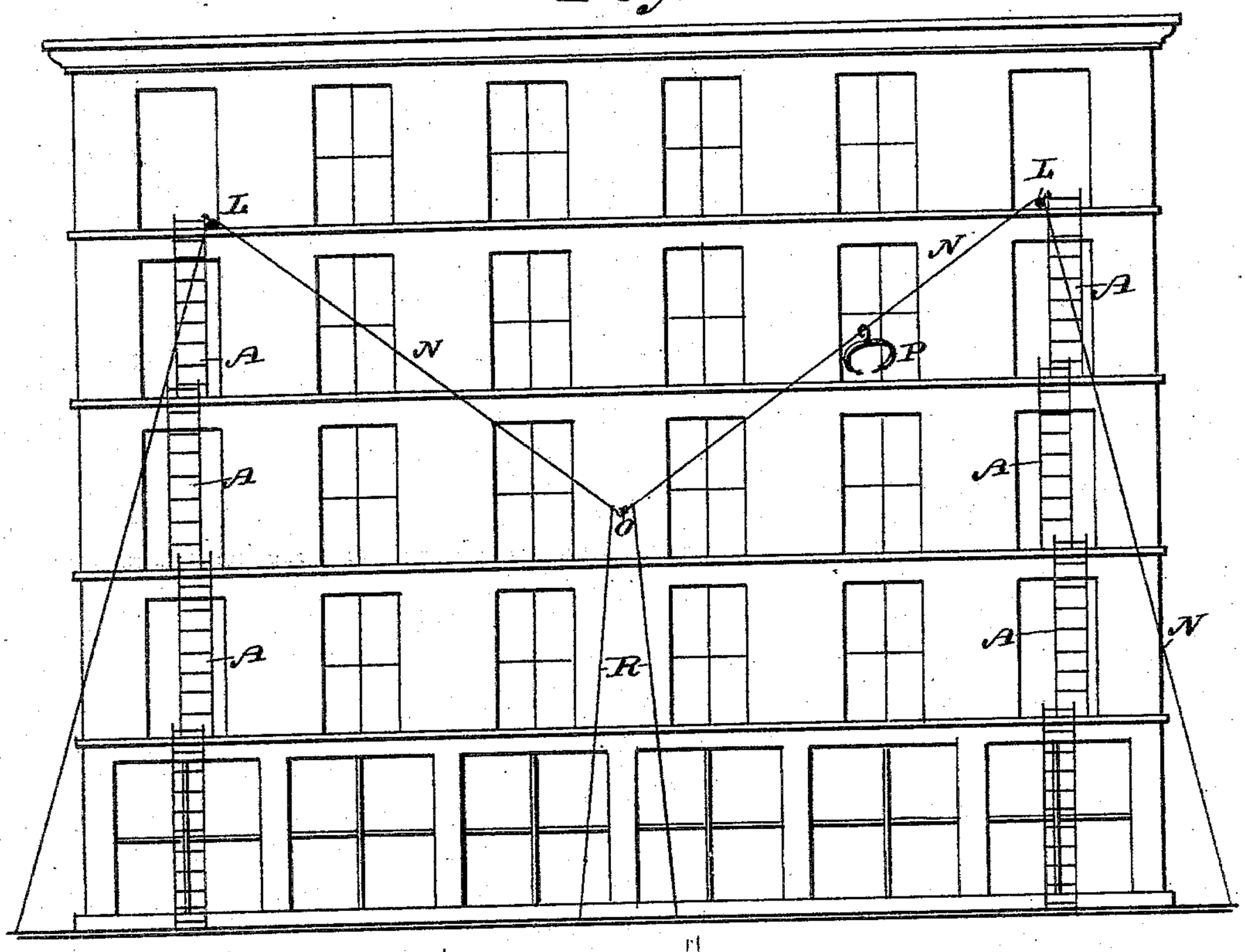
(No Model.)

J. ZERR.

FIRE ESCAPE.

No. 286,519. Patented Oct. 9, 1883.

Fig. 1.



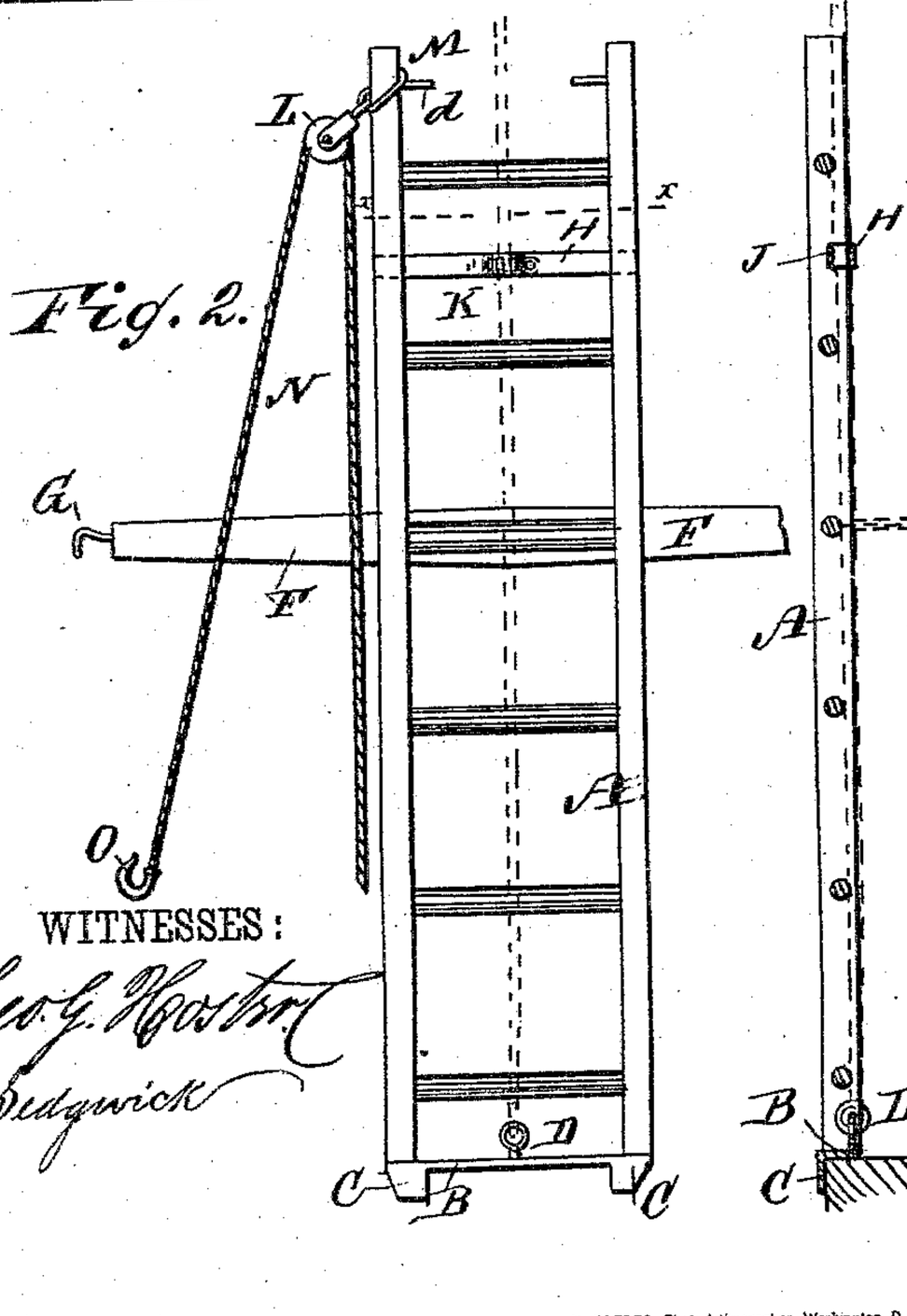


Fig. 2.

Fig. 3.

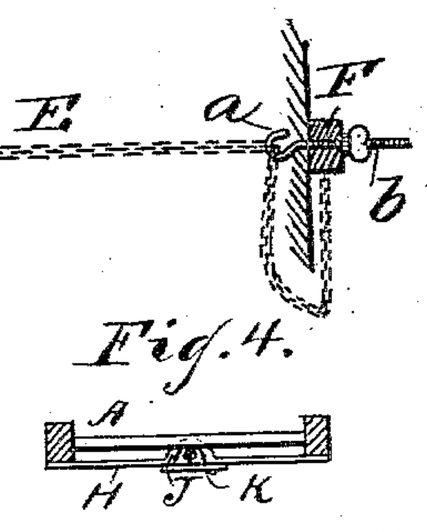


Fig. 4.

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JOHN ZERR, OF KEOKUK, IOWA.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 286,519, dated October 9, 1883.

Application filed March 17, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN ZERR, of Keokuk, in the county of Lee and State of Iowa, have invented a new and Improved Fire-Escape, of which the following is a full, clear, and exact description.

This invention relates to that class of fire-escapes in which scaling-ladders are secured to the building, and belts are raised by means of ropes passing over pulleys at the upper ends of the uppermost ladders, by which the rope or belt or basket can be secured for lowering persons.

The invention consists of a ladder constructed with a foot-piece and with a cross-bar connected with the ladder by a chain, which cross-bar is placed against the inside of a window-casing for the purpose of holding the ladder vertically in the window-opening. After a series of ladders such as described above have been raised successively at opposite ends of the building, ropes are passed over pulleys held on the uppermost end of the ladder, and hooks at the ends of the ropes are united, and then by pulling one rope more or less the hooks are brought to any desired window of the building, and the persons can be secured by means of a belt raised by the said ropes and hooked into the hooks at the ends of the ropes, which belt is passed around the person to be rescued, upon which the person is lowered by means of the above-described ropes.

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

Figure 1 is a front elevation of a building on which my improved fire-escape is erected and in use. Fig. 2 is a front elevation of my improved scaling-ladder. Fig. 3 is a cross-sectional elevation of the same, showing it secured in a window. Fig. 4 is a cross-section on line *x x* of Fig. 2.

The ladder A is provided with a foot-plate, B, which is provided at each end with a downwardly-projecting lug, C, on the outer surface of the ladder, so that when the foot-plate is placed on a window-sill, as shown in Fig. 3, the lug C will rest against the outer surface of the window-sill. A chain, E, is secured to one of the middle rungs of the ladder and to a cross-bar, F, through which a hook, *a*, passes, which has a screw-threaded shank, on which a winged nut, *b*, is screwed, which is on that surface of the cross-bar F opposite the one at which the hook *a* is. The cross-bar F is provided at the ends with hooks G, which are to catch on the moldings of the window-frame. The ladder A is provided on its inner surface with a cross-bar, H, which is provided at the middle with a loop, J, which is crossed by a latch, K, pivoted on the inner surface of the said cross-bar. A pulley, L, is provided with an elongated ring or link, M, adapted to be passed on the upper end of the side bars of the ladder, which side bars are provided at the upper ends with inwardly-projecting studs *d*, to prevent the said link from sliding down. Over the said pulley a rope, N, is passed, which is provided at one end with a hook, O.

The device is used as follows: A ladder is placed against the building and two firemen ascend to the second floor. Then another ladder is handed up, the foot-piece B of which is placed upon the window-sill. The window is opened or broken. One man enters the room and places the bar F against the opening of the window, on the inside of the casing, so that the ends of the bar will rest against the inner window-casing. A link of the chain E is hooked into the hook *a* and the chain is drawn taut by turning the winged nut *b*. The ladder is thus held in a vertical position, cannot fall, and is perfectly safe. The firemen then ascend the ladder raised in front of the window of the second story, and pass the link M over the end of one of the side bars of the ladder. A hook, O, at the end of the rope N is passed through the ring or loop D on the foot-piece B of another ladder, and the rope is passed through the loop J in the cross-bar H and the latch K is closed. The ladder will thus be held in a vertical position and suspended from the end of the rope. Men standing on the ground pull on the free end of the rope, and thereby raise the ladders to the desired height. When the ladder reaches the pulley L, the rope forces down the latch K, thus releasing the upper end of the ladder from the rope. One of the men on the upper end of the ladder on which the pulley L is held then adjusts the ladder which has just been raised in the proper position in front of a window, and the other man fastens it in the manner previously described.

In the same manner the next ladder is raised, and so on, one ladder for each story. The pulley L is carried from one ladder to the one next above it, and finally is held on the end of the uppermost ladder, as shown in Fig. 1. The ladders are to be raised at the windows at the ends of a burning building, as shown, and after the ladders have been raised the hooks O at the ends of the ropes N are united, and then by pulling more or less on one rope or the other the hooks O can be guided to any desired window in the front of the house. A life-saving belt, P, can be secured to any of the ropes and can be raised to any window. A person to be rescued can secure the belt around the body, and then can easily be lowered by means of the ropes. Guy-ropes R are secured to the lower ends of the ropes N or to the hooks O, for the purpose of drawing the persons being saved from the building while descending, so that they cannot be injured by striking against cornices or projecting parts, and will not be endangered by fire breaking through the windows. The hooks G on the ends of the cross-bar F catch on the molding of the inner window-frame and assist in holding the bar F in place and preventing it from slipping.

If the firemen are experienced, the ladders can be raised in a very short time, and if the ladders are once raised the hooks O can be brought to any window instantly.

The device is very simple, as the ropes for raising the ladders are used for rescuing the people.

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

1. A ladder having the foot-piece B, with ring D, and the cross-piece H, in combination with the chain E, permanent brace F, pulleys L, and ropes N R, as shown and described.

2. The combination, with the ladder A, having the foot-piece B, of the ring D, the cross-piece H, having a loop, J, and the latch K, substantially as herein shown and described, and for the purpose set forth.

3. The combination, with a series of ladders, A, of the pulley L, the ropes N, having the hooks O, and the guy-ropes R, substantially as herein shown and described, and for the purpose set forth.

4. The combination, with a series of ladders, A, of the pulleys L, the ropes N, having the hooks O, the guy-ropes R, and the belt P on the ropes N, substantially as herein shown and described, and for the purpose set forth.

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Witnesses:
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