

(No Model.)

J. A. P. HEPTING.
BLOCK TACKLE FIRE ESCAPE.

No. 432,044.

Patented July 15, 1890.

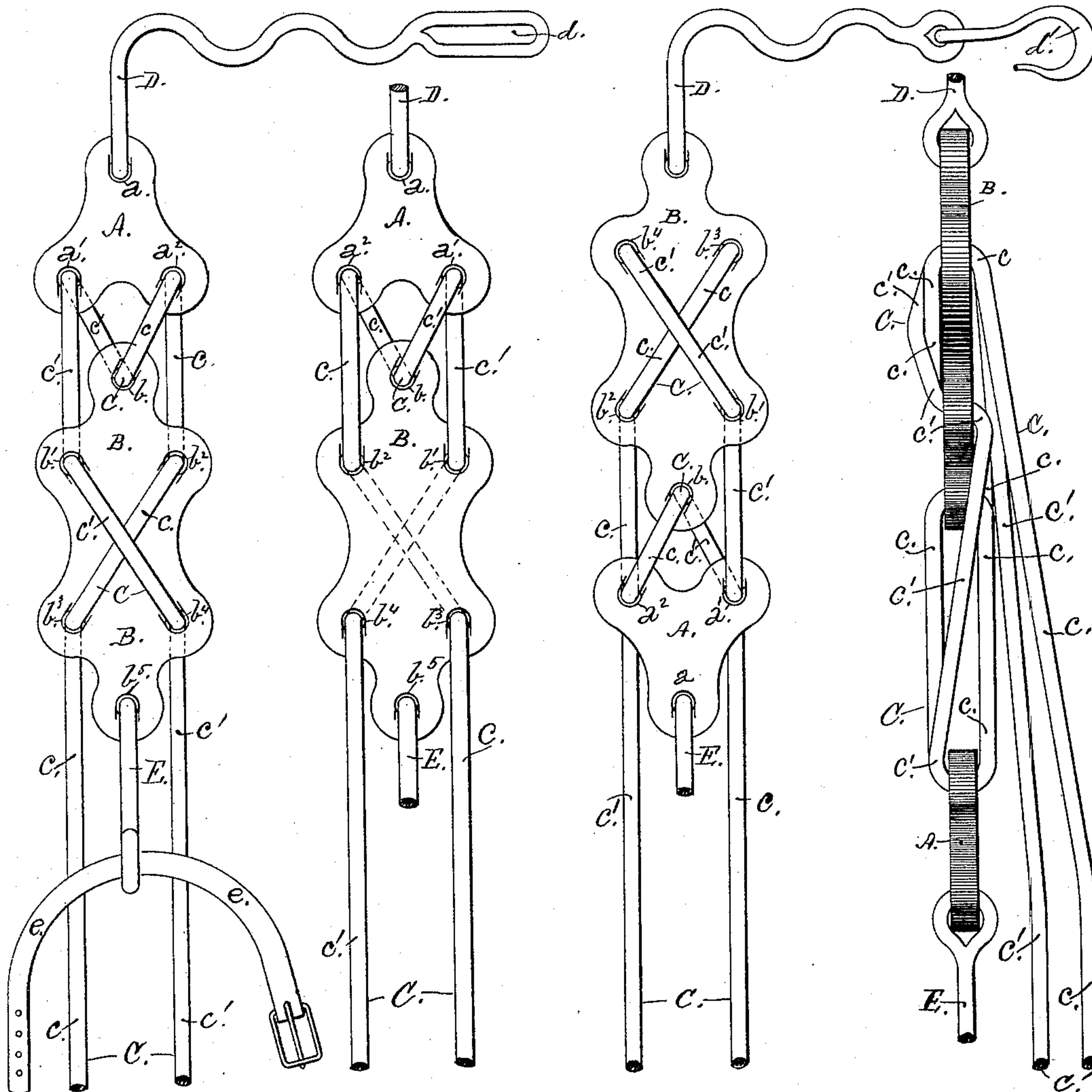


Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Witnesses:
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UNITED STATES PATENT OFFICE.

JOHN A. PAUL HEPTING, OF LANCASTER, PENNSYLVANIA, ASSIGNOR OF TWO THIRDS TO ALDUS F. HAWTHORN AND EZRA F. LANDIS, BOTH OF SAME PLACE.

BLOCK-TACKLE FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 432,044, dated July 15, 1890.

Application filed March 26, 1890. Serial No. 345,366. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. PAUL HEPTING, a citizen of the United States, residing at Lancaster, in the county of Lancaster and State of Pennsylvania, have invented certain new and useful Improvements in Fire-Escapes by Means of a Block-Tackle without Pulleys; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in a block-tackle without pulleys, consisting of two blocks provided with orifices, in combination with a rope laced in a peculiar manner through certain of said orifices, and one block being fixed in a higher plane and the other block allowed to move along said rope to a lower plane.

The object of my invention is to provide means by which an individual may safely lower himself on the outside from the upper stories of a burning building when other means of escape are cut off.

I accomplish the purpose of my invention by the devices illustrated in the accompanying drawings, in which—

Figure 1 is a front view of my device, showing the blocks and peculiar lacing of the rope in position as they appear before a descent is made, with attaching and supporting ropes, respectively, at the upper and lower ends; Fig. 2, a view of the reverse side of Fig. 1 with portions of the attaching and supporting ropes cut away; Fig. 3, a view of the device inverted as it appears in Fig. 1, the attaching and supporting ropes in interchanged places, with part of the supporting-rope removed and the attaching-rope provided with a hook; and Fig. 4, a view from the right of Fig. 3, the blocks somewhat farther separated and portions of the attaching and supporting ropes removed.

Similar letters refer to similar parts throughout the several views.

My device consists of two blocks A and B, a connecting-rope C, an attaching-rope D, and a supporting-rope E. The blocks may be made of any suitable material having the

requisite strength and of any size and thickness, and the ropes of any fibrous substance having sufficient flexibility.

The block A is triangular in form, having through it in the angles orifices a , a' , and a^2 , rounded and recessed to allow easy motion to the ropes acting through them.

The block B is hexangular in form, having through it in the angles orifices b , b' , b^2 , b^3 , b^4 , and b^5 , rounded and recessed to allow easy motion to the ropes acting through them.

The connecting-rope C must have sufficient length when doubled to extend over twice the height from which it is desired to descend, and the lacing is as follows: The rope is passed through the orifice b of the block B and doubled, forming two parts c and c' . Following the course of the part c it extends forward and up in front of the block A to the orifice a^2 , through said orifice rearward and down in the rear of the block B to the orifice b^2 , through said orifice forward and diagonally down to the orifice b^3 , and through said orifice rearward and down to the ground, where the remainder of its length may rest. Following the course of the part c' , it extends rearward and up in the rear of the block A to the orifice a' , through said orifice forward and down in the rear of the block B to the orifice b' , through said orifice forward and diagonally down over the part c to the orifice b^4 , and through said orifice rearward and down to the ground, where the remainder of its length may rest, Figs. 1 and 2. From an inspection of Figs. 3 and 4 it will be observed that the lacing is precisely the same; but the orifices b^3 and b^4 being uppermost the rope C will be doubled downward, and the parts c and c' of the rope C will extend from the upper end of the tackle down to the ground, as before.

Through the orifice a in the upper angle of the block A is looped an end of the attaching-rope D, provided at the other end with an elongated loop d , which may be passed over a bed-post, door-knob, or hook in the room, or a beam may be passed through and rest against the window-frame from which it is desired to use the tackle.

Through the orifice b^5 in the lower angle

of the block B is looped an end of the supporting-rope E, provided at the other end with a strap *e*, having a buckle at one end and eyelets at the other, which strap may be fastened around the body under the arm pits, so that the rope E will be on the back when it is desired to use the tackle.

In Figs. 3 and 4 an end of the attaching-rope D is shown looped through the orifice *b*⁵ in an angle of the block B, which in these views is placed uppermost, becoming the stationary block; but the rope D is provided at its other end with a hook *d'* for attaching within the room from which it is desired to make the escape, and the supporting-rope E, before described, is shown as attached through the orifice *a* in an angle of the block A, which in these views is placed undermost, becoming the moving block, while in the device as illustrated in Figs. 1 and 2, A is the stationary and B the moving block. In either case the method of descent is the same, for the individual desiring to lower himself, having buckled the strap *e* around his body, as before mentioned, taking the portions *c* and *c'* one in each hand of the rope C and passing out of the window or other opening will be suspended, then, letting the portions *c* and *c'* of the rope C slip through the hands, his weight will in the first instance cause the block B and in the second case the block A to descend, the rope slipping through the several orifices in the respective blocks, thus letting himself down safely to the ground. Of course he can regulate the speed of the descent by means of his hands grasping the portions *c* and *c'* of the rope C, and after having descended to the ground by the device as applied in Figs. 3 and 4 the block A may be readily hoisted again to the position indicated in Fig. 3, when a second

individual may let himself down as did the first.

It will be observed that a seat, basket, or other device may be attached to the supporting-rope E in place of the strap *e*, having the buckle and eyelets.

Having now described my invention, what I do consider new, and desire to secure by Letters Patent of the United States, is—

In a block-tackle without pulleys, whereby an individual may lower himself from a higher to a lower plane, the triangular block A, having in the angles the orifices *a*, *a'*, and *a*², and through the orifice *a* the attaching-rope D, and the hexangular block B, having in the angles the orifices *b*, *b'*, *b*², *b*³, *b*⁴, and *b*⁵, and through the orifice *b*⁵ the supporting-rope E, in combination with the connecting-rope C, doubled through the orifice *b*, forming two portions *c* and *c'*, laced, the portion *c* forward and up in front of the block A to the orifice *a*², through said orifice rearward and down in the rear of the block B to the orifice *b*³, through said orifice forward and diagonally down to the orifice *b*³, and through said orifice rearward and down the required distance, the portion *c'* rearward and up in the rear of the block A to the orifice *a'*, through said orifice forward and down in the rear of the block B to the orifice *b'*, through said orifice forward and diagonally down over the part *c* to the orifice *b*⁴, and through said orifice rearward and down the required distance, substantially as described, and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN A. PAUL HEPTING.

Witnesses:

JOHN BAKER,
JAS. M. BAKER.