

(No Model.)

3 Sheets—Sheet 1.

W. WINKLESS.
FIRE LADDER.

No. 409,722.

Patented Aug. 27, 1889.

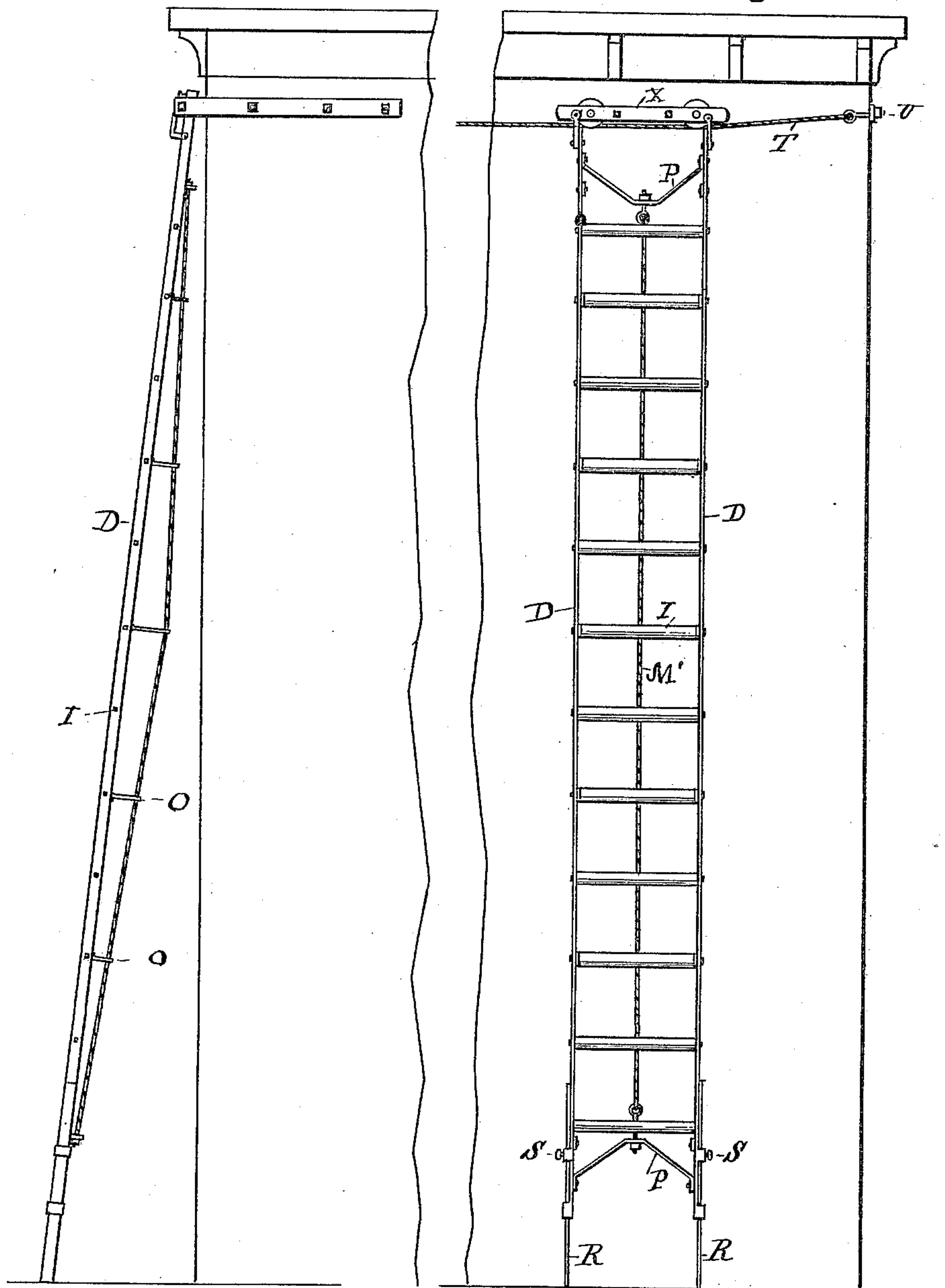


Fig. I.

Fig. II.

WITNESSES:

Robert Kirk.
Robt. S. Millar

INVENTOR :

Wm. Winkless.

By

J. S. Zerk

Attorney.

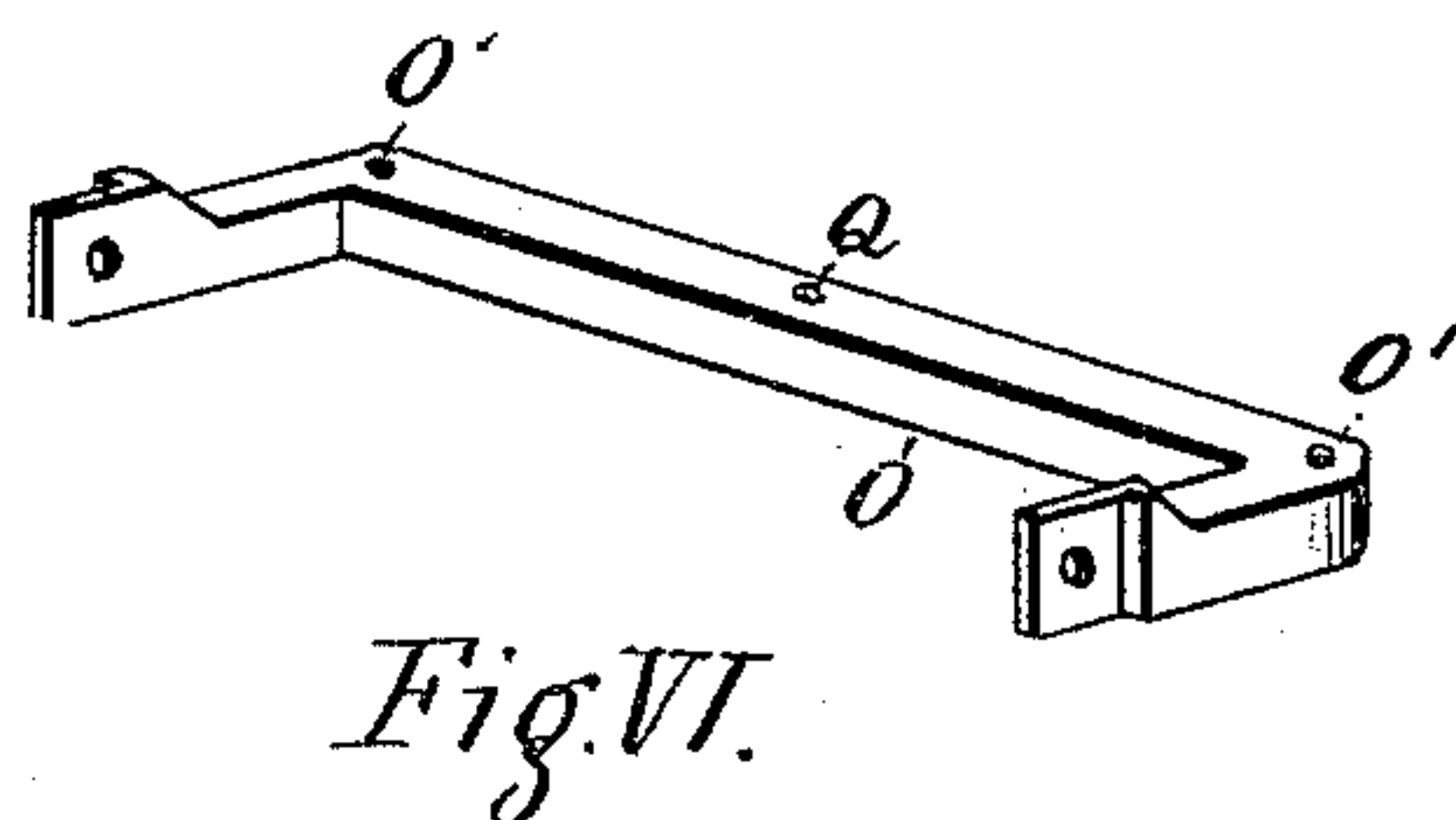
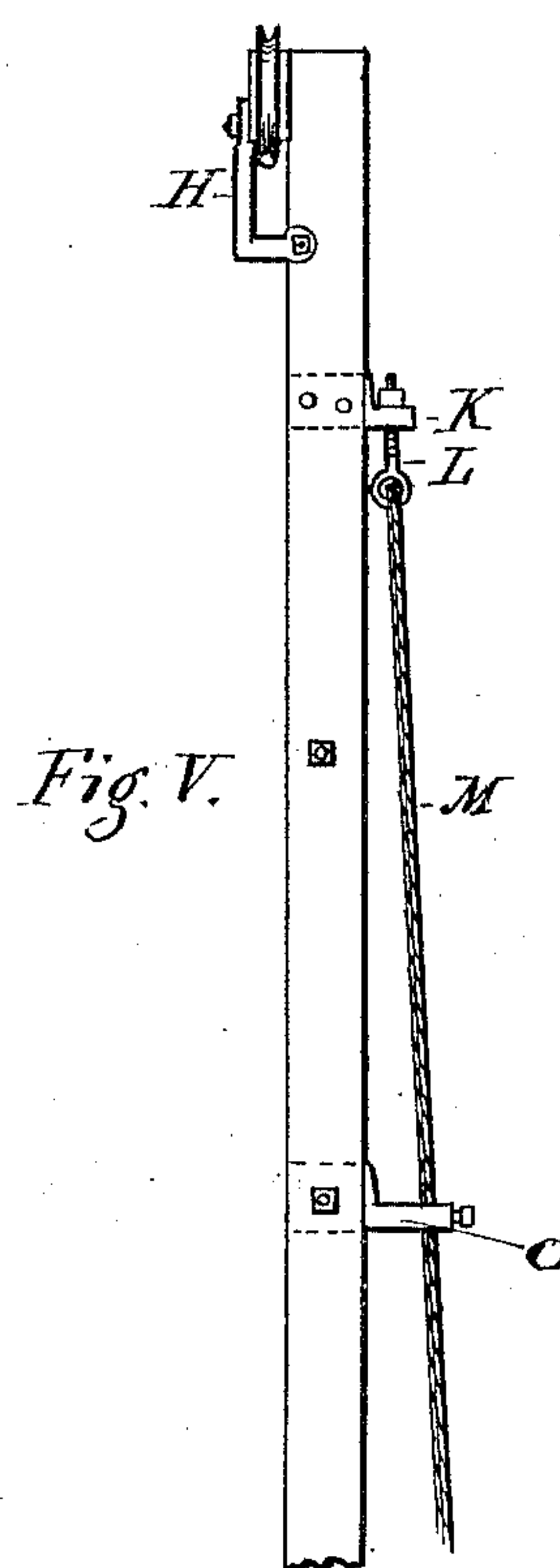
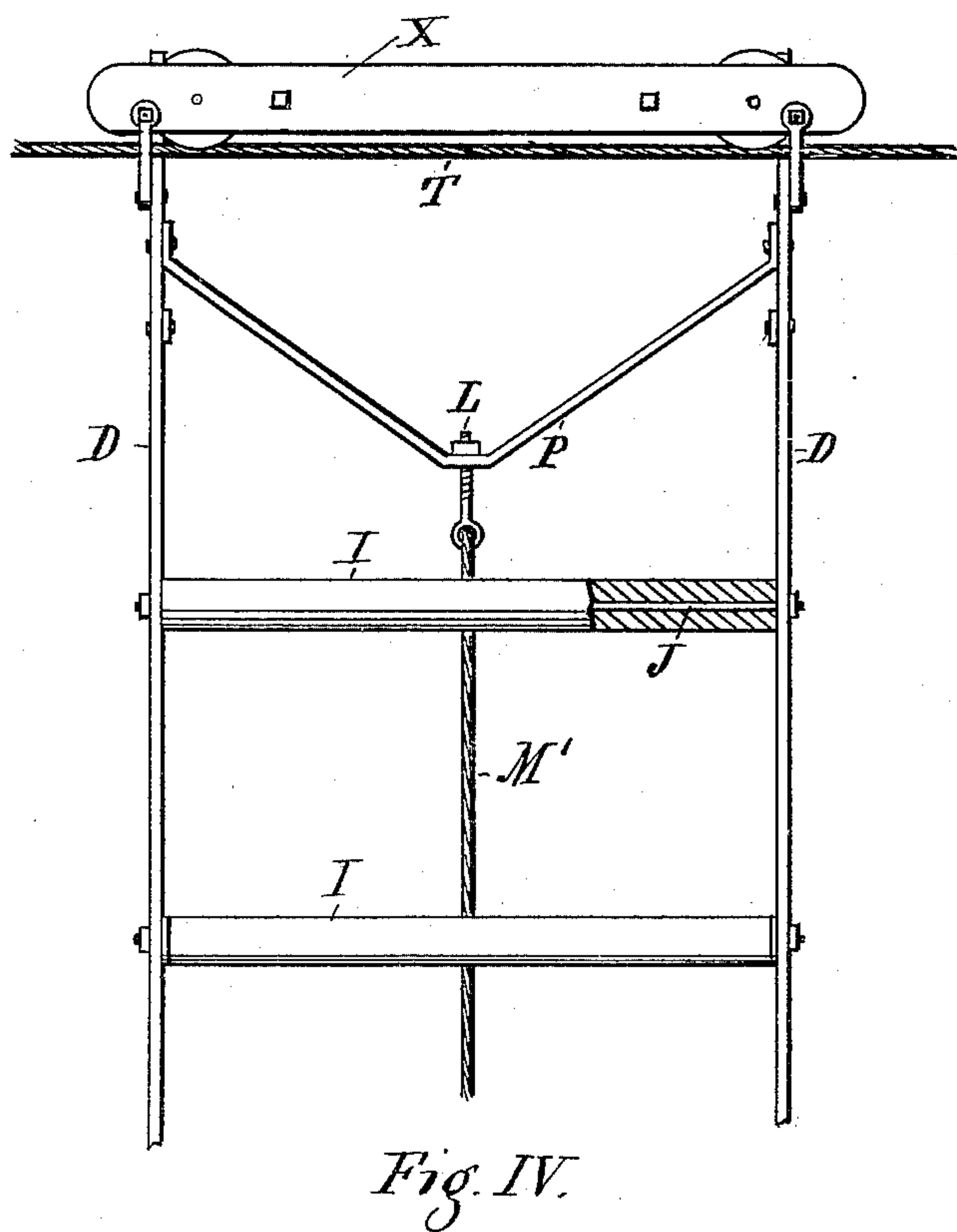
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WITNESSES:

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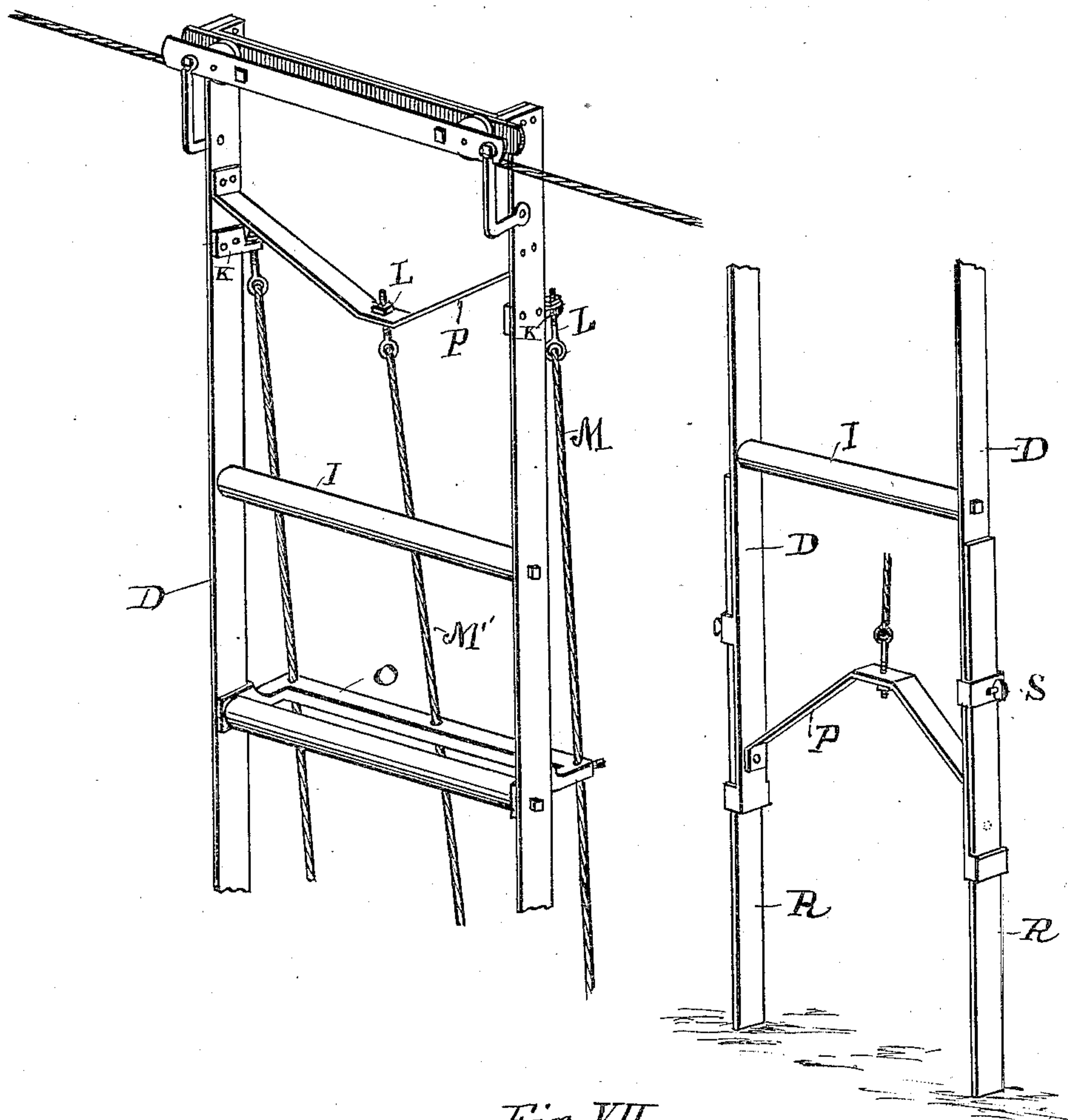


Fig. VII.

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INVENTOR :

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UNITED STATES PATENT OFFICE.

WILLIAM WINKLESS, OF NEWPORT, KENTUCKY.

FIRE-LADDER.

SPECIFICATION forming part of Letters Patent No. 409,722, dated August 27, 1889.

Application filed August 12, 1887. Renewed January 28, 1889. Serial No. 297,831. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM WINKLESS, of Newport, in the county of Campbell and State of Kentucky, have invented a new and useful
5 Improvement in Fire-Ladders, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a side view of my invention applied to a building; Fig. 2, a front view of the same; Fig. 3, an enlarged top view; Figs. 4
10 and 5, enlarged views of upper portion; Fig. 6, a view of one of the brackets, and Fig. 7 a perspective view of portion of the ladder.

15 The object of my invention is to provide an adjustable ladder to be used as an equipment to buildings, and which is designed to be used both as a means of escape from the building and also for the firemen to gain access to extinguish the fire. My design is to embody
20 strength, lightness, and permanency, and to enable interested parties to easily move the ladder to any desired point along the building without delay. In constructing this ladder I provide for its head portion a strap-iron
25 frame to hold the wheels, the head or piece on one side of which is composed of two strips A B, laid together, one of the strips B having its ends bent out at right angles, affording a point of attachment for riveting
30 thereto the side bars D of the ladder. The opposite side of the head-frame is composed of a single strip C, held rigidly in relation by means of stay-blocks E, secured by bolts F.
35 Near the ends of this head-frame are journaled rollers G, which are preferably grooved. To the outer face of the head-frame, near each end thereon, I attach keeper-bars H,
40 which serve not only to strengthen the device, but prevent the rollers from getting off the cable upon which the device travels. The rounds I of the ladder I prefer to be made of wood, perforated longitudinally, to receive a
45 bolt-rod J, which draws the abutting ends of the round tightly against the side bars and serves to greatly stiffen the ladder laterally.

It is of great importance that the ladder be also stiffened in its plane; and to accomplish this I provide a series of brackets O,
50 Fig. 6, which project from the side of the ladder next the building. These brackets are

so formed that they are more prominent toward the middle and shorten in as the ends of the ladder are approached. On the upper and lower ends of the bars D strong anchor-
55 studs K are riveted, and eyebolts L, connected with the tension-cable M, serve to draw the cables tight. The latter, passing through holes O' in the series of brackets O, are thus held to resist great strain. In addition to ropes at
60 either side, I also find it advantageous to place a similar cable M' along the middle. The central rope M' is anchored at its ends to a V-shaped anchor P, through which, centrally, the eyebolt L passes. The central rope M'
65 passes through the central holes Q in the series of brackets, as do the side ropes M. At the lower end of the ladder there is provided sliding extensible legs or pieces R, which permit of the ladder resting on the ground when
70 the lower end is set out some distance from the building. The slide-pieces are secured by thumb-screws S.

My device contemplates the use of a cable-track extending along the building just beneath the cornice. This cable T is firmly
75 secured by its ends to bracket-bars U, which in turn are secured by bolts passing through the wall of the building. The bracket-bar projects sufficiently to give clearance to the
80 truck X as it passes along the building, carrying the ladder, which at its upper end is attached to said truck.

As this device is designed to form a portion of the building equipment, all that is required
85 in case of fire is to seize the lower end of the ladder and push it along to the required point.

A very important feature is the one of drawing the lower end of the ladder away from the building, so that it will be inclined,
90 thereby enabling it to be readily scaled, and at the same time removing it a reasonable distance from the wall of the building or from the windows in case of fire.

What I claim as new is—

95 1. The ladder having the anchor-studs K riveted thereto and the eyebolts L, connected to said studs, combined with the stiffened brackets O and the tension-ropes M, secured to said anchors at top and bottom, substantially as and for the purpose set forth.
100

2. The ladder having V-shaped brackets P

at top and bottom and eyebolts L, combined with the stiffened brackets O, substantially in the manner and for the purpose set forth.

3. The combination of the ladder D, having
5 ing extensible legs at its lower end, with the truck X and cable T, substantially as and for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand, this 16th day of June, 1887, in the presence of witnesses.

WM. WINKLESS.

Witnesses:

ROBT. S. MILLAR,
ROBERT RAMSEY.