J. A. TIXIER.

FIRE-ESCAPE.

No. 187,569. Patented Feb. 20, 1877.

Fig. 1

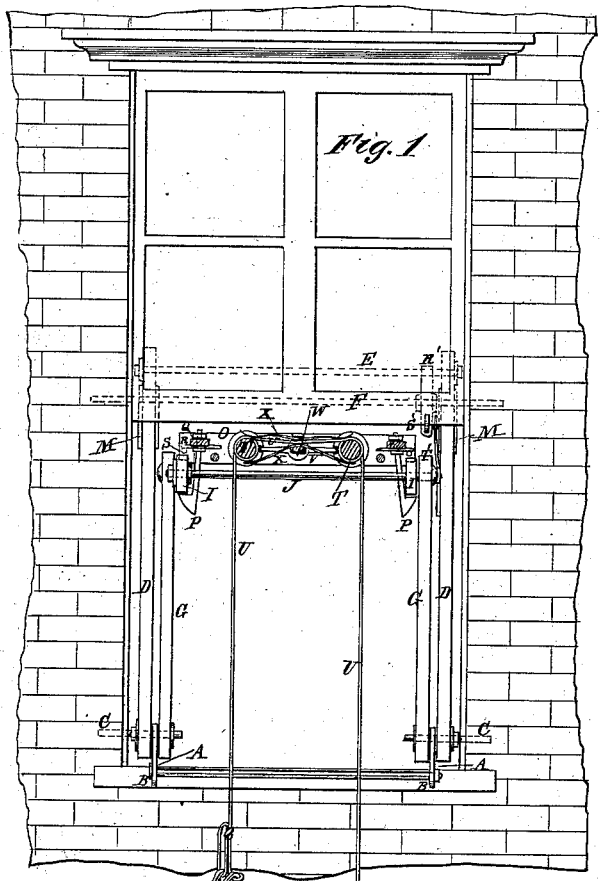


Fig. 2

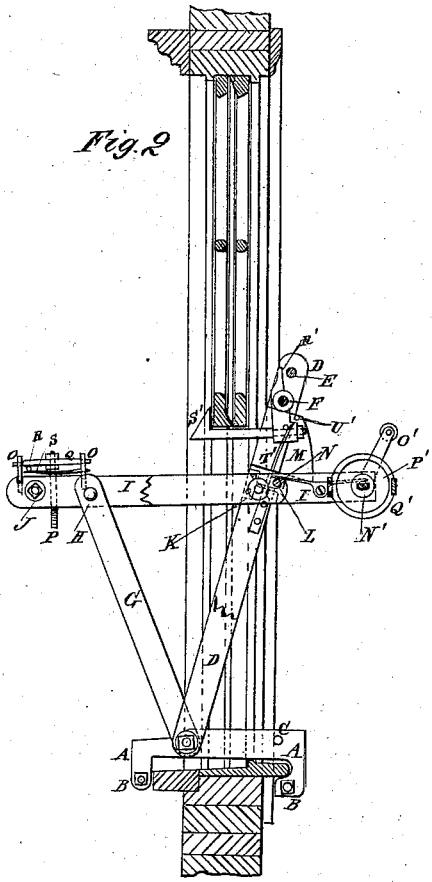


Fig. 4

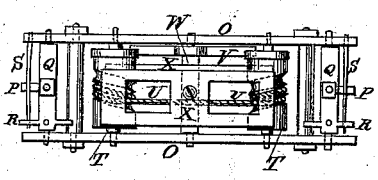
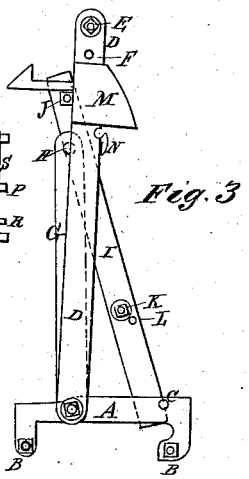


Fig. 3



WITNESSES:

A. W. Almquist

J. H. Scarborough

INVENTOR:

J. A. Tixier.

BY Munn & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JULES A. TIXIER, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN FIRE-ESCAPES.

Specification forming part of Letters Patent No. **187,569**, dated February 20, 1877; application filed January 6, 1877.

To all whom it may concern:

Be it known that I, JULES A. TIXIER, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Fire-Escape, of which the following is a specification:

Figure 1 is a front view of my improved device, shown as applied to the window of a building, and part being broken away to show the construction. Fig. 2 is a side view of the same, part being broken away to show the construction. Fig. 3 is a side view of the frame folded for storage. Fig. 4 is a detail top view of the device that receives the lowering-rope.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish an improved fire-escape, which shall be so constructed that it may be readily secured in a window of a building, and which shall be simple in construction and convenient in use, and may be folded into small compass for storage and transportation.

The invention will first be described in connection with the drawing, and then pointed out in the claims.

A are two bars, the forward ends of which have downwardly-projecting arms formed upon them, to rest against the outer edge of the window-ledge. Upon the inner ends of the bars A are formed downwardly-projecting notched or hook-arms to hook upon the inner edge of the window-ledge. The ends of the bars A are connected and held in their proper relative position by rods B. The bars A are further secured, when placed in a window, by pins C, attached to their inner parts, and which rest against the side bars of the window-frame. To the outer side of the middle parts of the bars A are pivoted the lower ends of two bars, D, the upper ends of which are connected and held in proper relative position by a rod, E. To the upper parts of the bars D is also attached a second rod, F, the ends of which project, to rest against the side bars of the window-frame. To the inner sides of the middle parts of the base-bars A are pivoted the lower ends of two bars, G, the upper ends of which are connected by a rod, H. I are two bars, the outer ends of which are connected by a rod, J, and which are pivoted, near their outer ends, to the upper ends of the bars G by the rod H. The bars I are connected, toward their inner ends, by a rod, K, and to them, near their inner ends, is attached a rod, L, the ends of which project, to rest against the inner sides of the side bars of the window-frame. When the bars I are pushed outward the end parts of the rod L enter notches beneath shoulders M, formed upon the rear edges of the upper part of the bars D, where they are secured in place by spring-catches N, attached to the said bars D. To the rod F is attached a cross-bar, R′, to the lower end of which is attached a hook, S′, to take hold of the lower rail of the upper sash, and hold the apparatus in place. The hook S′ is held up against the rail of the sash by a spring, T′, attached to the bar D, and which bears against a pin attached to the side of the lower end of the cross-bar R′. The upward movement of the hook S′ is limited by the upper end of the cross-bar R′ striking against the rod E, and its downward movement is limited by the lower end of the cross-bar R′ striking against a pin, U′, attached to the bar D. The upper side of the outer ends of the bars I are notched to receive the side bars of the frame O, which is secured in place by the hooks P. The hooks P hook upon the lower edges of the bars I, and their shanks are attached to bars Q, the ends of which are pivoted to the side bars of the frame O, and to which are attached short cross-bars R. The ends of the cross-bars R rest upon a spring, S, attached to the frame O, to hold the said hooks in place. To the side bars of the frame O are attached two cylinders, T, around which passes a rope, U, the said rope making two or three turns around each roller. The cylinders T are held from turning by the bar V, the ends of which rest in notches in the ends of the said cylinders T, or in plates attached to said ends. The bar V is attached, at its center, to a bar, W, the ends of which are attached to the side bars of the frame O. To the bar W are attached the centers of two spring-plates, X, which are curved from each other, so that the ends of one may rest upon the upper sides, and the ends of the other upon the lower sides of the cylinders T, to bear upon the coils of the rope U, to increase the friction upon it. The part of the rope U that passes from one to the

other of the cylinders T passes between the middle parts of the spring-plates X. By this construction the friction upon the rope U may be increased and diminished by adjusting the spring-plates X closer to or farther from each other.

To the rope U, at a distance apart equal to the distance from the window to the ground, are attached two chairs, Y, so that one may be ascending as the other is descending, and so that the upper chair may be receiving its load while the lower one is being unloaded. The chairs Y may be provided with a guard-strap, y^1, to be buckled around the waist of the occupant of said chair, or with a guard-rail, y^2, to keep its occupant from falling off. To the inner ends of the bars I is pivoted a shaft, N′, to one end of which is attached a crank, O′, and upon which is placed a spool, P′. The spool P′ is so arranged that it will be carried around by and with the shaft N′ in its revolution, but may slide longitudinally upon said shaft. The spool P′ is surrounded by a cage or reel, Q′, which turns loosely upon the shaft N′.

When the device is not in use the ropes U and D′ may be wound upon the spool P′, to keep them out of the way and in condition for immediate use.

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

1. The combination of the armed bars A, provided with the rods B and pins C, the pivoted bars D, provided with the rods E F, the shoulders M, and the catches N, the pivoted bars G, provided with the rod H, and the pivoted bars I, provided with the rods J K L, with each other, to adapt them to be placed in a window-frame, substantially as herein shown and described.

2. The combination of the cross-bar R′, the hook S′, and the spring T with the rods E F and the pivoted bars D, for securing the frame-work in the window, substantially as herein shown and described.

3. The combination of the frame O, the cylinders T, the rope U, the lock-bar V, the cross-bar W, and the spring-plates X with the pivoted bars I of the frame-work, substantially as herein shown and described.

4. The combination of the hooks P, the pivoted bars Q, the cross-bars R, and the springs S with the frame O and the pivoted bars I of the main frame, substantially as herein shown and described.

5. The combination of the chairs Y, provided with the guard-rail y^2, with the rope of the friction device, substantially as herein shown and described.

6. The combination of the shaft N′, the crank O′, the spool P′, and the reel Q with the pivoted bars I of the main frame, substantially as herein shown and described.

JULES A. TIXIER.

Witnesses:
JAMES T. GRAHAM,
C. SEDGWICK.