March 25, 1952 L. R. HENDERSON ET AL 2,590,617

SCAFFOLD FOR HANDLING SHEET MATERIAL

Filed July 5, 1949 2 SHEETS—SHEET 1

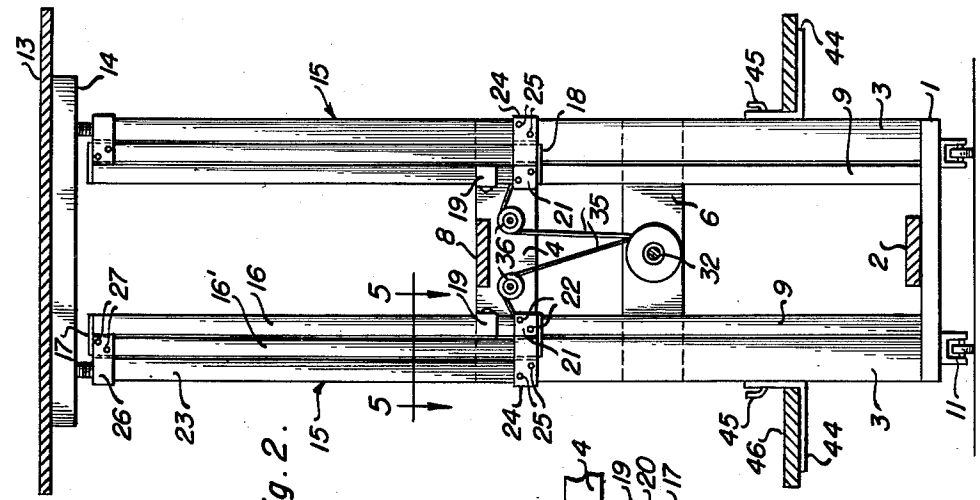


Fig. 2.

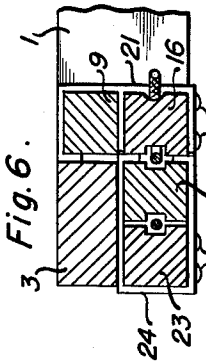


Fig. 6.

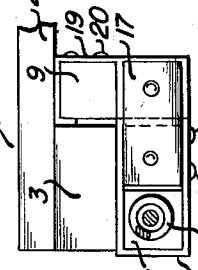


Fig. 7.

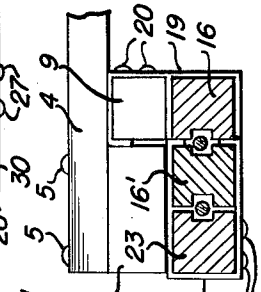


Fig. 5.

Fig. 1.

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Fig. 3.

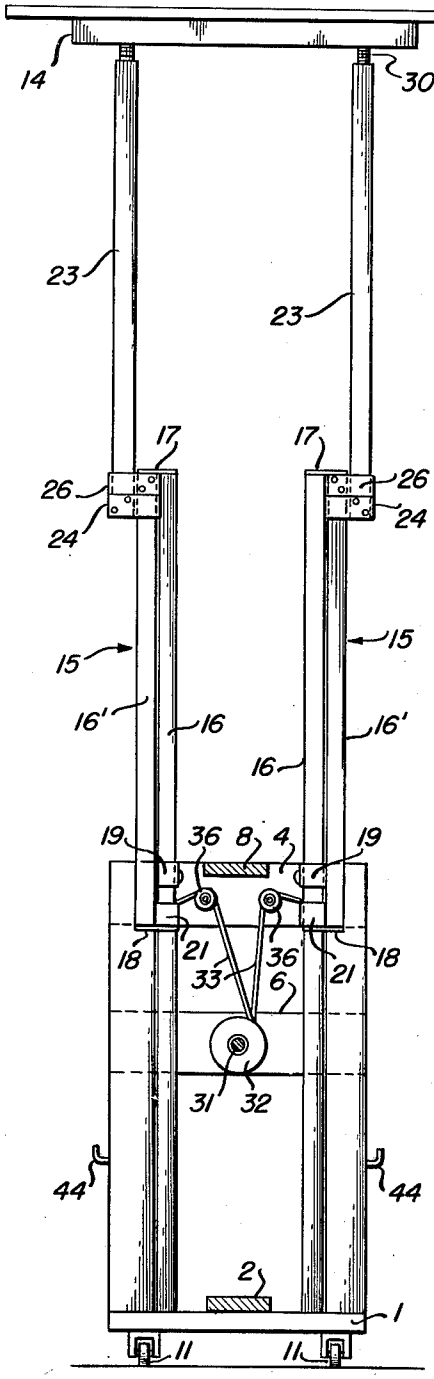
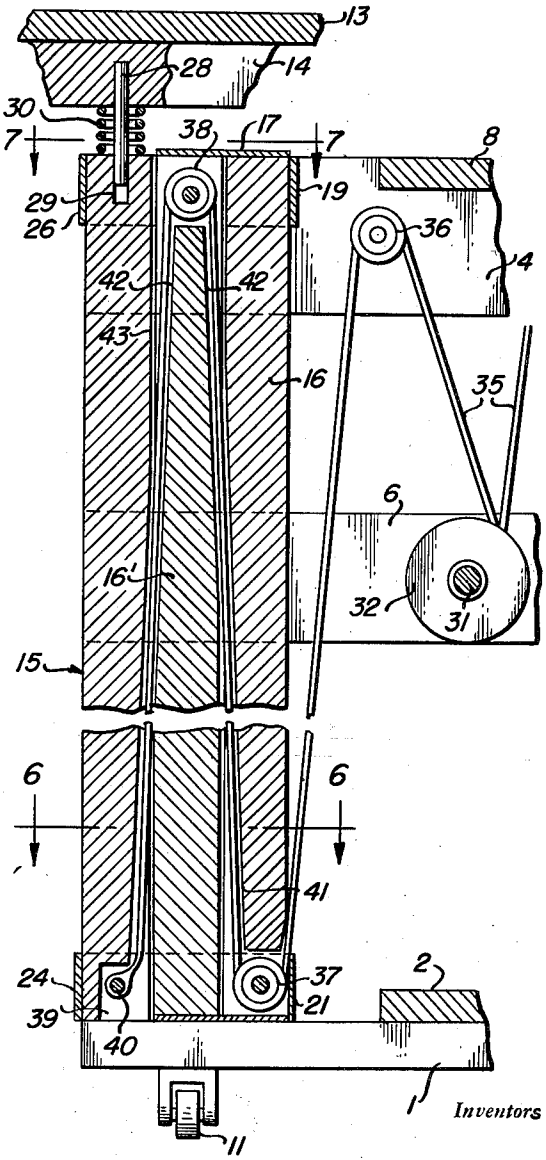


Fig. 4.



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SCAFFOLD FOR HANDLING SHEET MATERIAL

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2 Claims. (Cl. 304—29)

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Our invention relates to improvements in scaffolds for use in cutting and applying to ceilings in buildings plaster board, wallboard, and the like.

The primary object of our invention is to provide a scaffold for supporting horizontally the material to be applied and at substantially the height of the usual table for cutting or otherwise treating the material, and which is operative easily by one man to lift the material in level position a distance considerably greater than the height of a table, whereby the material may be easily applied to ceilings of various heights in dwellings, and the like.

Another object is to provide a scaffold for the purpose above set forth which is not liable to get out of order, is safe to use, easy to move about in a building, and comparatively inexpensive to manufacture.

Other and subordinate objects within the purview of our invention, together with the precise nature of our improvements will be readily understood when the succeeding description and claims are read with reference to the drawings accompanying and forming a part of this specification.

In said drawings:

Figure 1 is a view in perspective, partly broken away and shown in section, of a preferred embodiment of our improved scaffold, with the platform fully lowered;

Figure 2 is a view in vertical transverse section taken on the line 2—2 of Figure 1 and drawn to a larger scale with the scaffold partly elevated;

Figure 3 is a view similar to Figure 2 with the scaffold completely elevated;

Figure 4 is a view in transverse section taken in the vertical plane of one of the extension post structures and drawn to a still larger scale with the scaffold completely lowered;

Figure 5 is a view in horizontal section taken on the line 5—5 of Figure 2 and drawn to a larger scale;

Figure 6 is a similar view taken on the line 6—6 of Figure 4; and

Figure 7 is another similar view taken on the line 7—7 of Figure 4.

Referring to the drawings by numerals, our improved scaffold comprises, as shown, an elongated, substantially rectangular frame 1a, including a pair of horizontal end base bars 1 connected in the longitudinal center of said frame by a center bar 2. A pair of corner posts 3 of rectangular cross-section and of substantially the height of the usual table legs rise from each base bar 1 at the outer corners thereof, upon opposite sides

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of the center bar 2, and are suitably fixed to said bars 1. Each pair of corner posts 3 is connected at the upper ends thereof by a top cross-bar 4 secured to the outer sides of the pair, as at 5, and is additionally connected by another cross-bar 6 similarly secured to the pair of corner posts, as at 7, intermediate the top bar 4 and base bar 1. A longitudinal frame bar 8 connects the top cross-bars 4 at the top of the frame in the longitudinal center of said frame.

At each end of the frame 1a is a pair of corner guide posts 9 of rectangular cross-section and the same height as the corner posts 3 and which rise from the base bars 1 intermediate the pair of corner posts 3 and extend alongside the corner posts 3 contiguous to same in slightly spaced relation thereto for a purpose presently seen. The guide posts 9 are preferably half the width of the corner posts 3 which are arranged edgewise to said guide posts, and said guide posts 9 are secured in any suitable manner to the base bars 1 and to the cross-bars 4, as at 10. Casters 11 support the base bars 1 so that the described frame may be easily rolled from place to place.

The frame 1a is designed to support a lift 12 comprising a rectangular work-supporting and elevating platform 13 surmounting said frame and having bottom cross beams 14 suitably secured thereto. Extension post structures 15 are provided at the corners of the frame 1a for elevating and lowering said platform 13 and which are arranged in pairs at the ends of said frame opposite the pairs of corner posts 3 and guide posts 9 and alongside the same at the inner sides thereof.

The extension post structures 15 each comprise, as part thereof, a pair of relatively fixed side-by-side posts 16, 16', like the guide posts 9, and preferably of the same height, and which are secured together in slightly spaced apart parallel relation at the upper and lower ends thereof by plates 17, 18, overlying and suitably secured to said ends, for instance, as shown in Figure 7. The post 16 of each relatively fixed pair 16, 16' is slidably mounted on the adjacent guide post 9 by an E-shaped strap metal guide 19 loosely straddling said post 16 at the top of said guide post 9 and fitting part way around the top of the guide post 9 and in between said post 9 and the adjacent corner post 3, said guide 19 being nailed to said post 9, as at 20, all as best shown in Figure 5. A slide 21, like the guide 19, as best shown in Figure 6, straddles the lower end of the slidably mounted post 16 and is nailed thereto, as at 22, said slide fitting part way around and in between said guide post 9 and

the adjacent corner post 3 for sliding on said post 9. A single post 23, like the relatively fixed pair of posts 16, and forming part of the extension post structure 15, is slidably mounted on the other post 16 of the relatively fixed pair alongside said post 16'. For this purpose U-shaped strap metal slide 24 straddles the lower end of the single post 23 and is secured thereto by nails 25, said slide loosely fitting part way around said post 16' and in between the pair of posts 16, 16' to slide vertically on said post 16'. A guide 26, like the slide 24 straddles the single post 23 and fits part way around the upper end of the post 16', like said slide 24, but is nailed to said post 16', as at 27. The platform 13 is mounted on the single posts 23 by means of studs 28 fixed in the cleats 14 and vertically slidable in top sockets 29 in said posts 23. Cushion springs 30 surround the studs 28 intermediate said platform 13 and said posts 23.

Means for extending the extension post structures 15 is provided comprising the following. A horizontal central shaft 31 is journaled at its ends in the frame 1a in the cross-bars 6 with a pair of cable winding reels 32 fast thereon intermediate the pairs of extension post structures 13 at opposite ends of said frame 1a. A crank 33 is suitably journaled in one cross-bar 6 and connected by a speed-increasing sprocket and chain drive 34 to one end of said shaft 28. Pairs of cables 35 at opposite ends of the shaft 28 are suitably connected to the reels 32, respectively, for winding thereon and over pairs of pulleys 36 suitably mounted above the reels 32 on the cross-bars 4. Each pair of cables 35 is extended downwardly from the pulleys 36 under pulleys 37 in the lower ends of the slidably mounted posts 16 of the pairs of extension post structures 15 at the adjacent end of the frame 1a. From the pulleys 37, each pair of cables 35 extends upwardly over pulleys 38 in the upper ends of said posts 16' of said structures, and then downwardly to the lower ends of the single posts 23 of said structures, at which point said cables 35 are fixed to said single posts 23 in lower end notches 39 therein and by means of cross pins 40 in said posts 23. Suitable vertical grooves 41, 42, 43 are provided in the posts 16, 16', 23 of the extension post structures 15 to accommodate the cables 35.

Slotted angle brackets 44 are detachably suspended on hooks 45 on the corner posts 3 for supporting, horizontally, side planks 46 on the frame 1a at a suitable height for use by workmen in positioning work on the lower platform 13 or for other use, as desired.

A suitable releasable pawl 47 for the sprocket and chain drive 34 may be provided for dogging said drive against reverse operation for a purpose presently seen.

Referring now to the operation of the described scaffold, when the platform 13 is lowered, the extension post structures 15 are contracted into the position shown in Figures 1 and 4, in which the pairs of relatively fixed posts 16, 16' and the single post 23 rest side-by-side on the base bars 1. The platform 13 is then supported substantially table high for placing work, not shown, thereon. At this point it is explained that the weight of the lift 13 including the posts 23 is substantially the same as that of the relatively fixed pairs of posts 16, 16'. To elevate the platform 13, the crank 33 is operated in the proper direction to wind up the cables 36 which will thereby lift the extension post structures 15, as

shown in Figure 2, the slides 21 sliding on the guide posts 9 until the fastened ends of the cables 35 are nearly opposite the pulleys 36. During this operation, the posts 16 slide vertically in the guides 19. As will be seen, during lifting of the extension post structures 15, the pairs of relative fixed posts 16, 16' and the single post 23 will be lifted in unison until the platform 13 is partly elevated for the reason that the weight of the lift 13 and posts 23 counterbalances the force required to lift the relatively fixed pairs of posts 16, 16'. Further winding of the cables 35 will then lift the single posts 23, as shown in Figure 3, relative to and independently of the pairs of relatively fixed posts 16, 16' to further and completely lift the platform 13. In this independent lifting of the single posts 23, the slides 24 slide on the posts 16' and the single posts 23 slide in the guides 26 until the slides 24 abut said guides 26. As will be clear, the platform 13 may be lifted, as occasion may require, to elevate the same to ceilings of different heights. Upon releasing the pawls 47, the extension post structures 15 and platform 13 will return under the influence of gravity to lowered position.

The foregoing will, it is believed, suffice to impart a clear understanding of our invention, without further explanation.

Manifestly, the invention, as described, is susceptible of modification, without departing from the inventive concept, and right is herein reserved to such modifications as fall within the scope of the appended claims.

Having described the invention, what is claimed as new is:

1. In a scaffold for applying work to ceilings, a substantially rectangular frame, end guide posts at the corners of the frame, pairs of extension post structures at the ends of said frame comprising pairs of side-by-side relatively fixed spaced apart posts, and a single post associated with each pair of relatively fixed posts, means to mount one of the relatively fixed posts of each pair on each guide post for vertical sliding of the pairs of relatively fixed pairs on said guide posts, means to mount the single posts on the other posts of the relatively fixed pairs for vertical movement therewith and vertical sliding independently thereof comprising guides for the single posts straddling the same and fixed to said other posts, and slides straddling the single posts and said other posts and running in the spaces between the posts of the relatively fixed pairs of posts, a work-supporting platform carried by the single posts, and cable wind-up means operatively connected to said relatively fixed pairs of posts and said single posts to lift the same simultaneously and the single posts independently, said platform and single posts counterbalancing the force required to lift said relatively fixed pairs of posts, whereby the relatively fixed pairs of posts and the single posts will be lifted simultaneously and the single posts subsequently lifted independently with respect to said relatively fixed pairs.

2. In a scaffold for applying work to ceilings, a substantially rectangular frame, end guide posts at the corners of the frame, pairs of extension post structures at the ends of said frame comprising pairs of side-by-side relatively fixed spaced apart posts, and a single post associated with each pair of relatively fixed posts, means to mount one of the relatively fixed posts of each pair on each guide post for vertical sliding of the pairs of relatively fixed pairs on said guide

posts, means to mount the single posts on the other posts of the relatively fixed pairs for vertical movement therewith and vertical sliding independently thereof comprising guides for the single posts straddling the same and fixed to said other posts, and slides straddling the single posts and said other posts and running in the spaces between the posts of the relatively fixed pairs of posts, a work-supporting platform carried by the single posts, and cable wind-up means operatively connected to said relatively fixed pairs of posts and said single posts to lift the same simultaneously and the single posts independently comprising cables connected at ends thereof to the lower ends of said single posts, and vertically spaced pulleys on the pairs of relatively fixed posts around which said cables are trained, said platform and single posts counterbalancing the force required to lift said relatively fixed pairs of posts,

whereby the relatively fixed pairs of posts and the single posts will be lifted simultaneously and the single posts subsequently lifted independently with respect to said relatively fixed pairs.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
522,526	King	July 3, 1894
1,332,011	Weinberg	Feb. 24, 1920
1,639,962	Pfiffner	Aug. 23, 1927
1,644,613	Royer	Oct. 4, 1927
2,183,679	Hillis	Dec. 19, 1939
2,285,901	Chenoweth	June 9, 1942