

No. 640,780.

Patented Jan. 9, 1900.

O. W. LEACH.
FIRE ESCAPE.

(Application filed May 16, 1899.)

(No Model.)

Fig. 1.

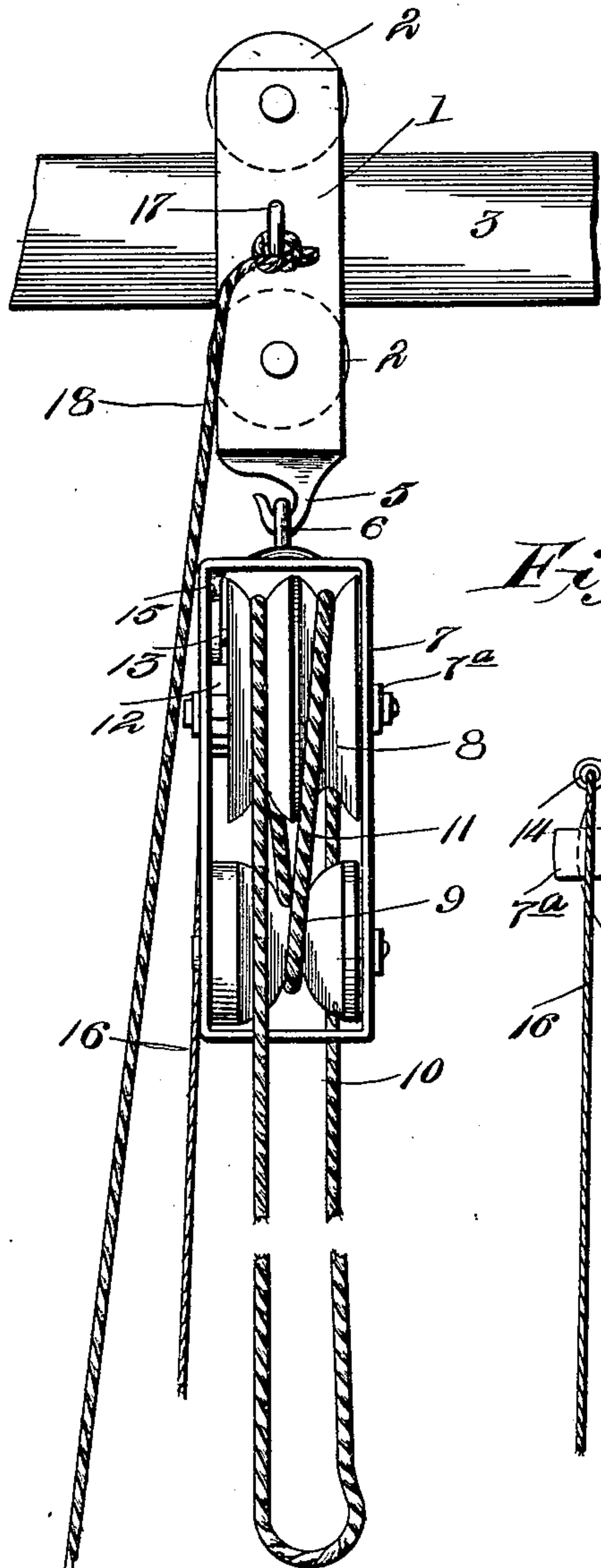


Fig. 2.

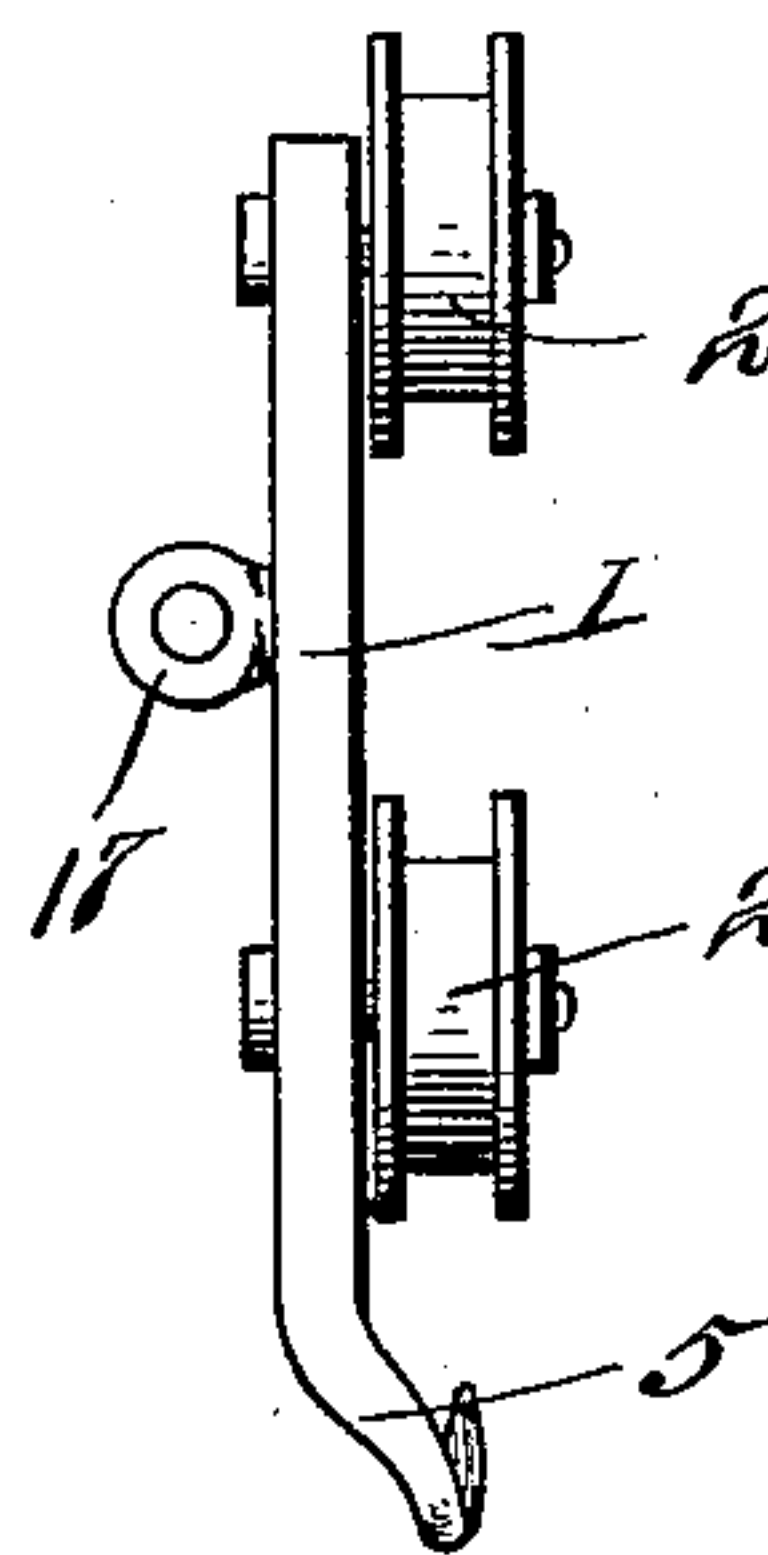


Fig. 3.

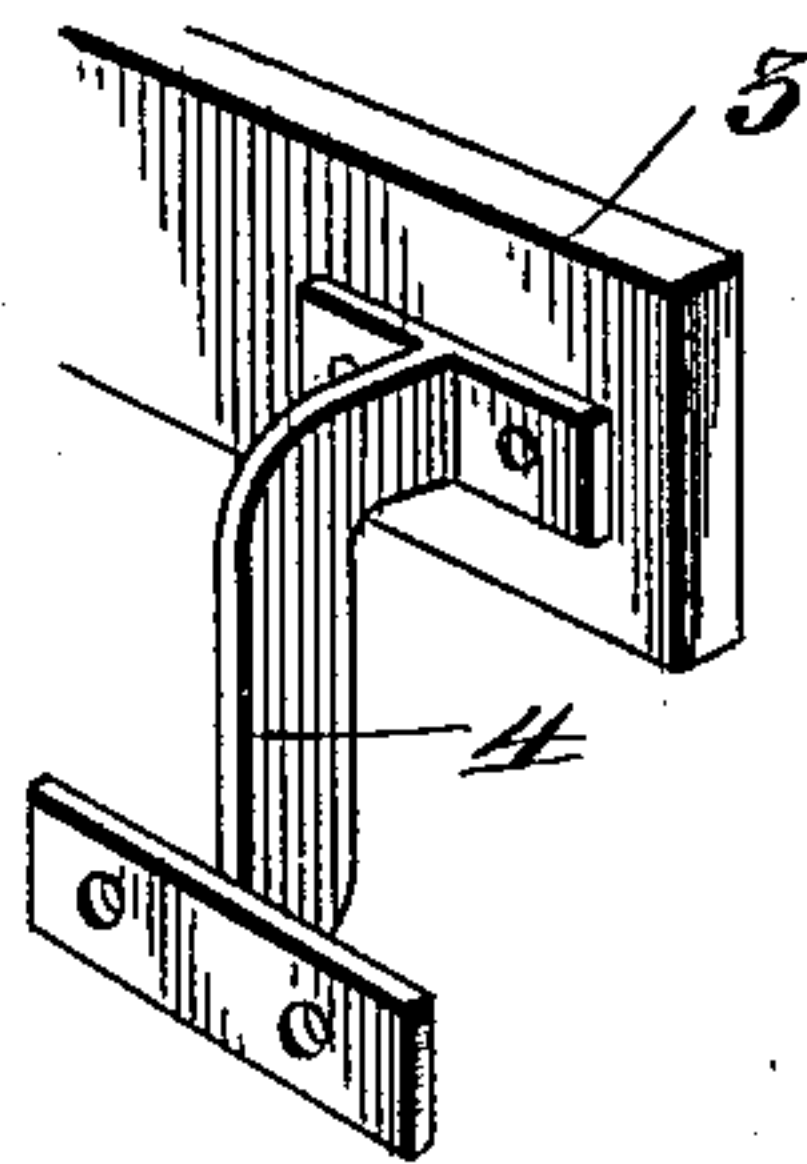


Fig. 4.

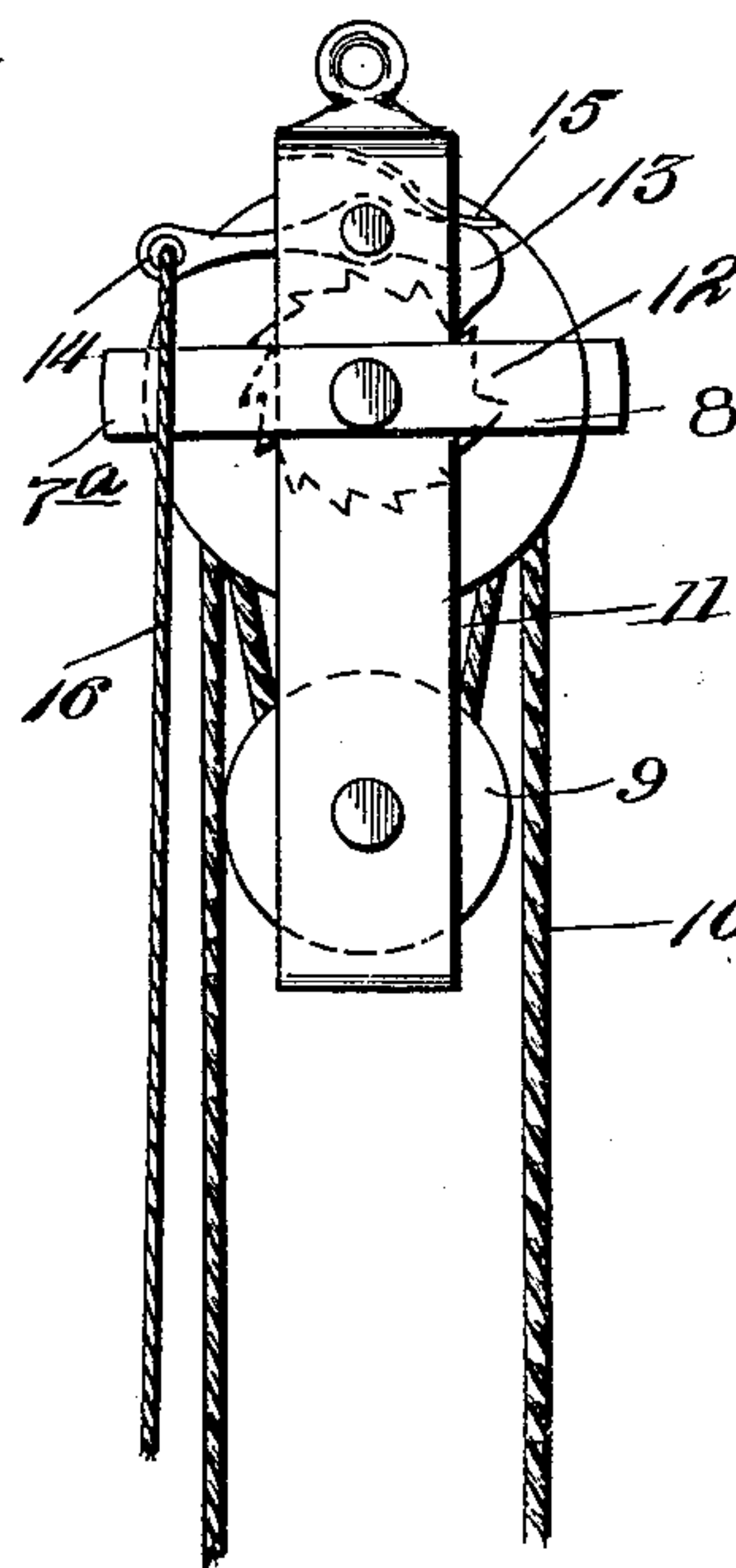
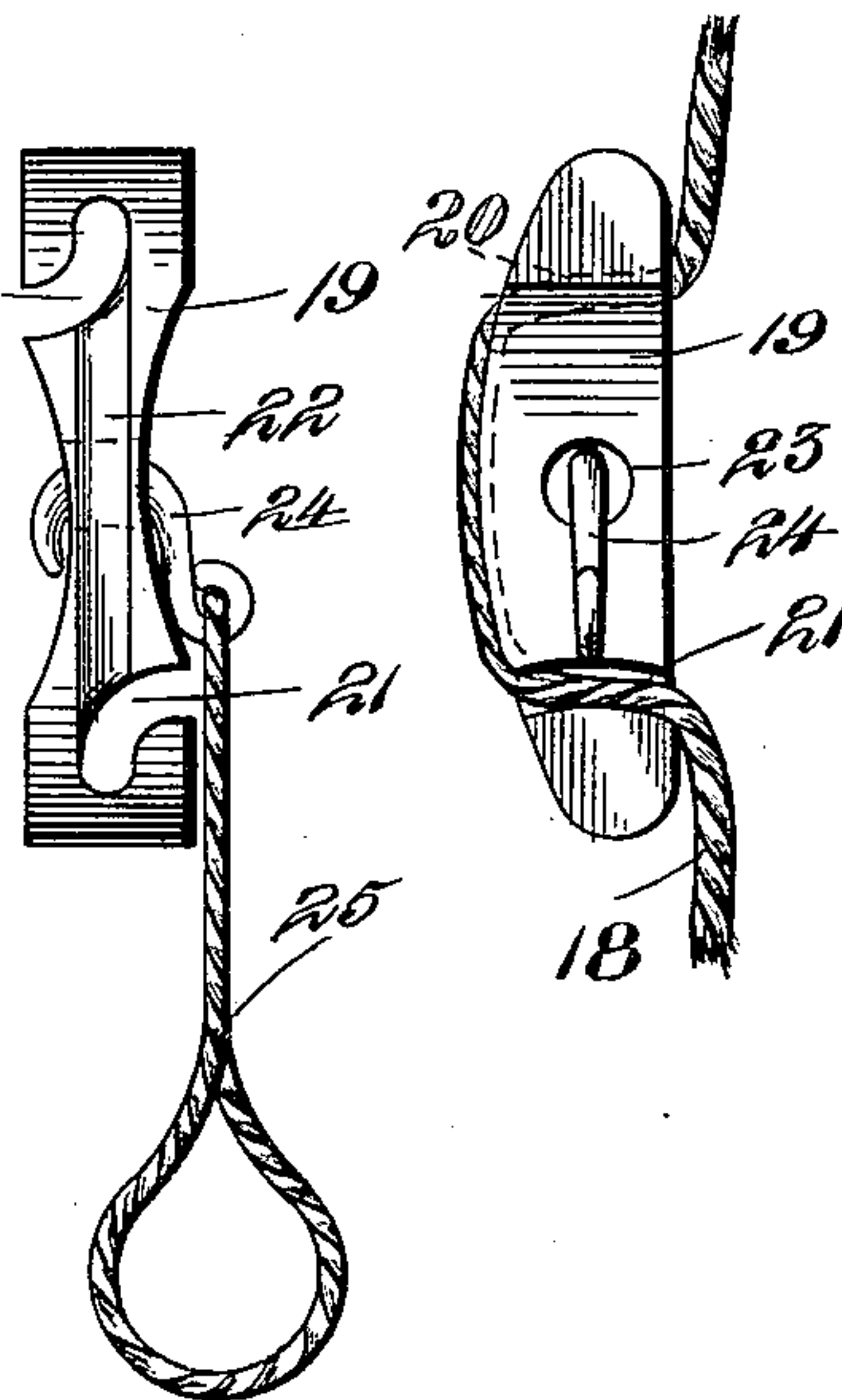


Fig. 5. Fig. 6.



Witnesses
Clarence Walker.
J. H. Riley

Oliver W. Leach Inventor
By his Attorneys.

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

OLIVER W. LEACH, OF FALL RIVER, MASSACHUSETTS.

FIRE-ESCAPE.

SPECIFICATION forming part of Letters Patent No. 640,780, dated January 9, 1900.

Application filed May 16, 1899. Serial No. 717,109. (No model.)

To all whom it may concern:

Be it known that I, OLIVER W. LEACH, a citizen of the United States, residing at Fall River, Bristol county, Massachusetts, have invented a new and useful Improvement in Fire-Escapes, of which the following is a description.

The invention relates to improvements in fire-escapes.

The object of the present invention is to improve the construction of fire-escapes and to provide a simple, inexpensive, and efficient device designed to be mounted on a building under the projecting portion of the roof or at any other desired point and capable of enabling persons to descend readily and adapted to afford a ready means for lowering property and for hoisting hose.

A further object of the invention is to provide a device of this character which will enable firemen to ascend readily to the upper portions of a building and which may be advantageously employed by painters, carpenters, and other workmen in repairing buildings.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is an elevation of a fire-escape constructed in accordance with this invention. Fig. 2 is a detail view of the movable hanger. Fig. 3 is a detail view of one of the brackets, illustrating the manner of supporting the track. Fig. 4 is an elevation of the hoisting mechanism. Figs. 5 and 6 are detail views of the friction block or clutch.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a hanger provided with upper and lower grooved wheels 2, receiving the upper and lower edges of a horizontal track 3, supported by brackets 4 and designed to be mounted on a building under the projecting portion of a roof or at any other desired point. The hanger, which is adapted to be moved along the track to arrange the fire-escape at the desired point and to transfer it from one portion of a building to another, is provided

at its bottom with a hook 5, which engages an eye 6 of a frame 7 of a hoisting device, composed of an upper double pulley 8, a lower single pulley 9, and an endless rope or cable 10, which is arranged on the said pulleys. The supporting-frame 7, which is oblong, is provided with horizontal pieces 7^a to retain the rope on the upper pulleys, and the endless rope is provided at its upper portion with a loop 11, and it passes over the upper pulley and under the lower pulley and then over the upper pulley again, making the loop 11, which extends from one pulley to the other, as shown. The upper pulley is provided with a ratchet 12, consisting of an annular series of teeth arranged to be engaged by a pawl 13, which is adapted to be employed when the cable is used for hoisting purposes. The pawl, which is pivoted between its ends, has one end engaging the ratchet, and its other end is provided with an eye 14. The engaging end of the pawl is held against the ratchet by means of a spring 15, and a cord 16 or other suitable flexible connection is attached to the eye 14 for operating the pawl and ratchet.

The pawl and ratchet may be operated from the ground, and the hanger is provided at its front with an eye 17, to which is connected a rope or cable 18, adapted for drawing the fire-escape from one portion of a building to another and designed to receive a friction block or clutch 19, which is also capable of use on the endless rope or cable 10.

The friction block or clutch, which operates in the nature of a brake to permit persons to descend at the desired speed, is provided with upper and lower reversely-arranged substantially L-shaped slots 20 and 21, located at the ends of the block or clutch, which is provided with a curved longitudinal groove 22, which is smooth and which connects the slots or openings and receives the rope, as clearly illustrated in Fig. 6 of the accompanying drawings. The entrance portions of the slots are located at the inner ends thereof and at opposite sides of the block or clutch, and while they permit the latter to be readily applied to a rope at any point between the ends thereof there is no liability of the rope becoming accidentally disengaged from the device when the same is in use. The friction block or clutch is provided at its center with

an opening 23, adapted to be engaged by a hook 24 of a support 25, which may consist of a noose, as illustrated in the accompanying drawings, but which may be of any other desired construction. By varying the tension on that portion of the rope below the block the movement of the latter may be controlled and a person may descend as slowly as desired. The friction block or clutch may be securely fastened to the rope by giving the latter two or more turns around the projecting portion or hook formed by the slot 21, and the said block or clutch may be operated on either of the ropes 10 and 18.

It will be seen that the fire-escape is exceedingly simple and inexpensive in construction, that it may be readily applied to a building, and that it is capable of being arranged at different portions thereof and of enabling persons to descend and control their descent. It will also be apparent that the device is adapted for hoisting purposes and may be conveniently employed by carpenters, painters, and others for repairing buildings.

Changes in the form, proportion, size, and the minor details of construction within the scope of the appended claims may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

What is claimed is—

1. In a device of the class described, the combination with a rope or line, of a friction block or clutch having a smooth longitudinal groove to receive the rope or line, and provided at opposite sides with approximately L-shaped slots detachably receiving the rope or line and located at the ends of the longitudinal groove, and a supporting device pivotally depending from the block and adapted to receive a person, said block or clutch being adapted to slide down the rope or line and being capable of being controlled by the free lower portion of the same, substantially described.

2. A device of the class described comprising a supporting-frame, an upper double pulley, a lower single pulley, an endless rope or cable provided at its top with a depending loop and arranged on the said pulleys, said loop connecting the pulleys, and a pawl and ratchet connected with one of the pulleys, substantially as described.

3. A device of the class described comprising a track, a hanger movably mounted on the track, a supporting-frame suspended from the hanger, an upper double pulley, a lower single pulley, an endless rope or cable provided at its top with a depending loop and arranged on the said pulleys, said loop connecting the pulleys, a pawl and ratchet connected with one of the pulleys, and lines or ropes connected respectively with the hanger and with the pawl, substantially as described.

4. A device of the class described comprising a track, a hanger movably mounted on the track, a supporting-frame suspended from the hanger, an upper double pulley, a lower single pulley, an endless rope or cable provided at its top with a depending loop and arranged on the said pulleys, said loop connecting the pulleys, a pawl and ratchet connected with one of the pulleys, lines or ropes connected respectively with the hanger and with the pawl, and a friction block or clutch having a supporting device and provided with reversely-arranged slots or openings extending inward from its opposite sides and adapted to receive either the endless rope or the rope or line of the hanger, substantially as described.

In witness whereof I have hereunto signed my name in presence of two subscribing witnesses.

OLIVER W. LEACH.

Witnesses:

JOHN FIELDEN,

JAMES W. PARKINSON.