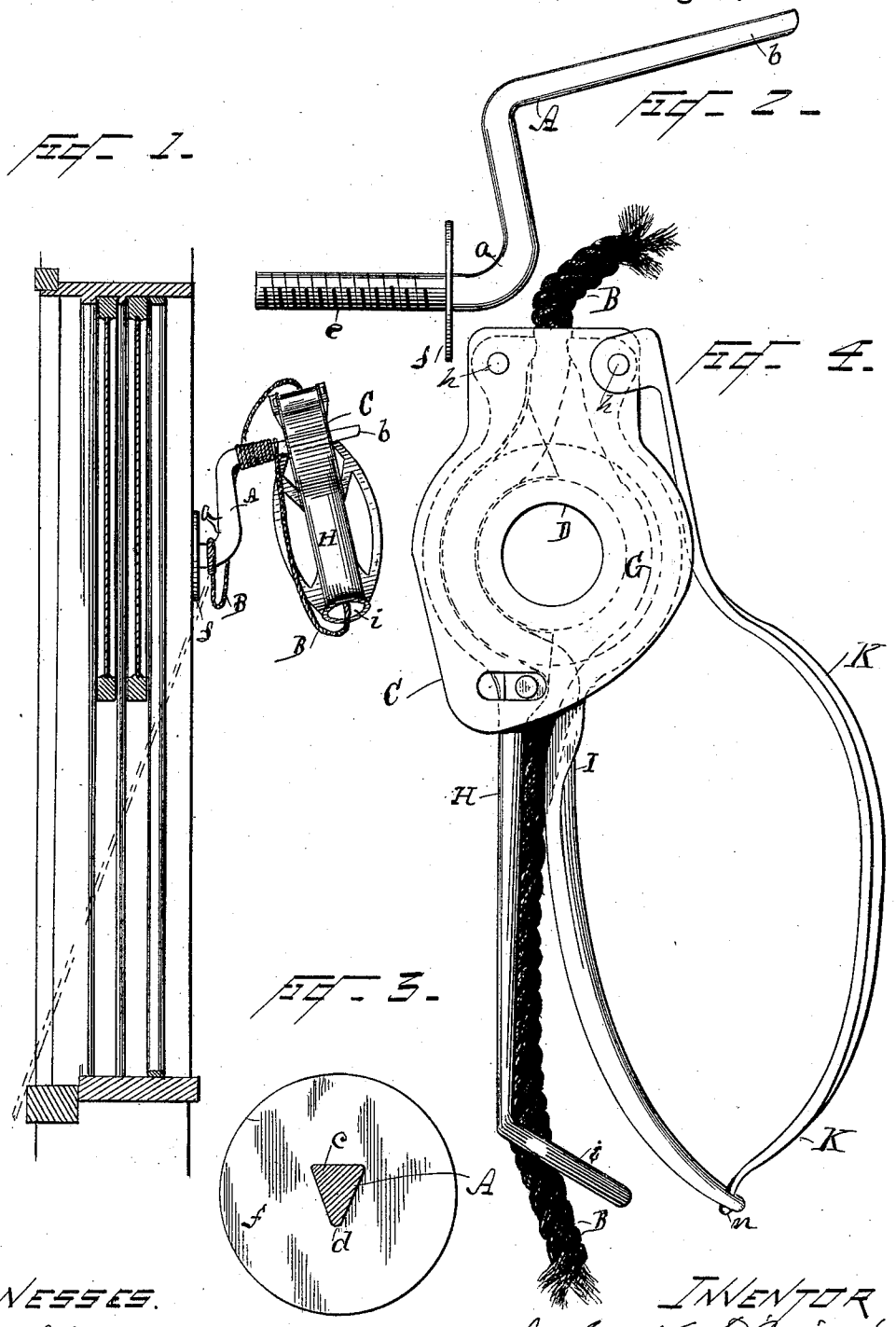
(No Model.) 2 Sheets—Sheet 1.

J. K. O'NEIL.

FIRE ESCAPE.

No. 387,436. Patented Aug. 7, 1888.



WITNESSES.
Louis L. Clark.
T. J. W. Robertson.

INVENTOR,
John K. O'Neil
By his attorney,
J. S. Brown.

N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.) 2 Sheets—Sheet 2.

J. K. O'NEIL.

FIRE ESCAPE.

No. 387,436. Patented Aug. 7, 1888.

Fig. 5.

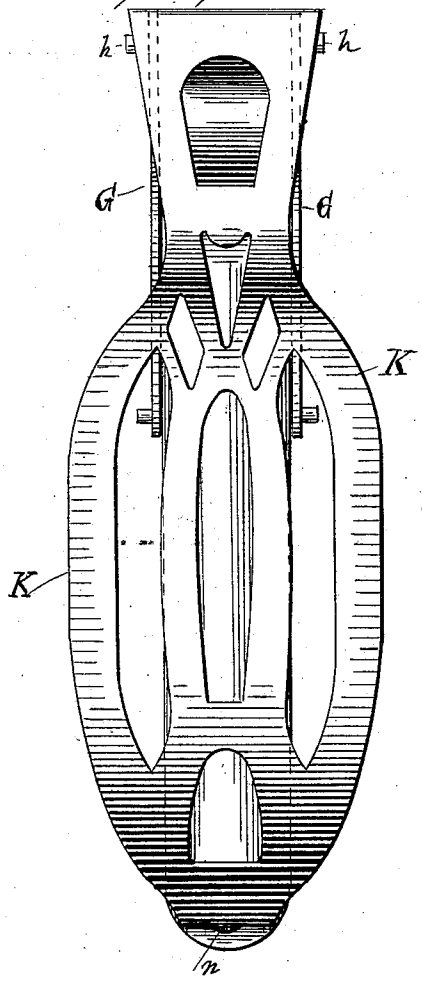


Fig. 6.

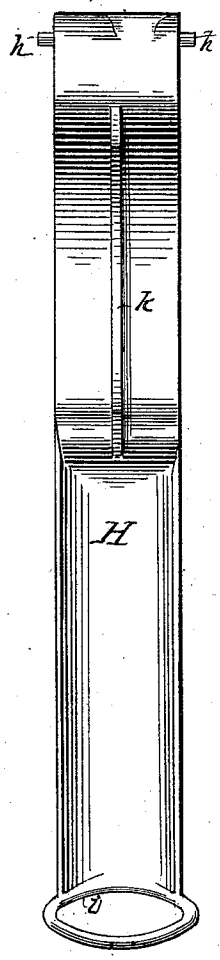


Fig. 7.

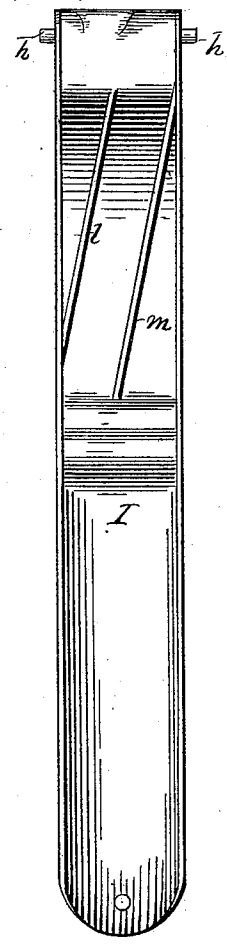
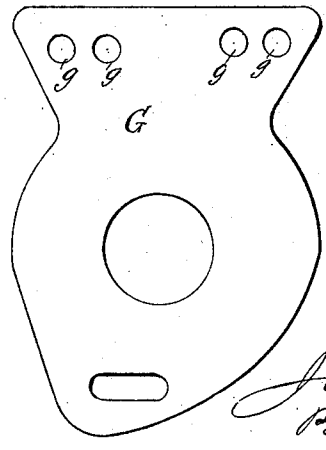


Fig. 8.



WITNESSES.
Louis A. Clark.
T. J. W. Robertson.

INVENTOR.
John K. O'Neil.
By his attorney
J. E. Brown.

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

JOHN K. O'NEIL, OF POUGHKEEPSIE, NEW YORK, ASSIGNOR TO DORSEY NEVILLE, OF SAME PLACE.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 387,436, dated August 7, 1888.

Application filed November 21, 1887. Serial No. 255,788. (No model.)

To all whom it may concern:

Be it known that I, JOHN K. O'NEIL, a citizen of the United States, residing in Poughkeepsie, in the county of Dutchess and State of New York, have invented an Improved Fire-Escape; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

My invention belongs to the class of friction fire-escapes in which a friction-clamp, generally carrying a belt or sling, is let slide down a suspended rope, the friction of the clamp being controlled by the person carried by the clamp and belt.

My present improvements consist, first, in an improved suspending-hook for the rope, and, second, in certain improvements in the clamp which slides on the rope, all as hereinafter specified, and defined in the claims.

In the accompanying drawings, Figure 1 represents the side of a window-frame with my improved suspending-hook attached thereto and showing the whole fire-escape mounted thereon; Fig. 2, a side view of the hook; Fig. 3, a cross-section of the same; Fig. 4, a side view of the clamp; Fig. 5, a side view of the same at right angles to the view in Fig. 4; Fig. 6, an inside view of the stationary handle; Fig. 7, an inside view of the swinging handle, and Fig. 8 a side view of one of the heads.

Like letters designate corresponding parts in all of the figures.

My improved suspending-hook A is constructed with a hook, *a*, proper, which holds the upper end of the rope or cord B, on which the clamp C slides to let persons down from any height to the pavement or ground, and thus suspends and sustains the rope, and in addition it has a horn or extension, *b*, on which the whole rope B and clamp C are hung or mounted when the fire-escape is not in use, as in Fig. 1. This horn preferably extends outward and a little upward, as shown, so that it will hold securely the rope and clamp loosely held thereon, but will allow the said rope and clamp to be instantly pulled off without any obstruction whatever when the fire-escape is wanted for immediate use.

The shape of the hook in cross-section is also a useful feature of the hook, as shown in Fig. 3. It is triangular in general shape, one flat side, *c*, being at the top, which furnishes a sufficiently wide bearing for the rope and clamp and is easily polished, so that the parts slip easily thereon, and the third angle, *d*, is centrally at the bottom, thereby giving great stiffness and strength with comparative lightness.

The attaching or shank part *e* of the hook is preferably screw-threaded, as shown, so that it can be screwed into an auger or bit hole in the wall or window-casing of a room, and there is preferably a wide flange, *f*, at the termination of the shank between it and the hook proper to give firm bearing against the wall or casing and prevent bending or sagging out of position. The hook *a*, which sustains the fire-escape, is close up to the flange, where the hook has the greatest strength. This construction is shown in Fig. 2.

I prefer to apply the hook to a window-casing well up toward the top of the window, as shown in Fig. 1, so that a person can let the rope out of the window therefrom in a direction nearly straight to the ground and easily clear the window-sill in the descent.

My improvements in the friction fire-escape or clamp C to slide upon the rope have reference more especially to the general construction shown in a former application for Letters Patent filed by me July 22, 1887, Serial No. 245,038, in which the rope passes entirely around a tubular eye or hollow pin, D, through which the belt is suspended or hooked, the tubular eye being secured between two housing-heads, G G, and by which, together with two clamping-handles, H I, pivoted to the upper ends of the heads and clamping the rope on opposite sides, whereby, as an additional result, the friction-coil of the rope is completely inclosed and held from getting out of place and from any disarrangement whatever, and also the hands of the person using the clamp are protected from being pinched or otherwise injured by the running coil or bight of the rope.

The first improvement in the present invention consists in the handles H I, adjustably pivoted to the heads or frame part of the clamp. For this purpose I show two pivot-holes, *g g*, Fig. 8, in the heads for each handle at differ-

ent distances from the tubular eye, so that the pivots *h h* of the handles may be hung in either holes, and thus be adapted to different sizes of rope. More than two holes may be used, or other known means of adjustment may be employed.

Another feature of my improvement consists in a vertical or longitudinal dividing-rib, *k*, on the inside of the stationary clamp H in the curved part which bears upon the rope coil around the tubular eye, as shown in Fig. 6. This rib keeps the two parts of the coil or bight of the rope separated, so as not to chafe each other, without diminishing the friction.

Another feature of improvement consists in two spiral or oblique ribs, *l m*, on the inside of the swinging handle, along the part which bears against the coil or bight of the rope. This keeps the coil or bight of the rope in its natural position, and, in fact, increases the friction of the rope.

Another feature of improvement consists in a shield or guard, K, on the clamp for protecting the back of the hand, which grasps the clamp and presses the handles to the rope against any falling brands or other burning pieces or things from striking the hand, and thereby not only burning the hand, but causing the person to loose his hold on the clamp, which would be disastrous. It also protects the hand from striking against window-sills, blinds, cornices, or other hard body which the person may pass in his descent upon the rope. This is a very important improvement. It may be attached in various well-known ways; but I prefer and claim it as a special improvement to attach it to the swinging handle I, as shown in the drawings. For convenience of construction it may be attached at the upper end to the pivots of the handle, and at the lower end by a lug, *n*, on the shield, passed through a hole in the handle and riveted therein.

I claim as my invention—

1. In a fire-escape, a suspending-hook, A, provided with a horn or extension, *b*, extending outward in a nearly horizontal direction from the outer extremity of the hook proper and adapted to support the clamp and whole coil of rope when the fire-escape is not in use, substantially as herein specified.

2. A suspending-hook for fire-escapes, having a triangular form in section, one flat side being horizontal at the top, substantially as and for the purpose herein specified.

3. In a fire-escape, a friction-clamp, C, having pressure handles H I and pivots for the same adjustable toward and from the rope, substantially as and for the purpose herein specified.

4. The stationary handle having a central longitudinal rib on its inner bearing-surface, for the purpose herein specified.

5. The swinging handle having two oblique ribs on its inner bearing-surface, substantially as and for the purpose herein specified.

6. In combination with a friction-clamp, a shield, K, to protect the grasping hand, substantially as and for the purpose herein specified.

7. In a fire-escape friction-clamp, the combination, with the swinging handle, of a hand-shield, K, attached to and swinging with the handle, for the purpose herein specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

JOHN K. O'NEIL.

Witnesses:
WALTER FARRINGTON,
JNO. P. N. TALLMAN.