

(No Model.)

P. J. MUNHALL.  
FIRE ESCAPE.

No. 523,916.

Patented July 31, 1894.

Fig. 1.

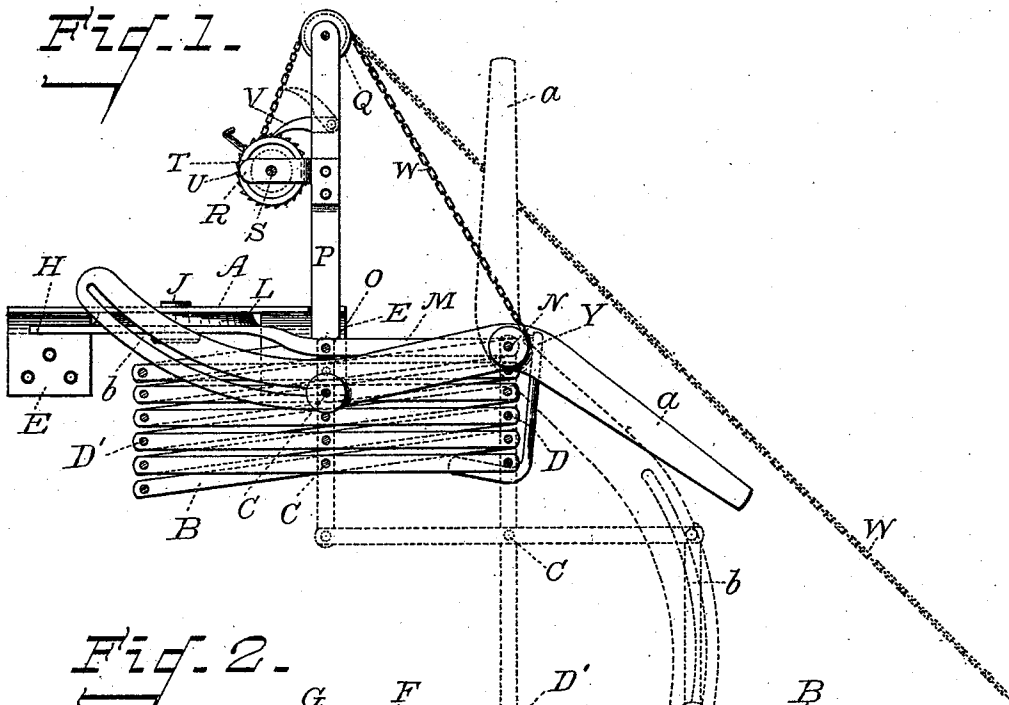


Fig. 2.

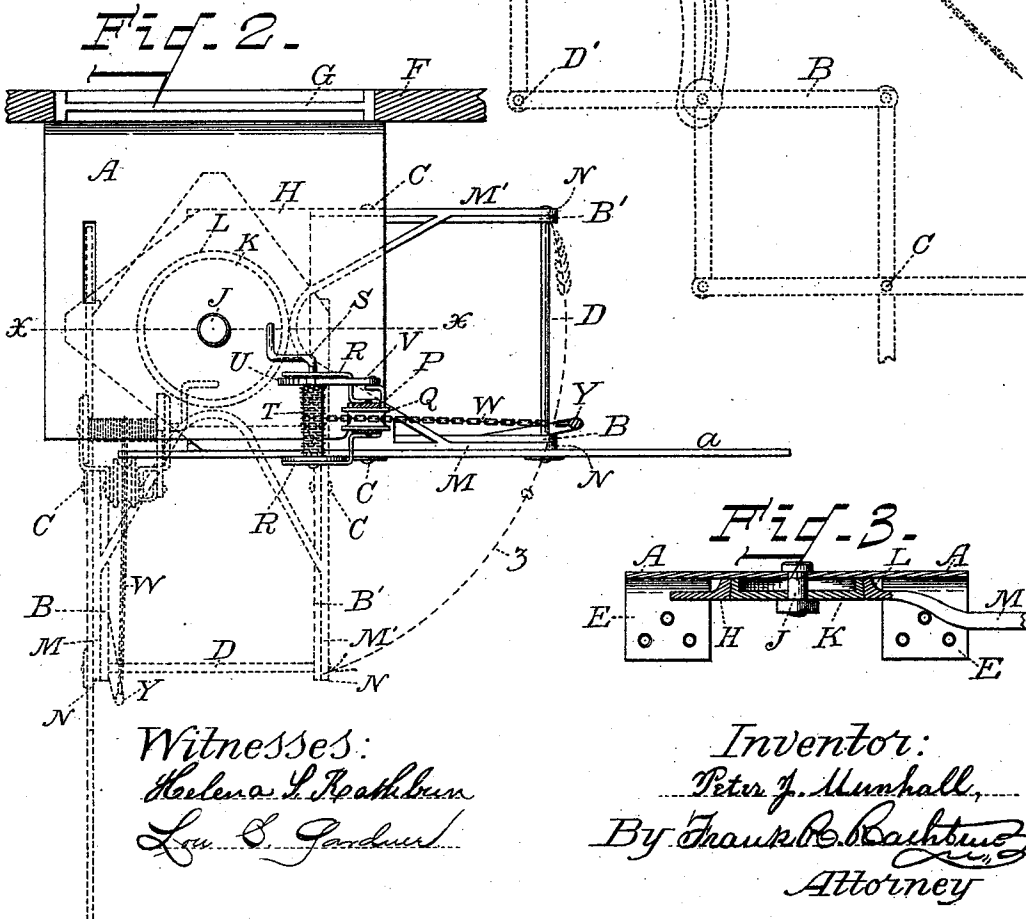
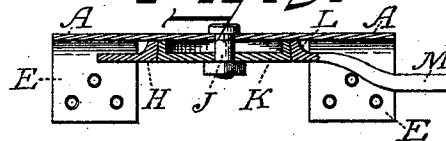


Fig. 3.



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# UNITED STATES PATENT OFFICE.

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## FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 523,916, dated July 31, 1894.

Application filed January 24, 1894. Serial No. 497,930. (No model.)

*To all whom it may concern:*

Be it known that I, PETER J. MUNHALL, a citizen of the United States, residing at the city of Auburn, county of Cayuga, State of New York, have invented a new and useful Improvement in Fire-Escapes, of which the following is a specification, reference being had to the accompanying drawings on one sheet, making part of this specification.

The objects of my invention are to construct a substantial fire escape that may readily be extended into position for use in cases of emergency, and so arranged that it may be extended against or away from the walls of the building to which it is applied in a position easy of descent or ascent, and which can readily be contracted or folded up and out of the way when not desired for use. I attain these objects by the mechanism shown in the accompanying sheet of drawings consisting of three figures, in which—

Figure 1, represents a side elevation of the fire escape as it appears when applied to the building, and contracted or folded up when not required for use. Fig. 2, is a vertical plan view of Fig. 1, and Fig. 3, is a sectional view of the deck of the fire escape through the line  $x, x$ , of Fig. 2.

Similar letters refer to similar parts throughout the several views.

In the drawings A, represents the deck of the fire escape which latter consists mainly of two series of lazy-tongs B, B', in uniform opposition to each other, being centrally pivoted at C, and pivoted and connected at their forward and rearward ends by the rungs D, D', which former are readily made available for purpose of descent and ascent when the fire-escape is extended for use.

The deck A, is provided with lugs E, E, by means of which it is fastened to the building F, in proper place at an opening therein, or a window G.

To the lower side of the deck A, is fastened a tapered hub K, by means of the bolt J, on which said tapered hub K, is fitted and free to turn a seat L, which is formed on the upper side of the frame H. The frame H, is extended into the bars M, M', to the ends of

which at N, and also near the center of the same at O, are pivoted the lazy-tongs B, B', already described.

On the bar M, of the frame H, is suitably secured the vertical post P, which carries in a slot at its top end the sheave Q. The post P, is provided midway with bearings R, R, which serve to support a crank-shaft S, on which is fixed the reel T, which has a ratchet head U, into which engages a pawl V, which is carried in proper working place on the post P. A cable W, is provided, one end of which being made fast to the reel T, the other end is passed through the sheave Q, and thence downward to the bottom of the extended lazy-tongs B, where it is again made fast to an arm Y, provided at that point, the object of which arrangement of parts will presently be seen.

A hand lever  $a$ , is provided and pivoted to the lazy tongs B, at the point N, of the bar M, and extended from thence rearwardly in the form of an arc which is provided with an extended slot  $b$ , which engages with one of the central pivots C, of the lazy tongs B, in the form and after the manner shown in Fig. 1, and the office of which will hereinafter be described.

Having thus explained the several parts and features of my invention, I will now set forth the operation of the same.

When not in use, the fire escape presents the appearance as shown in the positive lines in the elevation shown at Fig. 1, the lazy tongs being contracted or folded together beneath the deck A; this position is enforced by the winding up on the reel T, of the cable W, by the operator, which said cable is made fast at its lower end to the arm Y, attached to the bottom end of the lazy tongs B, as heretofore mentioned. The pawl V, being then engaged in the ratchet head U, of the reel T, carried on the crank shaft S, supported by the bearings R, R, which are carried midway on the post P, serves to lock and retain the lazy tongs in the contracted or folded position beneath the deck A, as already mentioned, the hand lever  $a$ , assuming a horizontal plane as shown.

When the fire escape is desired for use, the operator has simply to disengage the pawl V,

from the ratchet head U, of the reel T, when the weight alone of the lazy tongs, through the resultant cable release, causes them to drop and extend to such a degree as to carry  
 5 the handle end of the hand lever *a*, within reach of the operator upon the deck A, by means of which the lazy tongs are thrown out to the required extent along the side of the building to the ground as shown in dotted  
 10 lines in Fig. 1.

Should it be desired to extend the lazy tongs in a line away from the building or at right angle thereto, this can be effected by the operator turning the frame H, on the taper hub  
 15 K, secured to the under side of the deck A, by the bolt J, either before or after a partial release of the lazy tongs as already described and clearly shown by the dotted lines in Fig. 2, in which the arc described,—or a portion  
 20 thereof,—by the frame H, and its several connected parts is shown by the dotted arrow Z.

Having thus fully described my invention in its several parts, together with its mode of operation, what I claim as new, and desire to  
 25 secure by Letters Patent of the United States, is—

1. The combination with the lazy-tongs B, B', connected by the rungs D, D', of the hand lever *a*, having an extended slot *b*, and pivoted  
 30 on the said lazy tongs B, at N, whereby they are extended substantially in the manner and for the purpose as herein described and specified.

2. In a fire escape the combination with the  
 35 deck A, having a taper hub K, held on the under side thereof by the bolt J, of the frame H, having a seat L, whereby the said frame may be turned about the deck, substantially

constructed in the manner and for the purpose herein shown and described.

3. In a fire escape the combination with the  
 40 deck A, having the lugs E, E, of the frame H, pivoted thereto by the bolt J, and extended into the bars M, M', to which the lazy tongs B, B', are pivoted, and carrying the post P,  
 45 provided with the reel T, having a ratchet head U, and a pawl V; of the cable W, made fast at one end to said reel T, and passing through the sheave Q, on the said post P, and made fast at its other end to the arm Y, at the  
 50 bottom of the lazy tongs B, B', substantially constructed in the manner and for the purpose herein described and specified.

4. In a fire escape, the combination of the  
 55 deck A, having lugs E, E; the frame H, pivoted thereto by the bolt J, and the taper hub K, fitted in the seat L, of said frame extended into the bars M, M', to which the lazy tongs B, B', are pivoted, and carrying the post P, provided with the reel T, having a ratchet  
 60 head U, and a pawl V; the cable W, made fast at one end to the said reel T, passing through the sheave Q, on the post P, and made fast at the other end to the arm Y, at the  
 65 bottom of the lazy tongs B, B'; and the hand lever *a*, pivoted on, and extending said lazy tongs; the whole substantially constructed and combined for joint operation in the manner and for the purpose herein described and  
 70 specified.

In testimony whereof I have hereunto set my hand this 17th day of January, A. D. 1894.

PETER J. MUNHALL. [L. s.]

Witnesses:

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