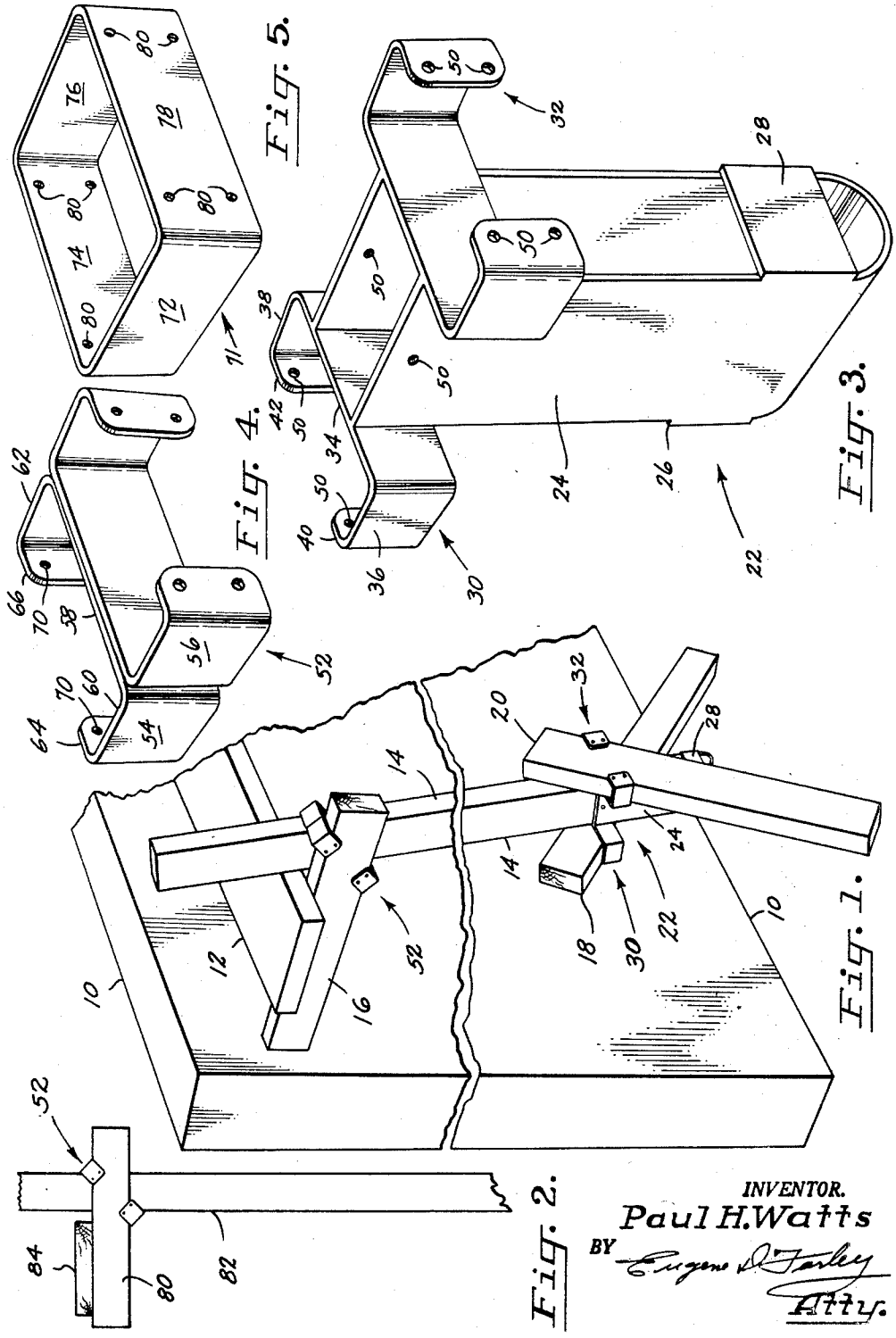
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DEMOUNTABLE SCAFFOLD UNIT AND CLAMPS THEREFOR

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DEMOUNTABLE SCAFFOLD UNIT AND CLAMPS THEREFOR

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2 Claims. (Cl. 287—51)

This invention relates to a demountable scaffold and clamps therefor of the character employed for supporting men and materials at an elevation from the ground, as in the construction and maintenance of buildings.

This application is a continuation of the patent application of Paul H. Watts, Serial No. 451,530, filed August 23, 1954 for Demountable Scaffold Unit and Clamps Therefor, now U.S. Patent No. 2,825,607.

It is the primary object of this invention to provide a scaffold unit which may be constructed from random pieces of structural material, and then demounted or disassembled after use, rapidly and easily.

It is another object of this invention to provide a demountable scaffold unit which is readily adjustable to different elevations.

It is another object of this invention to provide a demountable scaffold unit which may be used on uneven ground.

It is another object of this invention to provide a demountable scaffold unit which is safe in use, the component parts being interlocked more securely with increasing load.

It is another object of this invention to provide a demountable scaffold unit the component parts of which do not bind together upon application of a heavy load and which consequently may be disassembled readily.

It is another object of this invention to provide a demountable scaffold unit which is safe, light, compact and easily portable.

It is another object of this invention to provide a demountable scaffold unit which is applicable either as a portable unit or as one fixed to rigid structural members of a building.

It is still another object of this invention to provide grips or clamps for use in the assembly of scaffold units having the aforementioned desirable characteristics.

The manner in which the above and other objects of this invention are accomplished will be apparent from the accompanying specification and claims, considered together with the drawings wherein:

Fig. 1 is a perspective view of the presently described demountable scaffold unit;

Fig. 2 is a view in side elevation of the presently described demountable scaffold unit in a second embodiment;

Fig. 3 is a perspective view of one form of clamp or grip which may be employed in the fabrication of the presently described demountable scaffold unit; and

Figs. 4 and 5 are perspective views, respectively, of second and third alternate forms of clamping or gripping means which may be used in the assembly of the presently described demountable scaffold unit.

As is apparent from a consideration of Fig. 1 of the drawings, the scaffold unit of this invention, in one of its embodiments, may be applied as a portable unit for use in supporting men and materials working adjacent the wall **10** of a building or other structure. The scaffold unit is employed to support a plank **12** of suitable length and dimensions. The unit itself includes a vertically disposed standard **14**, a substantially horizontal support arm **16**, and a pair of supporting legs **18**, **20**, positioned in crossed relation to each other. It will, of course, be apparent that two such units may be required, one for each end of the plank, unless alternate provesion is made for supporting one end of the same. All of these members may comprise random pieces of scrap material, or scrap 2 x 4's, which usually are available on a construction site.

The scaffold unit is supported in a combination support and clamp member, the construction of which is particularly evident from Fig. 3. It is indicated generally by the numeral **22** and includes a pocket or socket portion **24** which may conveniently be formed from a piece of reversely bent sheet metal. Straps **26**, **28** may be provided across the open sides of the bent piece to provide a pocket which will support the lower end of standard **14**.

Attached to the upper portion of the pocket member **22** are a pair of encircling grip means or clamps **30**, **32** which have for their function receiving and gripping releasably the upper ends of legs **18** and **20**. Accordingly, they may be formed as complete rings, if this is desired, the ends of the legs then being slipped through the rings to the desired position.

Preferably, however, the grip members are not completely closed in order to permit the insertion of the legs sidewise, which may, in some instances, be more convenient. Thus in the illustrated form, grip member **30** comprises the back segment **34**, the side segments **36**, **38** formed substantially at right angles to the back segment, and the tabs **40**, **42** formed substantially at right angles to the side segments and directed toward each other. Grip member **32** may, of course, be constructed in an analogous manner.

The distance between side segments **36**, **38** and the width of the openings between tabs **40**, **42** is such that the clamp will receive a 2 x 4 or other structural member inserted through the opening and then inclined to the desired angle until it is engaged and gripped by the side walls and edges of the clamp to provide the desired support.

To secure standard **14** and legs **18**, **20** releasably in position in the support and clamp member **22**, particularly where it is desired to move the assembly from place to place, means are provided for interengaging the clamp and the structural members. In the illustrated form, such means comprise nails or screws inserted through the openings **50** in the support members.

The means employed for releasably fixing the horizontal arm **16** to the upper portion of standard **14** is illustrated particularly in Fig. 4. Such means, indicated generally at **52**, preferably comprise a pair of substantially coplanar grip members **54**, **56** which may be formed integrally with each other, or as separate units welded together back to back.

Each grip member includes a back segment **58**, a pair of end segments **60**, **62** and a pair of tabs **64**, **66** which define the width of the opening provided for insertion of the structural member. Nail holes **70** also are provided for the purpose of tacking the clamp to the structural members. As in the case of support clamps **22**, clamp **52** is dimensioned to receive the structural members through the openings between the tabs, the structural members then being inclined until they engage and are gripped by the side walls and edges of the clamp.

An alternate form of clamp is illustrated in Fig. 5. It comprises simply a closed band **71**, preferably rectangular in longitudinal cross section, and including the side

walls **72, 74, 76** and **78**. These have nail holes **80** for the above described purpose of temporarily affixing the clamp to the structural members. The band is dimensioned to receive a pair of structural members positioned side by side but at an angle to each other so that they engage and are gripped by the side walls and edges of the band in a manner analogous to that illustrated in Fig. 1.

In using the presently described scaffold unit, a standard, which may be of scrap lumber of suitable length, first is inserted in pocket **24**. Legs **18** and **20** then are inserted in grip members **30, 32** and placed in cross relationship to each other to form a supporting leg assembly. If desired, these structural members may be nailed in place. Then horizontal arm **16** and the upper portion of standard **14** are placed in clamp **52** or band **71**, angled to the desired extent and nailed in place. Two of the resulting scaffold units then may be inclined against wall **10**, and the plank **12** placed across the supporting arms to form a secure scaffold.

It is a particular feature of the present invention that not only is it suitable for the erection of a scaffold to be leaned against a wall or other surface, but also that it may be applied to the erection of a scaffold on the studs of a building under construction, these being secured rigidly in place. This application is illustrated in Fig. 2. In this application, a pair of clamps **52** is used to encircle and grip horizontal support arms **80** and spaced apart studs **82**, releasably interlocking them. Such an application is possible because the openings on both sides of the clamps are dimensioned so that the structural members may be inserted through the openings. Then by angling the clamps in the indicated manner, gripping engagement of the structural members with the clamp is secured. Accordingly, a supporting plank **84** may be placed across the support arms.

Thus it will be apparent that by the present invention I have provided a demountable scaffold unit and clamps therefor, which is easily assembled and used. It may be used on uneven ground by suitable adjustment of the supporting legs. Its height may be adjusted readily. It is safe in use because the more weight that is placed upon it, the more securely the clamps grip the structural members, further interlocking the units. Still further, it may be assembled from random scraps of structural material, available on almost any construction site, so that the only articles which need be purchased and carried about from place to place are the clamps used for gripping the structural members.

It is to be understood that the forms of my invention herewith shown and described, are to be taken as preferred examples of the same, and that various changes in the shape, size and arrangement of parts may be resorted to, without departing from the spirit of my invention, or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. For use with a pair of scaffold members, a substantially rigid scaffold clamp comprising a substantially I-shaped member having spaced parallel end sections interconnected intermediate their ends by an elongated support extending between the end sections substantially normal thereto, a tab on each end of each end section and extending inwardly substantially parallel to the elongated support, there being one pair of tabs on one side of the support and another pair on the other side of the support, the distance between the ends of the tabs of each pair being greater than the corresponding dimension of the associated scaffold member for receiving the latter therebetween, the spacing between the end sections being substantially greater than the corresponding dimension of the associated scaffold members to permit the latter to be arranged in crossed relation defining an included angle therebetween, the end sections having longitudinally spaced gripping edges adapted to grip and secure the engaging edges of the crossed members to prevent movement of the crossed members in one direction changing the included angle therebetween.

2. A demountable scaffold unit comprising, in combination, a pair of elongated structural scaffold members, a substantially rigid scaffold clamp comprising a substantially I-shaped member having spaced parallel end sections interconnected intermediate their ends by an elongated support extending between the end sections substantially normal thereto, a tab on each end of each end section and extending inwardly substantially parallel to the elongated support, there being one pair of tabs on one side of the support and another pair of tabs on the other side of the support, the distance between the ends of the tabs of each pair being greater than the corresponding dimension of the associated scaffold member for receiving the latter therebetween, the spacing between the end sections being substantially greater than the corresponding dimension of the associated scaffold members to permit the latter to be arranged in cross relation defining an included angle therebetween, the end sections having longitudinally spaced gripping edges adapted to grip and secure the engaging edges of the crossed members to prevent movement of the crossed members in one direction changing the included angle therebetween.

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