

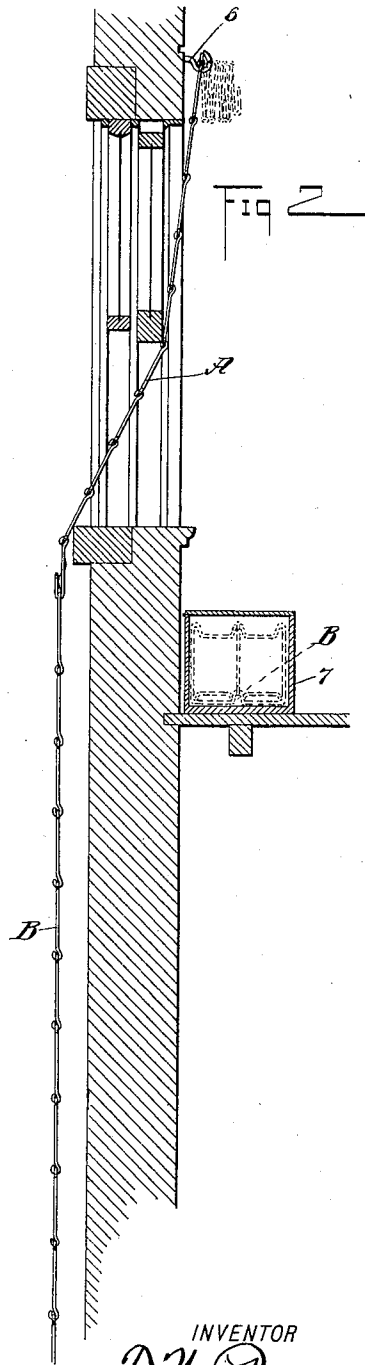
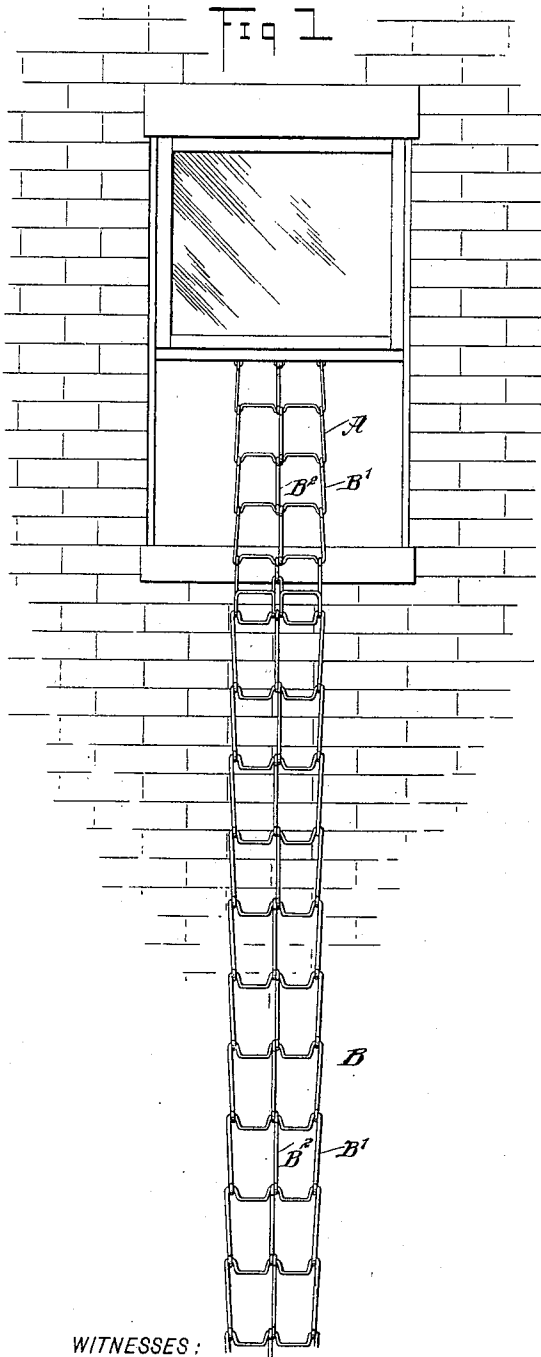
No. 651,202.

Patented June 5, 1900.

T. N. PARKER.  
FIRE ESCAPE LADDER.  
(Application filed Aug. 29, 1899.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:  
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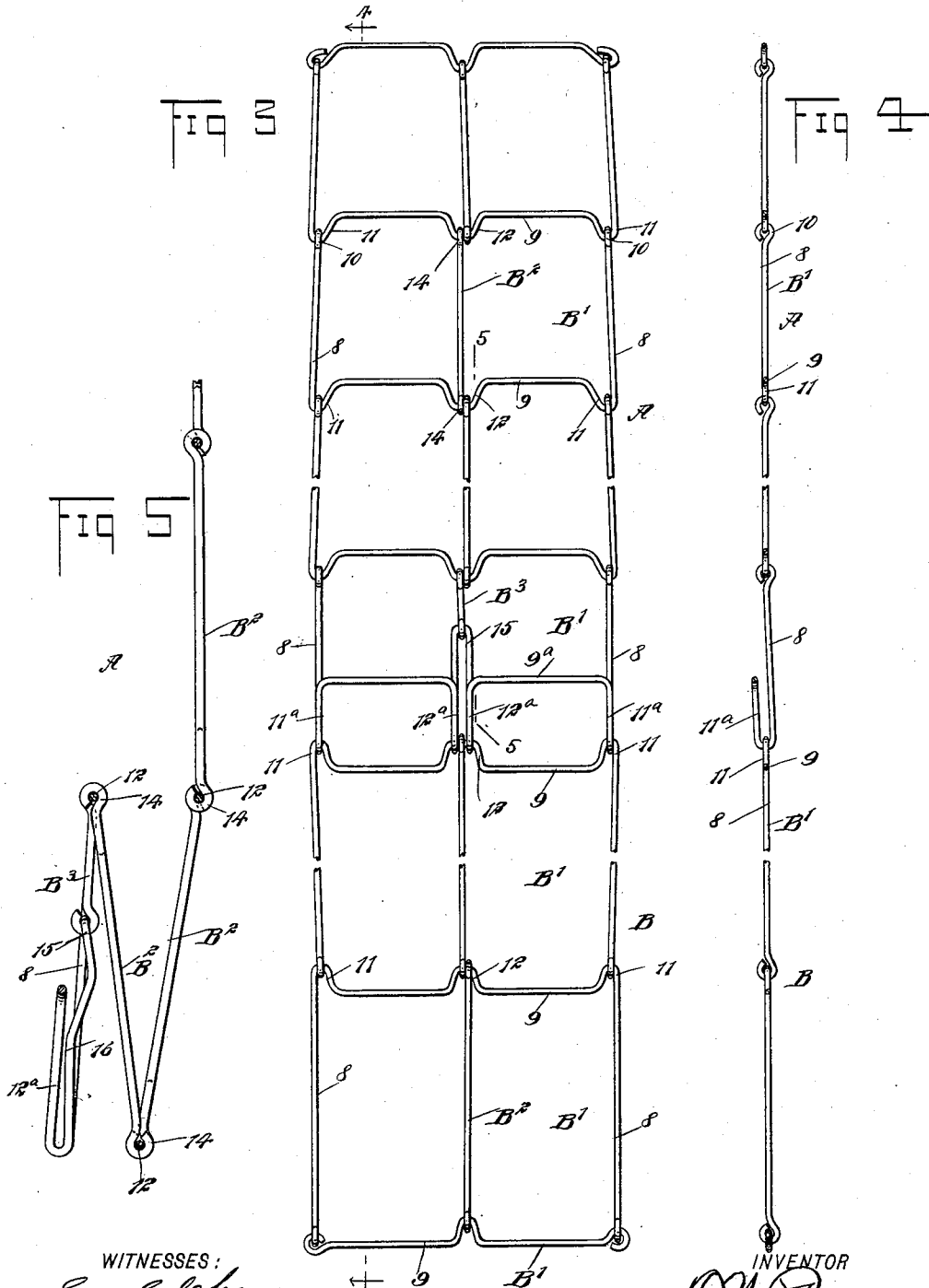
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# UNITED STATES PATENT OFFICE.

HERON N. PARKER, OF NEW YORK, N. Y., ASSIGNOR, BY DIRECT AND  
MESNE ASSIGNMENTS, TO LUCY PARKER, OF SAME PLACE.

## FIRE-ESCAPE LADDER.

SPECIFICATION forming part of Letters Patent No. 651,202, dated June 5, 1900.

Application filed August 29, 1899. Serial No. 728,899. (No model.)

*To all whom it may concern:*

Be it known that I, THERON N. PARKER, of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Fire-Escape Ladder, of which the following is a full, clear, and exact description.

The purpose of this invention is to provide a superior fire-escape of that class in which ladders are employed for persons to descend from a building, to which end I provide a ladder of special construction which is arranged in two sections, one of which (the supporting-section) is comparatively short and permanently attached to the inside of the building above the window and the other of which (the principal section) is adapted to be connected with the supporting-section, so that it may be thrown out of the window, and thus hung therefrom, facilitating the escape of the persons within the building.

This specification is the disclosure of one form of my invention, while the claims define the actual scope thereof.

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

Figure 1 is a front view of the invention in use. Fig. 2 is a side view thereof with a part of the building shown in section. Fig. 3 is an enlarged front elevation of the ladder, showing the particular construction thereof. Fig. 4 is a sectional view on the line 4 4 of Fig. 3, and Fig. 5 is an enlarged sectional view on the line 5 5 of Fig. 3.

This improved fire-escape is constructed in two sections—a supporting-section A and a principal section B. The supporting-section A has its upper end fastened to the inside of the building just above the window by means of hooks or other fastening devices 6, and this section A is of such a length that it may hang down through the window, the section terminating just at or near to the sill of the window. When the fire-escape is not in use, the section A is folded up above the window in the manner indicated by the dotted lines in Fig. 2. The section B is the principal section and has a length sufficient to reach the ground from the window. This section when

not in use may be kept in any convenient manner—for example, in box 7, arranged in the building below the window, as indicated in Fig. 2. When the fire-escape is to be used, the person desiring to escape should draw down the folded supporting-section A and pass it through the window, as shown in Figs. 1 and 2. Then the principal section B should be lifted from the box 7 and engaged with the section A in the manner shown in Fig. 2, the principal section being permitted to hang downward so that it reaches the ground. In order to facilitate the use of the fire-escape in this manner and also to render the ladder strong and light, I provide a particular construction for the ladder, which I will now describe. The ladder may be constructed of wire or like material and is composed of a number of pivotally-jointed divisions forming a flexible structure. Each division of the ladder comprises a U-shaped main portion B' and a central bracing-link B<sup>2</sup>. Each main portion B' comprises side runs 8, joined by a rung 9. The ends of the side runs 8 are formed with eyes 10 therein, which eyes 10 respectively engage in kinks 11, formed in the ends of the rungs 9 of the main portion B' of the adjacent ladder-division. The cross-rungs 9 of the ladder-sections B' are formed at their middles with kinks 12, in which eyes 14, formed in the ends of the central brace-rods B<sup>2</sup>, engage. The eyes 10 and 14 are pivotally connected with the respective kinks 11 and 12, so that the several divisions of the ladder are all pivotally joined, thus making a structure which may be freely flexed and also a structure which may be folded into very compact form, as indicated by the dotted lines in Fig. 2. This construction also is such as causes the ladder to stay in the folded position (indicated in the upper portion of Fig. 2) and prevents the ladder from falling down from such folded position.

It will be observed that by forming the kinks 11 in the ends of the rungs 9 and the kinks 12 in the middles of such rungs the rungs are left with portions laterally offset from the adjacent eyes 10 and 14. These offset portions in the principal section B of the ladder extend downward, as shown, and are thus adapted to receive the feet of the per-

son descending the ladder and offer a firm and secure footing for the person. Further, the construction described renders the ladder secure and durable. In the upper section A it is immaterial in which direction the kinks, and consequently the laterally-offset portions of the cross-rungs 9, are disposed, since the rungs 9 of the upper section are not traversed by the person using the ladder.

In order that the two sections A and B may be connected with each other, I provide the supporting-section A with an elongated open hook, which I will now describe. The lowermost division of the supporting-section has its U-shaped main portion B' provided with a rung 9<sup>a</sup>, at each end of which is formed a kink 11<sup>a</sup>, such kinks being considerably deeper than the kinks 11 previously described and being turned sidewise from the side runs 8 of the said main portion B'. At the middle of the rung 9<sup>a</sup> two kinks 12<sup>a</sup> are formed, which are of approximately the same depth as the hooks 11<sup>a</sup> and which are disposed in the same direction. The kinks 12<sup>a</sup> are connected with each other by the bight or loop 15, which is connected with the shortened central brace-link B<sup>3</sup> in the same manner that the kinks 12 are connected with the brace-links B<sup>2</sup>, before described. It will thus be seen that hooks are formed on the lowermost division of the supporting-section A of the ladder, and these hooks are adapted to engage with the rung 9 on the uppermost division of the principal section B of the fire-escape, which engagement is shown in Figs. 3 and 4. The central link 12 of said uppermost rung 9 of the principal section B is engaged with the two kinks 12<sup>a</sup>, and the end kinks 11 of said rung 9 are respectively engaged with the end hooks 11<sup>a</sup> of the rung 9<sup>a</sup>.

For the purpose of preventing accidental disconnection of the two sections A and B of the ladder the back portions of the kinks 12<sup>a</sup>, as indicated in Fig. 5, are formed with bows or bends 16, projecting toward the front portions of the kinks. The kinks 12 of the rung 9 of the division of the principal section B of the ladder are sprung into the kinks 12<sup>a</sup> and past the bows 16, so that the bows prevent the accidental raising of the principal section B of the ladder.

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

1. A fire-escape ladder, formed of a number of divisions, each comprising a U-shaped main portion, and a central longitudinal brace, the sections being pivotally connected to form a flexible ladder.
2. A fire-escape ladder, formed of a num-

ber of divisions, each comprising a U-shaped main portion, and a central longitudinal brace, the main portion having side runs joined by rungs and the rungs having kinks therein, with which the longitudinal brace and the side runs of the main portion of the adjacent division are connected.

3. A ladder having side runs, and rungs extending across between them, the rungs having downwardly-offset portions in the plane of the side runs, such portions serving as footholds for the person using the ladder.

4. A flexible ladder composed of a series of divisions or links formed of wire, each division having side arms or runs, and a transverse member forming a rung, the side arms joining the rungs by a return-bend in an inward direction, the rung thus being of less width than the distance between the side arms and lying within the extreme ends of the arms in the same plane as that of the latter, the ends of the side arms of adjacent links or divisions being pivotally connected to the return-bends at the ends of the rungs.

5. A flexible ladder, composed of a series of divisions or links formed of wire, each division having side arms or runs, and a transverse member forming a rung, the ends of the side arms of adjacent links or divisions being pivotally connected to the ends of the rungs, and the rungs having central open loops or kinks therein, and rigid longitudinal braces of wire pivotally joined to adjacent rungs at the side loops.

6. A ladder, composed of a number of divisions each comprising two side runs with a rung extending between them and a longitudinal central brace, the rungs having kinks formed therein, the kinks producing laterally-offset portions, and the side runs and central brace having eyes loosely engaging the kinks whereby to pivotally join the several divisions of the ladder.

7. A fire-escape, furnishing means for descending from a building to the ground, the fire-escape being formed in a short section and a longer main section, each composed of folding members, the folding members of each section being permanently joined by closed eyes, one of the sections being permanently fastened to the building at the interior thereof and above a window, and the other of which sections is formed with an elongated open hook serving to be removably connected with the first section.

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Witnesses:

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