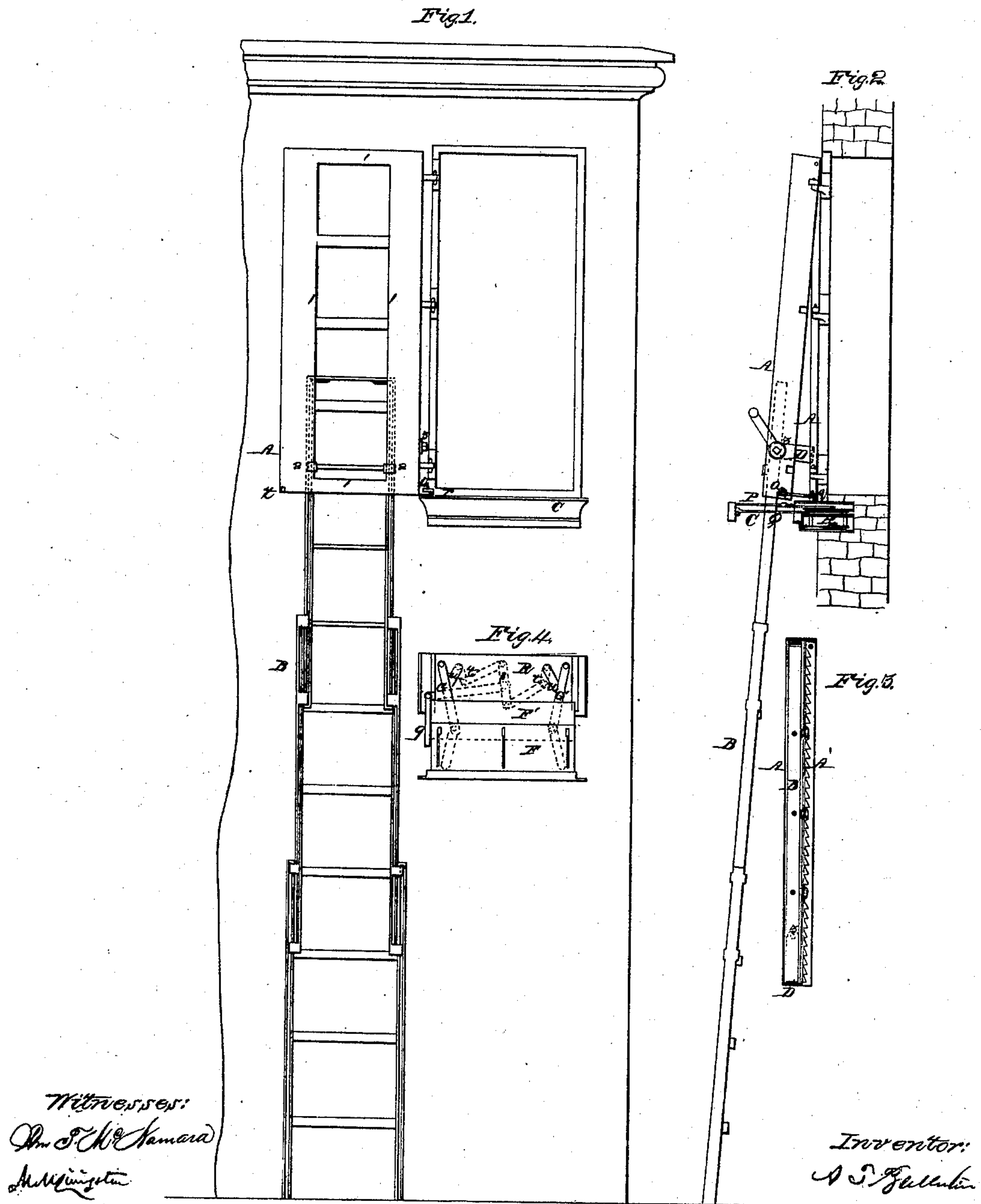


A. T. BALLENTINE.
FIRE ESCAPE.

No. 43,283.

Patented June 28, 1864.



UNITED STATES PATENT OFFICE.

A. T. BALLENTINE, OF NEW YORK, N. Y.

IMPROVEMENT IN FIRE-ESCAPES.

Specification forming part of Letters Patent No. 43,283, dated June 28, 1864.

To all whom it may concern:

Be it known that I, A. T. BALLENTINE, of the city, county, and State of New York, have invented a new and useful Improvement in Fire-Escapes; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a front elevation of my fire-escape when in use. Fig. 2 is a vertical section thereof. Fig. 3 is a vertical section of the ladder of escape inclosed in its case. Fig. 4 is a plan showing the arrangement of the levers for throwing out the window-sill.

My object has been to produce a fire-escape which shall not occupy much space when put up out of use, nor be of ungainly appearance, and that shall be capable of being instantaneously put into position by any person who is capable of turning a crank or wheel, which requires only a slight degree of force to be operated.

I have shown my fire-escape in position for use alongside of an open window. It may be placed near any other opening or in any other place of escape.

My escape is combined in the example I have shown with an ordinary shutter of a window. It may be combined with either leaf of a double shutter where double shutters are used to close a window.

The shutter A is made in two principal parts, A and A'. The part A may be called the "ordinary shutter" of a window, suspended by suitable strong hinges to the outside casing, and firmly secured at its top to an outer shutter, which I call the "false shutter," in such a way as to allow the latter to swing away at its bottom horizontally from the bottom of the main shutter. The outer shutter is hollow, as shown in Fig. 3, and receives a sliding ladder within it, made as shown, or in any equivalent way, so as to slide up compactly together or be extended to its full length at the will of the operator. The outside shutter is cut away in front, as shown at 1, so as to show the ladder within it, and also to allow the forked slides 2 to embrace the inner edges, 1, of the frame, which should be of stiff metal. The forked slides 2 are placed near the top of the

ladder, both as guides and to prevent the ladder from becoming disconnected from the shutter. The extreme top of the ladder extends some distance above the slides, so as to steady and stiffen it when any person is descending or ascending it. A locking apparatus, D, is connected to the sides of the false shutter, whose shape is like a stirrup with its top removed, the sides of the stirrup formed at their upper ends into arbors, which are journaled in the sides of the shutter, and its foot swings down beneath the ladder when it is nested, and in that case the stirrup forms the bottom of the outside shutter and serves as a locking apparatus. One of the arbors 3 is made to project through and beyond the side of the shutter and made square to receive a key, (shown in detail,) by which the stirrup is turned upon its journals and made to take the position shown in Fig. 2, so as to release the sliding ladder, whose several sections immediately glide down and assume the position shown in Figs. 1 and 2. At the extreme lower and inner side of the outside shutter is fixed a false hinge, O, which has secured to it a piece or shank, q, which extends into the sill r, where its extremity connects with a rod, v, which operates a double toggle-joint, s, Fig. 4, which lies in the bottom of the sill. The arms t t of toggle s have buttons (marked u u, Fig. 4) attached to them. The lower space in the sill, in which the double toggle s is placed, is covered by a metal covering, R, to prevent the toggle and its connections from being injured or bent, and the buttons u u, which are operated by them, are placed above and move over part of the surface of this covering R. (See Fig. 4.) The upper part of the sill is composed of a sliding platform, made in two sections, (marked F F', Fig. 4,) the outermost of which sections, F, is slotted across it, as shown, to receive sliding fingers projecting from the inner section, F', of the platform. Two pairs of toggle-joints, G G', are attached to the inside of the sill C below the sliding platform, and the other ends of the toggles are fixed to the extreme corners of the covering K. The buttons u u are turned by two lower toggles against the nearest joints of the toggles G G', causing them to assume a position nearly straight with each other, as shown in the drawings, thereby pushing the sill C outward, and also causing the

platforms F F' to slide out, as shown in Figs. 2 and 4. When the parts are in this position, the persons desiring to escape from a house in flames will step out upon the platform F F' and pass from thence to the ladder, and so escape. The outside shutter and the back or main shutter are locked together by a hook, *t*, and the main shutter is secured, when open against the wall of the house, by the usual spring-fastening used for that purpose. It is necessary that all the hinges and attachments, as well as the framing of the parts, be strong and well made. The ladder is to be made in as many sections and the sections of such length as will enable it to reach the ground from the window at which it is fixed. When the ladder is folded within the shutter, the stirrup D can be swung in its place, and the outside shutter is then permitted to swing back snug against the main shutter, carrying the shank *q* of the false hinge back into its place in the chamber and restoring the toggles to their normal position, ready for future use. The sill C and its platform are then pushed back to their first position. In addi-

tion to its functions as a fire-escape, the ladder will of course be highly useful for firemen for taking up hose-pipes, &c.

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

1. The combination of a sliding ladder with an outside shutter, which is made to contain it when folded, and a main shutter, substantially as shown.

2. Locking the sliding ladder, when folded in its case, by means of the stirrup D, constructed and operating substantially as shown.

3. The sill C and its sliding platform, constructed substantially as shown.

4. The system of toggle-joints *s* and buttons *u u* to move the sliding platform out, substantially as described.

5. The false hinge O and its shank *q*, operated by means of the outside shutter, substantially as described.

A. T. BALLENTINE.

Witnesses:

WM. F. MCNAMARA,
M. M. LIVINGSTON.