

No. 763,757.

PATENTED JUNE 28, 1904.

E. M. HOPKINS.
SCAFFOLD.

APPLICATION FILED JAN. 27, 1904.

NO MODEL.

3 SHEETS—SHEET 1.

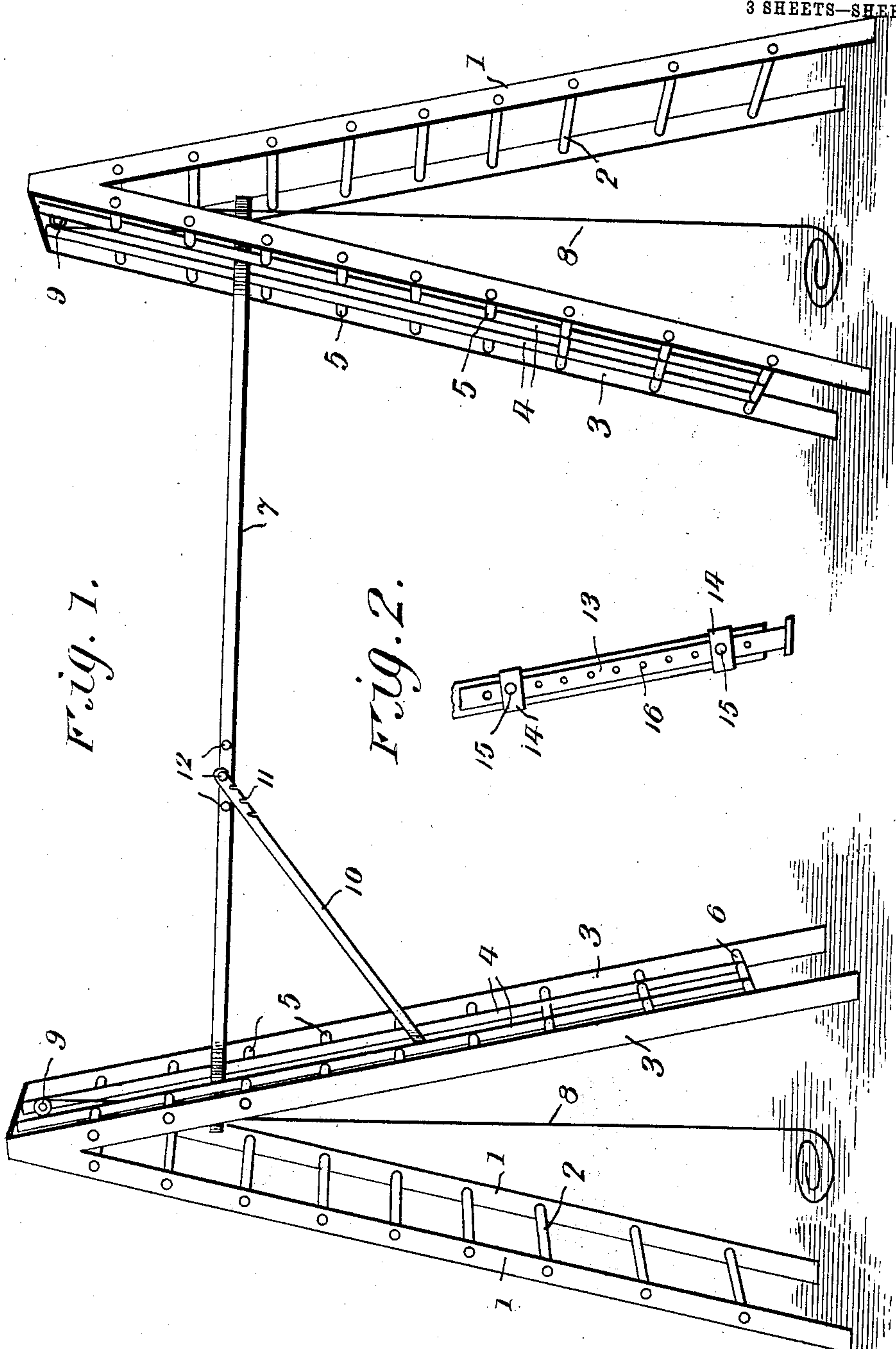


Fig. 1.

Fig. 2.

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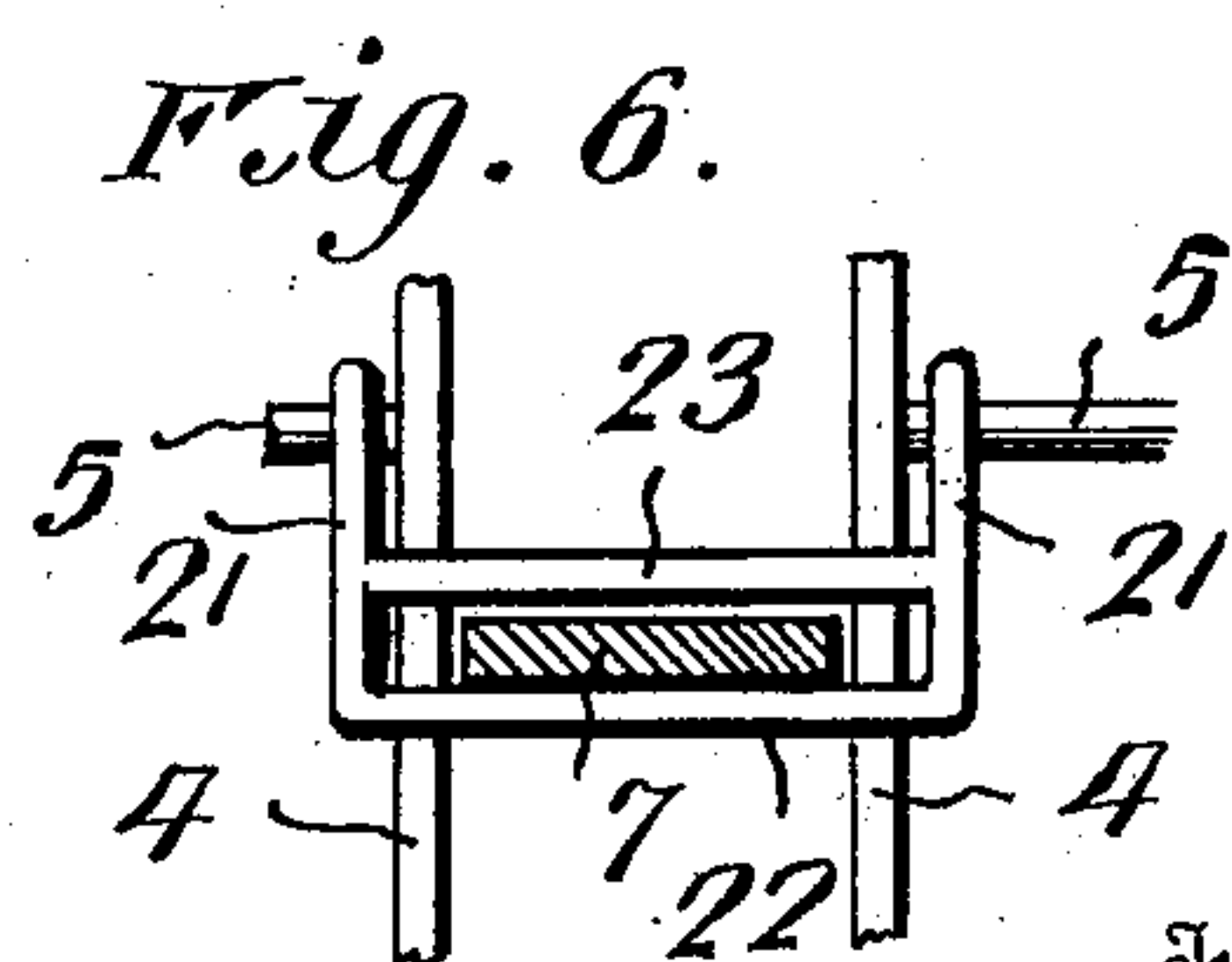
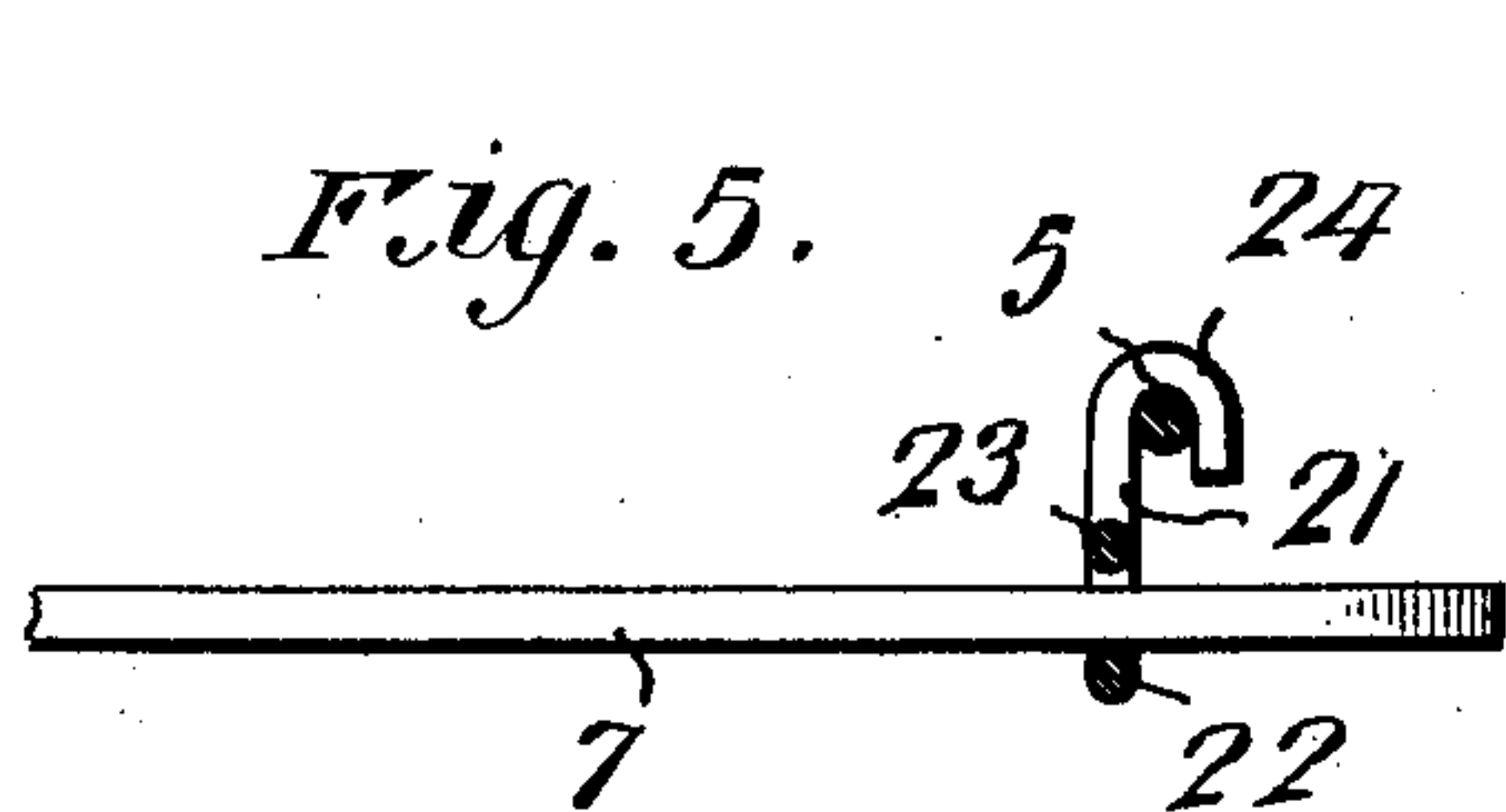
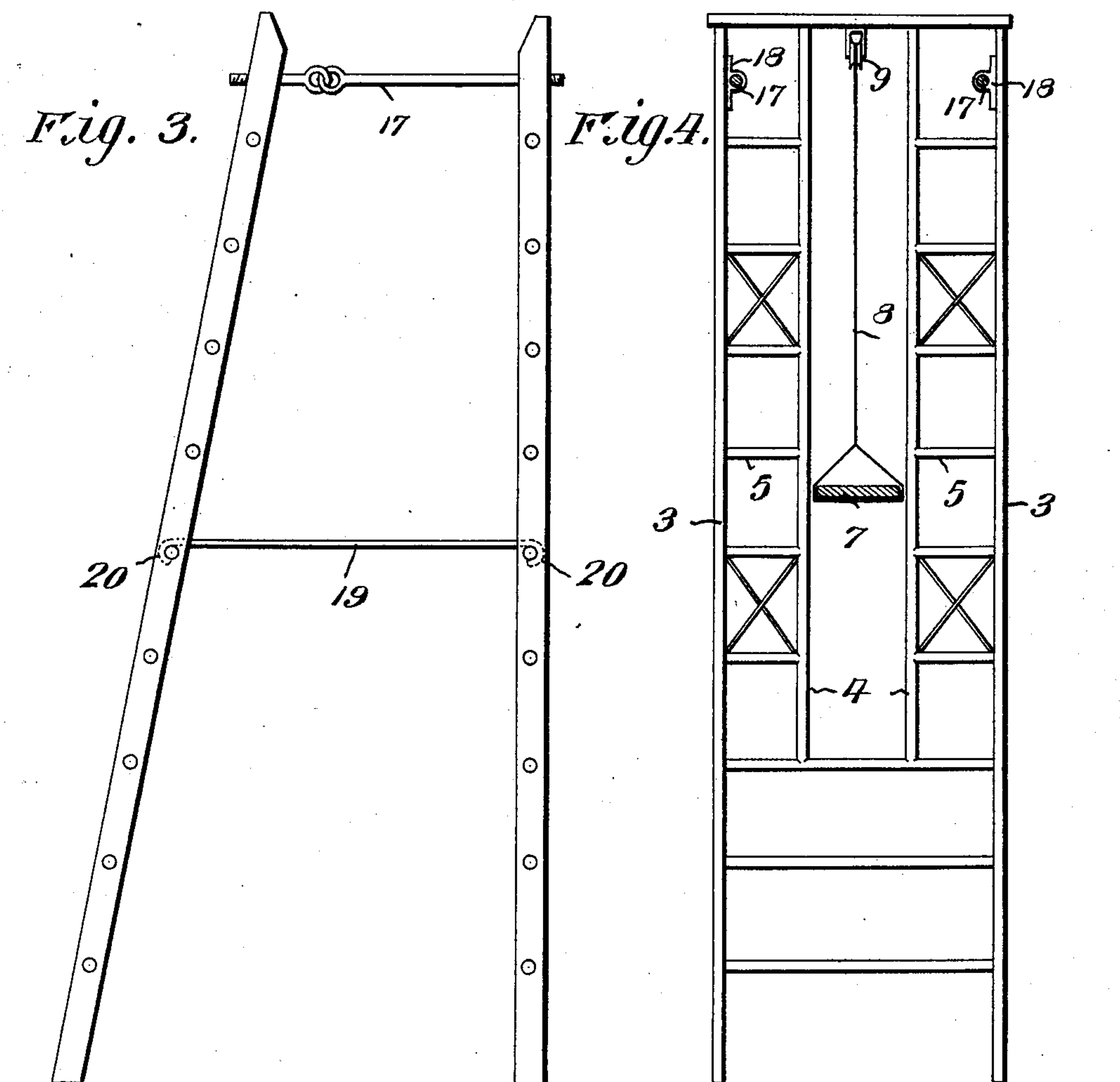
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3 SHEETS—SHEET 2.



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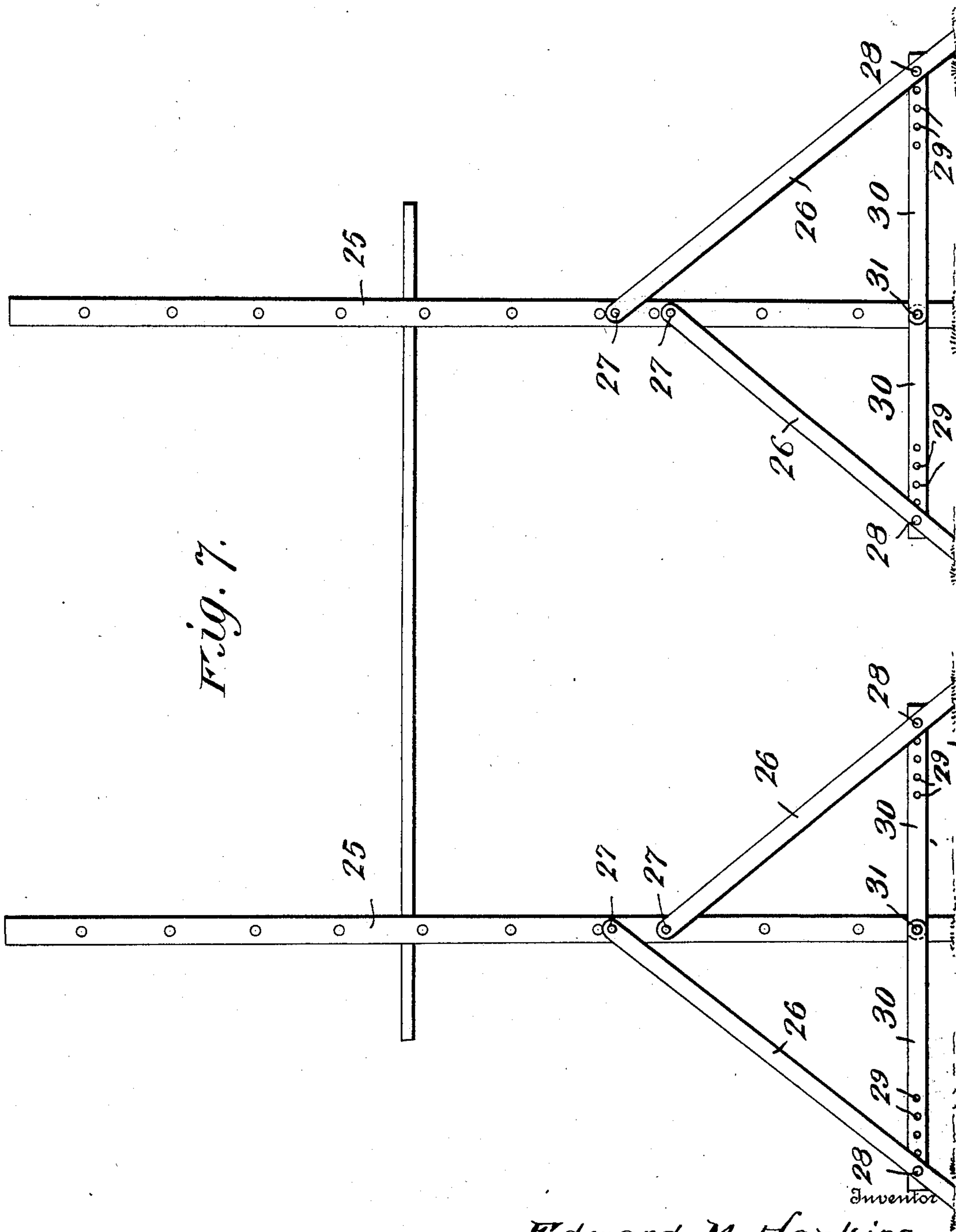
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

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SCAFFOLD.

SPECIFICATION forming part of Letters Patent No. 763,757, dated June 28, 1904.

Application filed January 27, 1904. Serial No. 190,810. (No model.)

To all whom it may concern:

Be it known that I, EDWARD M. HOPKINS, a citizen of the United States, residing at Shopiere, in the county of Rock and State of Wisconsin, have invented new and useful Improvements in Scaffolds, of which the following is a specification.

This invention relates to scaffolds, the object in view being to provide a novel, convenient, and efficient portable scaffold which may be readily set up and taken apart and which is adapted to the use of mechanics generally in conducting their work upon houses and buildings, the construction of the scaffold enabling a workman single-handed to raise and lower the footboard in order to bring the same to the desired elevation and also to raise and lower himself and his implements at the same time with the footboard.

The invention has special reference to the construction of the uprights or ladders forming part of the scaffold, whereby the same may be readily set up and thoroughly braced and whereby the footboard supported thereon may be raised and lowered without interference on the part of the rungs of the ladder.

With the above and other objects in view, the invention consists in the novel construction, combination, and arrangement of parts, as hereinafter fully illustrated, described, and claimed.

In the accompanying drawings, Figure 1 is a perspective view of a scaffold complete embodying the present invention. Fig. 2 is a detail side elevation showing the manner of providing the ladders or uprights with extensible feet. Fig. 3 is a side elevation of a ladder or upright of modified form. Fig. 4 is a front elevation of the same. Fig. 5 is a detail section illustrating one of the supports or hangers for the footboard. Fig. 6 is a view in elevation of the same, showing also portions of the ladder and the footboard. Fig. 7 is a side elevation showing a modified form of ladder or upright.

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

Referring to the drawings and particularly to Fig. 1, it will be seen that the uprights

consist of ladders of peculiar construction, the ladders shown in Fig. 1 being of the type known as "double" ladders, each ladder consisting of two members, each provided with side bars and cross-rungs and connected at the top and spread apart any suitable distance at the bottom.

One member of each double ladder is shown to consist of the parallel side bars 1, connected by the cross-rungs 2, arranged at suitable intervals and distances apart. The other member consists of side bars 3 and other intermediate bars 4, which are arranged parallel to the side bars 3 and connected with the side bars by means of short cross-rungs 5, the space between the intermediate bars being left free and unobstructed for the greater portion of the length of said intermediate bars in order to allow the footboard hereinafter described to be raised and lowered without coming in contact with said rungs. As it is not necessary to lower the footboard below a certain point, the lower rungs (shown at 6) may extend entirely across the ladder, as well between the intermediate bars as between the bars 4 and 3.

Two double ladders of the construction hereinabove described are employed in erecting a scaffold, and they are placed apart a suitable distance so that the extremities of a horizontally-arranged footboard 7 may be inserted between the intermediate bars 4 and moved up and down within the channels left between said intermediate bars, as clearly illustrated in Fig. 1.

Hoisting-ropes 8 are connected to the ends of the footboard 7 and are passed over pulley-blocks 9, mounted at or near the upper ends of the ladders, as shown in Fig. 1, so that the workman, standing either on the ground or on the footboard, may operate the hoisting-ropes one at a time for raising and lowering the footboard. If desired, braces 10 may be interposed between the ladders and the footboard in order to brace the footboard and prevent the latter from swaying, each brace being pivotally connected at one end of the ladder and provided at its other end with a series of notches, any one of which may be engaged with any one of a series of pins or studs 12 at one or both edges of the footboard.

It will be understood that any desired number of braces 10 may be employed.

In setting up the scaffold on uneven ground it is desirable to make provision for extending the side bars of the ladder, and for this purpose one or more of the side bars of each ladder may be provided with a longitudinally movable or extensible foot or leg 13, working within guide-collars 14, connected with the side bars of the ladder, and the leg or foot may be held at any desired adjustment by means of one or more lock-pins 15, preferably passing through the collars 14 into the side bar of the ladder and adapted to engage a series of holes 16 in the extensible foot, as shown in Fig. 2. In this way any desired side bar of the ladder may be extended to suit requirements.

Instead of forming the double ladders as shown in Fig. 1 each double ladder may be constructed as shown in Fig. 3, so that the two members of the ladder may be taken part and compactly placed together for purposes of storage and transportation. Under the modified form shown in Figs. 3 and 4 the upper ends of the ladder members are connected by means of jointed and detachable stays 17, each shown as composed of a pair of eyebolts having the eyes thereof interlocked and the ends thereof passed through brackets 18, connected to the side bars of the ladder and threaded to receive nuts. Two of such jointed stays are preferably employed at the top of each jointed ladder, as indicated at Fig. 4, and said stays serve to permit the lower ends of the ladder members to be set at any desired distance apart. Said stay also permits one of the ladder members to be arranged vertically, as shown at Fig. 3, so as to stand close to the wall of a building in connection with which the scaffold is being used. One of the ladder members is provided with a vertical channel, as shown in Fig. 4, for the vertical adjustment of the footboard where used in a manner illustrated in Fig. 1; but where one of the ladder members is to stand close to a wall a combined cross rest and brace 19 is placed so that its ends are supported on rungs of the ladder members, and the extremities of such rest may be bent into the form of hooks, as shown at 20, whereby the rest acts also as a brace for preventing the ladder members from spreading accidentally. The foot-plank 7 may rest directly on the bars 19, and the latter may be placed on any desired rungs in order to bring the footboard to the desired elevation.

In Figs. 5 and 6 I have shown a hanger consisting of the side bars 21 and cross-bars 22 and 23, which connect the side bars and are adapted to receive the foot-plank 7 between them. This enables the hanger to be adjusted lengthwise to any desired point of the board, while the side bars 21 are extended to form hangers 24, which may be engaged with the short rungs 5 of the ladder. This

enables more than one foot-plank to be simultaneously supported on the ladders, so that workmen may operate at different elevations at the same time.

Instead of employing double ladders, as shown in Figs. 1 and 3, single ladders 25 may be employed, as shown in Fig. 7, and said ladders may stand vertically. In order to properly support such vertical ladders, diagonal braces 26 are pivotally connected at their upper ends, as at 27, to the side bars of the ladders, while the lower portions of said braces are adjustably connected, by means of pins 28 and a series of holes 29, to a pair of horizontal braces 30, which are pivotally connected at their inner ends 31 to the lower portion of the ladder, as clearly shown. In taking down the scaffold shown in Fig. 7 the pins 28 are removed, which allows all of the members to be folded in substantially parallel relation to the side bars of the ladder, so as to enable the scaffold as a whole to be compactly folded for storage and transportation.

From the foregoing description it will be seen that the invention is susceptible to various changes in the form, proportion, and minor details of construction which may accordingly be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described the invention, what is claimed as new is—

1. A scaffold comprising a pair of ladders or uprights embodying rungs and provided with a channel extending lengthwise of the same between the side bars and unintercepted by the rungs, and a foot-plank adjustable up and down within said channels, substantially as described.

2. A scaffold comprising a pair of ladders or uprights embodying side bars and rungs, intermediate bars extending lengthwise of the ladders and forming central unobstructed longitudinal channels, a foot-plank having the end portions thereof arranged for movement up and down within said channels, and means for raising and lowering and supporting the ends of the footboard, substantially as described.

3. A scaffold comprising a pair of ladders embodying side bars and cross-rungs, intermediate bars extending lengthwise of the ladders and leaving unobstructed channels extending lengthwise of the ladders, a foot-plank having its ends arranged for movement up and down within said channels, and blocks and tackle connected with the ladders and also with the ends of the foot-plank, substantially as described.

4. A scaffold comprising a pair of ladders comprising side bars and rungs, intermediate bars to which the inner ends of the rungs are connected, the said intermediate bars being arranged to leave an intervening unobstructed channel extending lengthwise of the ladders,

a foot-plank having its ends arranged to move up and down within said channels, and hangers adjustable lengthwise of the foot-plank and provided with hooks for engaging the rungs and supporting the foot-plank at any desired elevation.

5
10
15
5. A scaffold comprising a pair of double ladders, and a foot-plank having its ends supported by said double ladders each ladder comprising two members, each consisting of side bars and cross-rungs, a jointed and detachable stay connecting the upper extremities of the ladder members, and a rest for the footboard having its ends supported on the rungs, substantially as described.

6. A scaffold comprising a pair of double

ladders, and a foot-plank having its end portions supported thereon, each double ladder comprising two members each having side bars and cross-rungs, a rest for the foot-plank, and a jointed stay embodying a pair of interlocked eyebolts, the extremities of which are detachably connected with the upper ends of the ladder members, substantially as described.

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

EDWARD M. HOPKINS.

Witnesses:

CHAS. WM. STARK,
J. M. STARK.