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(No Model.)

W. L. McCANDLISS.

FIRE ESCAPE.

No. 290,254. Patented Dec. 18, 1883.

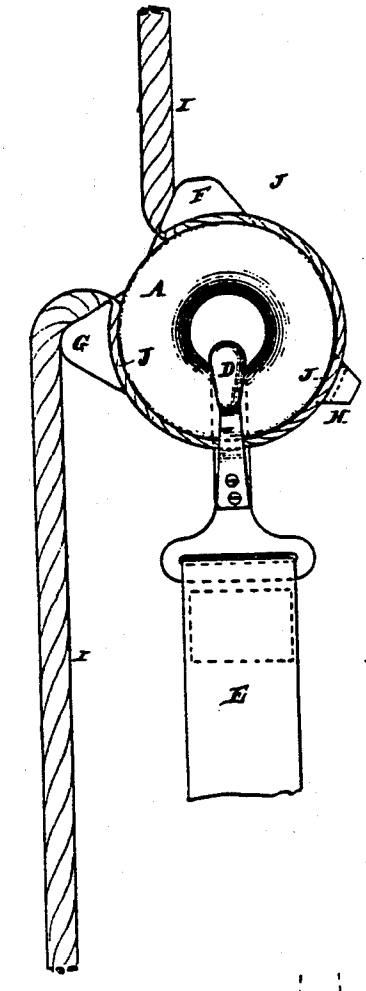

Fig. 1

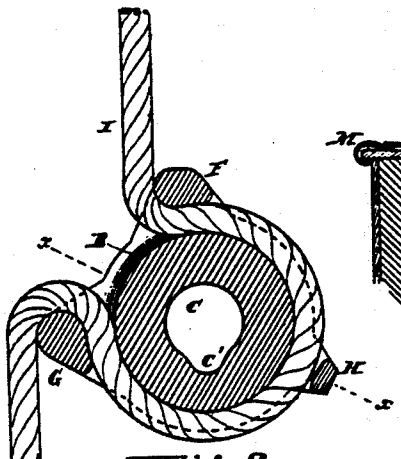

Fig. 2

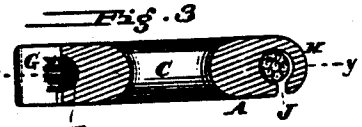

Fig. 3

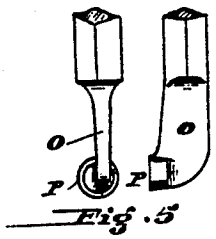

Fig. 5

Fig. 4

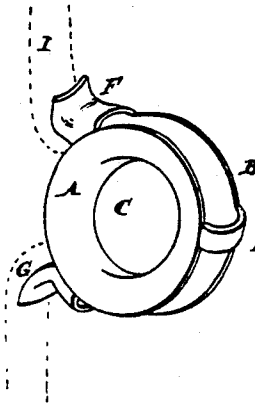

Fig. 6

Attest
William McMaster
L. J. Maier

Inventor
William L. McCandliss
By his atty
[signature]

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UNITED STATES PATENT OFFICE.

WILLIAM L. McCANDLISS, OF PHILADELPHIA, PENNSYLVANIA.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 290,254, dated December 18, 1883.

Application filed September 26, 1883. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM L. McCANDLISS, of the city of Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented an Improvement in Fire-Escapes, of which the following is a specification.

My invention has reference to fire-escapes of the portable kind; and it consists in certain improvements in apparatus for creating a friction upon a rope down which the occupant of the building desiring to escape slides, and details of construction, all of which are fully set forth in the following specification, and shown in the accompanying drawings, which form part thereof.

The object of my invention is to provide a suitable fire-escape having great portability by having a minimum weight with a maximum strength; also, to simplify the arrangement of the rope and enable the same to be more readily reset for the descent of the next occupant. These advantageous features indicate a minimum cost of manufacture.

In the drawings, Figure 1 is a side elevation of the friction-creating device of my improved fire-escape. Fig. 2 is a sectional elevation of same on line *y y* of Fig. 3. Fig. 3 is a cross-section of same on line *x x* of Fig. 2. Fig. 4 is a general view, showing my improved fire-escape in operation. Fig. 5 shows elevations of the tool adapted to smooth out the circumferential groove on the friction-ring; and Fig. 6 is a perspective view of my improved friction-creating device, formed of stamped sheet metal bent up into the desired shape.

A is the friction-ring, and is provided with a circumferential groove, B, extending all or nearly all around.

C is the aperture through the ring A, and may be slightly irregular, as at C', to automatically locate the hook D, to which the supporting-strap E is secured.

I is the rope or cord, and is caused to bend over block G, and then lies in the groove B, being retained therein by one or more fingers or loops, H, and then passes around another block, F, and is provided on its upper end with a hook, M, of any desired description, which is hooked onto the window-sill K when the escape is in use.

By the construction shown, the rope simply makes a single loop, and yet creates all the friction required, and in practice works most effectually.

The drawings shown in Figs. 1 and 2 are full size.

If desired, the blocks G and F may be connected with the ring-body A on each side of the groove B, allowing holes to pass through them; but a better finish may be had by leaving the slots or opening J on one side of said blocks G and F and finger H, so that a tool, P, having the flat shank O, may be used to turn out said groove and make it perfectly smooth, so as not to abrade the rope. The loop or finger H prevents the rope getting out of the groove B, and yet leaves the same open, so as not to clog with dirt, and also allow of the more easy insertion of the rope and its resetting.

The operation is as follows: It being desired to descend from a high story, the hook M is secured to the window-sill or convenient support within the room, and after the strap E has been placed around the waist or under the arms the person gets out of a window, holding onto the rope I immediately below the friction device, and by pulling upon said rope creates a friction sufficient to prevent the ring A sliding down upon said rope. By varying the weight upon the rope, the weight of the person will cause the ring A to slide down the rope with any desired rapidity. In this device there is only one loop in the rope, and it is therefore impossible for the said rope to grind upon itself, and as the metal surface of the groove B is smooth it is not apt to rapidly weaken by wear. If desired, a child may be lowered by an occupant at the window by having the end of the rope below the ring A up in the room and paying out upon it slowly. In this case the friction created is not so great, but it is not needed. If a second person is to come down, then he draws up the rope and the friction-creating device and runs the ring A back to the upper end again, where it is in position for lowering him; or he may remove the ring A from the bottom of the rope and cut the rope at the top, and after slipping it on retie the rope to the hook.

The smallness of the friction-creating device enables it to be made of light weight, and not inconvenient to carry in the pocket; hence

the fire-escape becomes a portable apparatus, as it should be.

In place of making the friction-creating device of cast metal, it may be made of stamped sheet metal bent up into the desired shape, as shown in Fig. 6, and thereby reduce the metal required to the least possible amount, and increase the strength greatly by the substitution of a wrought metal in place of a cast metal.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A friction device for a fire-escape, consisting of an annular ring having a circumferential groove upon its periphery, and two blocks over which the cord is bent, and one or more retaining loops or fingers, to prevent the cord rising out of said groove, in combination with the cord, substantially as and for the purpose specified.

2. The ring-body A, provided with circumferential groove B, and blocks F and G, the said groove opening through the side of said blocks by slots J, substantially as and for the purpose specified.

3. The ring-body A, provided with circu ferential groove B, blocks F and G, and taining finger or loop H, the said groove op ing through the side of said blocks and loop by slots J, substantially as and for the purpose specified.

4. As a new article of manufacture, a friction device for a fire-escape, consisting of sheet metal stamped and formed into an annular ring having a circumferential groove, B, and blocks F and G, over which the cord is bent, substantially as shown.

5. As a new article of manufacture, a friction device for a fire-escape rope, consisting of a ring having friction-creating blocks and retaining-loops formed of sheet metal stamped and bent into the requisite form, whereby lightness, cheapness, and strength are embodied, substantially as and for the purpose specified.

In testimony of which invention I hereunto set my hand.

WILLIAM L. McCANDLISS.

Witnesses:

J. ALFRED SMITH,

WILLIAM S. McWADE.