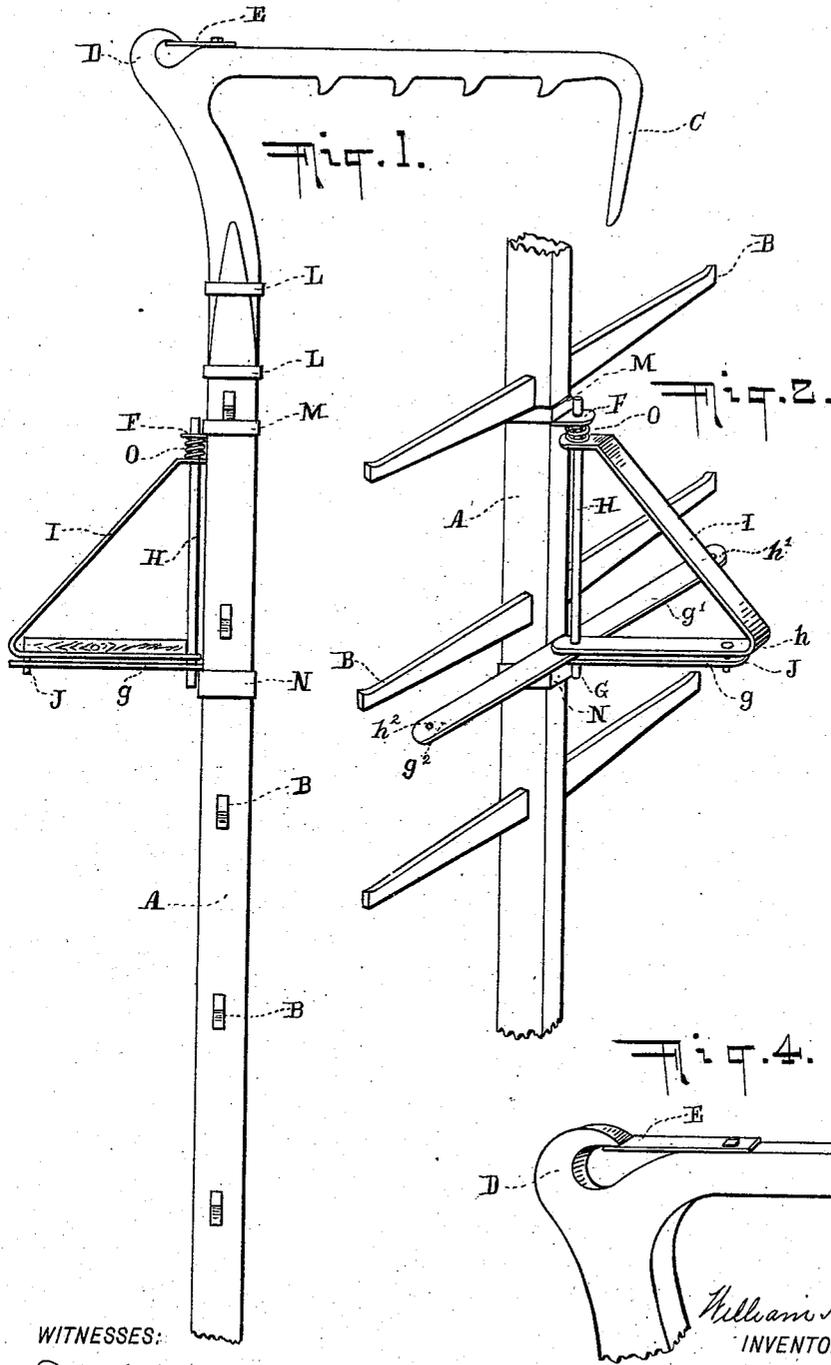


W. H. McKIEVER.

SCALING LADDER AND PORTABLE PLATFORM.

No. 533,998.

Patented Feb. 12, 1895.



WITNESSES:

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(No Model.)

2 Sheets—Sheet 2.

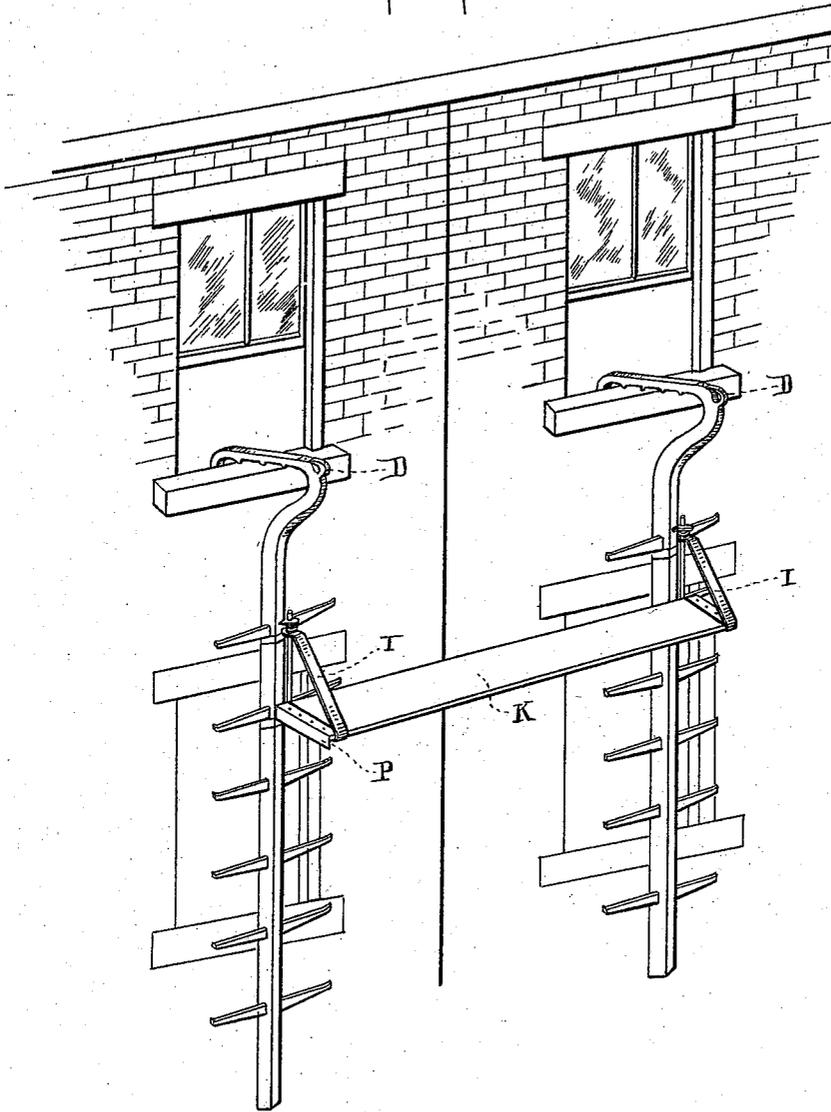
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Fig. 3.



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WILLIAM H. MCKIEVER, OF NEW YORK, N. Y.

SCALING-LADDER AND PORTABLE PLATFORM.

SPECIFICATION forming part of Letters Patent No. 533,998, dated February 12, 1895.

Application filed April 3, 1894. Serial No. 506,207. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. MCKIEVER, a citizen of the United States, residing at New York, in the county and State of New York, have invented certain new and useful Improvements in Scaling-Ladders and Portable Platforms, of which the following is a full, true, and accurate description, reference being had to the accompanying drawings, wherein similar letters designate corresponding parts in the several views.

The objects of my invention are to provide a scaling-ladder, preferably for use in rescuing persons and goods from burning structures, which shall have, first, means for suspending the ladder from the structure in combination with a hook or similar device to which a life-line may be attached, and which the fireman may snap on his life-belt, thus allowing freedom of both hands, and, second, to provide a scaling ladder, preferably of the above indicated class, with new and improved means for supporting a portable platform. It provides a scaling ladder and portable-platform by means of which persons can safely pass from one building to another, and which may be used in confined and narrow places. It also provides means for fastening the life-belt, thereby allowing perfect freedom of both hands, and by the same means the life-line for descent may be fastened without the necessity of the firemen going into the room to fasten it to some object therein; also for a hand line to guide timid persons along the platform from house to house; in which respect it has many advantages over scaling ladders and portable balconies heretofore used, and especially over the adjustable ladder shown of which I am aware, and which is described in United States Letters Patent No. 197,766, granted to G. Crawford, in which a ladder in combination with a bar, and a notched plank adapted to receive the bar, is shown as by reference to said patent will more fully appear.

The invention which I desire to cover, briefly stated, is as follows: first, to provide means which may be usefully combined with the suspending crook of a scaling-ladder to permit

the attachment thereto or thereon of a line to be used in materially assisting in removing persons or goods from burning structures to places of safety, and, second, to provide new and improved means for supporting and sustaining a portable platform, or other device, to assist in removing persons or goods to places of safety, and which may be used on the outside of buildings or structures as a platform or scaffold.

Referring to the drawings Figure 1, represents a side view of a scaling-ladder, showing both the devices, in this instance a hook, to which the life-line is to be attached and the frame for supporting one end of the portable platform. Fig. 2 is a detailed view of the preferred form of such frame. Fig. 3 shows one manner of using a portable platform with two of my improved scaling-ladders. Fig. 4 is an enlarged view of the hook D.

A is a bar of wood or metal.

B B are cross-bars of wood or metal, made integral with the bar A, or separate therefrom and passed through openings in or through the said bar A, so as to form means whereby the ladder may be ascended. When used on the outside of buildings or other structures for other purposes than escape in case of fire, the cross-bars B B and the crook C and hook D hereinafter mentioned, may be dispensed with, if desired.

C is the crook for suspending the scaling-ladder from a window, roof or other place, and the inner part of this crook, I preferably make with a series of teeth so that it may take a better hold. This suspending crook may be made integral with the bar A, or separate therefrom when it may be joined to the bar by any suitable means, such as the clamping bands L, L Fig. 1.

D is the device to which the life-line may be suspended, in this instance, consisting of a small metallic hook integral with the suspending crook, and having a spring, E, fitted near its point, (so as to prevent the accidental disengagement of the life-line from the small hook) to close the mouth of the hook. Attached to the main bar A, and on the side opposite the point of the crook, is the frame for

supporting one end of the portable platform. The said frame consists, (Fig. 2) of the upper brace, F, secured to the bar A by a clamping band M, the three-armed bracket, G, g, g', g^2 , which may be secured to the bar A by means of a clamping band N or the arm, g , of the bracket may be made integral with the bar A, the axial-bar, H, the frame I, mounted to swing on said axial-bar, and the latch-pin J, attached underneath the free end of the frame I.

Referring more in detail to the first object of my invention, I desire to be understood that, broadly stated, this branch of the improvement is the combination of means for sustaining a life-line, and although I have shown in the drawings a hook made in one with the suspending-crook, near the point of which hook is a spring to close its mouth, (so as to prevent the accidental disengagement of the line from the hook) yet I desire to be understood as embracing other devices than a hook within the scope of my invention, such, for instance, as a cleat, or a ring, or a pulley, or other device, and these or their frames may be made in one with the crook, or separately attached thereto, and they may be (as I prefer in all cases) fortified by means (such as a spring or gravity latch, or, in the case of a pulley, by a pin passing through coinciding openings in the frame and wheel), to prevent the accidental disengagement of the life-line and hook; also, if desirable, the hook or other device may be combined with the crook so as not to project from its surface (and the danger of breaking the hook by striking against a wall or other place be minimized). For instance, one or more depressions or ridges may be cut into the upper side of the crook, to act as rope fastening devices, and these may or may not have latches or pins combined with them, as desired.

Many other devices may suggest themselves to persons skilled in the art, or who may have occasion to use scaling-ladders, for sustaining life-lines, which will still be within the limits of my invention.

In the instance illustrated, the line may be brought by the person ascending the scaling-ladder, who could attach it to his belt, to the crook and a loop of the end of the line passed over the small hook, D, so as to depress the spring, E, and the said spring will immediately close the mouth of the hook to prevent the undesigned disengagement of the line from the hook.

Paying particular attention to the second branch of my invention, the production of new and simplified means for supporting a portable platform, the essential objects are, first, to produce a frame which shall firmly support a portable platform; second, to so combine this frame and its supports as to permit its use in narrow and confined places, as well as where there is working space, and to

be swung out of the way when not desired for use, and, third, to provide the frame and its supports with means for positively maintaining the frame in the position in which it is put.

By employing my improved frame, it is possible to use any ordinary platform (although one having hooks upon its ends or ridges on the under side is preferred) and it is possible to more easily mount the platform upon the scaling-ladder than has been done and to more surely maintain the ladder and platform in combination than heretofore, and I am not aware that a scaling-ladder has ever been produced or put in use which permitted so combining a portable-platform and scaling-ladder as to allow persons to pass from a burning structure to a point in front or in the rear of the burning building, and this particular feature is obviously meritorious because it may be used in cases where the whole fronts of buildings are in flames. This particular combination illustrated consists of the upper brace, F, the three-armed bracket, G, with the arms $g' g^2$ preferably at right angles to the arm g, g , and made of the same piece of metal, the arms $g, g' g^2$, having openings, h, h', h^2 , near their outer ends to receive the latch-pin of the swinging frame and to maintain it in the desired position, as hereinafter described. The three-armed bracket, G, may have supports underneath it to assist in supporting the portable-platform, or, in certain cases, one of the arms may be continued into a shank which passes through the main bar, A, and supports may be used or dispensed with, as desired. The upper brace, F, may also be made with means to assist in supporting the platform, such as a bracket above or below it, or the upper end of the axial bar, H, may be made smaller than its main part upon which the frame I swings, so as to support the brace F. This bar H may be rigidly mounted or arranged to oscillate with the frame I, as desired. Instead of the shape of the frame illustrated, the other forms may be used, and instead of the pin J, coinciding with the openings h, h', h^2 , in the arms of the bracket, G, other means may be used to maintain the frame in the desired place and with equal facility, and the engagement of the specific combination shown would be greatly assured by the employment of a spring between the under side of the brace, F, and the upper part of the swinging frame, a good form being a coiled spring fitted around the upper end of bar H, as shown at O.

To swing the illustrated form of frame into the desired position, it is only necessary to lift its free end, so as to disengage the pin J from one of the openings $h, h' h^2$, then to swing the frame so as to be over the bar desired and to release the frame, upon which the pin J will engage with the opening of the arm desired.

In Fig. 3 the manner of utilizing two of my

improved scaling-ladders to sustain a platform leading from a burning structure to a place of safety is shown, the swinging frames being shown at I, I, and the platform at K. As heretofore explained, it is preferable that the portable platform should have hooks upon its ends, or ridges on its under side, or other means should be employed to prevent it slipping in the direction of its length, such as the flanged plate, P, Fig. 3. Of course my improved frame will prevent any side slipping of the platform while maintaining it in the desired position.

While I have herein specifically described and illustrated a scaling-ladder having both a suspending-crook and cross-bars, and which is used principally in rescuing persons and property from burning structures, yet I do not wish to limit myself to these structural features, as it is obvious that they may be dispensed with leaving a main-bar supporting a swinging frame adapted to sustain a portable platform, without departing from my invention. The ladder or platform deprived of these features may be used by mechanics in repairing houses, &c.

What I claim and desire to secure is—

1. A scaling-ladder and portable platform, consisting of a main-bar, a horizontally swinging-frame and a portable platform supported by said horizontally swinging-frame, substantially as described.

2. A scaling-ladder and portable platform, consisting of a main-bar, a horizontally swinging-frame, having means to maintain it in the desired position, and a portable platform supported by said horizontally swinging-frame, substantially as described.

3. A scaling-ladder and portable platform, consisting of a main-bar, a suspending-crook, a horizontally swinging-frame and a portable platform supported by said horizontally swinging-frame, substantially as described.

4. A scaling-ladder and portable platform, consisting of a main-bar, a suspending-crook, a horizontally swinging-frame, having means to maintain it in the desired position, and a portable platform supported by said horizontally swinging-frame, substantially as described.

5. In a scaling-ladder, the combination of a main-bar, cross-bars, a suspending-crook, means such as a hook for sustaining a life-line upon the suspending-crook, and means such as a spring or its equivalent for preventing the accidental disengagement of said life-line, substantially as described.

6. In a scaling-ladder, the combination of a main-bar, cross-bars, a suspending-crook, and a hook, mounted on said suspending-crook, to sustain a life-line, substantially as described.

7. In a scaling-ladder, the combination of a main-bar, cross-bars, a suspending-crook, a hook, mounted on said suspending-crook, to sustain a life-line, and a spring or its equivalent

to prevent the accidental disengagement of said life-line, and hook, substantially as described.

8. In a ladder, the combination of a main bar and a horizontally swinging-frame to support a portable platform, substantially as described.

9. In a ladder, the combination of a main-bar, cross bars and a horizontally swinging-frame to support a portable platform, substantially as described.

10. In a ladder, the combination of a main-bar, a suspending crook and a horizontally swinging-frame to support a portable platform, substantially as described.

11. In a ladder, the combination of a main-bar, and a horizontally swinging frame, provided with means to maintain it in the desired position, adapted to support a portable platform, substantially as described.

12. In a ladder, the combination of a main-bar, cross-bars and a horizontally swinging frame, provided with means to maintain it in the desired position, and adapted to support a portable platform, substantially as described.

13. In a ladder, the combination of a main bar, a suspending crook and a horizontally swinging frame, provided with means to maintain it in the desired position, and adapted to support a portable platform, substantially as described.

14. In a scaling-ladder, the combination of a main-bar, cross-bars, a suspending-crook and a horizontally swinging frame to support a portable platform, substantially as described.

15. In a scaling-ladder, the combination of a main-bar, cross-bars, suspending-crook, a horizontally swinging-frame to support a portable platform, and means for maintaining the swinging-frame in the desired position, substantially as described.

16. In a scaling-ladder, the combination of a main-bar, cross-bars, suspending-crook, means such as a hook for sustaining a life-line upon said suspending-crook, and a swinging-frame to support a portable platform, substantially as described.

17. In a scaling-ladder, the combination of a main-bar, cross-bars, suspending-crook, means such as a hook for sustaining a life-line upon the suspending-crook, means such as a spring or its equivalent for preventing the accidental disengagement of the life-line, and the swinging frame to support a portable-platform, substantially as described.

18. In a scaling-ladder, the combination of a main-bar, cross-bars, suspending-crook, means such as a hook for sustaining a life-line upon the suspending-crook, a swinging-frame to support a portable-platform, and means such as a spring or its equivalent for maintaining the swinging-frame in the desired position, substantially as described.

19. In a scaling-ladder, the combination of a main-bar, cross-bars, suspending-crook, means such as a hook for sustaining a life-line upon the suspending-crook, means such as a spring or its equivalent for preventing the accidental disengagement of the life-line, a swinging frame to support a portable-platform, and means for maintaining the swing-
5 ing-frame in the desired position, substantially as described. 10

In witness whereof I have hereunto signed my name this 31st day of March, 1894.

WILLIAM H. MCKIEVER.

In presence of--

L. F. H. BETTS,
CHARLES FAJARO.