J. B. BLAW.

PORTABLE HOISTING APPARATUS.

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1,310,598. Patented July 22, 1919.

Fig. 1.

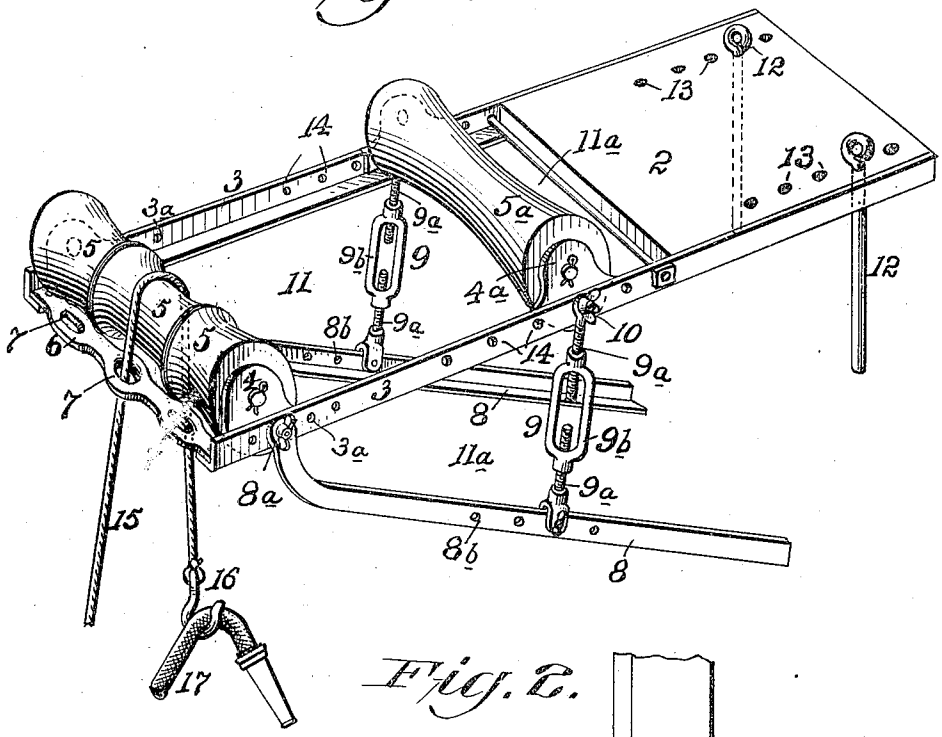
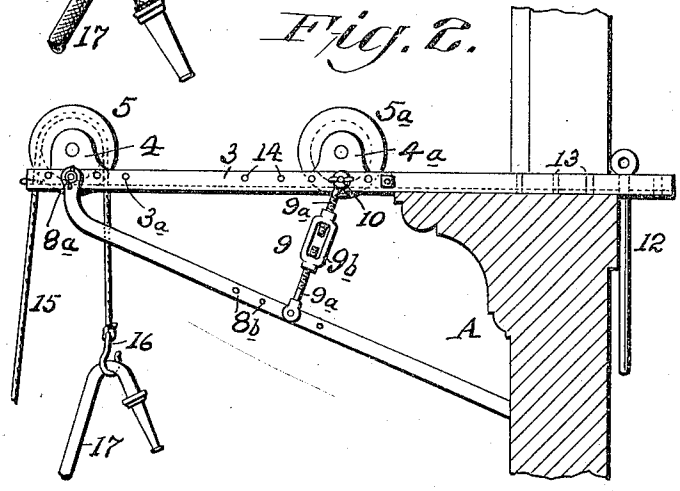


Fig. 2.



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PORTABLE HOISTING APPARATUS.

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To all whom it may concern:

Be it known that I, JACOB B. BLAW, a citizen of the United States, and resident of Atlantic City, county of Atlantic, and State of New Jersey, have invented an Improvement in Portable Hoisting Apparatus, of which the following is a specification.

The object of my invention is to provide suitable portable hoisting apparatus which may be quickly installed in windows of a burning or adjacent building and by means of which, fire hose, ladders and other necessary apparatus may be speedily elevated into effective position for use.

More particularly, my invention has for an object the provision of an outwardly extending suspension means or jack adapted to any window and wall and furnished at its outer or overhanging portion with suitable rollers over which hoisting ropes or cables may be guided, and which rollers may also act as guides for articles such as fire hose when being further elevated to bring its nozzle end into position within the building.

A further object is to provide the suspension means with adjustable devices for detachably connecting it to a window sill and for bracing its outer end against downward strain, said devices including adjustable struts capable of positioning to suit any irregularity in shape of the building adjacent to the window sill and over which said means is to extend and by which it is supported.

With the above and other objects in view, the nature of which will be more fully understood from the description hereinafter, the invention consists in the novel construction of portable hoisting apparatus as hereinafter more fully described and defined in the claims.

Referring to the drawings: Figure 1 is a perspective view of my improved portable hoisting apparatus; and Fig. 2 is a side elevation of the same showing its adaptation to the window of a building, the latter in section.

A is the wall of a building having the window opening to which my improved suspension means are to be applied. The suspension means are, in general construction, what may be technically termed a jack and in further description, this expression will be adopted for more convenient reference.

In construction the jack comprises a horizontal member, inner vertical members and lower strut members. The horizontal member consists of two side angle irons 3, 3, secured together at their inner ends by a transverse board 2 and at their outer ends by a cross brace 6 having vertical guide aperture 7. Between the board 2 and the brace 6 is an open space 11. At the outer ends of the side angle irons 3, 3, are upright brackets 4, having a transverse rod on which guide rollers 5 are journaled, said rollers somewhat grooved to centralize the ropes, cables or hose being moved over them. I prefer to employ three of these grooved rollers 5 journaled upon the transverse rod in the same axial alinement and independently rotatable. The side angle irons 3, 3, near the board 2 are also provided with brackets 4^a, to which is similarly journaled a guide roller 5^a, which may, if desired, correspond in shape to the outer guide rollers 5. The opening 11 extends rearwardly of this roller 5^a, so as to provide a space 11^a between it and the board 2 as shown in Fig. 1, down which a cable or rope may pass.

The board 2 is provided, near each side, with a series of holes 13 in which vertical steel pins 12 are adjustably inserted, said pins adapted to extend downwardly on the inside of the wall at the window opening and thus sustain the jack from being pulled outwardly. The holes 13 permit adjustment to suit walls of different thicknesses.

8, 8, are struts respectively hinged to the side angle iron frames 3, 3, by wing nuts and bolts 8^a extending through holes 3^a, said struts extending downwardly and rearwardly to abut against the wall of the building (Fig. 2); and said struts are adjustably positioned by connecting members 9, 9, which are respectively hinged at their lower ends to the strut members 8, 8, and at their upper ends to the side irons 3, 3. These connecting members 9 are of such character that they may act both as ties and struts to position the oblique struts 8, 8, from movement inwardly or outwardly relatively to the horizontal member of the jack. Moreover, they are preferably independently adjustable so that the strut member 8, 8, may separately be adjusted to suit any variation in the wall configuration. These connections preferably consist of a turn-buckle construction having right and left screw

threaded rod ends 9^a connected by the nut portion 9^b, by which construction they may be lengthened or shortened to change the angle of the struts 8 relatively to the horizontal roller member. The lower ends of these connections 9 are preferably connected adjustably to the side irons 3 by wing nuts and bolts 10 extending through holes 14 in said side irons, and adjustable to the struts 8 by wing nuts and bolts 8^c extending through holes 8^b in said struts, whereby their hinged ends are adjustable along said side irons and struts. By this means the ends of the connections 9 may be positioned nearer to or farther from the rear end of the horizontal member giving greater capacity of independent adjustment and also permitting positioning of the jointing to avoid contact with obstructions adjacent to window opening. While I prefer the turnbuckle form of construction, because of great and rapid capacity for adjustment, I do not restrict myself thereto, as other suitable adjustable connections may be employed in lieu therefor. When the connecting means 9 are adjusted to the holes 14, the forward ends of the struts 8 may be similarly adjusted to the holes 3^a to position the struts as a whole farther forward or rearward, as may be required.

My improved suspension means or jack is attached to the wall of the window opening as shown in Fig. 2, in which it will be seen that the rear end portion of the horizontal member rests upon the sill, the pins 12 extend downwardly back of the wall A, and the oblique struts 8, 8, extend obliquely backward and abut against the outer face of the wall. The devices shown permit firm positioning of the jack to any thickness or shape of wall and the adjustment thereto may be speedily and effectively made by a person of ordinary judgment. The structure as a whole is light and portable and may readily be carried up or pulled up with a rope to the position of elevation desired.

In use, the jack is first placed in position and then a rope 15 is placed over the roller 5, one end guided through one of the apertures 7 in cross bar 6 and the other end extending downward through the space 11 and provided, if desired, with a hook 16 or other suitable means for attachment to a hose, ladder or other article 17 to be hoisted. By pulling upon the free end of the rope, the hose may be raised to a position between the rollers 5 and 5^a and into the open space 11; and then be released from the rope and drawn into the window over roller 5^a. The rope, when released, is prevented from falling by means of the hook 16 or its equivalent being unable to pass through the aperture 7 in the cross bar 6. The additional rollers 5, when employed, may enable additional ropes to be simultaneously employed for elevating hose or other articles and thereby giving greater capacity to the jack than would be possible with a single roller at the outer end thereof. If desired, an additional rope may be employed over the roller 5^a to increase the capacity for hoisting, and in this case the space 11^a permits the descent of the rope. In this way a plurality of ropes may be operated to bring the articles up through the open space 11 between the rollers 5 and 5^a, where they may be conveniently handled.

The following special advantages of an apparatus of this character will be understood from the following explanations: Speed, in bringing into play the necessary fire apparatus, is one of the first and more important thoughts of the fire department. One of the most difficult obstructions to be overcome in many fires is the bringing into play of the hose lines where the fire is back of walls which act as an obstruction or barrier in getting water from the street. To elevate the hose to the proper height whereby the firemen may handle the nozzles directly from the inside of the building is one of the essential things to be accomplished quickly. With methods heretofore in use, the process of elevating the ladders and the dragging of the long length of hose up many stories has consumed a great deal of time, was very laborious and greatly delayed the supply of water to the fire and thereby permits objectionable headway to be gained. By my improvement these delays are greatly reduced. The sheave suspending jack, being of light construction, may be carried up into the building or pulled up and attached as may be necessary under the varying conditions of the building and fire; and the elevating cable may be quickly applied. In a few minutes the entire apparatus is in position for elevating the hose and the same is brought into operative position at the elevation of any story desired. As the hose may be pulled over the grooved roller 5^a, there will be very little wear upon it as compared to pulling the hose over sharp window sills, as so frequently happens in the operations as heretofore carried on. The same apparatus may also be utilized in raising ladders in place of hose as supplemental thereto. In this manner ordinary ladders may be handled as effectively as if they were extension ladders of a ladder truck. The entire apparatus is simple, inexpensive and easily applied by firemen of ordinary intelligence and has the special advantage that it can be quickly brought into place for the purpose for which it is intended.

It will now be apparent that I have devised a novel and useful construction which embodies the features of advantage enumerated as desirable, and while I have in the present instance shown and described the

preferred embodiment thereof which has been found in practice to give satisfactory and reliable results, it is to be understood that I do not restrict myself to any particular use of apparatus, nor to the details, as the same are susceptible of modification in various particulars without departing from the spirit or scope of the invention.

Having now described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A portable hoisting apparatus for elevating a fire hose or other articles, to upper floors of a building, comprising a detachable jack adapted to be adjusted quickly to a window sill and wall adjacent thereto, said jack having an open space between its sides and outer and inner ends, a grooved roller journaled at the outer end of the jack, a cable extending over the grooved roller and having one end extending down through the open space for elevating fire hose, or other article, and a guide for the other end of the cable arranged upon the jack at its outer end beyond the roller, the cable being provided with means which prevent it passing through and out of guide when it is lowered through said guide.

2. A portable hoisting apparatus for elevating a fire hose or other articles, to upper floors of a building, comprising a detachable jack adapted to be adjusted quickly to a window sill and wall adjacent thereto, said jack having an open space between its sides and outer and inner ends, a grooved roller journaled at the outer end of the jack, a cable extending over the grooved roller and having one end extending down through the open space for elevating the fire hose, or other article, a guide for the other end of the cable arranged upon the jack at its outer end beyond the roller, and a second roller above the open space adjacent to the inner end of the jack, over which the hose or other article may be guided when elevated and while being drawn into the window.

3. A portable hoisting apparatus for elevating fire hose or other articles, to upper floors of a building, comprising a detachable jack adapted to be quickly adjusted to a window sill and wall adjacent thereto, said jack providing a horizontal member having an open space at its outer end, combined with guide rollers at the outer and inner ends of said open space, adjustable pins on the inner end of the horizontal member to hold it against outward movement when applied to a window, two adjustable struts hinged to the outer end of the horizontal member to hold the same against downward movement when applied to a window, and a cable movable over the outer roller, whereby the hose may be elevated into the space between the two rollers and subsequently be guided over the inner roller.

4. A portable jack for elevating fire hose or other articles to the upper windows of a building, consisting of a horizontal member having a roller near one end, combined with vertical pins near the other end, adjustable oblique struts each hinged to the horizontal member adjacent to its roller end, and adjusting connections between the struts and the horizontal member for holding the struts at different angles to the horizontal member.

5. A portable jack for elevating fire hose or other articles to the upper windows of a building, consisting of a horizontal member having a guide roller for an elevating cable, combined with oblique struts, adjustable connections for hinging the struts to the horizontal member at a greater or less distance from one end thereof, and adjustable connections between the struts and the horizontal member at a place intermediate to its ends, said connections being hinged to both the struts and horizontal member.

6. A portable jack for elevating fire hose or other articles to the upper windows of a building, consisting of a horizontal member having a guide roller for an elevating cable, combined with oblique struts, adjustable connections for hinging the struts to the horizontal member at a greater or less distance from one end thereof, and adjustable connections between the struts and the horizontal member at a place intermediate to its ends, said connections being hinged to both the struts and horizontal member, and each comprising a screw threaded rod hinged to a strut, a screw threaded rod hinged to the horizontal member and adjustable along the length of the said horizontal member, and a turn-buckle having right and left hand threaded holes for the respective rods, whereby the connections may be adjustably positioned on the horizontal member to correspond to adjusted position of the hinged connection of the struts with said member.

7. A portable jack for elevating fire hose or other articles to the upper windows of a building, consisting of a horizontal member having at one end an open space and two guide rollers respectively arranged at the front and rear of said space, combined with means at the other end of the horizontal member for fitting down back of a window sill, a cable guided over one of the rollers, adjustable oblique struts hinged to the horizontal member near its end adjacent to the outermost roller and adjustable connecting means for positioning the struts relatively to the horizontal member.

8. A portable jack for elevating fire hose or other articles to upper windows of a building, comprising a detachable jack adapted to be quickly adjusted to a window sill and to the outside wall adjacent thereto, said jack providing two horizontal members with cross connections and forming a wide open

space of large area adjacent to its outer end, and a plurality of independently rotatable grooved rollers arranged end to end and journaled upon a common axis transversely of the jack and across the outer end of the opening therein, whereby different articles may be simultaneously elevated and all be taken through the large open space in being transferred into the building through the window.

9. A portable hoisting apparatus for elevating a fire hose, or other articles, etc., to upper floors of a building, comprising a detachable jack adapted to be adjusted quickly to a window sill and wall adjacent thereto, said jack having an open space between its sides and outer and inner ends, a grooved roller journaled at the outer end of the jack, a cable extending over the grooved roller and having one end extending down through the open space for elevating the fire hose or other article, and a second grooved roller above the open space adjacent to the inner end of the jack, over which the hose or other article may be guided when elevated and while being drawn into the window.

10. A portable jack for elevating fire hose or other articles to upper windows of a building, comprising a detachable jack adapted to be quickly adjusted to a window sill and to the outside wall adjacent thereto, said jack providing two horizontal members with cross connections and forming a wide open space of large area adjacent to its outer end, a guide roller extending across the wide opening adjacent to the window end of the jack, and a plurality of independent rotatable grooved rollers arranged end to end and journaled upon a common axis transversely of the jack and across the outer end of the opening therein, whereby different articles may be simultaneously elevated and all be taken through the large open space and over the guide roller in being transferred into the building through the window.

In testimony of which invention, I hereunto set my hand.

JACOB B. BLAW.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."