

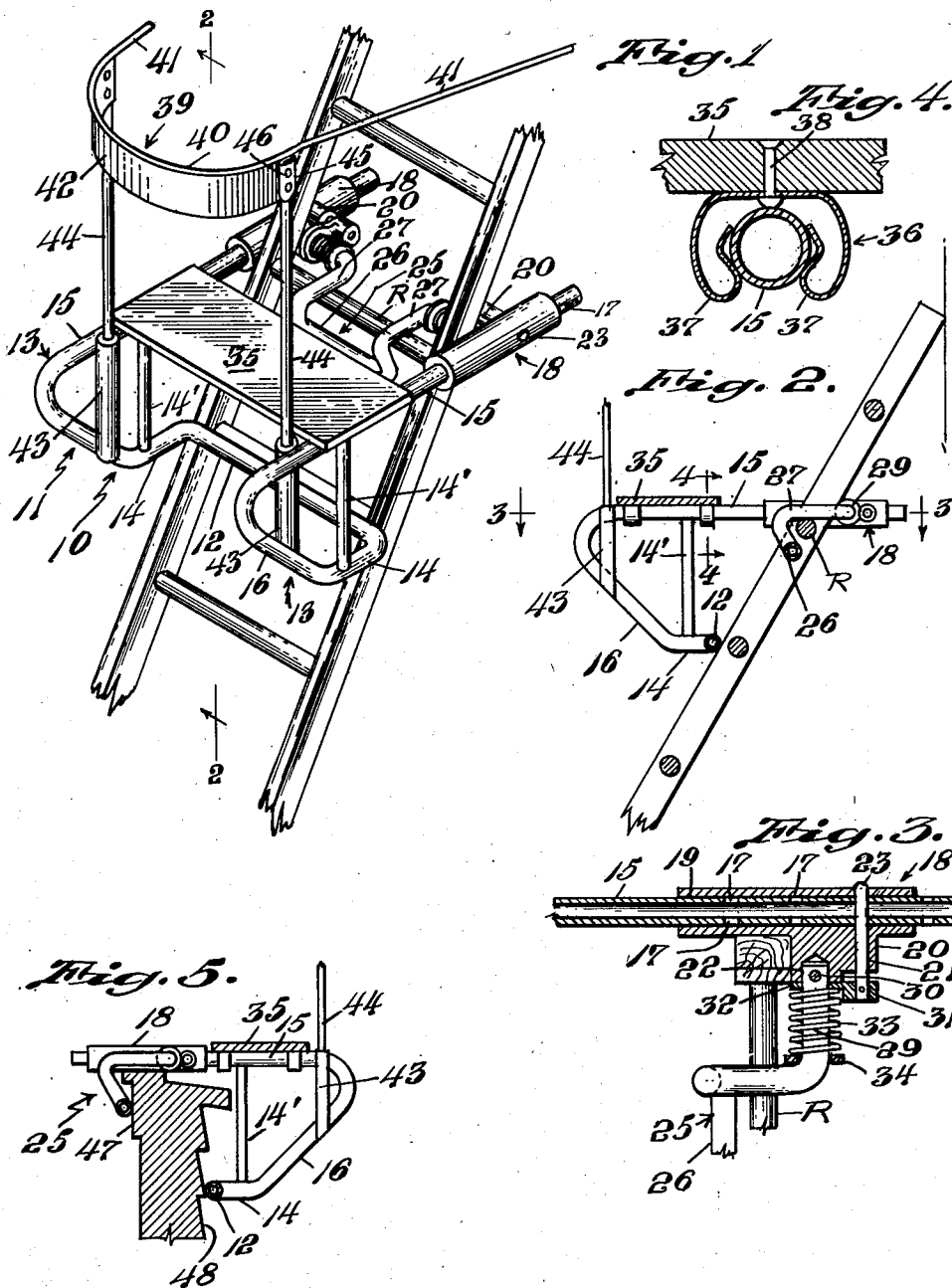
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PORTABLE SCAFFOLDING

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PORTABLE SCAFFOLDING

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5 Claims. (Cl. 304—31.5)

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This is a continuation in part of my application Serial No. 142,431, filed February 4, 1950, now abandoned, for Portable Scaffolding Device.

In the above-entitled application the scaffolding shown therein when used in connection with a ladder was suspended by a rung thereof. Consequently, the entire weight of the scaffolding plus that of a person thereon was supported wholly by the said rung. The supporting of a scaffolding of this character wholly by the rungs of a ladder is not safe and therefore is objectionable.

An object of the invention is to provide a portable scaffolding which is so constructed as to be engageable with the side uprights of a ladder to be supported thereby.

Another object of the invention is to provide a portable scaffolding which is so constructed as to be engageable with the side uprights of a ladder in such a manner that a jamming action will be had between the device securing means and the side uprights of the ladder.

Another object of the invention is to provide a portable scaffolding having a frame construction which may be adjustable so as to maintain the platform thereon generally horizontal.

With these and other objects in view, the invention consists of certain novel features of construction as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings:

Figure 1 is a view in perspective showing a scaffolding embodying my invention and attached to a ladder;

Figure 2 is a sectional view taken substantially along line 2—2 of Figure 1;

Figure 3 is a sectional view taken substantially along line 3—3 of Figure 2;

Figure 4 is a sectional view taken substantially along line 4—4 of Figure 2;

Figure 5 is a view in section showing an adaptation of the device to be used in connection with a window opening in a building.

In carrying out my invention, I provide a frame for supporting a platform generally horizontal and provide for attaching the frame to the sides or uprights of a ladder in a manner so that one portion of the frame will engage the said uprights on the rear side, and another rear portion of the frame will engage the uprights on the front side but at a distant location thereon. This will position the frame on the ladder in a manner so that the weight of the scaffolding will be forward of the point of engagement with the ladder so that this weight will tend to swing the scaffolding about one of said points of engagement to swing the other portion into further engagement with the uprights. This will produce a jamming action at the points of engagement between the said frame and ladder uprights so that the scaffolding will be wholly supported by the uprights thereby relieving any strain on the rungs of the ladder when weight is applied.

Referring to the drawings for a more detailed

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description of the invention, 10 designates generally a scaffolding comprising a frame 11 which may be made of a continuous length of rod or tubing material. The length of tubing is bent in a generally U shape so as to provide a straight bight portion 12 to extend generally horizontally and leg portions 13. Each leg portion 13 is bent to form a pair of substantially parallel V shape side frames extending in a general vertical plane, each having a lower foot portion 14 extending at right angles to said bight 12 forwardly thereof, an arm 15 extending parallel to the portion 14, and an upwardly inclined portion 16 joining said arm and foot portions. A brace 14' may be provided and attached to the foot portion 14 and arm 15 to strengthen the said frame.

The arms 15 extend from the portion 16 rearwardly to a substantial distance beyond the bight 12. Each free end portion of the arm 15 has a plurality of equally spaced openings 17 in line with each other and which extend diametrically through the walls of said arm (see Figure 3). There is mounted on each of said arms 15 at the said free end portions thereof a support member 18 which has a bore 19 therethrough through which the arm 15 passes. The support 18 has a right angularly extending projection or boss 20 thereon having a small bore 21 therethrough which is intersected by the bore 19. The boss 20 also has a second bore 22 of a larger diameter which extends inwardly therein. A spring pressed plunger 23 to be hereinafter more fully described is received in said bore 21 to pass through any of the openings 17 which may be positioned in register with said pin 23 to lock the arm 15 in adjusted position on the support 18. A ladder rung engaging hook designated 25 is also made of a single length of tubing which is bent into a generally U shape so as to provide a straight bight portion 26 and leg portions 27 (see Figure 1). Each leg portion 27 is bent to form a pair of generally V-shape side portions (best seen in Figures 2 and 5), each having a mounting arm portion 29 (see Figure 3) which extends generally parallel to the bight 26. The hook 25 is positioned to extend between the supports 18 with the arms 29 thereof received in the bore 22 and there secured as by means of pin fastening 30.

The lock pin 23 has a head portion 31 which may be formed separate as shown and fastened to the pin 21 in any appropriate manner. The head 31 has an arm 32 provided with an opening through which passes the adjacent arm portion 29. A compression spring 33 is positioned between the arm 32 and an abutment washer 34 seating against the bend between arm 27 and mounting portion 29 so as to bias the said pin 23 in the locked position thereof.

A floor or platform 35 is supported on the arms 15 between the supports 18 and is detachably secured thereon by means of spring clip fastenings 36 (see Figure 4). These springs 36 have resili-

ent arms 37 which snap over the arms 15 so as to resiliently hold said platform in position. The clips are secured to the platform such as by means of a rivet fastening 38. Thus, the platform 35 may be removed from the frame 11 when attaching the scaffolding in position on the ladder, when ascending the ladder, or for other purposes. The scaffolding is also provided with an upper supporting rail designated generally 39 which may be formed of a continuous length of tubing or rod bent as best seen in Figure 1 on a curvature as at 40 to provide a front portion of the rail and extending therefrom as at 41 to provide side rail portions. The curved portion 40 is provided with a wall portion 42 which preferably may be made of sheet material and attached to the tubing in any convenient manner so as to depend therefrom. Sockets 43 are attached to each side frame portion of the frame 11 and receive uprights 44, the upper ends of which are flattened as at 45, to which flattened portions is attached the wall 42 as by means of rivet fastenings 46 (see Figure 1).

In mounting the scaffolding on a ladder, the supports 18 with the hook 25 are positioned on the rear side of the ladder uprights with the hook portion 25 placed through the ladder above a rung R of the ladder, as shown in Figures 1 and 2. The frame portion 11 may then be received in the supports 18 in adjusted position thereon. Bight 12 will rest against the ladder uprights on the opposite sides thereof from that of the projections 20 on the supports 18. As previously stated, the weight of the scaffolding will be mostly forward of the bight portion 12 or forward of the point of engagement of the scaffolding on the ladder, and this will over-balance the scaffolding in a manner to tend to rock the same about the point of engagement of the bight 12 as a fulcrum to tend to move the projections or bosses 20 into further engagement with the opposite sides of the uprights, thus providing a jamming relation between the scaffolding and the said uprights. Thus, the weight of the scaffolding is removed from the ladder rung engaged by the hook 25 and the scaffolding is supported wholly on the said ladder uprights. The hook 25 provides for preventing any tendency of the scaffolding to slip along the ladder uprights prior to the full assembly thereof on the ladder and before weight is applied. It will be appreciated that any weight such as a person standing on the platform 25 will further jam the scaffolding on to the ladder.

When it is desired to use or adapt a scaffolding to be used in connection with a window opening, the supports 18 are turned end upon end as shown in Figure 5. In this position the hook 25 will be in place to engage the inner framework 47 of the window opening and the bight 12 to engage against the outer wall 48 of the building. In a similar manner the weight of the scaffolding will be distributed so that it will tend to rock the scaffolding about the bight 12 to swing the hook 25 into tighter or more secure engagement with the said frame portion 47, thus eliminating any usual hook or screw clamping arrangement of the prior scaffolding structures.

I claim:

1. A portable scaffold comprising a frame including a pair of parallel arms for horizontal disposition, a slidable member received on each of said arms, said members having right angularly extending projections adapted to be positioned on the inner side of an inclined ladder, to engage against the adjacent side uprights of the ladder and being adjustably secured to said

arms, a hook member attached to each of said projections, said hook members being coupled therebetween and adapted to be passed through the ladder above a rung on said ladder to suspend said slidable member on said ladder, two braces each having generally horizontal end portions depending from each of said arms to be positioned beneath the same to engage against the outer side of said uprights to provide a fulcrum point engagement with said uprights, and a platform detachably secured to said frame to be at a position thereon outwardly of said fulcrum whereby the weight of said scaffold will tend to rock said frame about said fulcrum to swing said projections against said rails to support said device wholly by a jamming engagement of said brace and projections with the said side uprights of the ladder.

2. In a portable scaffold as set forth in claim 1 wherein said frame and brace are made of a continuous length of material.

3. A portable scaffold device adapted to be supported on a ladder comprising a continuous length of tubular material bent into a general U shape to provide a straight bight portion and opposite leg portions, said bight portion being adapted to extend across the uprights of a ladder on one side thereof and in engagement therewith, each of said leg portions being bent to form a pair of parallel V-shaped portions having an upper arm extending rearwardly and beyond said bight portion, each arm being provided with a tubular member adjustably secured thereon, said tubular members each being provided with an inward right angular projection adapted to be positioned on the other side of said uprights in engagement therewith, a generally U-shape hook attached to said projections to extend therebetween to engage an upper rung of the ladder to suspend said device from the ladder, and a platform supported by said arms at a location thereon to be above said bight outwardly therefrom with reference to said ladder whereby the weight of said scaffold will be positioned mostly on one side of the bight to tend to rock said device about the fulcrum point formed by the bight engaging said uprights to move said projections into further engagement with the uprights and jam said device on the said uprights.

4. In a portable scaffold device as set forth in claim 3 wherein said top arms have spaced openings therethrough and a spring pressed lock pin carried by each of said tubular members is adapted to engage any of said openings to adjustably secure said arms to said tubular members.

5. In a portable scaffold device as set forth in claim 3 wherein said hook is a continuous length of material bent into a general U shape providing a pair of spaced arms each of which is attached to one of said projections.

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