June 10, 1941. T. W. O'MEARA 2,245,223

PORTABLE SCAFFOLD

Filed Oct. 19, 1939 3 Sheets-Sheet 1

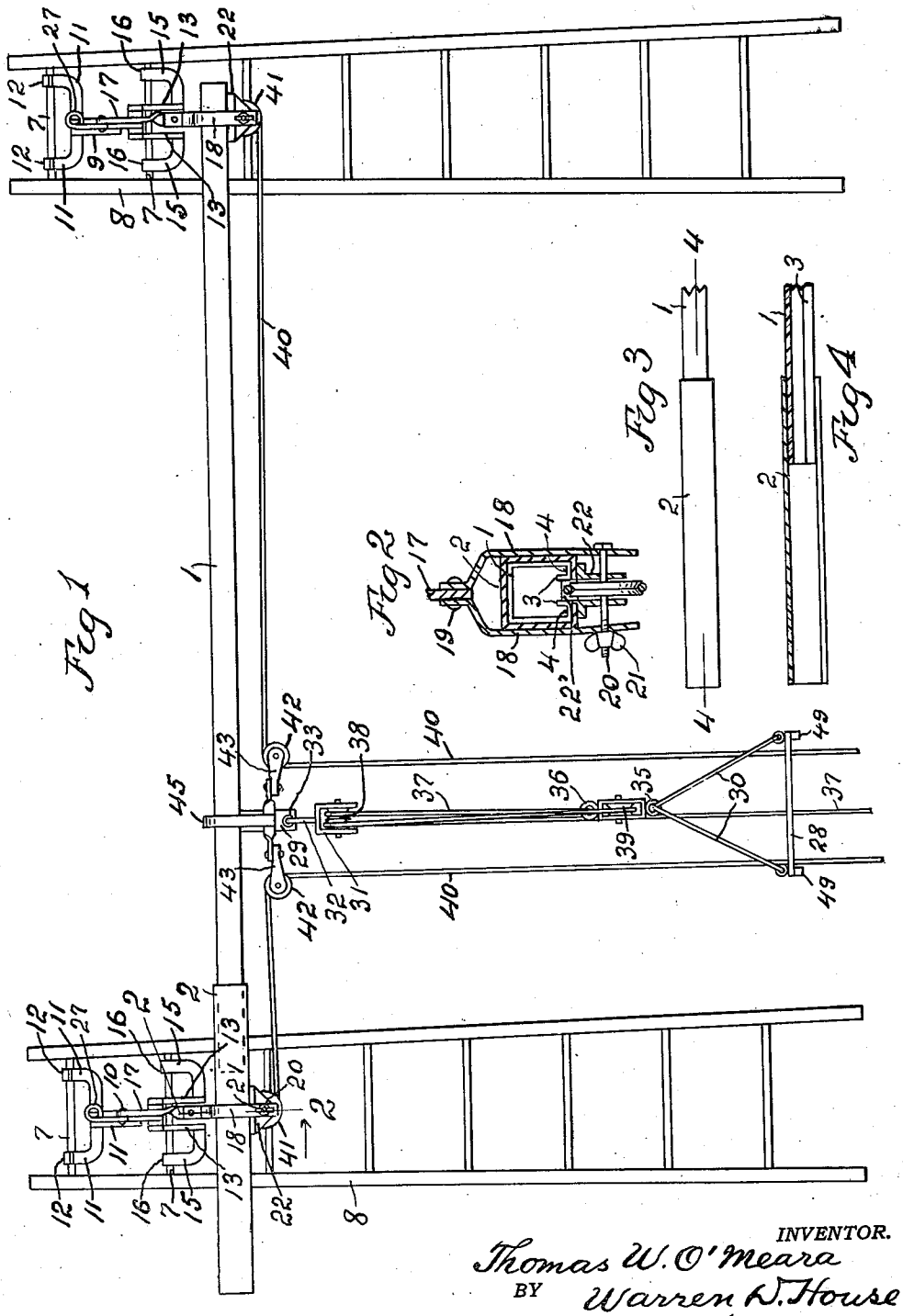


Fig 1

Fig 3

Fig 4

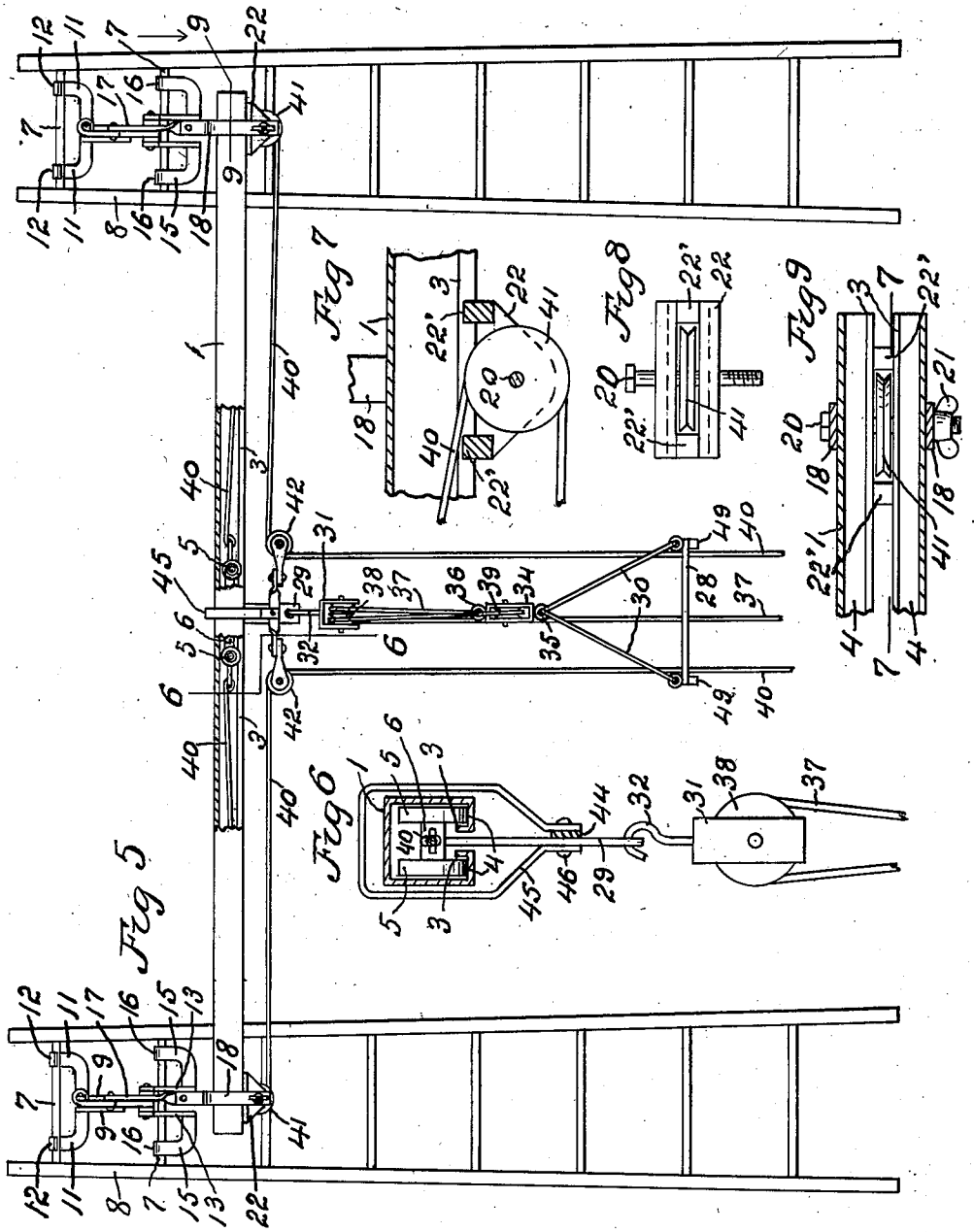
Fig 2

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PORTABLE SCAFFOLD

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Fig 10

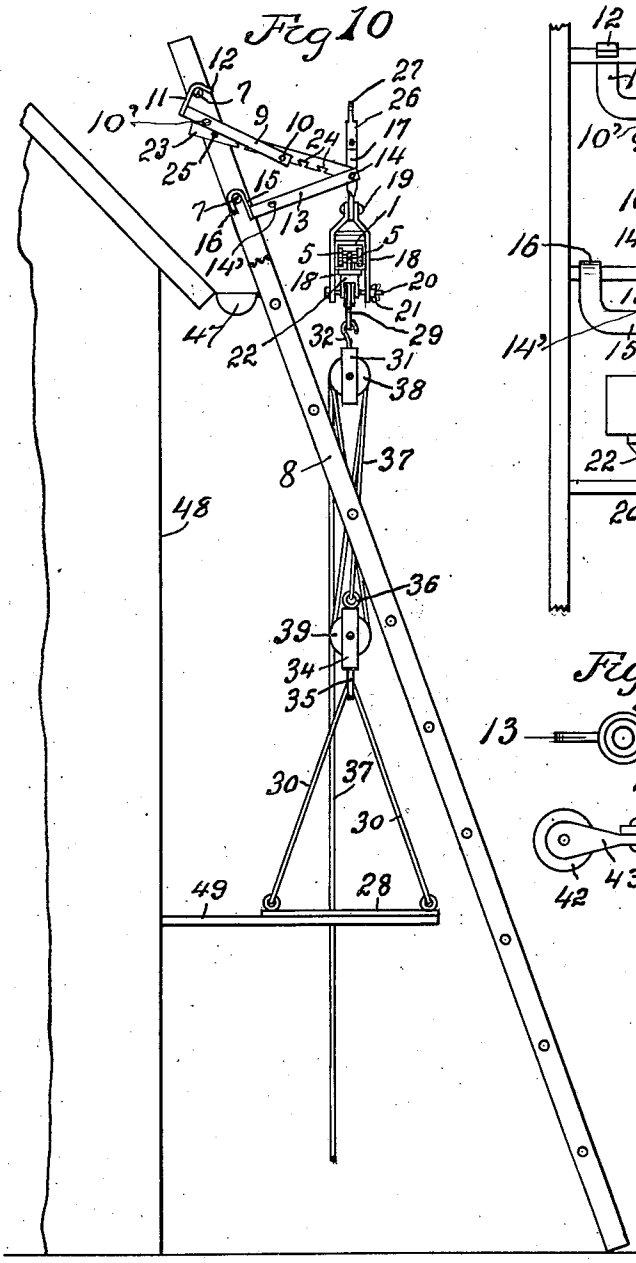


Fig 11

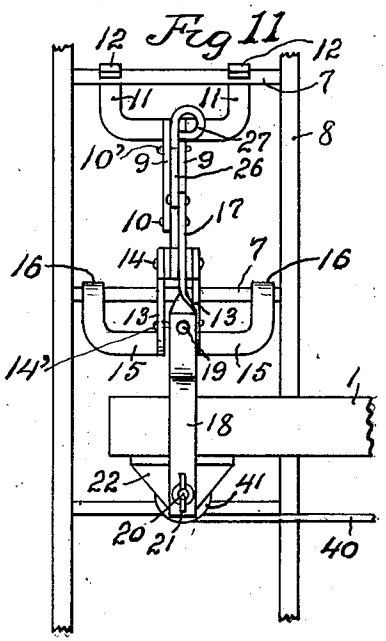


Fig 12

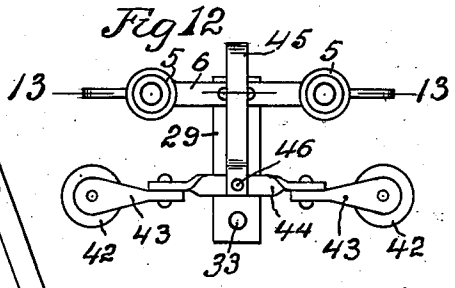


Fig 14

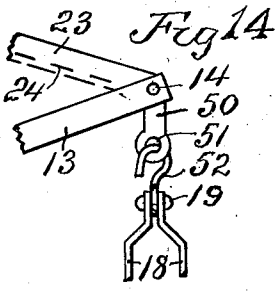
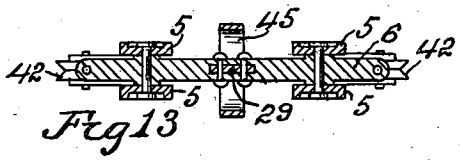


Fig 13



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Patented June 10, 1941 2,245,223

UNITED STATES PATENT OFFICE

2,245,223

PORTABLE SCAFFOLD

Thomas W. O'Meara, St. Joseph, Mo.

Application October 19, 1939, Serial No. 300,193

9 Claims. (Cl. 304—17)

This invention relates to improvements in portable scaffolds of a type employing a seat vertically adjustably supported by a carriage on an elevated track having means for being supported alongside of a wall.

One of the objects of my invention is the provision of a novel track for supporting the carriage.

Another object of my invention is the provision of novel means for supporting the track upon two ladders, which supporting means provides for the disposal of the ladders at different distances apart, and for the disposal of the track at different heights.

A further object of my invention is the provision of a novel ladder jack having novel means longitudinally adjustable on the track for supporting the latter.

Another object of my invention is the provision of novel means for supporting the seat from the carriage, and novel means for moving the carriage to and fro on the track.

Still another object of my invention is the provision of a novel portable scaffold, of the kind described, which is simple, cheap, strong, durable, not likely to get out of order, which can be easily and quickly installed in an operative position, and with which the user of the scaffold can easily, quickly and safely raise and lower the seat, which he at the time is occupying, and also move it lengthwise of the track to different desired positions.

The novel features of my invention are hereinafter fully set forth and described.

In the accompanying drawings, which illustrate the preferred embodiment of my invention—

Fig. 1 is a front elevation of my improved scaffold, showing the two track sections assembled operatively and respectively supported by two ladder jacks of my improved construction operatively engaged with two ladders.

Fig. 2 is an enlarged section on the line 2—2 of Fig. 1.

Fig. 3 is a top view of a portion of the track.

Fig. 4 is a section on the line 4—4 of Fig. 3.

Fig. 5 is a view similar to Fig. 1, with the short section of the track removed, and the long section of the track shown supported by the two ladder jacks mounted on the two ladders, one side of the middle portion of the track section broken away, disclosing a portion of the carriage.

Fig. 6 is an enlarged section on the line 6—6 of Fig. 5, with some distant parts removed.

Fig. 7 is an enlarged fragmental longitudinal vertical sectional view of a portion of the ladder jack, shown at the right in Fig. 5, the pulley carried thereby, the line or cable engaging said pulley, and a part of the track, the view being on the line 7—7 of Fig. 9.

Fig. 8 is a top view of the track spacing and supporting member of the ladder jack shown in Fig. 7, the bolt supported by said member and the pulley mounted on said bolt.

Fig. 9 is an enlarged section on the line 9—9 of Fig. 5, with the ladder omitted.

Fig. 10 is a side elevation of my improved scaffold, shown assembled in operative position with the ladders leaning against the eave of a roof, an upper portion of the near ladder being broken away, disclosing the near ladder jack, and one of the two side bars of the seat engaging the wall of the building having said roof.

Fig. 11 is an enlarged front elevation of one of the ladder jacks, a part of the ladder supporting it and a portion of the track supported by the ladder jack.

Fig. 12 is an enlarged side elevation of the carriage.

Fig. 13 is a section on the line 13—13 of Fig. 12.

Fig. 14 is a fragmental view in side elevation of a modification of the ladder jack.

Similar characters of reference designate similar parts in the different views.

1 and 2 respectively designate the long and short sections of the track, the long section 1 being telescopically slidably fitted in the short section 2, whereby the track is extensible and contractible as to length. As shown in Fig. 2, each track section has the shape of a square tube, with a middle longitudinal slot extending the full length of its under side. The bottom of the long section 1 has at opposite sides respectively of its slot two upwardly extending flanges 3. The two bottom portions 4 of the section 1 at the outer sides of the flanges 3 constitute rail portions for supporting the carrying wheels 5 which support the body 6 of a carriage adapted to travel back and forth in the tubular section 1, Figs. 5, 6, 12 and 13.

For supporting the track, there are provided two ladder jacks adapted to be supported respectively on the rungs 7 of two ladders 8. The jacks are alike in structure and mode of operation, so that a description of one will suffice.

Referring to Figs. 10 and 11, the jack has an upper T shaped member comprising a stem consisting of two parallel spaced apart bars 9, connected at one end by a transverse pin 10, the other ends being integral with two arms 11 respectively, said arms having respectively two hooks

12 adapted to engage the upper side of one of the ladder rungs 7.

The jack has a lower T shaped member comprising a stem having two parallel spaced apart bars 13, connected at one end by a transverse pin 14, the other ends being integral respectively with two arms 15 respectively provided with two hooks 16 adapted to engage the upper side of the rung 7 next below the rung engaged by the hooks 12 of the upper member.

Pins 10' and 14' also respectively connect the pair of bars 9 and the pair of bars 13, for holding the bars in rigid T shaped form.

For supporting the track, the jack is provided with a clamp comprising a vertical bar 17 through which extends the pin 14. Two vertical clamping bars 18 are fastened at their upper ends by a pin 19 to the lower end of the bar 17, Figs. 1, 2, 10 and 11. The bars 18 are adapted to clamp between them either section 1 or 2 of the track. A transverse bolt 20 extends through the bars 18 below the track, and is provided with a thumb nut 21, which, when tightened, draws the bars 18 tightly against the track section which they embrace.

Mounted on the bolt 20 between the clamping bars 18 is a spacing and supporting member 22, Figs. 2, 7, 10 and 11, upon which rests the track section, and which has upwardly extending projections disposed between and engaging the edges of the adjacent track section at the sides of the slot in the bottom thereof, and hold the sides of the track section from being compressed by the bars 18 to too great an extent, said projections being designated 22'.

Connecting the bars 9 and 13 of the T-shaped upper and lower hook members is a bar 23, which is disposed between the bars 9 and 13, and which at one end is pivoted on the pin 14. The under side of the connecting bar 23 has dovetail shaped notches 24, each of which is adapted to removably receive the pin 10. The bar 23 has extending through and projecting from it a pin 25 adapted to engage and support the lower edges of the bars 9.

Swinging upwardly the outer ends of the bars 13, the pin 10 may be removed from the notch 24 in which it is disposed, after which it may be inserted in any other of the notches 24, for adapting the jack to engage differently spaced rungs 7 of different ladders. The pins 10 and 25 retain the bars 9, 13 and 23 in the positions to which they are adjusted.

For supporting the track, when ladders are not used, the bar 17 of each jack has fastened to its upper end a bar 26 with an eyelet 27 adapted to receive a supporting rope or cable.

For supporting a seat 28 the carriage body 6 has fastened in its central portion the upper end of a vertical bar 29, Figs. 1, 5, 6, 10, 12 and 13. The seat 28 has connected to its corners the ends of two ropes 30, which are supported by a block and tackle mechanism supported by the bar 29.

The block and tackle mechanism comprises an upper block 31 having a hook 32 extending through a hole 33 in the lower end of the bar 29. A lower block 34 has a hook 35 engaging the ropes 30. The lower block 34 has an eyelet 36 to which is attached one end of a line, rope or cable 37 which extends back and forth, in the usual manner, between pulleys 38 and 39 mounted respectively in the blocks 31 and 34. Said line, rope or cable 37 extends closely adjacent to the seat 28, so that with it the operator can raise and lower the seat 28 as desired.

For moving the carriage and with it the seat 28 to the right and left, two lines, cables or ropes 40 have one set of ends respectively fastened to opposite ends of the carriage body 6. Said ropes extend oppositely from the body 6 to and around two pulleys 41 respectively mounted on the bolts 21 of the two ladder jacks, and thence upon and downwardly from two pulleys 42 respectively, Figs. 1, 5, 6, 12 and 13, said pulleys 42 being respectively mounted in two blocks 43 respectively fastened to the ends of a bar 44 fastened at its middle to the bar 29.

For limiting the side swing of the bar 29, a bar 45 encircles closely the track section 1 and has its ends fastened respectively to the bars 29 and 44 by a rivet 46 which fastens the bar 44 to the bar 29, Fig. 6.

The lines, ropes, or cables 40 extend closely adjacent to the seat 28, so that the operator by alternately pulling downwardly thereon can move the carriage 6 and seat 28 back and forth.

In operation, the ladders 8 are disposed in the desired position leaning against eaves 47 of a building, the wall 48 of which is to be operated upon, as shown in Fig. 10, or leaning against the wall when the eaves are too high to be reached by the ladders.

The ladder jacks are then mounted, as has been described, on the rungs 7 with the seat 28 between the ladders. The operator on the seat 28 by operating the rope, line or cable 37 vertically adjusts the seat to the desired height, and by operating the cable 40, he moves the carriage 6 and seat 28 laterally as desired.

As shown in Figs. 1, 5 and 10, the seat 28 has at opposite side edges respectively two projecting bars 49 adapted to engage the wall 48 and hold the seat from swinging toward and from the wall.

When the ladders are not too far apart, the short section 2 of the track may be removed, and both ladder jacks be made to directly engage and support the track section 1, as shown in Figs. 5 and 11.

In the modification of the ladder jack, shown in Fig. 14, a bar 50 is substituted for the bars 17 and 26, its upper end being pivoted between the bars 13 on the pin 14, its lower end having a hole 51 through which removably extends a hook 52, which encircles the pin 19 between the clamping bars 18.

When the ladders are not to be used, the hooks 52 of the two ladder jacks are detached from the bars 50 of the two ladder jacks, and the track is supported by attaching ropes or cables to the hooks 52 respectively, and supporting the ropes or cables from the building, the track being supported by the clamping bars 18, as has been described.

Other modifications of my invention, within the scope of the appended claims, may be made without departing from the spirit of my invention.

What I claim is:

1. In a portable scaffold, a track, two ladder jacks, each having means adapted to engage with and to be supported by a ladder, and each having clamping means embracing and supporting said track, one of said jacks being adjustable on said track toward and from the other jack, a seat, a carriage supported by and adapted for travel on said track, and means supporting said seat and supported by said carriage.

2. In a portable scaffold, a track having two parallel spaced apart rail portions, two spaced apart clamps embracing said track, each having a member between and holding said rail portions

spaced apart, means for supporting said clamps, a carriage supported by and adapted for travel on said rail portions, a seat, and means extending between said rail portions supporting said seat and supported by said carriage.

3. In a portable scaffold, a track having two parallel spaced apart rail portions, two ladder jacks, each having means adapted to engage with and to be supported by a ladder, and each having a clamp embracing and supporting said track and having a member between and holding said rail portions spaced apart, a carriage supported by and adapted for travel on said rail portions, a seat, and means extending between said rail portions supporting said seat and supported by said carriage.

4. In a portable scaffold, a track having two parallel spaced apart rail portions, two ladder jacks, each having means adapted to engage with and to be supported by a ladder, and each having a clamp embracing and supporting said track and having a member between and holding said rail portions spaced apart, one of said jacks being adjustable on said track toward and from the other jack, a seat, a carriage supported by and adapted for travel on said rail portions, and means extending between said rail portions supporting said seat and supported by said carriage.

5. In a portable scaffold, a track having two parallel spaced apart rail portions, two ladder jacks, each having means adapted to engage with and to be supported by a ladder, and each having a clamp embracing and supporting said track and having a member between and holding said rail portions spaced apart, a carriage supported by and adapted for travel on said rail portions, a seat, means extending between said rail portions supporting said seat and supported by said carriage, two pulleys carried by said carriage, two pulleys respectively carried by said ladder jacks, and two lines attached to said carriage and respectively engaging said pulleys carried by said ladder jacks, and respectively engaging said pulleys carried by said carriage.

6. In a portable scaffold, a track, two ladder jacks respectively having means adapted to engage with and to be supported by two ladders, and provided each with a clamp having two arms embracing between them said track, a bolt connecting and adapted to draw said arms toward each other, a seat, a carriage supported by and adapted to travel on said track, and means supporting said seat and supported by said carriage.

7. In a portable scaffold, a track having two parallel spaced apart rail portions, two ladder jacks respectively having means adapted to engage with and to be supported by two ladders, and provided each with a clamp having two arms embracing between them said track, a bolt connecting and adapted to draw said arms toward each other, and a member on said bolt between said rail portions and bearing against the under sides thereof, a carriage carried by and adapted for travel on said rail portions, a seat, means supporting said seat and supported by said carriage, and means for moving said carriage along on said track.

8. In a portable scaffold, a track having two parallel spaced apart rail portions, two ladder jacks respectively having means adapted to engage with and to be supported by two ladders, and provided each with a clamp having two arms embracing between them said track, a bolt connecting and adapted to draw said arms toward each other, and a member on said bolt between said rail portions and bearing against the under sides thereof, a carriage carried by and adapted for travel on said rail portions, a seat, means supporting said seat and supported by said carriage, two pulleys carried by said carriage, two pulleys carried respectively by said bolts of said clamps, and two lines attached to said carriage and respectively engaging said pulleys on said bolts and respectively engaging said pulleys carried by said carriage.

9. In a portable scaffold, in combination, a track, and a ladder jack having means adapted to engage with and to be supported by two rungs of a ladder, and having a clamp provided with two arms embracing between them said track, said clamp having connecting said arms a bolt adapted to draw said arms toward each other, said clamp being adjustable lengthwise of said track, when said bolt does not hold said arms tightly against said track.

THOMAS W. O'MEARA.