(No Model.) 2 Sheets—Sheet 1.

A. H. TERWILLIGER.

FIRE ESCAPE.

No. 308,444. Patented Nov. 25, 1884.

Fig. 1.

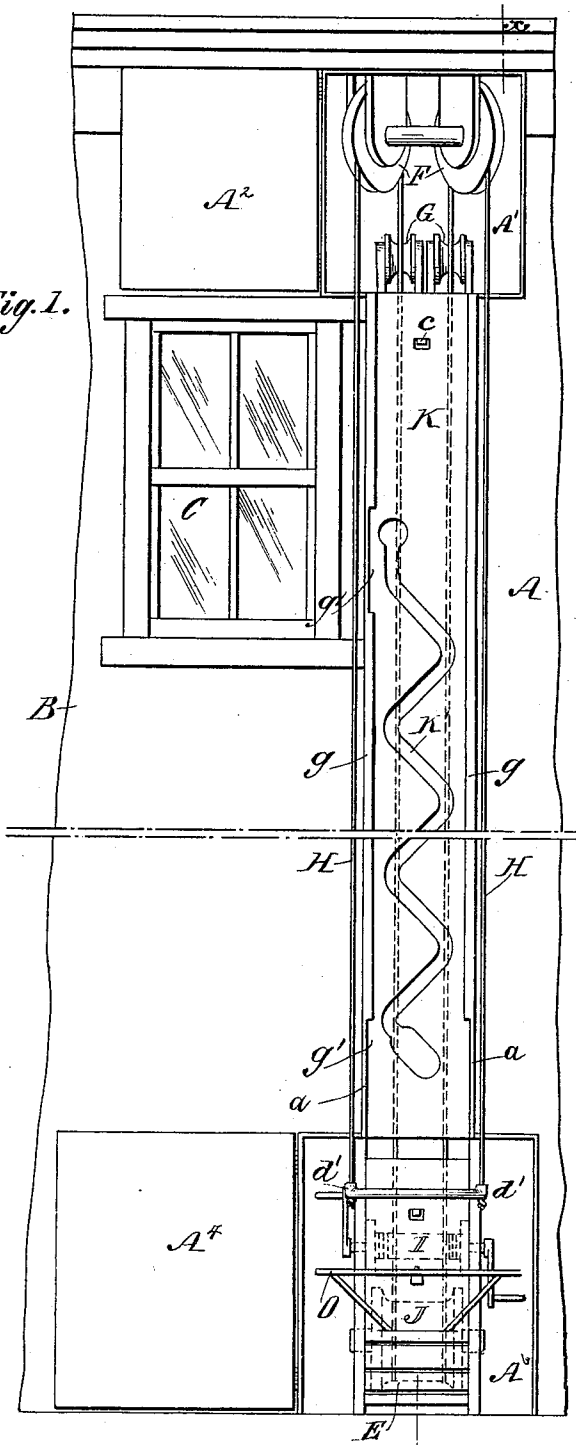
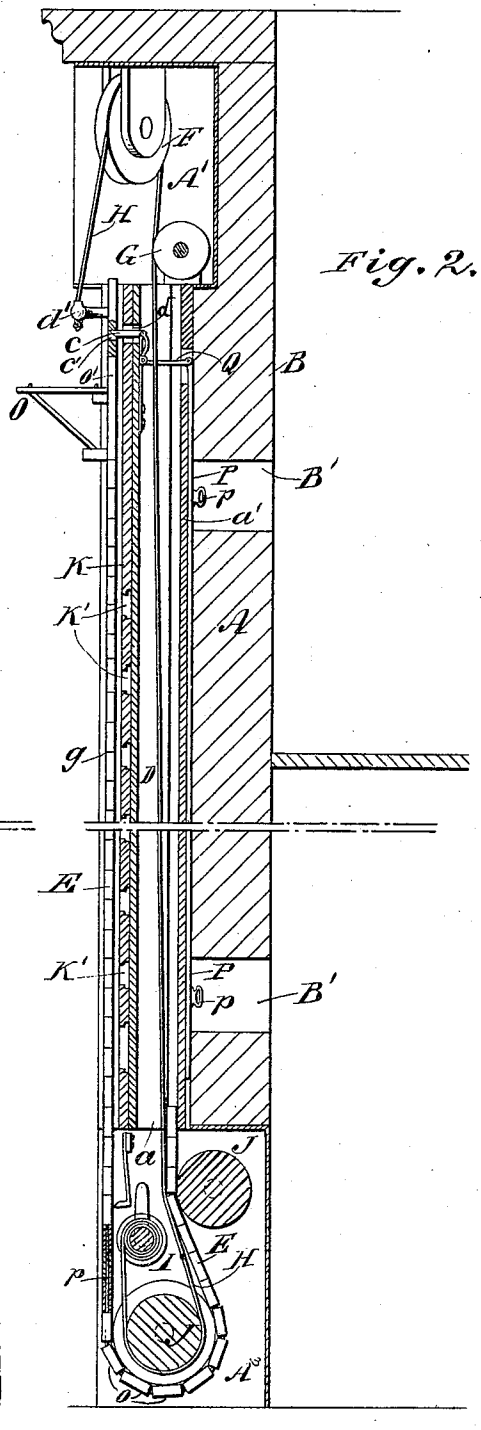


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

A. H. TERWILLIGER.

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Fig. 3.

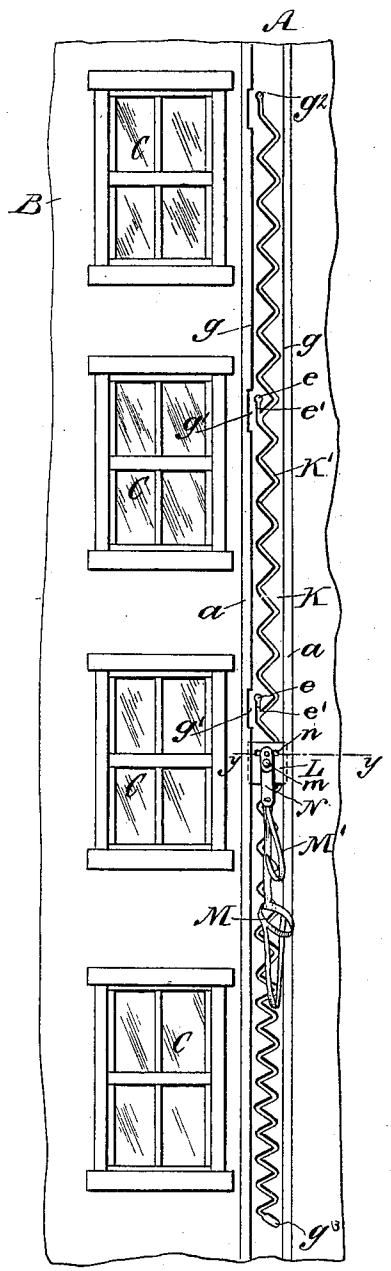


Fig. 4.

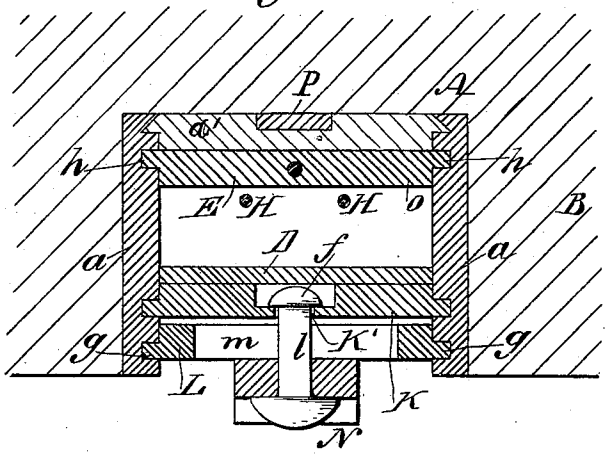


Fig. 5.

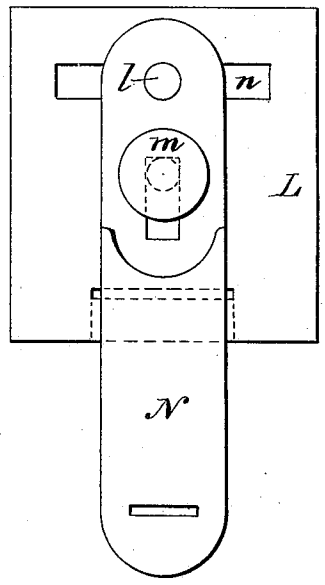
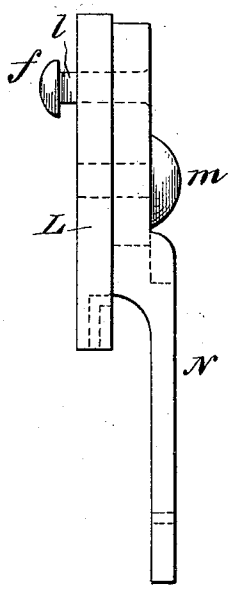


Fig. 6.



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UNITED STATES PATENT OFFICE.

AUGUSTUS HAYT TERWILLIGER, OF NEWBURG, NEW YORK.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 308,444, dated November 25, 1884.

Application filed September 13, 1884. (No model.)

To all whom it may concern:

Be it known that I, AUGUSTUS HAYT TERWILLIGER, of Newburg, in the county of Orange and State of New York, have invented a new and Improved Fire-Escape, of which the following is a full, clear, and exact description.

This invention relates to a new and improved fire-escape adapted to be built into the wall of a building, and adapted to be closed when not in use by a sliding shield or cover, which is adapted also for elevating firemen to the different stories of the building in case of fire.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation of my new fire-escape built into the wall of a building near the windows, the sliding shield being lowered, and the doors of the boxes at top and bottom which contain the pulleys and windlass shown open. Fig. 2 is a sectional elevation of the fire-escape, taken on the line *x x* of Fig. 1, the shield being elevated to conceal the fire-escape. Fig. 3 is a front elevation of the fire-escape, the shield being lowered, and a descending-plate with attached strap shown in position for use. Fig. 4 is a sectional plan view taken on the line *y y* of Fig. 3, and Figs. 5 and 6 show, respectively, front and edge views of the descending-plate.

A represents a channel or box, formed or built into the wall B of the building alongside of the windows C. This box A, in this instance, is composed of the side plates, *a a*, and back plates, *a'*, and in the box A is placed the stationary plate D, which has the opening *d* through it near its upper end, in which is pivoted the catch *c* for holding the shield E in closed position, as hereinafter described. At the top of the box A is formed in the wall B the box A', that is adapted to be closed by the door A^2, and contains the sets of pulleys F G, over and against which pass the wire ropes H H, that are attached to the arms or studs *d' d'* of the shield E, as shown in Fig. 2. At the bottom of the box A is formed in the wall B the box A^3, that is adapted to be closed by the door A^4, and contains the winding-drum I, to which the said ropes H are attached, and in this box are placed also the guiding-drums J J, against and under which the said ropes H and the shield E pass, as shown in Fig. 2.

K is the escape-plate proper, and L is the descending-plate, to which the person to descend attaches himself by means of the straps M, or otherwise. The plate K is held between the side plates, *a a*, of the box A, and has the zigzag slot K' formed in it. The plate K is formed also opposite each window C with opening *e* and slot *e'*, that connects the opening *e* with the zigzag slot K', so that the head *f* of the pin or bolt *l* of the descending-plate L may be inserted into the opening *e* and passed down the slot *e'* into the main zigzag slot K'. When so entered into the slot K', the edges of the plate L pass into the grooves *g g*, made in the side plates, *a a*, of the main box or channel A, as shown in Fig. 4, and the flange nearest the windows C is cut away opposite the windows, as shown at *g'*, so that a person reaching out from the window may place the descending-plate L properly in the said grooves *g* and slot K', so as to descend to the ground, as hereinafter described. At its upper and lower ends the slot K' is enlarged, as shown at g^2 g^3, to permit the passage of the head *f* of the bolt *l* for putting the plate L in place for use at the top of the building, and permitting it to be attached at the bottom. The plate L has the lever N attached to it by the pin or bolt *m*. The pin or bolt *l* above mentioned is fastened to the upper end of the lever N, and reaches through the slot *n* made in the plate L, and to the lower end of the lever N is attached the strap M', which is adapted to be held by the person descending, and pulled downward by him to retard the vibration of the lever N, caused by the pin *l* running in the zigzag slot K', and thus regulate his speed of descent.

The shield E is made up of sections *o* strung upon one or more wire ropes, *p*, so that the shield is made flexible and adapted to pass around the drum J, as shown in Fig. 2. The ends of the sections *o* run in the grooves *g g* and *h h*, made in the side plates, *a a*, of the box or channel A, as shown in Fig. 4. Near its upper end the upper plate, *o'*, of the shield is formed with the notch *c'*, with which the above-mentioned latch *c* engages when the shield is raised by turning the drum J so that

the latch *c* holds the shield in closed position, as will be understood from Fig. 2, and to the face of the plate *o* is secured the bracket O, on which a fireman may sit or stand to be elevated by turning the drum I to the different stories of the building, or lowered from one story to another or to the ground.

When the fire-escape is to be used, the latch *c* must of course be withdrawn from the opening *c'*, and this may be done from the inside of the building through the openings B' in the wall B by the sliding plate P and the bell-crank lever Q, that connects the upper end of the plate P with the inner end of the latch *c*, so that on grasping one or other of the handles *p* on plate P and forcing the plate downward the latch *c* will be withdrawn from opening *c'*, leaving the shield E free to fall down of its own weight from the position shown in Fig. 2 to that shown in Fig. 1. In this manner the escape-plate K will be entirely revealed, so that a person by placing the plate L in the grooves *g g*, now vacated by the shield E, as just described, with the head *f* of the pin *l* reaching through the zigzag slot K', may, by holding upon the strap M, descend safely to the ground, the movement of the pin *l* within zigzag slot K' serving as a brake to retard the speed of descent.

In case the person to descend is timid the strap M should be buckled around his body, and he should grasp the strap M' and pull downward, which will lock the plate L to the plate K in the slot K'. Then by gradually releasing the downward pull upon the strap M' the plate L will descend slowly to the ground.

Constructed as described the fire-escape is not only practical and reliable, but the shield E when closed entirely conceals it, so that the fire-escape does not disfigure the wall of the building, and the shield is at the same time very practical for elevating firemen into the building to help the inmates to escape and to fight the fire and save property.

Although I have shown my new fire-escape built into the wall, in some instances it might be attached to the wall and not depart from the principle of my invention.

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

1. In a fire-escape, the plate K, having the zigzag slot K', in combination with the descending-plate L, lever N, and pin *l*, substantially as described.

2. The box A, fitted in the wall of the building and provided with the plate K, in combination with the shield E, adapted to inclose the plate K, substantially as described.

3. The boxes A A' A^3, formed in the wall of the building, in combination with the shield E, and means, substantially as described, for raising the shield, substantially as and for the purpose set forth.

4. The shield E, made flexible and provided with the bracket O, in combination with the grooved box A, ropes H, and suitable pulleys and winding-drums for elevating the shield, substantially as described.

5. The shield E, formed with the opening *c'*, in combination with the catch *c*, for locking the shield in elevated position.

6. The plate P, connected with the catch *c*, and adapted to be operated from the inside of the building through the openings B', for withdrawing the catch, substantially as described.

7. The descending-plate L, provided with the lever N, having pin *l*, adapted to reach through the slot K', substantially as and for the purpose described.

8. The plate K, having the zigzag slot K' and the openings *e* and slots *e'* made in it, in combination with the descending-plate L, having the lever N, provided with the pin *l*, substantially as and for the purposes set forth.

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Witnesses:
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A. R. PEATTIE.