

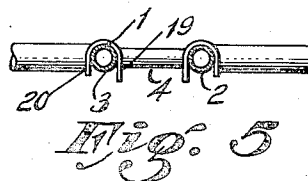
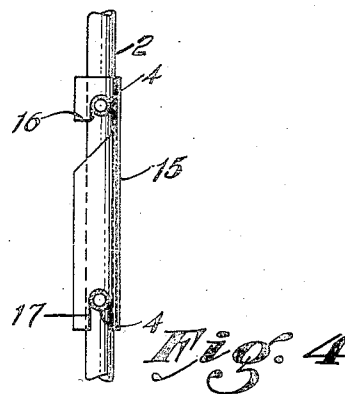
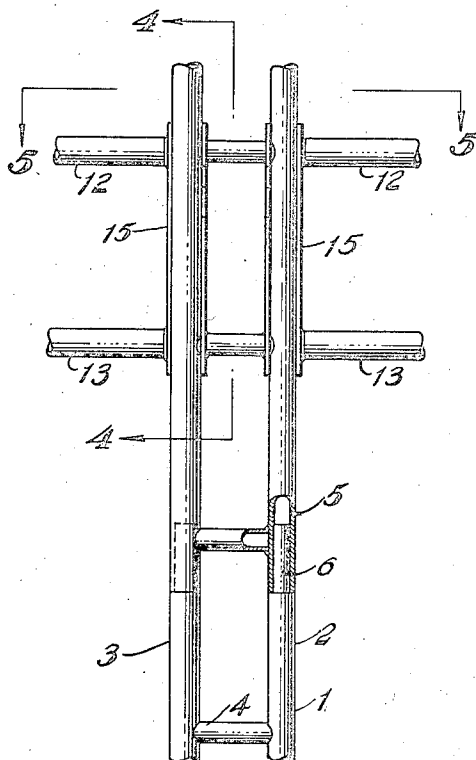
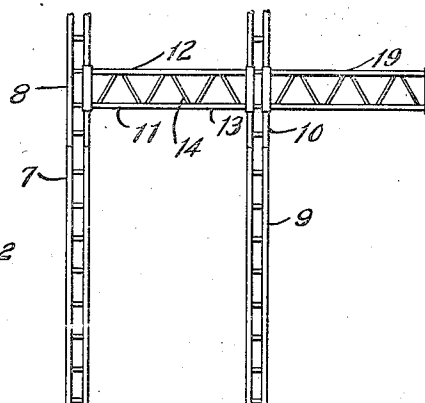
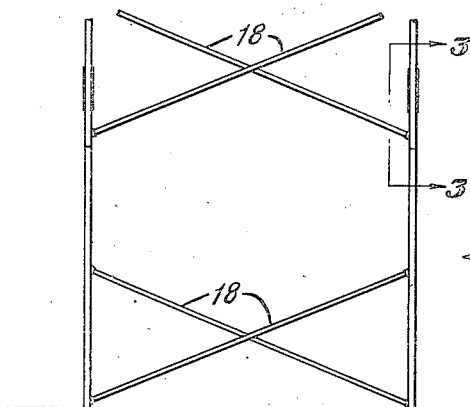
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2,308,832

SCAFFOLD

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SCAFFOLD

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4 Claims. (Cl. 304—3)

This invention relates to scaffolds.

Scaffolding is used for various purposes in the building arts, and is usually of temporary character. The present invention has to do with structural members entering into the fabrication of a scaffold, the structural members preferably being formed of metal, and in such a manner that scaffolding may be readily assembled to any height desired, with suitable platforms at various levels of the scaffolding to enable workers to perform whatever function may be required of them.

The present invention is particularly adaptable for ship construction, in that the members may be assembled with great rapidity to any height, and assure that the scaffolding when erected will be strong, stable, and not liable to side-sway, to enable laborers to work at different levels, as required.

Particularly, the invention contemplates a form of scaffolding wherein the worker may readily mount the scaffolding to reach a platform. Scaffolding as now used usually incorporates some exterior ladder or stairway leading to the scaffold platform, but in the majority of cases, said ladders are extraneous members requiring that they be attached to the scaffolding in some manner, and generally presenting an obstacle. Furthermore, space may be limited and scaffolding at best utilizes space which may be necessary for the construction of the building, ship, or other object. Consequently, it is necessary where space must be conserved, to have a scaffolding which is stable and still permits the workmen to reach any desired level of the scaffolding with ease while handling tools or carrying a load.

An object of the present invention is the provision of certain structural members entering into the fabrication of a scaffold which permits rapid assemblage thereof, provides a medium whereby the scaffold may be mounted without provision of extraneous elevating means, such as a ladder for workmen, which is efficient in operation, inexpensive in construction, and generally superior to structural members now known to the inventors.

With the above mentioned and other objects in view, the invention consists in the novel and useful provision, formation, construction, association, and relative arrangement of parts, members and features, all as shown in certain embodiments in the accompanying drawing, described generally, and more particularly pointed out in the claims.

In the drawing:

Figure 1 is a fragmentary detail of a scaffold embodying the invention,

Figure 2 is a front elevation of the scaffold shown in Figure 1, and looking in the direction of the arrow 2,

Figure 3 is a sectional view on an enlarged scale, taken on line 3—3 of Figure 1,

Figure 4 is a sectional view on the line 4—4 of Figure 3, and,

Figure 5 is a sectional view on the line 5—5 of Figure 3.

Referring now specifically to Figure 3, we have shown at 1 a frame comprising a pair of upright posts or struts 2 and 3 held in substantially parallel working relationship through the medium of transverse bars 4, of which there may be a plurality in equally spaced, substantially parallel relationship, as illustrated in Figure 2, and throughout the length of the struts or upright posts 2 and 3. The spacing between the upright posts or struts 2 and 3 need not be over six inches, or just sufficient to accommodate a human foot. In this respect, therefore, the members 4 in addition to becoming braces for preventing any weaving of the members 2 and 3, likewise function as one form of ladder whereby access may be had to other structural members, as hereinafter detailed. The said uprights or struts may be tubular in form, as illustrated at 5, and one end of each strut carries a reduced diameter pin 6, the opposite end of the struts being open. Hence, different frames may be rapidly assembled by the pin ends being received within the tubes of a further frame, as illustrated in Figure 3. The length of the pins is sufficient to properly support the second frame upon the first without any fear of disconnection therebetween, and the frames are preferably of the same diameter so that the pin end of each tube acts as a shoulder for the end of the tubes of a further supported frame.

Assuming that some form of scaffold is to be erected, we may provide, as illustrated in Figure 2, a series of frames of the character shown in Figure 3, telescopically associated as shown in Figure 2 at 7 and 8 for two of the frames, and 9 and 10 for a second pair of said frames. If a platform is to be placed at a given level, we interconnect and brace the frames by a member 11 which, as a unit, comprises a top chord 12, and a bottom chord 13, with diagonal bracing 14 between said chords. It will be noted that the bracing constitutes a modified "Warren" truss. To secure the truss between the frames 8 and 10, we have provided means of the character illustrated in Figures 4 and 5, which means di-

rectly carries the upper and lower chords 12 and 13 of the truss. Specifically, a long U-shaped sleeve 15 is provided on one leg of the U, with a bayonet slot 16 and with an inwardly directed end slot 17. Thus, to assemble the truss 11, and having selected a given height of the frames, one of the transverse pieces 4 of each frame enters the end slots 17, as shown in Figure 4, and at the same time a transverse member 4 of each frame enters the bayonet slots, and when the truss is allowed to drop, the transverse pieces are locked within the said slots. In this case, we have assumed four frame members, with a single truss 11 interconnected therewith. The addition of further frame members is contemplated, as illustrated in Figure 1, and a like procedure is followed for the additional frame members, with said frames braced by diagonals 18. Planking, or other means, may be applied between the top chords of the two trusses to provide a platform upon which workmen may walk.

It will be observed that no external ladders are present or necessary. However, the transverse pieces 4, which act to brace the frames, may act as the rungs of a ladder and workmen readily ascend to the platform carried by the top chords of the trusses. It is evident that any height of scaffolding may result from the construction shown, and that the method of detachably holding the trusses in position of service with the framing is such as to give a rigid structure. Thus, in Figure 2, we have shown a second truss at 19, which may be joined to a further structural unit, with the result that all of the trusses may be in alignment. The two uprights or struts, together with the members 4 interconnecting the same, allow the different truss members to be secured to a unit frame and to be maintained in alignment, as shown, with the two trusses utilizing the same interconnecting members 4 of the frame. This is a feature of importance in the present invention, and allows for the proper assemblage of the different members forming the scaffold to any width of platform desired, and to any height. It is often feasible, when building a very high scaffold, to extend the scaffold horizontally, to assure that the scaffold will not tip under load. Furthermore, it is not always easy to tie a scaffold to, say, a brick wall, during construction thereof.

The operation, uses and advantages of the invention are undoubtedly obvious to those familiar with scaffold construction. However, it may be stated that the frames are readily assemblable one upon the other, due to the pin ends of said frames entering the tubular ends of sustained frames, and to any height desired. At certain heights, the trusses may be placed between adjacent frame members; in fact, the trusses may be used entirely in lieu of cross braces, or the usual cross bracing may be resorted to where the span between frames is of considerable distance. Obviously, the spacing of the frames will depend upon the load to be sustained by the scaffold and the character of work to be performed thereby. When the trusses are connected to the transverse members 4 of the frame members, it is obvious that the trusses are not easily moved, due to the weight thereof. However, two workmen may easily remove the same by lifting directly upwardly upon the truss member to permit the upper transverse piece 4 to escape the bayonet slots 16, whereupon the lower transverse piece

may escape from the lower slots 17, which are projected inwardly from the base portion of each of said U-shaped sleeves.

In ship construction, the scaffolding of the character of this invention may be erected along the sides of the hull of the ship and various extension platforms readily secured to said framing members by merely hooking over the members 4. The frames may extend horizontally to accommodate for the curvature of the hull, with platforms carried between the different trusses.

It is evident that a very rigid type of scaffold will result, and that exterior bracing members, such as guys, and the like, or means for attaching the scaffolding to the ship hull itself, are quite unnecessary. Steps may be provided between the scaffolding member and leading to platforms, if desired, although the members 4 act as a ready means whereby workmen may ascend to a platform. Thus, the members 4 function for several purposes, to-wit: act as rungs for a ladder and likewise act as a medium for connection of brace members to the frames.

It may be observed that the frames may be turned in any direction desired, so as to suit all available space, it not being necessary that the frames face, as shown in Figure 2, but may face as shown in Figure 1, with the trusses interposed between said frames, as shown in Figure 1, in lieu of the diagonals 18.

Referring to Figure 5, it is to be observed that one leg 19 of the U-shaped sleeve is of greater width than the other leg 20. This construction is not absolutely essential, although it is expedient in that the leg 19 carries the slots 16 and 17. The leg 20 has secured thereto the upper and lower chords. The method of securing the sleeve to the chords is not important, and may be done by welding, or otherwise.

We claim:

1. A scaffold including a frame having a pair of struts, spaced transverse braces between said struts, a truss, a sleeve carried at one end of said truss, said sleeve formed to embrace one of said uprights for engagement between two of said braces.

2. A scaffold including a frame and a truss; said frame comprising a pair of struts, spaced transverse braces secured between said struts, and a sleeve carried by said truss and provided with spaced apart slots, two of said transverse braces adapted to enter said slots for holding said sleeve in position on one of said struts.

3. A scaffold including a pair of frames, each comprising pairs of uprights, and spaced apart transverse members secured therebetween; a truss provided at each end with a U-shaped sleeve, said U-shaped sleeve formed with slots, said slots adapted to receive pairs of transverse braces of each frame to maintain said frames spaced apart.

4. A scaffold including a pair of frames, each comprising a pair of uprights, and spaced apart transverse members secured therebetween; a truss provided at each end with a U-shaped sleeve, said U-shaped sleeve formed with slots, said slots adapted to receive pairs of transverse braces of each frame to maintain said frames spaced apart, a second pair of frames, and a truss member therebetween, and diagonal bracing between said frames.

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