

Jan. 31, 1950

W. ASHENFELTER

2,496,082

SCAFFOLD STRUCTURE

Filed May 24, 1947

2 Sheets-Sheet 1

FIG. 1.

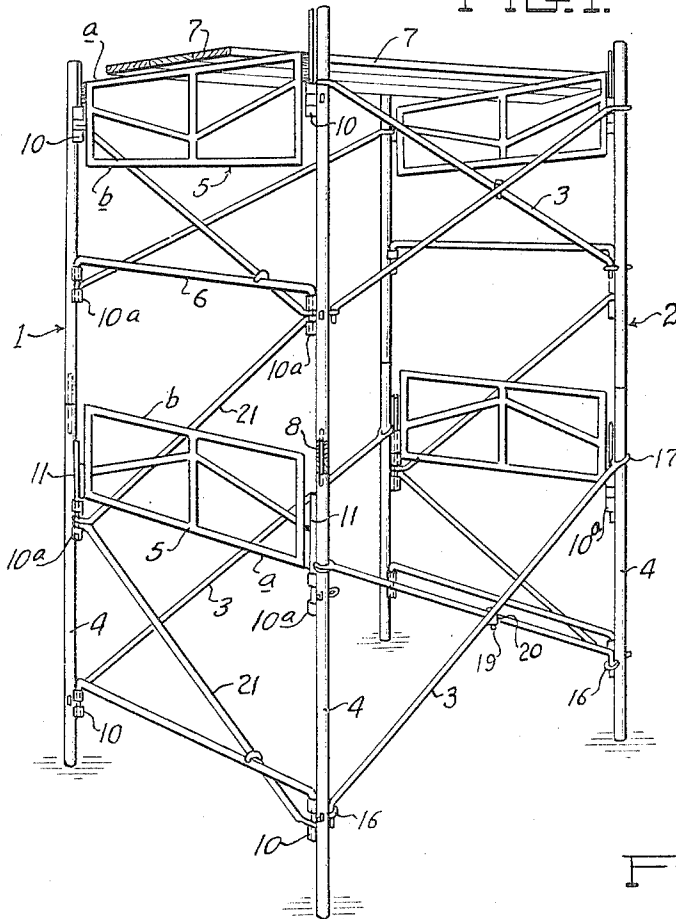


FIG. 3.

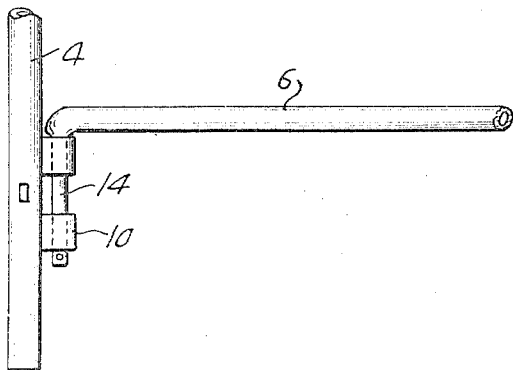
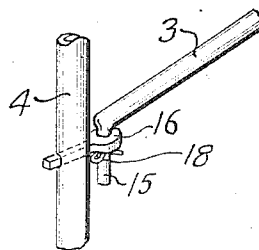


FIG. 4.



INVENTOR.
William Ashenfelter
BY Owen & Owen,

ATTORNEYS

Jan. 31, 1950

W. ASHENFELTER
SCAFFOLD STRUCTURE

2,496,082

Filed May 24, 1947

2 Sheets-Sheet 2

FIG. 2.

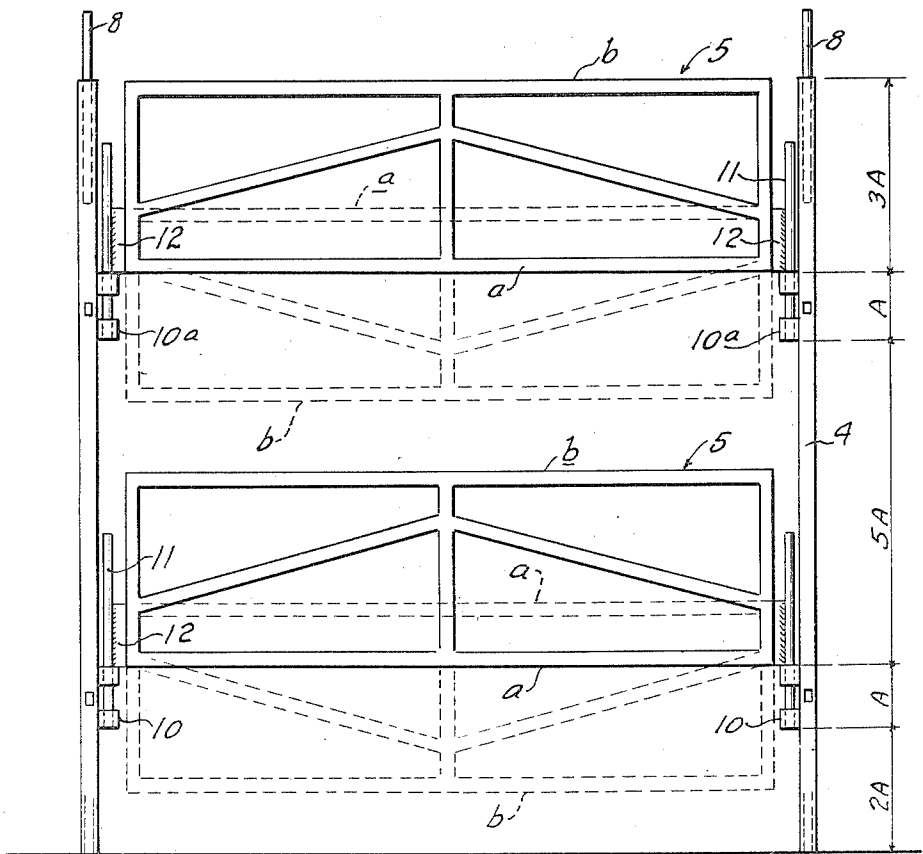
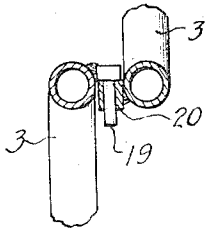


FIG. 5.



INVENTOR.
William Ashenfelter
BY Owen D. Owen

ATTORNEYS

UNITED STATES PATENT OFFICE

2,496,082

SCAFFOLD STRUCTURE

William Ashenfelter, Swanton, Ohio

Application May 24, 1947, Serial No. 750,235

5 Claims. (Cl. 304-2)

1

This invention relates to scaffold structures of the sectional knock-down type.

The primary object of the invention is the provision in a scaffold of this character of independently reversible posts and cross-frame members, whereby various adjustments as to height of supported scaffold planks may be obtained in a rapid, easy and simple manner.

Another object of the invention is the provision, in combination with the upright posts, of a scaffold plank supporting frame of novel construction connected to the posts in a simple and novel manner whereby it may have various selective adjustments as to height with respect to the posts to support the planks at various predetermined levels.

Another object of the invention is the provision of an improved means for connecting and diagonally bracing the posts, whereby to increase the practicability of the structure.

Further objects and advantages of the invention will be apparent from the following detailed description, and from the accompanying drawings illustrating one embodiment of the invention, in which—

Fig. 1 is a perspective view of a scaffold embodying the invention, with the cross-frames in various positions of adjustment; Fig. 2 is an enlarged elevation of one end-frame section of the scaffold, with the cross-frame members thereof shown in one position in full lines and in another position in dotted lines; Figs. 3 and 4 are enlarged details of different features thereof, and Fig. 5 is a detail of the cross brace connecting means.

Referring to the drawings, and particularly to Fig. 1, the scaffold structure is shown as comprising two end-frames 1 and 2, spaced longitudinally of the structure by diagonal braces 3, and each frame including a pair of spaced corner posts 4 and a plurality of cross members 5 or 6, or both, for supporting scaffold planks 7. The posts 4 are composed of sections preferably but not necessarily six feet in length, joined together in endwise relation, one on top of another, to suit the desired height of the scaffold. The post sections are preferably tubular and the adjacent ends are joined by coupling pins 8 inserted partially in each post end.

The posts 4 of each end-frame section are preferably connected in horizontally spaced relation by two cross members 5, as in Fig. 2, or by both cross members 5 and 6, as in Fig. 1. Each member 5 comprises a rectangular frame and each member 6 a bar. For the purpose of attaching

2

these members to the posts, each section is provided with longitudinally spaced lugs 10 and 10^a with the lugs 10 spaced, say twelve inches, from the adjacent post end, and with the lugs 10^a spaced, say eighteen inches, from the other ends of the post section. The lugs are each preferably six inches long, provided with an eye or opening therethrough lengthwise of the posts and are divided by an open space into two sections.

The rectangular frame 5 has its horizontal edges vertically spaced, in the present instance by eighteen inches, and fixedly attached to each end parallel therewith and adjacent to one of such edges is a pin 11 which projects in opposite directions from the attaching bracket 12. This bracket spaces the pin from the frame end and one of its ends is substantially flush with one horizontal edge of the frame 5, *a* in the present instance, and its other end is spaced approximately six inches inwardly therefrom. It is thus apparent that when the horizontal edge *a* of the frame, which is adjacent to the pin bracket 12, is placed lowermost, the outer ends of said brackets will rest on the respective lugs 10 or 10^a with the outer ends of the pins 11 projected therein, as shown by full lines in Fig. 2. Also that when the edge *b* of the frame 5 is placed lowermost, as shown at the upper portion of Fig. 1 and by dotted lines in Fig. 4, the inner ends of the brackets 12 will rest on the respective lugs 10 or 10^a with the inner ends of the pins projecting therein. Thus, in the first case, with the frame supported by the upper lugs 10^a of a post section, the uppermost edge (*b*) will stand on a level with the upper ends of the post sections, as shown in Fig. 2, and by the lower cross-frame in Fig. 1, while in the other case the uppermost edge (*a*), as shown at the upper portion of Fig. 1, will stand on a level six inches below the post section, assuming, of course, that the dimensions are as previously indicated. Likewise, if a frame 5 is supported by the lugs 10 of a set, with such lugs in lowermost position and with the edge *b* of the frame uppermost, as indicated in full lines in the lower portion of Fig. 2, and with the dimensions as indicated, such edge will be thirty-six inches above the lower ends of the post sections, while if the edge *a* is uppermost, as shown in dotted lines at the same place in said figure, it will stand twenty-four inches above the lower ends of the post sections. It is thus apparent that by the use of two cross-frames 5 in each end frame section, as shown in Fig. 2, they may be positioned with respect to the posts so as to provide four different levels at which the scaffold planks may be supported. Two of such levels

3

are indicated by the dotted and full line edge positions *a* and *b*, respectively, in the lower portion of Fig. 2, and the other two positions are indicated by the dotted and full line edge positions *a* and *b*, respectively, in the upper portion of Fig. 2. It is also apparent that these adjustments of the cross-frames 5 may be carried out for each section of the end-frames should the scaffold be composed of more than one of such sections. Also that the levels will be different if the posts are reversed end for end and the cross-frames then placed in one position or another on the supporting lugs.

The cross member 6 is of bar-form and terminates at its ends in laterally projecting pins 14, which may be projected down through registering lugs 10 or 10^a of the post sections for the purpose of uniting and relatively bracing the posts of an end-frame section. If desired, these cross-bars 6 may be used alternately in a frame section with the cross members 5, as shown in Fig. 1, and may serve to support the scaffold planks.

The corresponding posts of opposed sections of the end-frames 1 and 2 are connected by diagonal braces 3 which cross each other at their centers and are connected at their ends to the respective posts 4. In the present instance, the braces 3 are shown as having a vertically disposed stud 15 at one end releasably inserted through an eye 16 attached to the respective post, while the opposite end of the brace may be provided with a loop or eye 17 of suitable size to adapt it to receive an end of a post section. In assembling the brace with the post sections, the looped end of the brace is first positioned over the post end, being stopped in its movement thereover by the adjacent lug 10, and the stud 14 at the other end is then inserted through the respective eye 16 and secured therein by a cotter pin 18 or in some other suitable manner. These braces are rigidly attached together at their points of crossing by the provision on one brace of a stud 19 and on the other brace of an eye member 20 in proper position for receiving the stud, as best shown in Fig. 5.

In order to form a rigid end-frame structure, it is desirable to diagonally brace the posts 4 thereof. Diagonal braces 21 (Fig. 1) are shown for this purpose and they have perforated end portions projected into the open spaces between the sections of the lugs 10 and receiving either the inserted ends of the cross-frame pins 11 or the studs 14 of the cross-bar 6, as the case may be.

It is apparent in the use of my scaffold that it may be made of any desired height by mounting the desired number of end-frame sections one on top of the other, and that these superposed sections are tied together by the braces 21 in order to retain them in engaged relation. For this purpose some of the braces 21 span the joints of the sections. The corner posts of the opposing end sections are connected by the brace rods 3. The cross-frame members 5 are mounted on a registering pair of lugs 10 or 10^a of a section and positioned with either the edge *a* or the edge *b* thereof in uppermost position so as to provide a support at a desired height for the planks 7. If desired, the planks may be inserted within the cross-frame members 5 and caused to rest on the inner side of either edge frame portion *a* or *b*, depending upon which is uppermost, thus providing two additional levels of support for the planks over those provided by the outer edge surfaces of the frame members. Additional levels of sup-

4

port for the planks may also be obtained by reversing the posts of a frame end section end for end and mounting the cross-frames 5 on the lugs 10, 10^a thereof with either edge *a* or *b* thereof uppermost.

I wish it understood that while the various dimensions given are preferable, they may be changed as desired, and also that the invention is not limited to any specific construction, arrangement or form of the parts, as it is capable of numerous modifications and changes without departing from the spirit of the claims.

Having thus described my invention, what I claim as new and desire to secure by United States Letters Patent is:

1. In a scaffold structure of the class described, an end frame including a pair of laterally spaced corner posts each having a lug on a side thereof in the same spaced relation to its ends, a cross-frame having vertically spaced horizontal edge portions and at each end a lug nearer to one horizontal edge than the other, said post lugs having supporting engagement with the lugs at the respective ends of the cross-frame, with either horizontal edge of the latter uppermost, and means releasably interengaging the post and frame lugs which are in supporting engagement to retain them in assembled relation.

2. An arrangement as called for in claim 1, wherein said means comprises pins on one of the supportingly engaged lugs and sockets in the other of such lugs for receiving the pins.

3. In a scaffold structure of the class described, an end frame including a pair of laterally spaced corner posts, each post having a pair of vertically spaced apertured lugs adjacent to an end thereof, a cross-frame having end portions and vertically spaced horizontal edges, a lug projecting from each end portion of the cross-frame nearer to one horizontal edge than the other and having upper and lower ends, said end lugs adapted to rest at either end thereof on the uppermost lug of each pair of said post lugs with one or the other horizontal edge of the cross-frame uppermost, a cross-brace for said posts having an apertured eye at at least one end for projecting into the space between a pair of said post lugs, and pin means for connecting the adjacent frame and post lugs together in assembled relation.

4. An arrangement as called for in claim 3, wherein the pin means comprises pins fixed to and projecting in opposite directions from the cross-frame lugs, and adapted to project, in either position of the cross-frame, through the respective aperture of the post lugs and the cross-brace eye.

5. In a scaffold structure of the class described, an end frame including a pair of laterally spaced corner posts each having a lug on a side thereof in the same spaced relation to its ends, a cross-frame having vertically spaced horizontal edge portions and at each end a lug nearer to one horizontal edge than the other, said post lugs having supporting engagement with the lugs at the respective ends of the cross-frame, with either horizontal edge of the latter uppermost, said post lugs having sockets therein parallel to the posts and each of said frame lugs having pins projecting from both ends thereof for selective engagement with the sockets of the post lugs to place either horizontal edge of the cross-frame uppermost.

WILLIAM ASHENFELTER.

(References on following page)

2,496,082

5

REFERENCES CITED

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

UNITED STATES PATENTS

Number	Name	Date
742,565	Berry	Oct. 27, 1903
1,552,333	Mosher	Sept. 1, 1925
2,181,784	Dugan et al.	Nov. 28, 1939

Number
16,888
6,181
555,041
289,888

5

6

FOREIGN PATENTS

Country	Date
Great Britain	1889
Denmark	Nov. 27, 1903
France	Mar. 15, 1923
Italy	Oct. 31, 1931