(No Model.)

F. LANDENBERGER.

FIRE ESCAPE.

No. 584,376. Patented June 15, 1897.

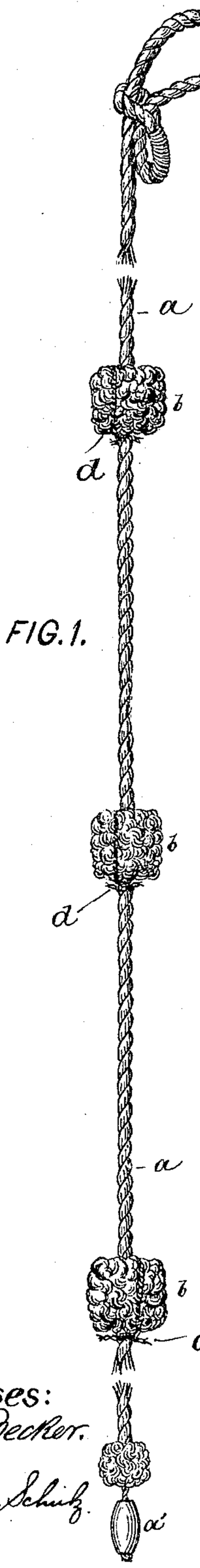

FIG. 1.

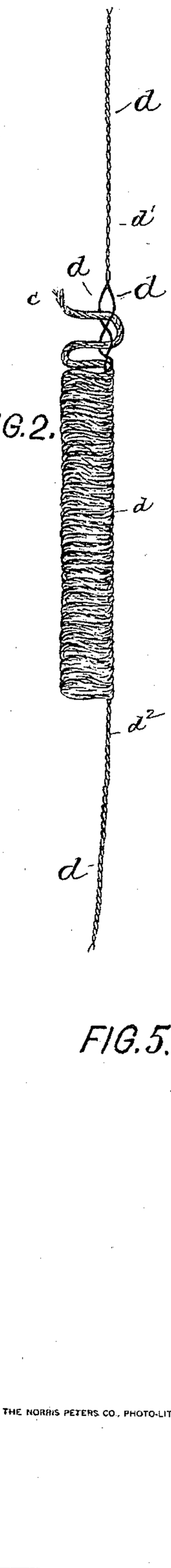

FIG. 2.

FIG. 3.

FIG. 4.

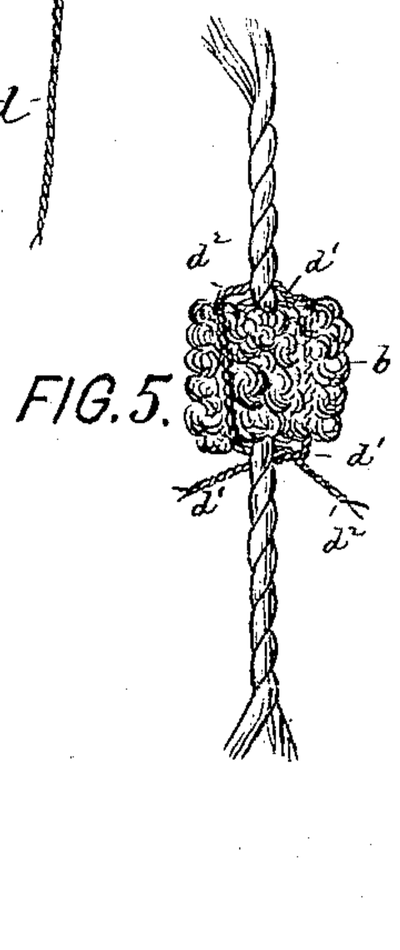

FIG. 5.

Witnesses:
John Becker.
William Schulz.

Inventor:
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by his attorneys
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UNITED STATES PATENT OFFICE.

FRITZ LANDENBERGER, OF NEW YORK, N. Y.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 584,376, dated June 15, 1897.

Application filed March 16, 1897. Serial No. 627,858. (No model.)

To all whom it may concern:

Be it known that I, FRITZ LANDENBERGER, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Fire-Escapes, of which the following is a specification.

This invention relates to a fire-escape consisting of a rope which is provided at intervals with balls or protuberances of peculiar construction that are firmly secured to the rope and insure a safe hold for the hands and feet of the descending person.

In the accompanying drawings, Figure 1 is a side view of my improved fire-escape. Fig. 2 is a detail side view of one of the looped strips before it is coiled around the rope. Figs. 3, 4, and 5 show successive stages of attaching the strip to the rope.

The letter *a* represents a rope, which is preferably looped at its upper end, so as to be readily attached to a support, and is weighted at its lower end, as at *a'*, to hang taut.

At proper intervals there are secured to the rope *a* balls *b*, of peculiar construction, which offer a firm hold for the hands and feet and are at the same time not liable to cut or otherwise injure the hands during a rapid descent.

In constructing the balls *b* I first form a looped strip consisting of a soft cord *c*, which is folded upon itself in the manner indicated in Fig. 2. Along one edge the loops are connected by a pair of intertwisted wires *d*, that project beyond the ends of the strip and thus constitute means for binding the loops together and also for tying the looped strip to rope *a*. At the free edge the looped strip is left uncut, so that a firm hold may be obtained.

To attach the looped strip to the rope, one of the free ends *d'* of compound wire *d* is forced through the strands of the rope and is bent up along the rope, Fig. 3. The looped strip is then coiled around the rope and also around end *d'*. Above the coil both ends *d' d²* are passed through the strands in opposite directions, Fig. 4, and then the ends are bent downward to become embedded within the sides of ball *b* at diametrically opposite points, Fig. 5. Finally the ends *d' d²* are again passed through the strands beneath the ball and are intertwisted. In this way the looped strips are formed into soft balls, which are secured to the rope in a very durable manner. These balls constitute reliable rests for the hands and feet of persons descending hand over hand and at the same time will not cut the hands during a rapid sliding descent.

If desired, the rope and balls may be rendered fireproof by being treated with a suitable fireproof solution.

What I claim is—

1. A fire-escape consisting of a rope, and of a series of coiled strips attached thereto, each strip being composed of a looped uncut cord, and a pair of intertwisted binding-wires that connect the loops along one edge and have projecting binding ends, by which the strip is attached to the rope, substantially as specified.

2. A fire-escape consisting of a rope, a series of looped strips coiled around the rope, and binding-wires that are passed through the rope above and below the strips, and are sunk into the sides of said strips, substantially as specified.

Signed at New York, in the county of New York and State of New York, this 12th day of March, A. D. 1897.

FRITZ LANDENBERGER.

Witnesses:

WILLIAM SCHULZ,

F. v. BRIESEN.