

(No Model.)

J. B. ROBERTSON.

FIRE-ESCAPE AND SELF PRESERVER.

No. 291,940.

Patented Jan. 15, 1884.

Fig. 1.

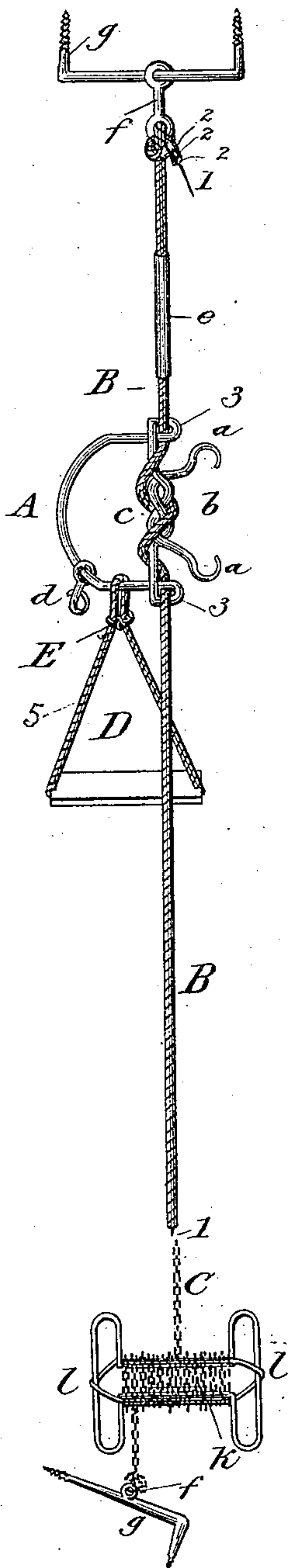


Fig. 2.

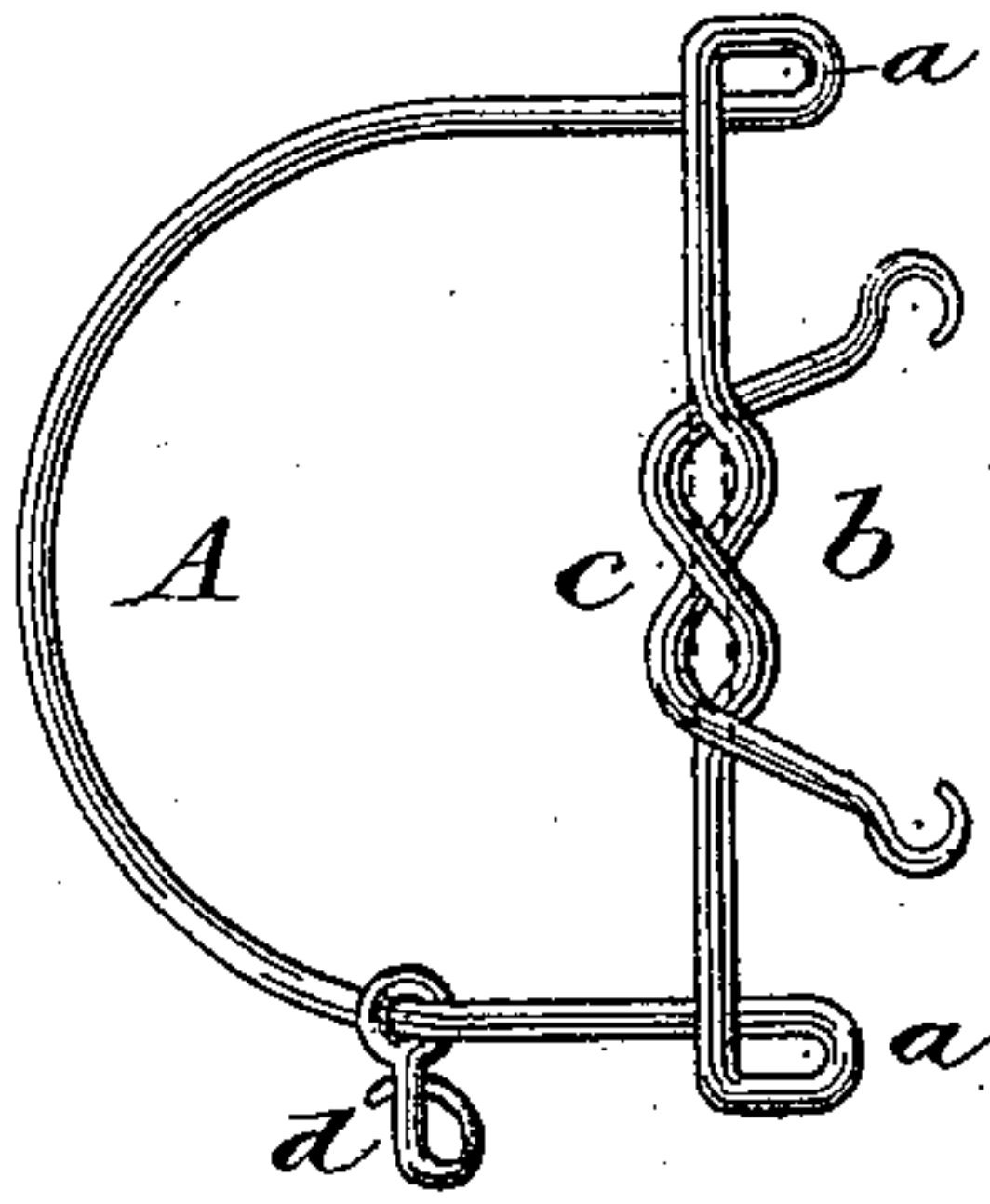


Fig. 5.

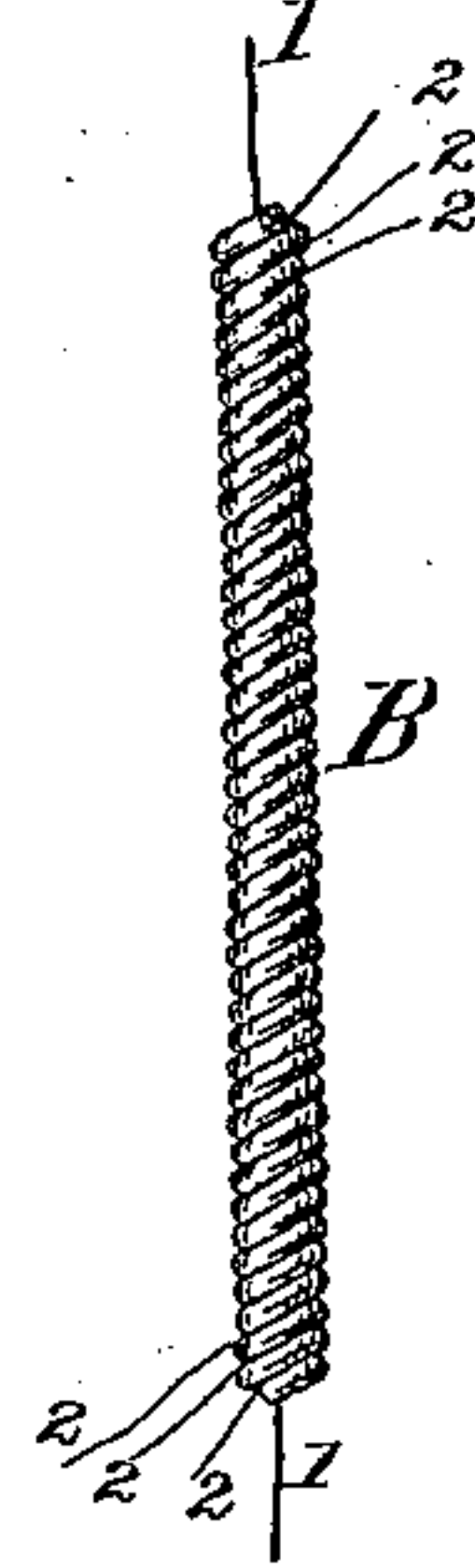


Fig. 3.

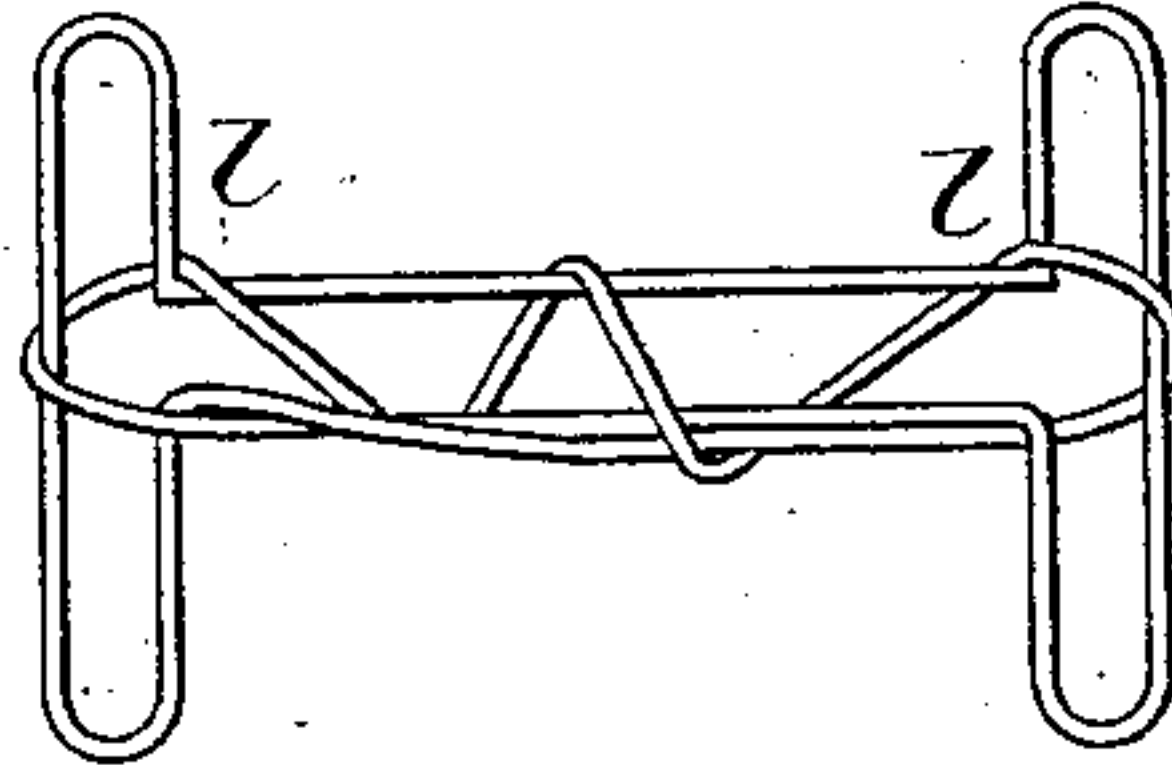


Fig. 6.

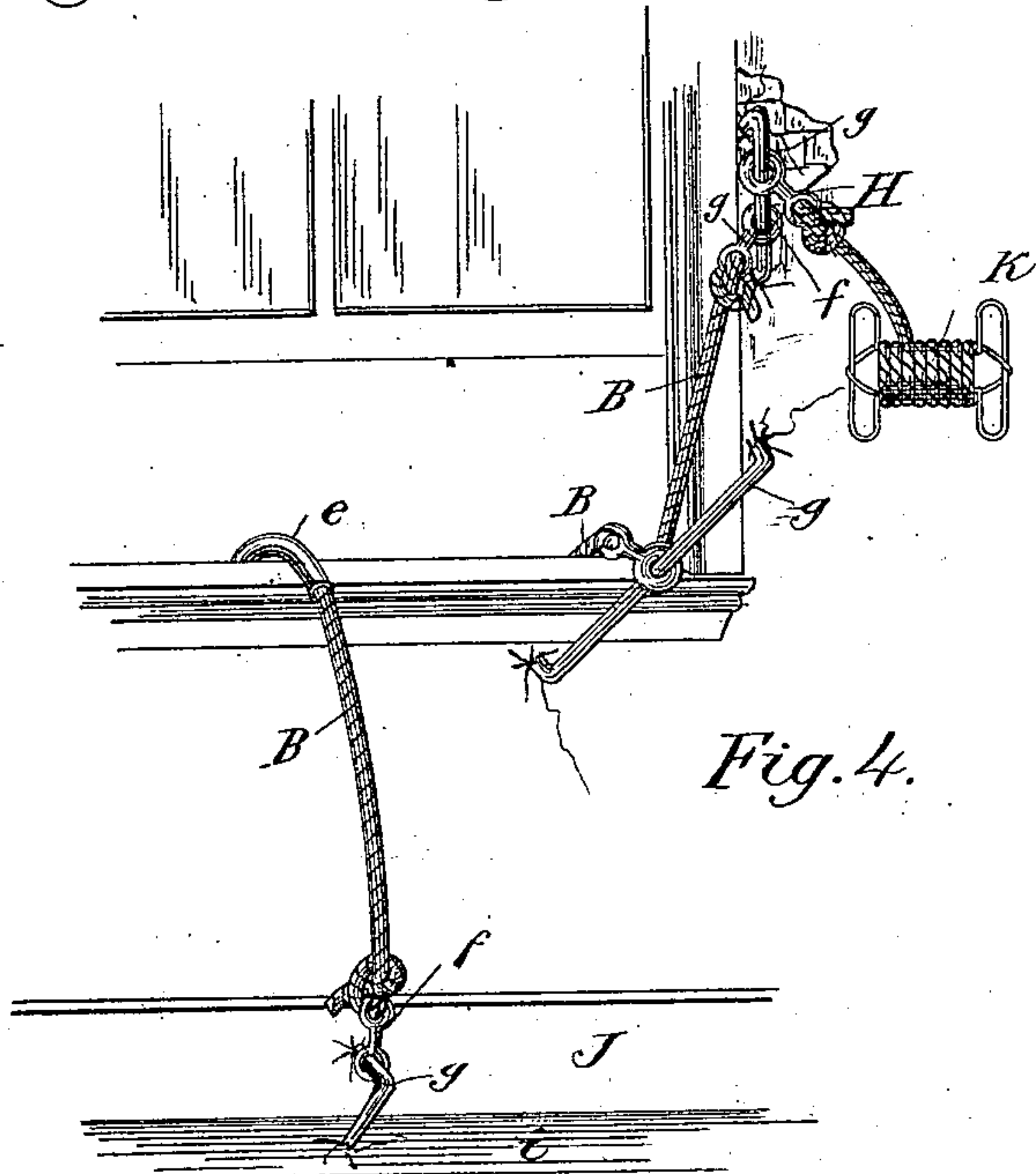


Fig. 4.

Witnesses:  
Henry D. Darrow.

Inventor.

James B. Robertson



# UNITED STATES PATENT OFFICE.

JAMES B. ROBERTSON, OF KINGSTON, NEW YORK.

## FIRE-ESCAPE AND SELF-PRESERVER.

SPECIFICATION forming part of Letters Patent No. 291,940, dated January 15, 1884.

Application filed September 19, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES B. ROBERTSON, a citizen of the United States, residing at Kingston, in the county of Ulster and State of New York, have invented a new and useful Fire-Escape and Self-Preserver; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

The object of my invention is to afford persons and property a safe, simple, and portable escape from buildings on fire, and also to prevent mechanics from injuring themselves by falling while constructing or repairing buildings.

The nature of my invention consists in one or more turns of a single rope or wire or chain round an iron descender or frame, to regulate or check the descent of persons or things safely to the ground. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a vertical representation of the entire machine; Fig. 2, a vertical view of the twisted descender or frame made of one piece of Ulster round iron, with coiled hook attached; Fig. 3, a face view of reel for rope; Fig. 4, a view of the mode of securing the rope at the window-frame with staples; Fig. 5, a view of Manila rope with core and worming of wire; Fig. 6, a top view of sliding double eyelet or loop formed of one piece of wire.

Similar letters refer to similar parts throughout the several views.

In Fig. 1 the D-shaped or any other suitable shaped round-iron descender or frame A, the loops *a a*, and the cleat *b*, formed by the bent ends and knotted part *c*, with hook *d*, constitute the movable frame, around which the rope B B, with or without wire core 1, or wire worming 2 2 2, or chain C, after being rove through one of the loops *a a* and passed around the knotted part *c* one or more times is then rove through the other loop *a*. The braided sling D, with or without seat 4 and web-lashing 5, the double eyelet or loop E, through which the sling is rove, and which slides upon

it, the leather covering *e*, placed near ends of rope and on which it can be slid, the hooks *f f*, attached by bowline knot to the rope, and with the staples *g g*, constitute the whole machine by which the descent is made.

The frame or descender A in Figs. 1 and 2 may be made of any sufficiently strong metal. I prefer No. 1 round Ulster iron bent, either hot or cold, into different shapes, as may be required for the work intended, with or without the cleat *b*, which is not necessary when merely escaping from a burning building, and which is very necessary for a mechanic working at a dangerous height about a building.

The dotted line in Fig. 2 shows the form without the cleat, which may be welded or soldered or not at the crossings of the loops *a a* and knot or turns *c*, as desired for light or heavy duty. I prefer bending the iron cold, by which the original strength and smoothness of the iron are retained. The twisted or knotted part *c* in Figs. 1 and 2, while sufficiently securing the frame, also forms a rigid, smooth, round surface for the rope to rub against, leaving considerable space between the connected parts of the rope and the iron to admit the air to pass through, thereby avoiding in a great degree the attending heat caused by the friction of heavy or rapid descending.

The core 1 and worming 2 2 2, Figs. 1 and 5, may be made of copper, brass, or iron wire. I prefer annealed galvanized-iron wire inlaid when or after the rope is made, the wire to be fine enough to bend easily with the rope, and strong enough to sustain a person even if the rope should be consumed by fire.

The chain C in Fig. 1, made of welded links, is well known to resist fire, the whole being comparatively fire-proof.

The wire-reel, Fig. 3, holds the rope which is wound, commencing with the loose end of rope, and unwinds itself when thrown from the window.

The iron hook *d*, in Figs. 1 and 2, is made of the same iron as the frame, and is used for hooking tools or other things, either while a person is in the sling D, Fig. 1, or to lower them alone.

The manner of using the machine is as fol-



lows: Hook the rope B, Fig. 4, to one of the staples, *g*, driven into the wall between the bricks H, (inside or outside of building,) or into the floor *i* and base-board J, or at corner of window-frame, as shown, or any other secure place. Then pass the sling D, Fig. 1, over the head, then under the arms. Or, sit in the seat 4 and slip the wire, sliding loop E, Fig. 1, down to secure you in the sling. Throw the reel with the rope B, Fig. 1, to the ground, which unwinds as it falls. Then take the frame A in left hand and the rope B below the loop *a* in right hand, and get out of the window feet downward. Then let the rope render through the right hand, fast or slow, as you please. It can be stopped anywhere in the descent by a little strain on the rope B; or secure it by a turn or two of the rope around the cleat *b*. To reach the ground, loose the rope from cleat and lower away to the ground, as above described.

In order for another person to lower himself, it is not necessary to overhaul the rope through the frame, but only to haul the rope up and get hold of the other snap-hook, *f*, Fig. 1, and reverse the frame, which works both ways, and proceed as before described.

A person on the ground may lower a person or article by having it secured in the sling D or hook *d*, Fig. 1, and sliding the loop E down tight, and keeping a strain on the rope B sufficient to keep them clear of the building and let them descend.

A person in the building may lower another

by hooking the hook *d*, Fig. 1, to the staple *g*, Fig. 4, at the window-frame, then hooking the rope B to its own part round the thing or person to be lowered, and slack the rope through the descender A.

The whole machine, when reeled up, may be compactly kept indoors from the damaging effect of the weather, not much in any person's way, and always ready in case of fire, as shown at K, Fig. 4.

I am aware that prior to my invention fire-escapes have been made with rope by a turn round a horizontal iron cylinder. I therefore do not claim as my invention such a combination, broadly; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. The frame or descender A, having loops *a a*, and twists or knots *c*, cleat *b*, and hook *d* attached.

2. The wire-reel *l*, Fig. 3.

3. The combination, in a fire-escape and self-preserver, of the wire core 1, wire worming 2 2 2, and the Manila rope B with the iron frame or descender A and braided rope-sling D, braided lashing, and wire loops E, all substantially as set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JAMES B. ROBERTSON.

Witnesses:

JACOB D. MILLS,

MARTIN S. DECKER.