

Aug. 16, 1966

W. F. MAGGS ETAL

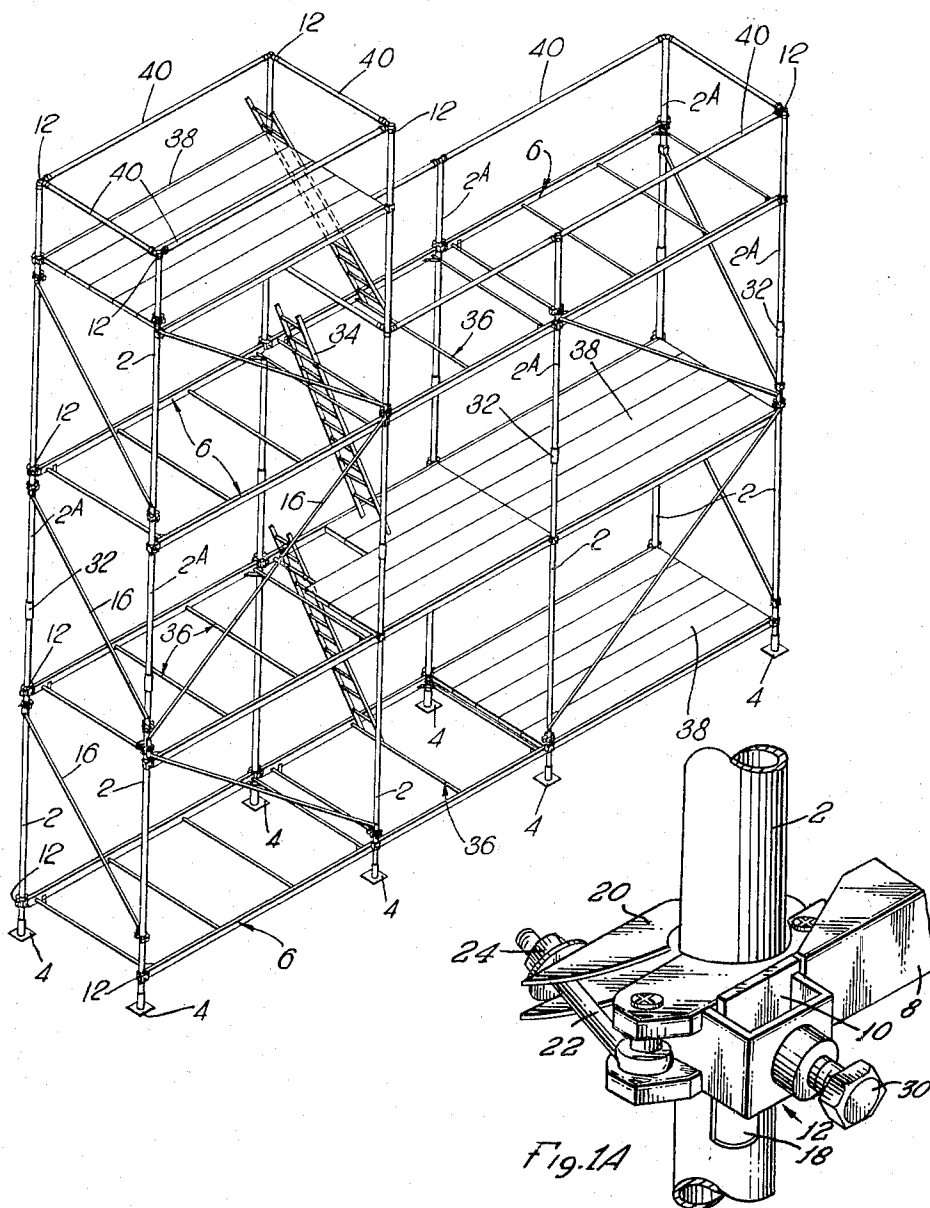
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SCAFFOLDING

Filed Jan. 16, 1964

2 Sheets-Sheet 1

Fig. 1



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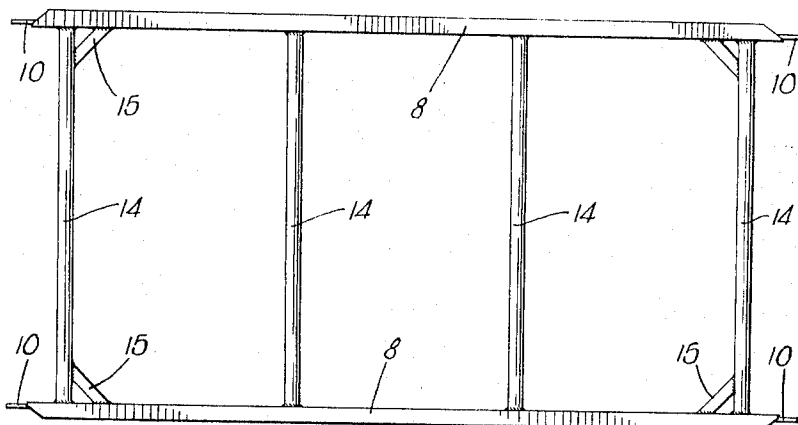


Fig. 2.

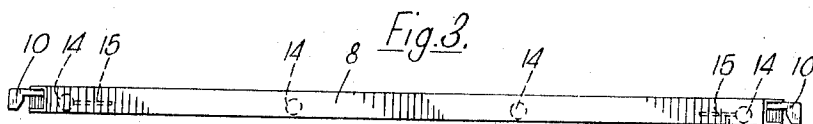


Fig. 3.

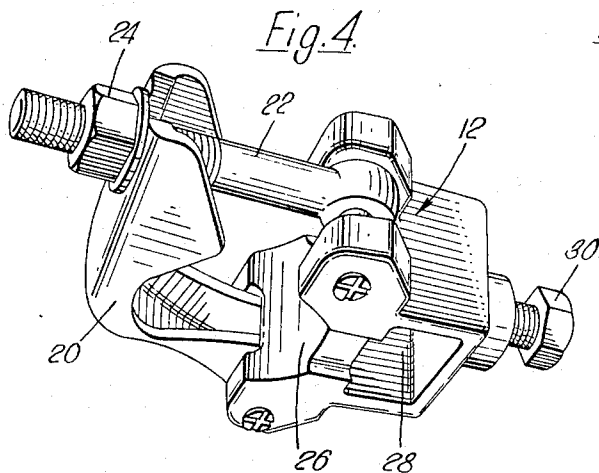


Fig. 4.

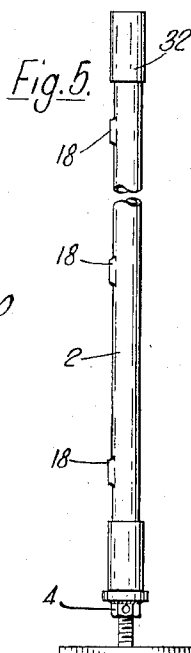


Fig. 5.

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SCAFFOLDING

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3 Claims. (Cl. 52—650)

This invention relates to scaffolding.

A scaffold unit in accordance with the invention comprises at least four uprights and at least one member which, in use, is connected so as to extend horizontally between the uprights, the connection to the uprights being effected by means of couplers each of which can be positioned at any desired height on its upright. A structure erected from such a unit uses essentially only three different components namely the uprights, the horizontal members and the couplers, but bracing members are preferably provided for connection diagonally between uprights to rigidify the structure. Due to the few number of parts the scaffolding is economical both to produce and to erect and because of the varied heights at which the horizontal components can be positioned, the system is very flexible in its use.

Each horizontal member which preferably has a rectangular outline, preferably comprises two longitudinal members which may be of rectangular cross section and a number of tubes or the like connected between the longitudinal members, each end of each longitudinal member being provided with a hook which is adapted to drop into a socket on the coupler so that the connection can be made very simply.

Each upright is conveniently provided with a number of small blocks welded to its surface at pre-determined regular intervals. The couplers can be positioned on their uprights so as to rest on a specific block and a user will then be able to achieve the exact correct position for the couplers without having to measure. Equally by choosing the same blocks on each upright the horizontal members can be maintained horizontal without measurement by the user.

If desired the upper end of the upright of each unit can be adapted to receive the lower end of a similar upright so that a multi-tiered structure can be very rapidly erected. Equally the couplers may be designed to receive the hooks of a horizontal member at each side so that the structure can be extended horizontally.

An example of a scaffolding in accordance with the invention is shown in the accompanying drawings in which:

FIGURE 1 is a isometric view of a structure made of scaffolding components in accordance with the invention;

FIGURE 1A is an enlarged perspective view of a coupler secured to an upright and with a hook of the horizontal member secured in the coupler;

FIGURE 2 is a plan view of a horizontal member;

FIGURE 3 is a side view of FIGURE 2;

FIGURE 4 is a perspective view of a coupler; and

FIGURE 5 is an elevation of an upright member.

The structure shown in the drawing comprises essentially a number of basic units each having uprights 2 the lower end of each of which is provided with a base plate 4 which is adjustable so that the structure can rest squarely on the ground. Horizontal members generally indicated at 6 are connected between four adjacent uprights and each member comprises two longitudinal members 8 (see FIGURES 2 and 3) of rectangular cross section each formed at each end with a hook member 10 which engages in a slot in a coupler 12 which is adapted for connection to the uprights at any desired height. The

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longitudinal members 8 are connected together by means of a suitable number of bars 14, the example shown in the drawing having four. The corners of the member may be braced with diagonal members 15.

The structure is rigidified where required by ties 16 connected diagonally between adjacent uprights.

Each upright is provided with a number of small blocks 18 (shown in FIGURES 5 and 1A, but not in FIGURE 1) welded to its surface at a pre-determined distance apart so that the couplers may be correctly positioned by resting them on the blocks without any need for accurate measurement. This aids quick erection of the scaffolding and helps to ensure that the members 6 are kept horizontal.

The couplers 12 each comprises an adjustable clamp formed by a pivoted jaw 20 (see FIGURES 4 and 1A) and a pivoted bolt 22 the nut 24 of which engages the sides of a slot in the jaw 20 so that the jaw can be tightened around an upright 2 clamped between a recess in the jaw 20 and a corresponding recess 26 in the body of the coupler. The coupler can thus be secured to an upright in any desired position.

The coupler also includes a socket 28 to receive a hook 10 on the end of a horizontal member 6, the hook being securely held in the socket by means of a lock screw 30.

As will be realized on examining the drawing the structure can have any number of tiers the second tier as shown in the drawing having uprights 2A which are connected by means of a socket 32 on the upper end of the lower uprights 2, further horizontal units 6 being provided between the uprights 2A. Ladders 34 can be hooked over the bars 14 of the horizontal members 6 as required to provide access to the upper tiers of the scaffolding. Equally the structure can be extended horizontally by providing a further unit the uprights 2 of which are connected to the uprights of the first unit 2 by means of horizontal members generally indicated at 36 which are of the same general construction as the members 6 although being somewhat shorter.

Planks 38 can be laid over the bars 14 of the members 6 and 34 to provide working areas and the top of the uprights 2A can be connected by bars 40 having hooked ends engaging in couplers 12, to provide a handrail.

When the scaffolding is to be erected the first two uprights are first held by a workman in the position where the first scaffolding unit is required and two coupling members 12 are secured around each of the two uprights so as to rest on a certain one of the blocks 18 at the required height. One end of a horizontal member 6 is then secured to the couplers by a second workman by engaging the hooks 10 of the horizontal member in the slots 28 in the coupling members. The other end of the horizontal member is then secured to coupling members 12 which are located on a further pair of uprights and rest on blocks 18 corresponding to those on the first pair of uprights. Once the first layer of horizontal members has been erected a workman can stand on this layer while attaching further couplers 12 to the uprights 2 ready to receive the next layer of horizontal members. As has been explained, all that needs to be done is to select a pre-determined one of the blocks 18 which are spaced at regular intervals along the uprights, and by securing the coupling members to each of the four uprights so as to rest on corresponding blocks, the members 6 or 36 will be automatically connected in a horizontal position without the workman having to measure the height along the uprights at which the coupling members are to be secured. Each lift or layer of horizontal members can be assembled from the layer immediately below using the ladders 34 when required so that a complex structure can very rapidly

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idly and easily be assembled with accurate positioning and security of fixing.

The structure can be extended horizontally by connecting further pairs of uprights to the existing uprights by means of member 6 or 36.

Ties connecting the scaffold structure with an existing building can be connected to the scaffolding through one or more of the coupling members 12 if required.

We claim:

1. Scaffolding comprising at least four uprights and at least one rectangular member which extends horizontally between the said uprights, couplers adjustably and releasably positioned on the uprights at any desired height, each coupler having a socket therein, each upright being provided with a number of small blocks on its surface at predetermined regular intervals against which the couplers engage, each of the horizontal rectangular members comprising two longitudinal members connected together by means of a number of cross bars, each longitudinal member being provided at each end with a hook engaging a socket in a coupler.

2. A structure as claimed in claim 1 in which a number of horizontal rectangular members are provided one above the other.

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3. A structure as claimed in claim 1 in which a number of horizontal rectangular members are connected end to end or side by side, an additional pair of uprights being provided for each further horizontal member.

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