No. 696,149. Patented Mar. 25, 1902.

J. W. SCHUMACHER.

FIRE ESCAPE.

(Application filed July 1, 1901.)

(No Model.)

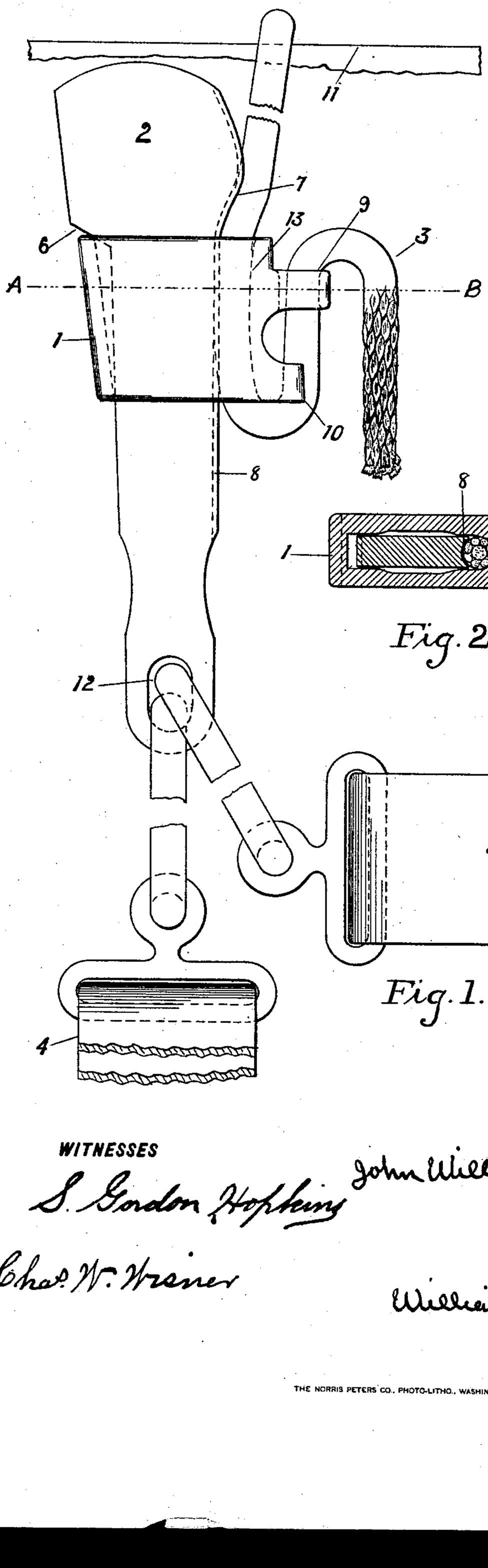

Fig. 1.

Fig. 2.

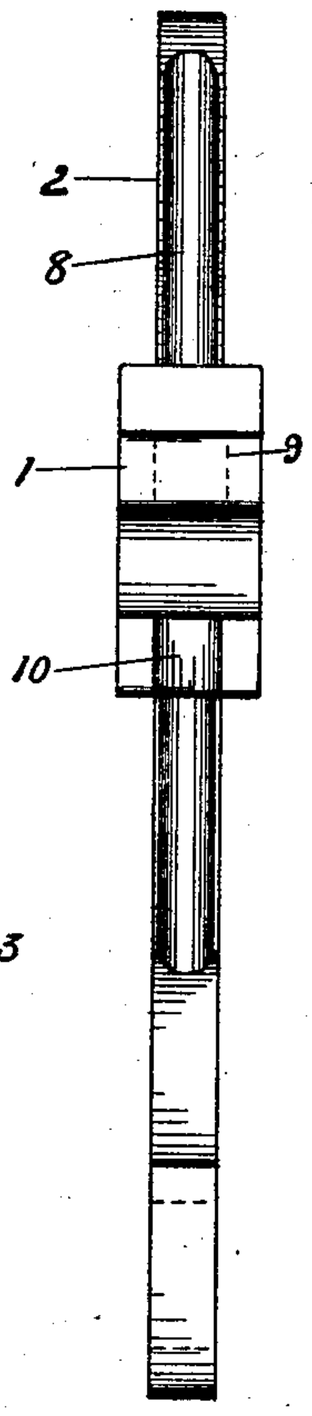

Fig. 3.

WITNESSES

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JOHN WILLIAM SCHUMACHER, OF BALTIMORE, MARYLAND.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 696,149, dated March 25, 1902.

Application filed July 1, 1901. Serial No. 66,713. (No model.)

To all whom it may concern:

Be it known that I, JOHN WILLIAM SCHUMACHER, a citizen of the United States, residing at Baltimore city, in the State of Maryland, have invented a new and useful Fire-Escape, of which the following is a specification.

My invention relates to improvements in fire-escapes of the portable gripping kind; and the objects of my improvement are, first, the construction of a simple light gripping device for use in sliding down a rope or some similar carrier; second, the construction of a gripping device which is not liable to become stuck in operating; third, a gripping device automatic in its action, so that the greater the weight the greater the grip, and, fourth, means for controlling the grip independent of and in conjunction with the automatic feature. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a view in elevation, showing my invention with a short section of rope inserted therein and a portion of the body and foot straps shown. Fig. 2 is a sectional view taken through A B of Fig. 1; and Fig. 3 is a view taken at right angles to that shown in Fig. 1, the rope and straps being omitted.

Similar numerals refer to similar parts throughout the several views.

1 is the grip-block.

2 is the grip-wedge.

3 is the life-rope.

4 is the foot-strap.

5 is the body-strap.

6 is a gripping-incline.

7 is an easing-incline.

8 is a groove in the edge of the wedge to fit the life-rope.

9 is a reeving-eye.

10 is a reeving-groove.

11 is the edge of securings for the life-line, such as a window-sill or the like.

12 is an eye in the lower end of wedge 2, in which are secured the foot and body straps.

13 is a grip-surface in grip-block 1.

The operation of my invention is as follows: A suitable rope by one end is secured at the point from which escape is desired, the rope being sufficiently long to reach the point desired to be reached. This rope may be made of cotton, asbestos, metal, or any other suitable material and is rove through grip-block 1, bearing against grip-surface 13, reeving-groove 10, up through reeving-eye 9, and allowed to fall where desired. Grip-wedge is inserted, groove 8 bearing against life-rope 3. In eye 12 is secured body-strap 5, to go around the person under the arm, and foot-strap 4, in which the feet or legs may be inserted. These two straps take substantially all the weight of the person. Gripping-incline 6 as the weight is brought onto grip-wedge 2 tends to throw groove 8 against grip-surface 13, thereby gripping the rope which may be between the two. Easing-incline 7 is a hump on wedge 2, throwing life-line 3 slightly out of a right line as the rope is brought taut, which tends to throw groove 8 away from grip-surface 13, thus easing the rope. Gripping-incline 6 and easing-incline 7 are so designed that with a light or a heavy load supported at eye 12 rope 3 will run with a slow and uniform speed through the grip-block. If the rope runs too fast through grip-block 1, it may be checked by lightly holding onto the lower end of the rope at some point before it enters reeving-eye 9.

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

1. In a gripping device, grip-block 1 having grip-surface 13, reeving-eye 9 and reeving-groove 10, over and through which a life-line may be rove, gripping-wedge 2 having means for attaching a load to the lower end thereof, also having gripping-incline 6, easing-incline 7 and groove 8, all in combination and substantially as described.

2. A gripping device, consisting of a wedge, on one side of which is a surface tending to force the said wedge against a flexible carrier, and on the other side of which is a surface upon which the flexible carrier acts tending to throw the said wedge away from the said carrier, means for securing a load in such a manner as tending to drive the said wedge home, and a block in which said wedge operates and, having two surfaces against one of which the said flexible carrier is placed, the wedge acting against the other surface and against the said carrier tending to grip the same.

3. A gripping device, consisting of a wedge, on one side of which is a surface tending to

force the said wedge against a flexible carrier, means for securing a load in such a manner as tending to drive the said wedge home, and a block in which said wedge operates and, having two surfaces against one of which the said flexible carrier is placed, the wedge acting against the other surface and against the said carrier tending to grip the same.

4. In a gripping fire-escape, in combination, a life-line, a gripping-block, a gripping-wedge operated to grip the said life-line when weight is brought on said wedge, with a circuitous reeve of said life-line, whereby additional retarding force may be had by adding tension to the loose end of said life-line.

JOHN WILLIAM SCHUMACHER.

Witnesses:
WILLIAM W. VARNEY,
S. GORDON HOPKINS.