

June 22, 1943.

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2,322,368

MULTITEMPLATE WALL ASSEMBLY BENCH

Filed Sept. 2, 1942

3 Sheets-Sheet 1.

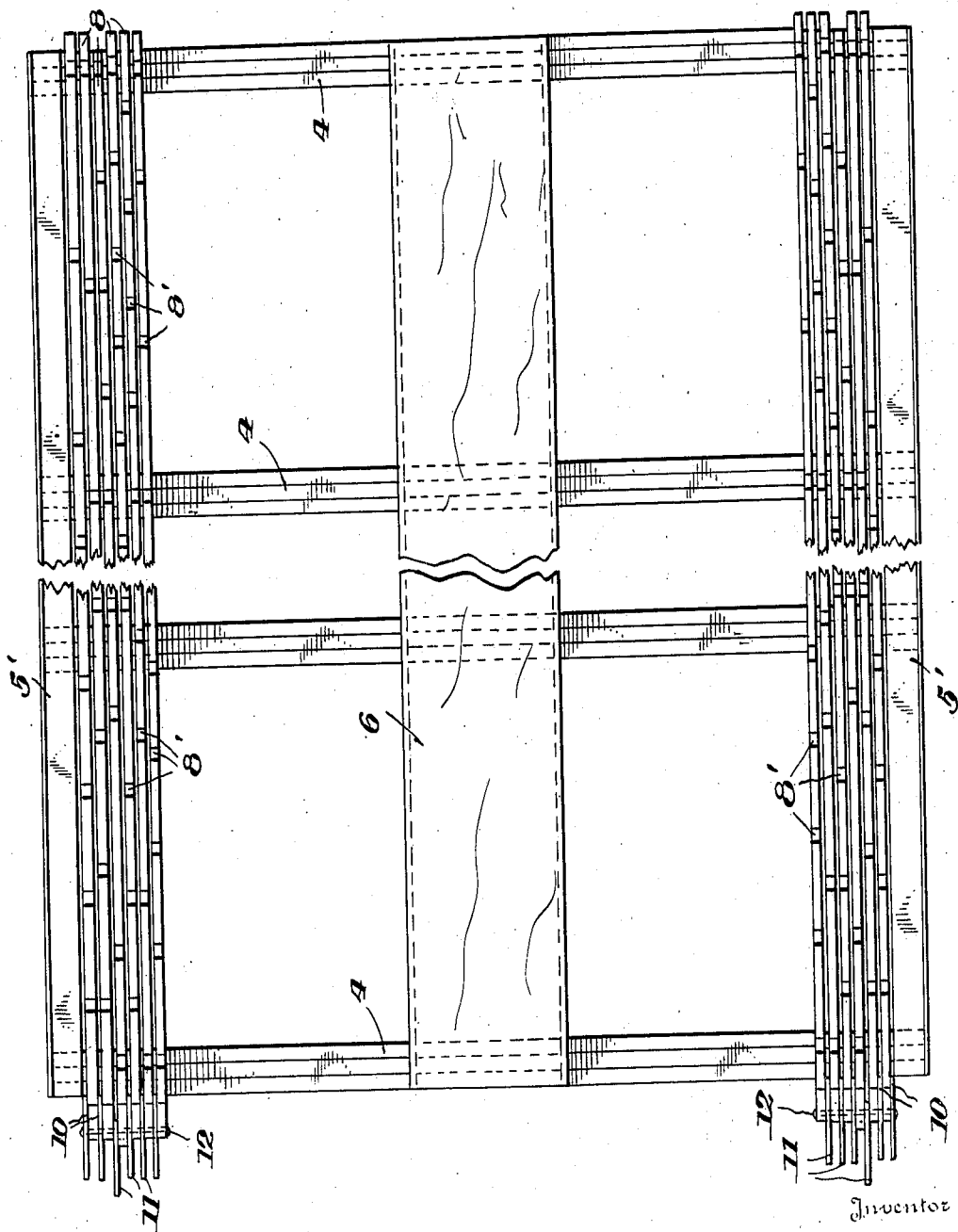


Fig. 1

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Fig. 4

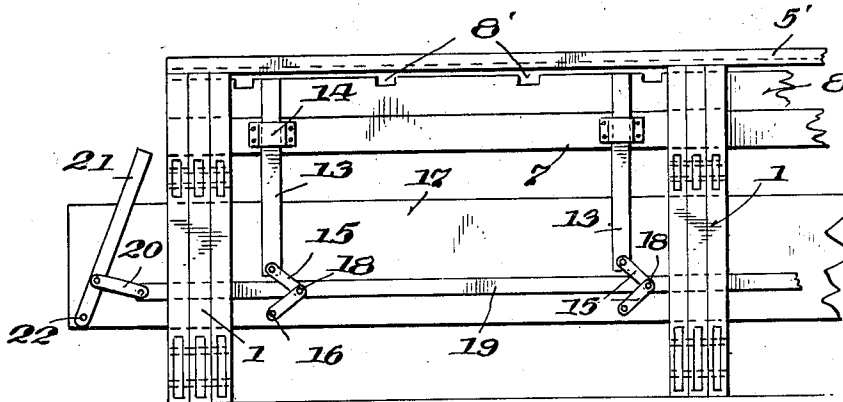


Fig. 5

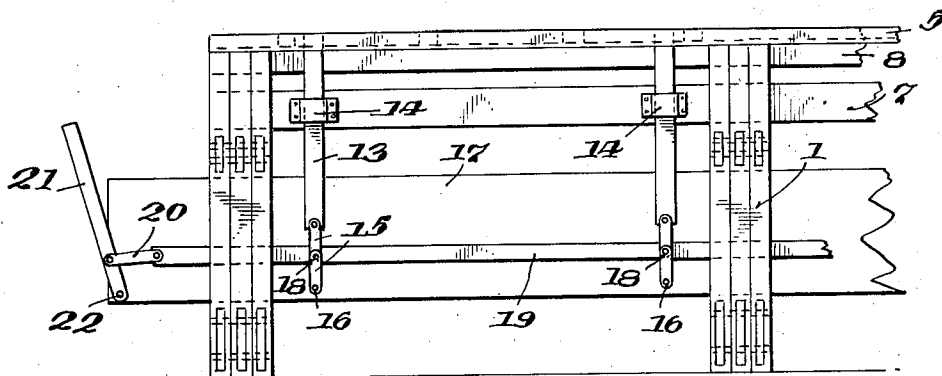
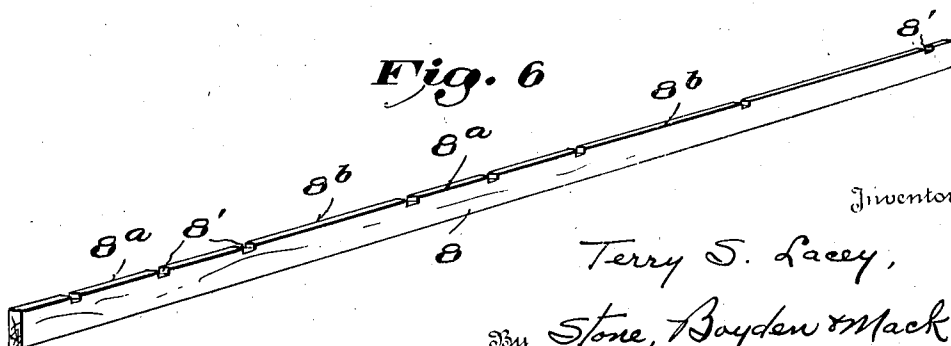


Fig. 6



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UNITED STATES PATENT OFFICE

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MULTITEMPLATE WALL ASSEMBLY
BENCH

Terry S. Lacey, Atlanta, Ga.

Application September 2, 1942, Serial No. 457,067

3 Claims. (Cl. 144—288)

This invention relates to assembly benches or jigs, and more particularly to benches employed for assembling wall units of pre-fabricated frame houses.

In pre-fabricating such wall units it has heretofore been the practice to employ a bench or table on which the transversely extending frame members or studs are supported, and to provide adjacent each side of such bench or table a fixed, longitudinally extending template bar, having at its upper edge notches or other gauging means adapted to engage and laterally space or position the frame members as they are laid on the bench by a workman.

In the construction of a complete house, however, wall units or panels of a number of different types are required, such units having door or window openings differently located, and some, perhaps, having no door or window openings at all. Thus the frame members or studs of each type of wall panel or unit must be spaced differently from those of other units, and hence a different pair of template bars is required for each type of panel or unit.

It has previously been the custom, therefore, to provide a separate bench or table for each type of wall unit or panel to be assembled, such bench or table being equipped with its own special template bars, as required. Since each bench or table must usually be twelve to fifteen feet long and eight to ten feet wide, it can readily be seen that under the existing practice of providing a separate bench or table for each type of wall unit to be assembled, an immense amount of floor space has been necessary to accommodate a sufficient number of tables to provide the different types of wall units required to construct a complete house.

The general object of the present invention is to overcome this difficulty, and to greatly reduce the amount of floor space required for the production of the different wall units required for a complete house, and to this end I have devised improved means whereby the same bench or table may be employed for assembling any one of a number of different types of wall unit, as required.

I accomplish this by equipping each bench or table with a plurality of movable template bars, and providing means whereby any desired bar, required for a particular type of wall unit, may be selectively shifted to operative position, at will, the remaining bars being held in idle or inoperative position.

In order that the invention may be readily un-

derstood, reference is had to the accompanying drawings, forming part of this specification, and in which:

Fig. 1 is a plan view of my improved bench or table.

Fig. 2 is a side elevation thereof, parts being broken away.

Fig. 3 is a transverse section substantially on the line 3—3 of Fig. 2 looking in the direction of the arrows.

Figs. 4 and 5 are fragmentary side elevations similar to Fig. 2 but showing a slightly modified construction, the parts being illustrated in different positions in the two views; and Fig. 6 is a perspective view of one of the template bars which are employed.

Referring to the drawings in detail, my improved bench or table is shown as comprising the legs or uprights 1, 2 and 3, and the cross members 4 and 4', these cross members being mortised or otherwise suitably secured to the uprights so as to produce a rigid structure.

Along each side edge of the table at the top of the legs or uprights 1 and 3 extends a supporting rail 5, preferably in the nature of an angle iron having an upstanding flange 5' at the outer edge.

Supported by the uprights 2 at a point intermediate the rails 5 is a platform or support 6 on which the wall panels rest.

Disposed at the inside of and adjacent the upper ends of the uprights 1 and 3, and mounted on the cross members 4, are groups of parallel horizontal bars 7, constituting fixed supporting means, and superposed upon each of these fixed bars is a movable bar or template 8, of substantially the same thickness. As illustrated in the drawings, each group contains 6 of these template bars, but any desired number may be employed.

A typical one of these template bars is shown in perspective in Fig. 6, and it will be seen that the upper edge of such bar is formed with a plurality of notches 8', spaced in accordance with the required spacing of the studs or frame members of the particular wall panel being assembled. Thus in Fig. 6 the template bar is shown as having some of the notches spaced apart as indicated at 8^a, such spacing being the normal spacing for the studs of a wall. Other notches are spaced further apart, as indicated at 8^b, this wider spacing corresponding with the spacing of the studs required for door or window openings.

It will now be understood that as shown in Fig. 1, the spacing and arrangement of the

notches 8' in each of the template bars of a group is different from that of the others. It will also be understood that the two groups are similar, that is to say, the template bars in each group correspond with those in the other or, in other words, each group contains template bars the notches of which exactly match. Thus the two groups contain a plurality of pairs of similar bars.

As shown in Figs. 1, 2 and 3, each of the bars 8 is movably supported on the corresponding bar 7 by means of a plurality of links 9, pivoted to both bars and normally occupying an inclined position as shown in Fig. 2. If, however, the bar 8 is moved endwise toward the left, it is obvious that it will be lifted or raised as the links 9 swing into vertical position.

In order to move these bars as described, a plurality of operating levers 11 is provided, one for each bar, such levers being shown as of the bell-crank type, comprising an inner arm 10 connected with the bar 8, and pivoted at 12 to the corresponding bar 7 adjacent the end thereof. When the end 11 of such lever is depressed into horizontal position, the portion 10 swings to vertical position, as shown in Fig. 2, thus co-operating with the links 9 in raising the bar 8.

By reference to Fig. 3 it will now be noted that when the bars 8 are resting upon the bars 7 in their normal or idle position, their upper surfaces lie in a common plane, which is shown as below, and in any event is no higher than the supporting surface of the rails 5. In this figure, the studs or frame members to be assembled are indicated by broken lines at *w*, and it will be seen that when these frame members are resting upon the rails 5 and platform 6, the template bars 8 are below and normally out of engagement with said members.

When, however, it is desired to assemble a wall panel with the studs or frame members spaced or positioned in any desired relation, the particular template bar 8 of each group, having its notches disposed in the desired relation, is raised vertically by operating the corresponding lever 11, and is thus lifted to such an extent that its notches may engage or receive the frame members *w*, and thus position the same as required.

It will be understood that after a pair of template bars 8, one in each group, have been raised into operative position as illustrated in Fig. 3, a workman lays the frame members *w* upon the table, shifting each of them into such position that they drop into the corresponding notches in the two template bars, and are thus laterally spaced or positioned as required, the frame members being longitudinally positioned by the flanges 5' on the supporting rails 5.

With this arrangement, all the workman has to do is to select the particular pair of template bars having notches properly spaced for the particular panel to be assembled, raise them into operative position, and then lay the frame members transversely of the bench and place them in the notches in the template bars. In this way the frame members may be rapidly and easily assembled without requiring skilled labor, and having been thus placed in position on the bench, they are secured in such position and assembled to form a wall unit or panel by placing sheets of wall board or sheathing upon them and securing such sheets to the frame members as by nailing.

Having assembled the desired number of panels or units of one type, the template bars em-

ployed may then be lowered, and another pair of bars, suitable for constructing panels or units of another type, raised into operative position. Thus, the same bench may be employed for constructing panels of any one of a number of different types, depending upon the number of pairs of template bars with which the bench is equipped.

While I have shown and described template bars having gauging means consisting of notches, it will of course be understood that any other suitable gauging means such as projections may be provided at the upper side of these bars.

In Figs. 4 and 5 I have shown a slightly different arrangement by means of which the template bars may be lifted or raised into operative position. In this construction the bars 8 are secured to the upper ends of a plurality of rods 13 mounted to slide through brackets 14 secured to the bars 7. The lower end of the rods 13 are pivoted to the upper end of pairs of toggle levers 15, the lower ends of which are pivoted at 16 to a fixed support 17. The center of the toggle levers is pivotally secured as at 18 to a rod 19, the end of which is attached by means of a link 20 to an operating lever 21, pivotally mounted at 22.

The bars 8 are illustrated in their lowermost or inoperative position in Fig. 4, and when the lever 21 is swung to the left, as shown in Fig. 5, the toggle levers are straightened up, thus raising the bar 8 into operative position.

Other suitable means for raising and lowering the template bars may be employed and will no doubt readily suggest themselves to those skilled in the art, and I contemplate all of such means as falling within the scope of the invention.

What I claim is:

1. Apparatus for assembling pre-fabricated walls comprising a bench having a pair of fixed, spaced parallel rails for supporting transversely disposed frame members to be assembled, one of said rails being disposed at each side wall of said bench, a similar group of assorted templates mounted in parallel side-by-side relation adjacent each rail at the inner side thereof, each template having gauging means at its upper side for laterally positioning said frame members, the gauging means of each template in a group being different, fixed supporting means on which all of said templates normally rest with their gauging means at the same height and no higher than the upper surface of said rails, whereby such gauging means are inoperative, and means for selectively raising vertically and bodily any desired template in each group so as to bring its gauging means above the plane of the upper surface of said rails and thus render said gauging means operative to position as required the frame members supported by said rails.

2. Apparatus for assembling pre-fabricated walls comprising a bench having a pair of fixed, spaced rails for supporting transversely disposed frame members to be assembled, one of said rails being disposed at each side wall of said bench, a similar group of assorted template bars mounted adjacent each rail, each template bar having notches in its upper edge for laterally positioning said frame members, the notches of each template bar in a group being differently spaced, fixed supporting means below said rails on which all of said template bars normally rest in side-by-side relation with their upper surface no higher than the supporting surface of said

rails, whereby their notches are out of engagement with said frame members, and means for selectively raising vertically from said supporting means any desired template bar in each group so as to bring its notches above the plane of the supporting surface of said rails to such an extent that they may engage and position, as required, the frame members supported by said rails.

3. Apparatus for assembling pre-fabricated walls comprising a bench having a pair of fixed, parallel spaced rails for supporting transversely disposed frame members to be assembled, one of said rails being disposed at each side wall of said bench, and having at both sides fixed means for longitudinally positioning such frame members, a similar group of assorted templates

5 mounted adjacent each rail, each template having gauging means at its upper side for laterally positioning such frame members, the gauging means of each template of a group being different, fixed supporting means on which all of said templates normally rest with their gauging means no higher than the supporting surface of said rails, whereby said gauging means are inoperative, and means for selectively bodily raising vertically any desired template in each group 10 so as to bring its gauging means above the plane of the supporting surface of said rails and thus render said gauging means operative to laterally position, as required, the frame members longitudinally positioned by said rails. 15

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