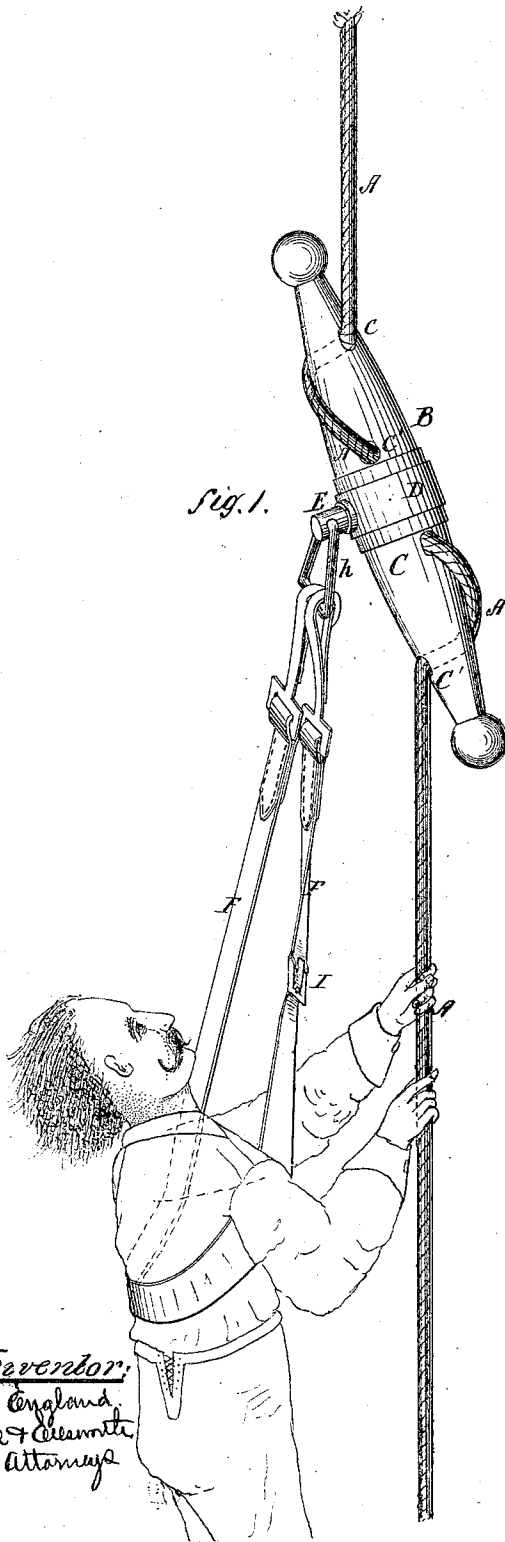
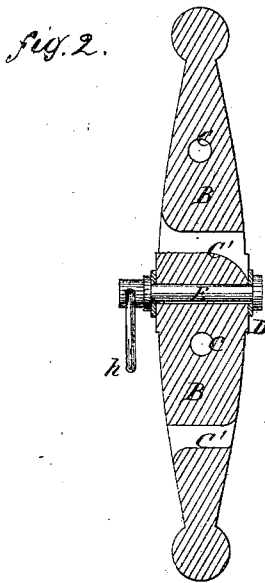


GEORGE A. ENGLAND.

Improvement in Pocket Fire-Escapes.

No. 114,119.

Patented April 25, 1871.



Witnesses:

Victor Hagnamm.  
 J. H. Ellsworth.

Inventor:

Geo. A. England.  
 By Hill & Greenleaf  
 His Attorneys

# United States Patent Office.

GEORGE A. ENGLAND, OF RIPON, WISCONSIN.

Letters Patent No. 114,119, dated April 25, 1871.

## IMPROVEMENT IN POCKET FIRE-ESCAPES.

The Schedule referred to in these Letters Patent and making part of the same.

### *To all whom it may concern:*

Be it known that I, GEORGE A. ENGLAND, of Ripon, county of Fond du Lac and State of Wisconsin, have invented an Improved Pocket Fire-Escape; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 is a perspective view of my fire-escape in position for use, and

Figure 2 is a longitudinal section of the friction-bar.

Similar letters of reference in the accompanying drawing denote corresponding parts.

My invention has for its object to provide an improved fire-escape for the use of travelers and others, which can be packed in an exceedingly small compass and carried in the pocket or in a valise, which is simple and economical in its construction and easily operated by women and children without the possibility of failure or disarrangement of any of its parts; to this end,

My invention consists in a friction-bar adapted to slide upon the rope which forms the medium of communication between the building and the ground, said bar being provided with a series of transverse holes to change the direction of the rope and increase the friction, and with a central support to receive the body or person to be lowered, and at the same time to adapt the friction-bar for reversal upon the rope, as will be hereinafter more fully described.

In the accompanying drawing—

A is the rope, of sufficient length to reach from the highest story of a hotel or other building, and of sufficient size to support a weight of several hundred pounds.

B is the friction-bar, made cylindrical in shape and either tapering from the center toward each end or made of equal diameter. This bar I design to make of wood, about ten inches in length, although metal may be employed. I prefer the use of wood, however, on account of its lightness.

C C' are holes passing through the bar at right angles, or nearly so, to its axis and to each other, and so arranged that two, C and C', shall be on each side of the center. Through these holes the rope A is passed from side to side, as clearly shown in fig. 1, entering at one end, C, and passing out at the opposite end, C'.

At the extremities of the holes the bar is recessed, beveled, or grooved in the line of direction of the rope, to prevent the latter from being cut or abraded when the friction-bar is sliding upon it, and also to form guides for the rope between the holes.

Around the center of the bar a ferrule, D, is secured, being held in place by the transverse bolt E,

which bolt also forms the point of suspension for the person or body to be lowered from a building.

F is a strap, attached at each end by snap-hooks *g* or other suitable means to a loose ring, *h*, affixed to the end of the bolt so as to form a loop or bight, as shown in fig. 1.

The operation is as follows:

The upper end of the rope is secured to any suitable object within the room from which it is desired to escape, and the opposite end is passed out of the window.

The strap F is now passed under the arms of the person, his whole weight being suspended from the center of the friction-bar, as previously mentioned.

The rope is then grasped and the latter allowed to move downward.

Owing to the abrupt change in the direction of the rope through the bar the friction upon it is so great as to prevent the bar and its weight from falling too rapidly, or rather to avoid the necessity of grasping the rope with sufficient force to balance or nearly balance the weight of the body.

The rope is only grasped in order to guide the descent, and not specially to counterbalance the weight upon the friction-bar.

By suspending the weight from the center of the friction-bar the latter is adapted for reversal, and operates with equal effect from either end of the rope. To facilitate this the bolt E is swiveled in its bearings.

The special advantage of this adaptation for reversal is to permit the escape of several persons from the same room; for example, one having passed to the ground the friction-bar is necessarily at the lower end of the rope; instead, therefore, of slipping or pulling the bar back upon the rope, which would become necessary if the point of suspension were at the ends of the bar, the rope is pulled up and reversed, as will be readily understood.

Instead of using a short ferrule, D, upon the bar B, a cylindrical case of any suitable material may be placed over the whole or part only of the bar, provision of course being made for the passage of the rope.

If desired, also, the suspension-bolt may be replaced by the waist-strap passing around the center of the bar in any convenient manner.

The waist-strap may also be provided with a buckle, I, to facilitate its removal from the body when supporting the weight of the latter near the ground. Or the snap-hooks may be dispensed with and the buckle only employed. In the latter case the strap would be made in one piece.

One of the great advantages resulting from the peculiar construction of the friction-bar and the arrangement of the holes therein as described is that the rope

is held in close contact with the bar at all times, whether the apparatus is in use or not, so that no slack or loop in the rope between the extremities of the bar is possible. It cannot, therefore, slip out of its proper bed or become disarranged or entangled in any way, but is always in order and always ready for instant use.

Were the rope passed around the bar in a spiral groove or other equivalent manner this result would not be attained; but whenever it became slack it would get out of the groove, and the apparatus would not only become inoperative but exceedingly dangerous.

By passing the rope through the bar so that the whole or parts of it along the line of contact shall be covered and confined in place all these dangers are entirely obviated.

The covering may be extended from end to end of the bar by inclosing the latter in a tube or envelope of metal, wood, or textile fabric, inside of which the rope passes along the bar and through the holes, as described.

Having thus described my invention,

What I claim as new therein, and desire to secure by Letters Patent, is—

The friction-bar B, having a rope passing through it in the manner shown, in combination with a strap or equivalent device attached at the center, as set forth.

GEO. A. ENGLAND.

Witnesses:

N. K. ELLSWORTH,  
E. A. ELLSWORTH.