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2 Sheets-Sheet 1

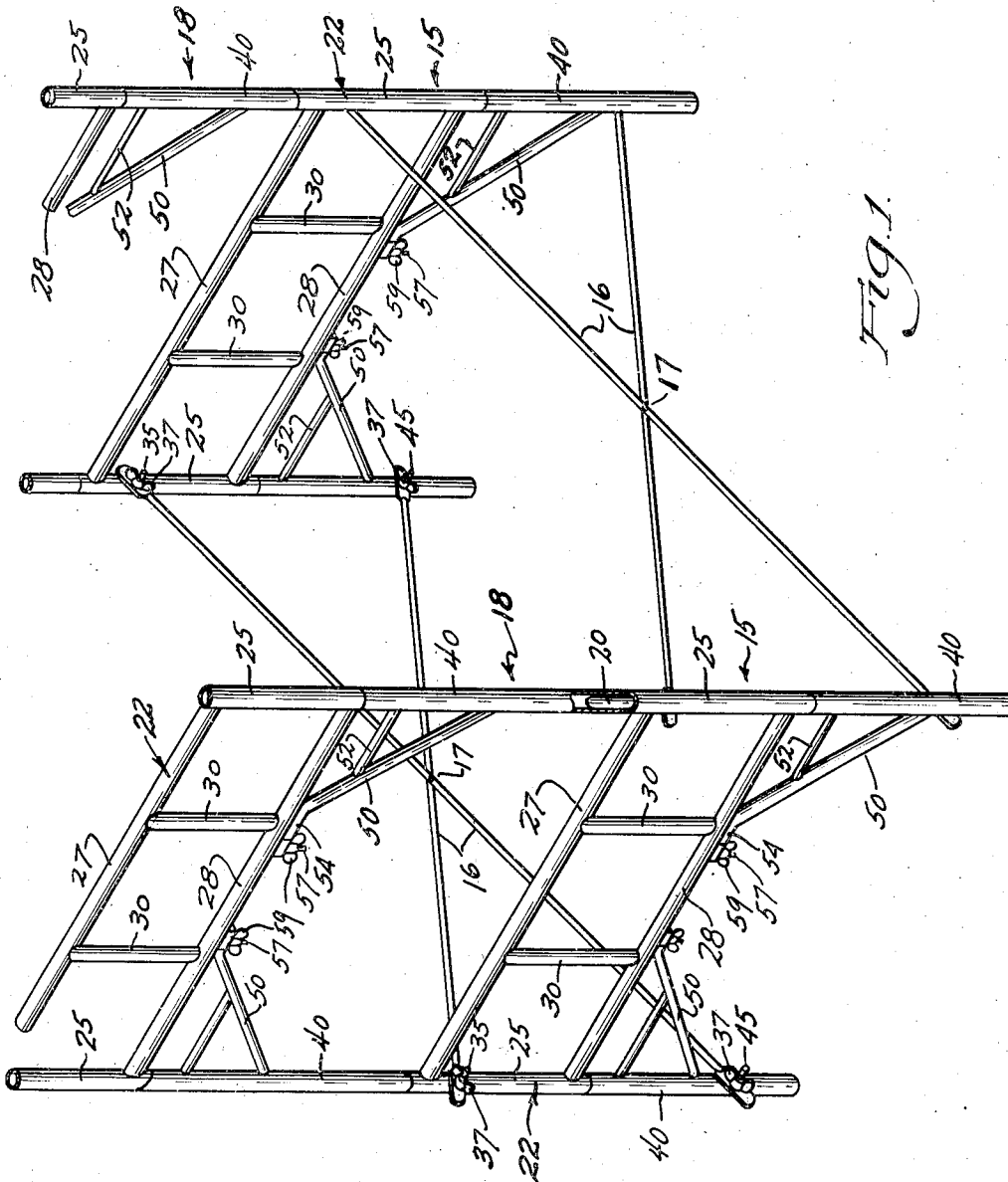


Fig. 1.

Fig. 5.



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Fig. 2.

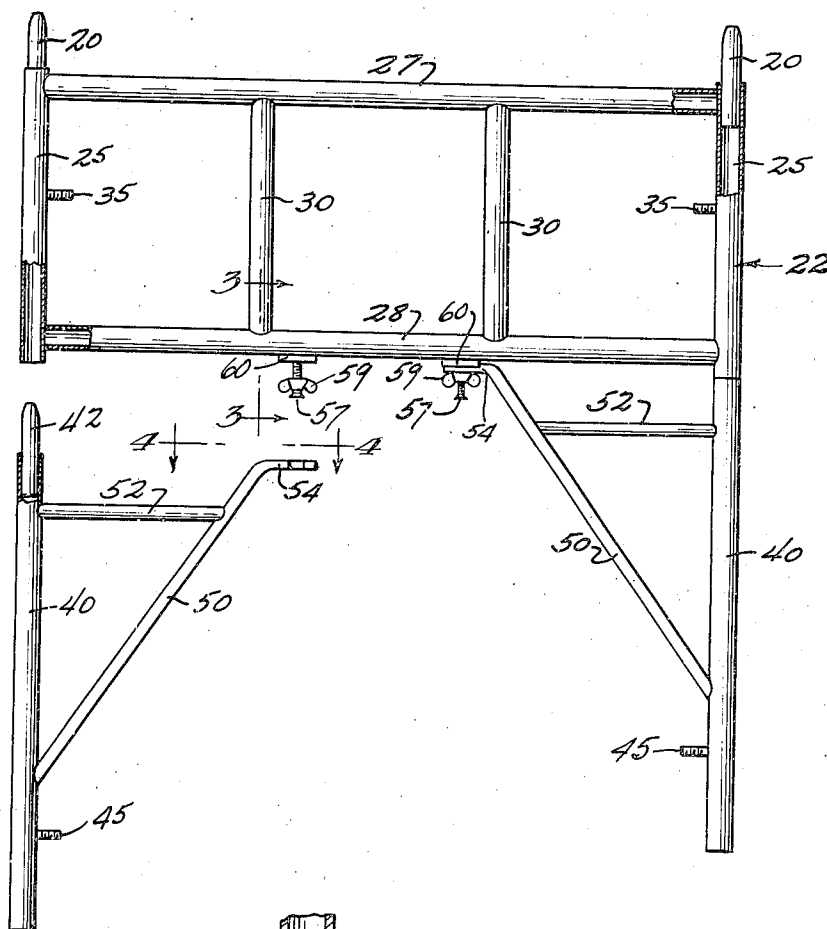


Fig. 4.

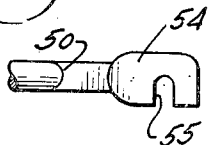
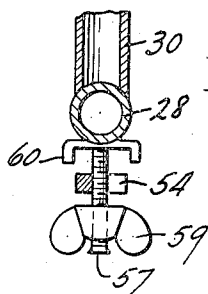


Fig. 3.



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5 Claims. (Cl. 304-2)

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This invention relates to scaffolds and more particularly to sectional scaffold end frames of variable height.

In sectional scaffolds, it has been customary to build separate integral end frames for each height of section desired. Thus a dealer had to store a large number of three, five, six and ten foot end frames in order to meet the demands of the trade. It is obvious that if a suitable end frame with a simple rugged extension could be devised it would reduce the amount of equipment that must be kept in stock and would have many other advantages.

One object of the invention is to provide a sectional scaffold having a variable height end frame.

Another object is to provide a sectional scaffold having an adjustable end frame which will be strong and rigid.

A further object is to provide a sectional scaffold which may be more readily stored.

A further object is to provide a sectional scaffold which will reduce the number of scaffold sections required to be kept in stock.

Other objects will become apparent upon considering the following specification, which when taken in conjunction with the accompanying drawings illustrate a preferred form of the invention.

In its broad aspect the invention comprises an end frame, said end frame comprising a pair of vertical posts spaced from each other, a horizontal support joining said posts adjacent the upper ends thereof, a second brace joining said posts and spaced from said first brace, securing means on the lower side of said second brace, a leg having a coupling pin formed thereon engageable within one of said posts, a bracket fixed to said leg and retained by said securing means, and a second leg secured in the other said post.

In the drawings:

Fig. 1 is a perspective view of a scaffold embodying the invention;

Fig. 2 is a plan view of an end frame of the scaffold shown in Fig. 1;

Fig. 3 is a cross section taken on the line 3-3 of Fig. 2, looking in the direction of the arrows;

Fig. 4 is a plan view taken on the line 4-4 of Fig. 2, looking in the direction of the arrows; and

Fig. 5 is a detail view of a modification of the invention showing a coupling pin for use in the scaffold.

Referring to Fig. 1, the scaffold comprises a tier of end frames, generally designated 15-15,

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connected together by cross braces 16-16. The cross braces 16-16 have pivots 17 at the centers thereof so as to form the tier into a rigid parallelogram. Other tiers of end frames 18-18 may be superposed on the frames 15-15 and held centered thereon by coupling pins 20. Cross braces (not shown), similar to the cross braces 16 may connect the end frames of each tier.

Referring to Fig. 2 which shows a single end frame comprising a fixed section 22, having a pair of vertical tubular posts 25-25, spaced from each other and connected adjacent their upper and lower ends by horizontal supports 27 and 28 respectively. Shear braces 30-30 are shown connecting the upper horizontal support 27 with the lower horizontal support 28. The braces 30 are intended to absorb shear stresses incident in the frame and need not necessarily be vertical or connect the supports 27 and 28.

The upper ends of the posts 25-25 are provided with coupling pins 20-20 which have an outside diameter equal, substantially, to the inside diameter of the tubular posts 25, and are brazed in the posts. The coupling pins 20 receive and center the superposed posts of the next tier above, and form the scaffold into a unified tower.

A bolt 35 is welded onto each post 25 to receive the end of the cross brace 16. Wing nuts 37 (shown only in Fig. 1) fit onto the bolts 35 to secure the cross braces 16 in place.

A tubular leg 40 is provided as an extension to the post 25 and may be supplied in various lengths to make end frames of any given height. The leg 40 has a coupling pin 42 fixed in the upper end thereof, preferably by brazing, the coupling pin fitting within the lower end of the post 25 to center the leg 40 on the post.

The lower part of each leg 40 is provided with a bolt 45 which receives the cross brace 16, the cross brace being held in place by a wing nut 37 (shown only in Fig. 1).

A supporting bracket which may comprise a diagonal brace 50 and a horizontal brace 52 is formed on the leg 40. The diagonal brace 50, which may be tubular has a flattened end portion 54 (Fig. 4) which is bent into a horizontal position parallel to the lower horizontal support and is provided with a slot 55 opening out through one edge, as best seen in Fig. 4.

The slot 55 fits over a bolt 57 welded on the lower side of the lower horizontal support 28. The bolt 57 has a wing nut 59 secured on the bolt 57 by peening the end of the bolt. A channel shaped retaining member 60 is secured to the

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brace 28, and on the bolt 57. The retaining member 60 has a width equal to the width of the flattened end 54, so that when the end 54 is in place on the bolt 57 it will fit into the channel and be retained in place by the wing nut 59.

Operation

In operation the end frames 15 are formed by assembling the proper length of legs 40 with each fixed section 22. Each leg is assembled with the fixed section by placing the coupling pin 42 in the post 25 and rotating the bracket 50 until the slot 55 engages the bolt 57. The coupling pin may then be fully inserted in the post 25 with the leg 40 flush therewith. The wing nut may then be tightened on the flattened end 54 of the bracket 50. When the wing nut is tightened on the piece 54, the bracket is secured in the U-shaped retaining member 60 and prevented from turning. In this position the slot 55 cannot become disengaged from the bolt 57.

When the end frame is completely assembled with two legs 40 in place on each fixed section 22, the scaffold may be erected in the usual manner by joining adjacent frames 15 by suitable cross braces 16, the cross braces being secured at their ends to the frames 15 by the bolts 35—35 and 45—45, and held thereon by wing nuts 37 in the usual manner.

The scaffold may be built to any desired height by adding successive tiers of end frames to the lower tier, connection between the several tiers being made through the coupling pins 20.

It will be realized that the hereinbefore form of the invention is to be taken merely as a preferred embodiment thereof, and that various changes of size, shape and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

That which is claimed as new and is desired to be secured by Letters Patent is:

1. In a scaffold of the character described, a fixed section comprising a pair of spaced vertical posts, an upper horizontal support connecting said posts adjacent the upper ends thereof, a lower horizontal support spaced from said upper horizontal support and connecting said posts, a bolt fixed to said lower support, and a U-shaped retaining member fixed to said lower support adjacent said bolt, an extension leg abutting one of said posts, a projection secured to said leg and engaged with the said one post to maintain the post and leg in alinement, a bracket on said leg, an end on said bracket engaged over said bolt and received in said retaining member, and a nut on said bolt to retain the end of the bracket in the retaining member and the leg assembled on the post.

2. In a scaffold of the character described, a fixed section comprising a pair of spaced vertical posts, an upper horizontal support connecting said posts adjacent the upper ends thereof, a lower horizontal support spaced from said first named support and connecting the posts, a bolt fixed to said lower horizontal support, a nut on said bolt and secured against removal therefrom, and a U-shaped retaining member secured to said lower support adjacent the bolt, an extension leg abutting one of said posts, means on said leg engaged with said one post to maintain the leg in alinement with the said one post, a bracket on said post, and a flattened end on said bracket having a slot therein engaged over said bolt between the nut and the support, said end, when engaged on said bolt,

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engaged on said bolt, being received in the retaining member and held therein by said nut.

3. In a scaffold of the character described, a fixed section comprising a pair of spaced vertical posts, an upper horizontal support connecting said posts adjacent the upper ends thereof, a lower horizontal support spaced from said upper horizontal support and connecting said posts, a bolt fixed to the lower side of said lower support, and a U-shaped retaining member fixed to said lower support adjacent said bolt, an extension leg abutting one of said posts, a projection secured to said leg and engaged with the said one post to maintain the post and leg in alinement, a bracket on said leg, an end on said bracket engaged over said bolt and received in said retaining member, and a nut on said bolt to retain the end of the bracket in the retaining member and the leg assembled on the post.

4. In a scaffold of the character described, a fixed section comprising a pair of spaced vertical posts, an upper horizontal support connecting said posts adjacent the upper ends thereof, a lower horizontal support spaced from said upper horizontal support and connecting said posts, a bolt fixed to said lower support, and a retaining member having a downward projection fixed to said lower support, an extension leg abutting one of said posts, a projection secured to said leg and engaged with the said one post to maintain the post and leg in alinement, a bracket on said leg, an end on said bracket engaged over said bolt and retained thereon by said retaining member, and a nut on said bolt to retain the end of the bracket in engagement with the retaining member and the leg assembled on the post.

5. In a scaffold of the character described, a fixed section comprising a pair of spaced vertical posts, an upper horizontal support connecting said posts adjacent the upper ends thereof, a lower horizontal support spaced from said first named support and connecting the posts, a bolt fixed to said lower horizontal support, a nut on said bolt and secured against removal therefrom, and a bracket retaining member having a downward projection secured to said lower support adjacent the bolt, an extension leg abutting one of said posts, means on said leg engaged with said one post to maintain the leg in alinement with the said one post, a bracket on said post, and a flattened end on said bracket having a slot therein engaged over said bolt between the nut and the support, said end, when engaged on said bolt, being engaged by the retaining member and held in engagement therewith by said nut.

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