(No Model.)

P. S. SCOVEL.

FIRE ESCAPE.

No. 262,837. Patented Aug. 15, 1882.

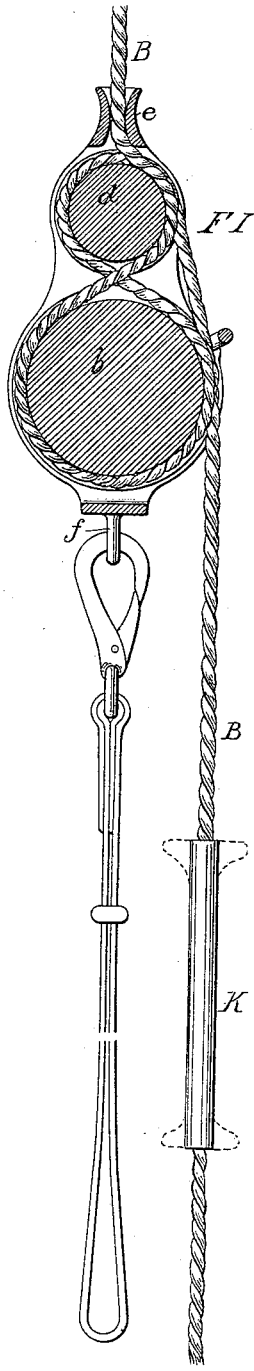

FIG. 2.

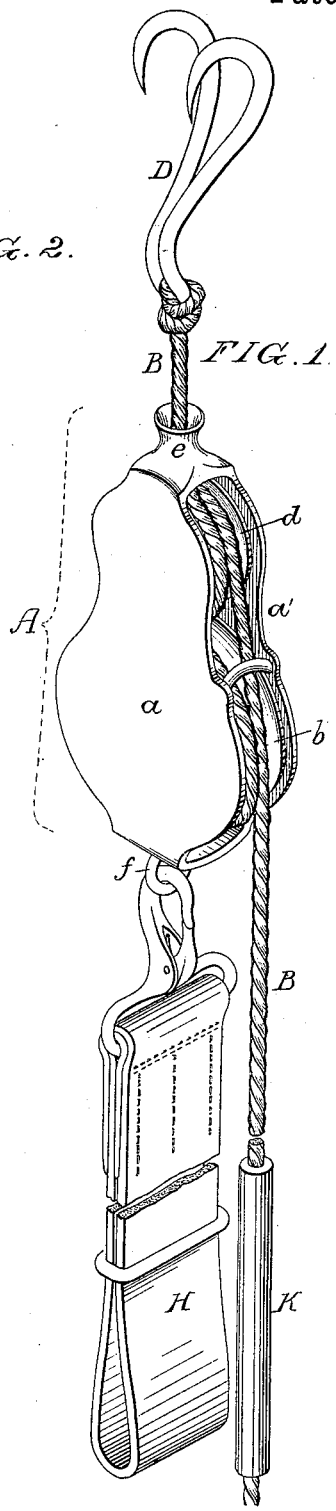

FIG. 1.

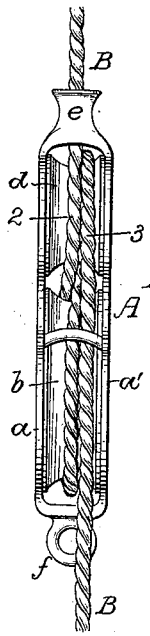

FIG. 3.

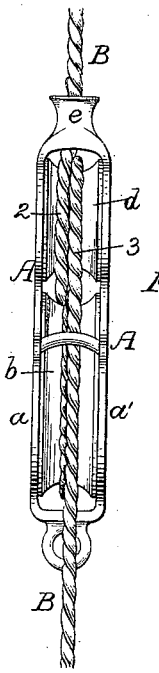

FIG. 4.

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UNITED STATES PATENT OFFICE.

PHILIP S. SCOVEL, OF BORDENTOWN, NEW JERSEY.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 262,837, dated August 15, 1882.

Application filed February 28, 1882. (No model.)

To all whom it may concern:

Be it known that I, PHILIP S. SCOVEL, a citizen of the United States, and a resident of Bordentown, Burlington county, New Jersey, have invented an Improvement in Fire-Escapes, of which the following is a specification.

My invention consists of a fire-escape device constructed in the manner described hereinafter, with the view of giving the person escaping full control of his descent, the device, moreover, being of such a character that it can be readily carried about from place to place in an ordinary valise.

In the accompanying drawings, Figure 1 is a perspective view of my improved fire-escape; Fig. 2, a vertical section; and Figs. 3 and 4, end views, illustrating different conditions of the rope under different circumstances.

Between opposite side plates, *a a'*, of a frame, A, are permanently secured the two circular rope-guides *b* and *d*, each having a concave periphery, the frame terminating at the top in a projection, *e*, having a central outlet-opening, which is made flaring, both above and below, for the free passage of the rope or strong cord B, to the upper end of which is attached a grappling-hook, D, the lower end of the frame being provided with an eye, *f*, to which a strap, H, is suspended.

As neither the grappling-hook nor the strap constitutes a part of my invention, it will suffice to remark that the former should be suitably constructed for ready attachment to a window-sill or any available fixed object near a window, and that the strap should be so constructed as to be readily fitted or bound to the body of the person whose safety depends upon the use of the fire-escape.

The rope B passes through the opening of the projection *e* of the frame, partly round the rope-guide *d*, thence round the rope-guide *b*, over the guide *d*, and downward, sufficient length of rope hanging loose below the suspended frame.

The rapidity of descent of the person using the above-described device will depend upon his own control of the rope or that of some person on the ground below. If the rope be permitted to hang loose and free from all control, the descent may be too rapid and dangerous, especially if the load be heavy; but if there be a comparatively slight downward pull on the portion of the rope which is hanging down it will be so tightened on the guides and there will consequently be such friction that the descent of the escaping person will be retarded. Retarding-friction will also be derived from another source, for it will be seen that the concave peripheries of the circular rope-guides are much wider than the ropes. When the rope is hanging loose and uncontrolled the portion 2, Fig. 3, of the rope which is bearing against the guide *d*, being under tension, will seek that portion of the guide which is smallest in diameter, and will guide the loose rope 3 out of the way; but if there be a downward pull on the loose rope it also will seek that part of the guide which is smallest in diameter, and both portions of the rope having a tendency to crowd together, as in Fig. 4, there must necessarily be such friction of one part of the rope against the other, where they are in contact with the upper guide, that the descent of the load must be retarded.

The object of making the concave peripheries of the two guides much wider than the thickness of the two ropes will be rendered apparent by the foregoing description.

K is a tube of rubber or other elastic or compressible material, the opening through the tube being large enough to permit the rope to pass freely through it, so long as the tube is not compressed; but when the person escaping desires to control the pendent rope he has simply to squeeze the tube with his hands or relieve it from pressure as circumstances may suggest, the tube thus affording a medium for controlling the rope which would otherwise abrade the hands.

It will be seen that the device, including the grappling-hook, rope, and strap, can be packed in very small compass.

The object of making the lower guide of large diameter is partly to prevent the entanglement of the pendent rope with the devices by which the strap is connected to the frame and partly to make the lower part of the device the heaviest.

I claim as my invention—

1. The combination of the two rope-guides *b d*, located one above the other, and both having concave peripheries, the frame A, having a central tubular projection or eye, *e*, and the rope B, rove around the guides *b d*, as described, whereby when the pendent portion of the rope is subjected to tension a lateral crowding of one part of the rope against the other is the result, as set forth.

2. The combination of the frame A, having a central tubular projection or eye, *e*, the two concave rope-guides *b d*, located one above the other, the diameter of the lower guide being greater than that of the upper guide, and the rope B, rove around the guides, as set forth.

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

PHILIP S. SCOVEL.

Witnesses:
HARRY DRURY,
HARRY SMITH.