Nov. 21, 1944. C. W. ATTWOOD 2,363,382

SCAFFOLDING

Filed Aug. 27, 1943 2 Sheets-Sheet 1

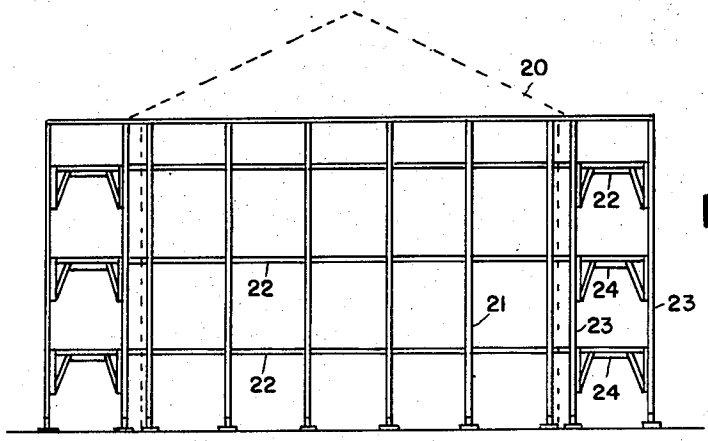


FIG.1.

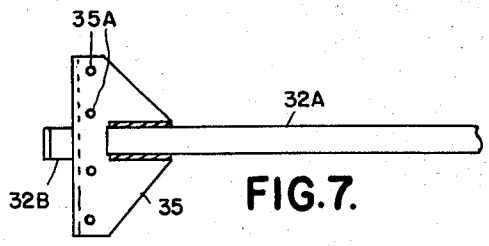


FIG.7.

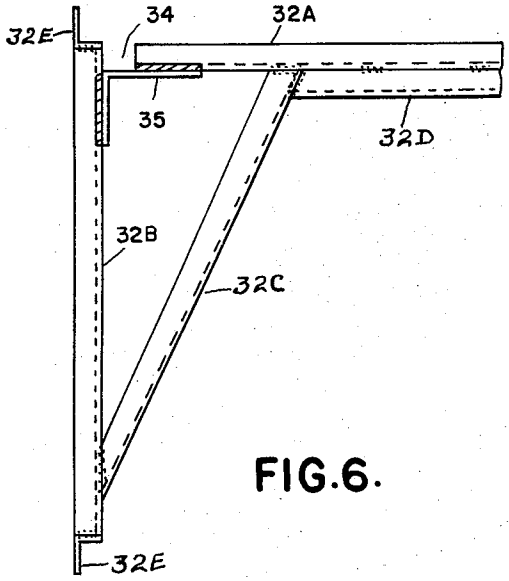


FIG.6.

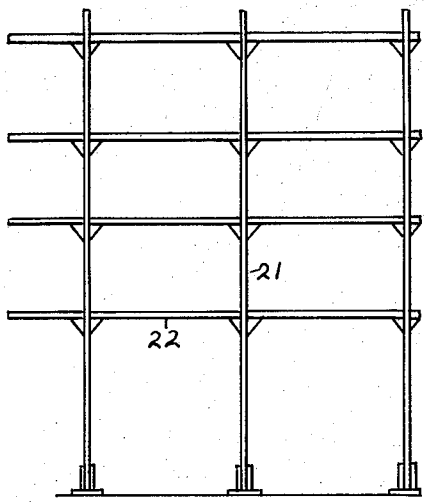


FIG.2.

INVENTOR.

CHARLES W. ATTWOOD

BY

Swan, Foye & Hardesty

ATTWOOD

Nov. 21, 1944. C. W. ATTWOOD 2,363,382

SCAFFOLDING

Filed Aug. 27, 1943 2 Sheets-Sheet 2

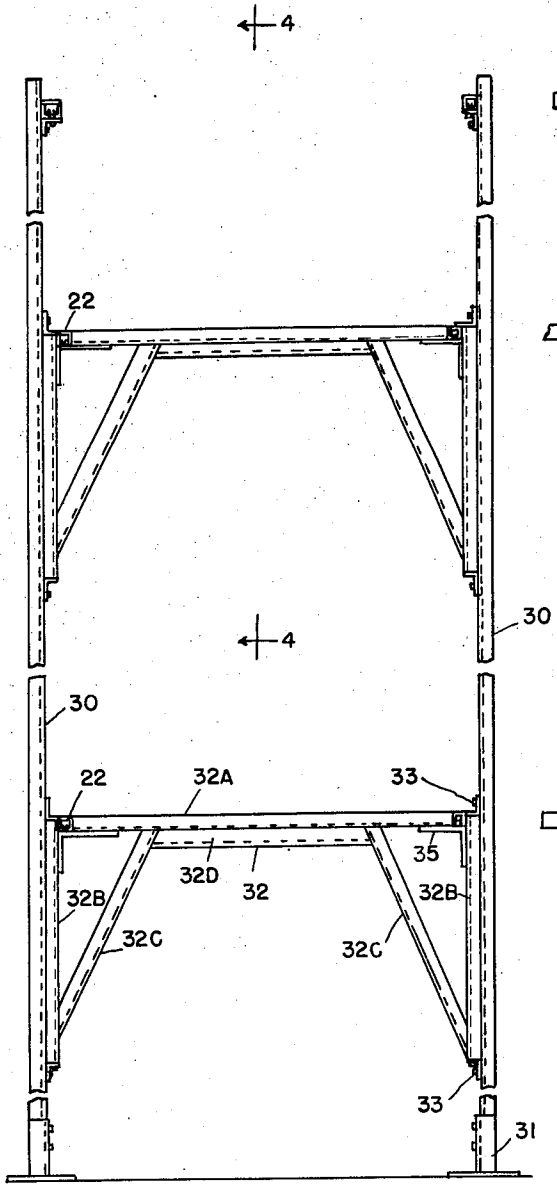


FIG.3.

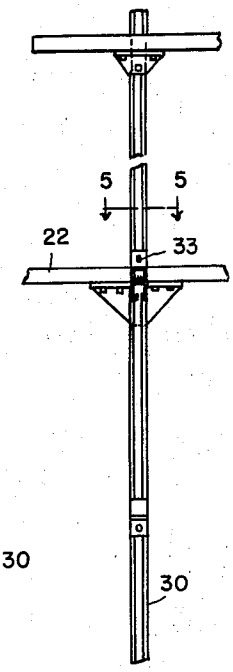


FIG.4.

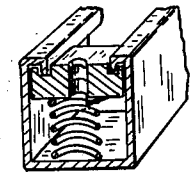


FIG.8.

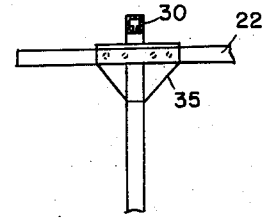


FIG.5.

INVENTOR.

CHARLES W. ATTWOOD

BY

Swan, Fyfe & Hardesty

ATTORNEYS

Patented Nov. 21, 1944

2,363,382

UNITED STATES PATENT OFFICE

2,363,382

SCAFFOLDING

Charles W. Attwood, Wayne, Mich.

Application August 27, 1943, Serial No. 500,227

5 Claims. (Cl. 304—2)

The present invention relates to scaffolding for use in the erection, finishing, cleaning or other operation of or on building structures, and specifically to scaffolding which may be dismantled and moved to new locations in compact easily transportable form and re-erected without the destruction of any portion thereof.

Among the objects of the invention is a scaffolding constructed of comparatively small light weight units which may be assembled in a minium of time to produce a completed structure having great strength and rigidity.

Another object is scaffolding which is free from parts interfering with the handling of materials and with the operations of erection, finishing, etc.

Another object is a scaffolding of which the parts may be fixed together in a substantially infinite number of adjustments to provide for sloping ground, varying heights, etc.

Another object is a scaffolding having its walkways entirely free from obstructions and its inner and outer sides free from obstructing brace members.

Still other objects and advantages will be apparent to those skilled in the art upon reference to the following description and the accompanying drawings in which

Figure 1 is a more or less diagrammatic view of a building completely surrounded by the new scaffolding.

Figure 2 is a view in elevation of a portion of such scaffolding on a somewhat larger scale.

Figure 3 is an end elevation of the scaffolding on a still larger scale.

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

Figure 5 is a section on line 5—5 of Figure 4.

Figure 6 is a view in elevation of one end of one of the U-members.

Figure 7 is a plan view of Figure 6.

Figure 8 is a fragmentary sectional view of one of the channel members with a securing nut also in section.

In the drawings, a building structure is conventionally indicated at 20 and as illustrated diagrammatically in Figure 1, is surrounded by the scaffolding which is made up of a plurality of vertically extending supporting units 21 with longitudinally extending connecting units 22. Each of the vertical units 21, as indicated at the ends of Figure 1, is composed of a pair of standards 23 connected by inverted U-shaped units 24 serving to complete the vertical unit and also to provide the cross members on which suitable boards may be laid for forming the platforms or walkways.

In Figure 3 there is shown a complete vertical unit but only two of the U-shaped members are shown, whereas such vertical units may be provided with any suitable number depending upon the height to which the scaffolding is to be directed. This vertical unit, is as indicated, composed of two vertical standards 30, each provided with a suitable foot piece 31 and connected by means of U-shaped member 32 bolted to the standard as indicated at 33. Each of the U-shaped members and each of the vertical members or standards is made up of channel members having a section such as is shown in Figure 8, the vertical members consisting of a single piece of channeling or two or more pieces placed end to end in order to extend the height of the unit.

The U-shaped member 32 is composed of several pieces of similar channel material welded together as shown in Figures 3 and 6. These figures show the member to be composed of a horizontal member 32A, vertical leg members 32B, diagonal brace members 32C, and a reinforcing horizontal member 32D welded to the member 32A and to the braces 32C. The braces 32C at their lower ends are welded directly to the leg members 32B while the horizontal member 32A is preferably somewhat shorter than the distance between the leg members 32B, leaving a space 34 for the reception of one of the longitudinal tie members 22.

Instead, therefore, of welding member 32A directly to leg member 32B, these parts are welded to an angular gusset member 35.

It is preferred also to weld to the top and bottom of legs 32B small perforated angle plates 32E for convenience in bolting the U-member to the uprights and also to provide for the wide spacing of these points of attachment. The legs 32B, therefore, provide a very substantial reinforcement of the vertical standards 30.

In erecting the scaffolding, the vertical units as indicated in Figure 3, may be and preferably are, assembled on the ground and subsequently elevated into the position desired and when they have been erected, are connected by the bolting thereto of the tie members 22 which are conveniently in the recesses 34 to provide for a smooth surface extending from one vertical member 30 to the other.

It will be noted that diagonal bracing of the vertical members is effected by the braces 32C while the bracing of the scaffolding is provided

for by the gusset members **35**, these being sufficiently long to permit the bolting of the tie members **22** at a plurality of points as indicated by the bolt holes **35A**.

The channel material used in the present scaffolding is shown in section in Figure 8 and forms the subject matter of an application filed in the name of the present inventor on October 12, 1940, Serial No. 360,868, and by the use of this particular material, the U members **32** may be secured at any desired position; consequently the walkways may be at any desired height or at any desired distance from each other.

It should be noted that when the framing has been erected and suitable planking laid along the members **32**, that the passageways along the scaffolding are unobstructed by cross bracing and that there are no members to interfere with access from the scaffold to the building upon which work is being done, or to interfere with the passing of material up to the various platforms.

Now having described the invention and the preferred embodiment thereof, it is to be understood that the invention is to be limited, not to the specific details herein set forth, but only by the scope of the claims which follow.

I claim:

1. Scaffolding comprising a plurality of vertical supporting units each consisting of upright channel members connected together by a plurality of separate inverted U-shaped units means for fixing said units to said channel members at any position throughout the height of the latter; each of said units consisting of a cross member and leg members fixed to relatively wide gusset plates and having diagonal braces between said cross members and leg members, longitudinally extending connecting members, said vertical supporting units being connected together in spaced relation by said connecting members fixed to said gusset plates.

2. Scaffolding comprising a plurality of spaced vertical supporting members, each consisting of standards of channel section connected by U-shaped cross units, means for fixing said units at any desired position vertically of said standards and at a plurality of points on the legs of said U-shaped units, diagonal braces formed integral with said units, relatively wide gusset plates connecting the legs and cross member of said units and tie members for fixing in spaced relation the vertical supporting means, said tie members being fixed at a plurality of points to said gusset plates.

3. In scaffolding construction, a vertical support comprising a pair of channeled standards, and separate inverted U-shaped units fixed to said standards and constituting spacing means therefor and walkway supports, said units consisting of leg portions adapted to be fixed to said standards at a plurality of spaced points, relatively wide gusset plates fixed to said legs adjacent the upper end thereof, a cross member fixed to said gusset plates but spaced from said leg portions, and brace members fixed to said cross member and to said leg portions.

4. In scaffolding construction, a plurality of vertical supports each comprising a pair of channeled standards and inverted U-shaped units fixed to said standards and constituting spacing means therefor and walkway supports, said units consisting of leg portions adapted to be fixed to said standards at a plurality of spaced points, relatively to gusset plates fixed to said legs adjacent the upper end thereof, a cross member fixed to said gusset plates but spaced from said leg portions, and brace members fixed to said cross member and to said leg portions, and longitudinally arranged tie members extending between said vertical supports and fixed at a plurality of points to said gusset plates and disposed in the spaces between the ends of the cross members of the U-shaped unit and the leg portions thereof.

5. In a scaffold construction, a vertical support comprising a pair of channel members open throughout their lengths and arranged vertically, connecting and spacing means for said members consisting of cross members serving also as a walkway support, means for fixing said cross members to said vertical channel members at any position throughout their length, said cross members including leg portions fixed to said channel members at a plurality of spaced points and also including relatively wide gusset plates at the junction of the cross member and leg portions.

CHARLES W. ATTWOOD.