July 7, 1942. L. C. OERTLE 2,289,141

SECTIONAL SCAFFOLD

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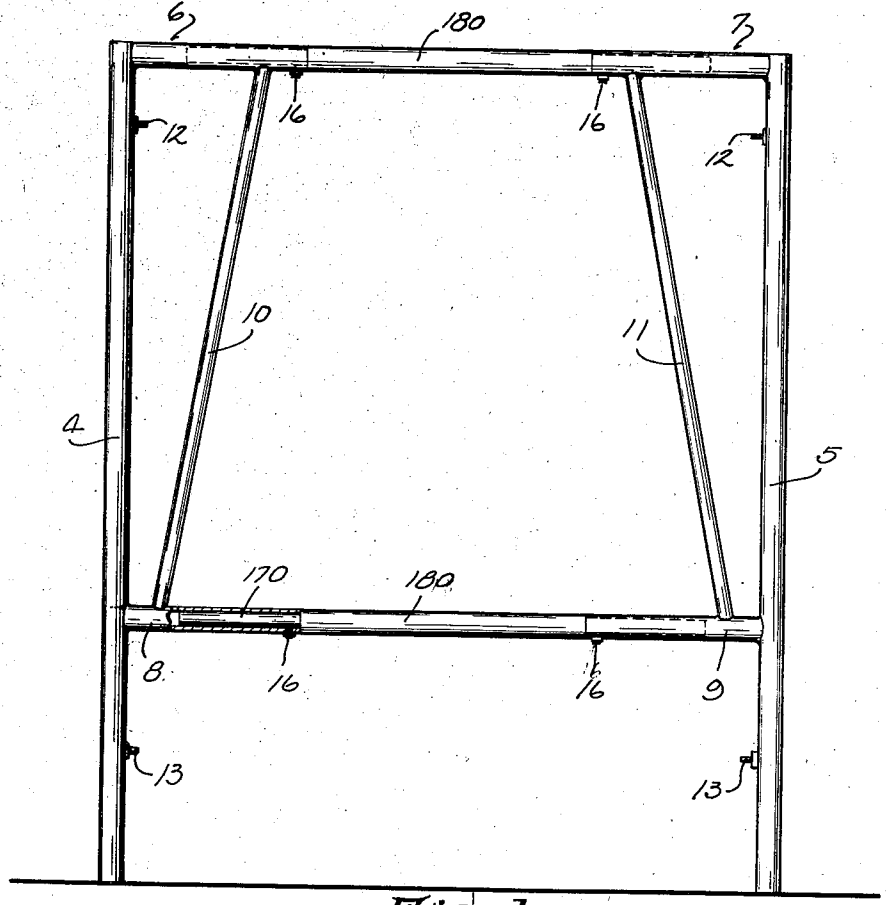


Fig. 1.

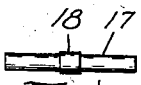


Fig. 2.

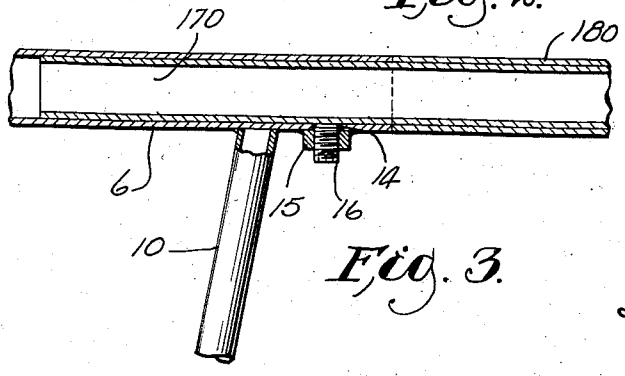


Fig. 3.

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SECTIONAL SCAFFOLD

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Application September 7, 1940, Serial No. 355,719

2 Claims. (Cl. 304—32)

This invention relates to improvements in sectional scaffolds.

United States Patent 2,043,498 discloses a scaffold of a type adapted to be increased in height by the addition of sections thereto and in which the unit of construction is a rigid end frame adapted for connection with other like end frames to make cells.

It is the primary object of the present invention to provide an end frame which, when assembled, will have all the rigidity and versatility of the end frame shown in the former patent and will, in fact, be interchangeable therewith but which, in addition, will be made of identical sections readily assembled and disassembled and adapted to be connected at different spacings from each other whereby the improved end frame may have any desired width.

More specifically, it is a further object of the invention to provide an end frame constituting readily assembled and disassembled identical sections each of which has a width which is only a fraction of the total width of a standard end frame of the type shown in Patent 2,043,493 and each of which includes its own bracing arranged for unitary handling so that the sections may be introduced through openings wholly inadequate to receive the standard end frame and may there be re-assembled as end frames of standard width, or a width greater or less than standard, as may be desired.

In the drawing:

Fig. 1 is a view in front elevation of an assembled end frame embodying the invention.

Fig. 2 is a detail view in front elevation of a coupling element alternatively adapted for use in the end frame of Fig. 1 in place of the coupling elements there shown.

Fig. 3 is a fragmentary detail view on an enlarged scale showing partially in elevation and partially in section a fragment of the device illustrated in Fig. 1.

Like parts are identified by the same reference characters throughout the several views.

It will be understood that the single end frame illustrated in Fig. 1 is intended to represent an end frame of standard height and width adapted to be assembled with other like end frames in cells and extended longitudinally or vertically by the additional cells in the manner taught in Patent 2,043,498. The tubular posts 4 and 5 are therefore open at their top and bottom ends to receive coupling pins for the connection of the end frame to like end frames in adjacent tiers in a scaffolding structure.

Adjacent the tops of the posts 4 and 5 short lengths of tubular bar stock 6 and 7 are welded to the respective posts to project laterally therefrom toward each other and at the same level.

At a lower level each post 4 and 5 is provided with another laterally projecting arm of tubular bar stock, the arms being designated by reference characters 8 and 9 respectively. Extending obliquely from a point near the base of the tubular arm 8 to a point near the outer end of the tubular arm 6 is a brace member 10, preferably welded to both arms. Similarly disposed and welded with reference to arms 9 and 7 is a brace member 11. At like elevations the respective posts 4 and 5 have threaded studs 12 and 13 adapted to receive cross bracing between end frames (the cross bracing not being illustrated).

The several arms 6, 7, 8, 9, are preferably of uniform length. Each arm, near its extreme other end, is provided with an aperture at 14, preferably located on the under side of the arm to exclude water. About the aperture an ordinary nut 15 is welded to the arm as a convenient means of providing threads in which the set screws 16 are adjustable through the apertures 14.

Coupling elements are interchangeable in the open ends of the tubular arms 6, 7, 8 and 9. Where it is desired that the posts 4 and 5 be in close proximity, to narrow the overall width of the resulting end frame, a very short coupling element such as that shown in Fig. 2 may be employed. This coupling element is similar to those used in superposing one end frame upon another. It comprises a short pin 17 having a spacing collar 18 fixed midway between its ends to limit the extent to which the respective ends are receivable into the openings at the ends of the respective arms. To secure the posts 4 and 5 to each other in a spacing such as to make a standard sized end frame as illustrated in Fig. 1, longer coupling elements are used comprising tubular pins 170 and sleeves 180 intermediate the ends of said pin.

To assemble the device the respective pins are inserted into the open ends of opposite arms to a depth sufficient so that the intervening collar or sleeve 18 or 180 abuts the ends of the arms. Thereupon the set screws 16, threaded into nuts 15 of the respective arms, are tightened by using an appropriate socket wrench. The telescopic engagement of the respective pins in the respective arms and the bracing provided by the end frame sections, is such that when the several set screws have been tightened the resulting end

frame is entirely rigid and may be handled unitarily like the end frames of said Patent 2,043,498 and may be assembled therewith if desired.

However, in instances where it is desired to erect scaffolding in places to which access is difficult, or where special sizes of end frames are needed, the component identical sections constituting the improved end frame of the present invention may readily be separated by releasing the set screws 16 and withdrawing the pins. The remaining sections each comprising a post, a pair of vertically spaced laterally projecting arms and a diagonal brace, are so limited in size as to be adapted to pass through a very small opening. For example, the component sections may be introduced through a flue or clean-out door into a chimney and may there be reassembled to provide end frames of standard width or width less than or greater than standard, according to the length of coupling elements employed. Similarly, the scaffold may be introduced in section into the hold of a ship or any other places difficult to access and re-assembled to meet the conditions there encountered.

Since the sections above described are identical sections, the device is readily adapted for manufacture by production methods. Any two identical sections may be united by any two identical couplings to produce the desired size of end frame from parts which, when disassembled, will readily pass through openings very materially smaller than the end frame.

While neither section is so braced as to have any great strength in and of itself, the identical sections each carry bracing which, in the assembled end frame, is productive of a very rigid structure.

It is recognized that the invention may be embodied in frames other than that here disclosed, and it is not desired to limit the scope of the invention to the specific embodiment disclosed except as specifically stated in the appended claims.

The claims are:

1. An end frame comprising two laterally spaced upright posts having horizontal tubular arms projecting toward each other at different levels, bracing extending to at least one of said arms, set screws in threaded connection with the respective arms, coupling elements including pins telescopically nested in the ends of the opposite arms of said posts, and spacing means positioned on said pins between the arms, said set screws being engaged with said pins.

2. A scaffold end frame comprising a pair of identical sections each including a tubular post, arm means projecting laterally from the post, and means bracing said arm means, together with at least one coupling element providing a connection between said sections, said coupling element including coupling means telescopically related to the arm means of the respective sections, and spacing means against which said arm means abut, together with means for connecting said coupling means to the respective arm means whereby unitarily to assemble said sections.

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