

Aug. 20, 1935.

S. GURBER

2,012,191

CONCRETE BUILDING CONSTRUCTION

Filed Nov. 22, 1934

3 Sheets-Sheet 1

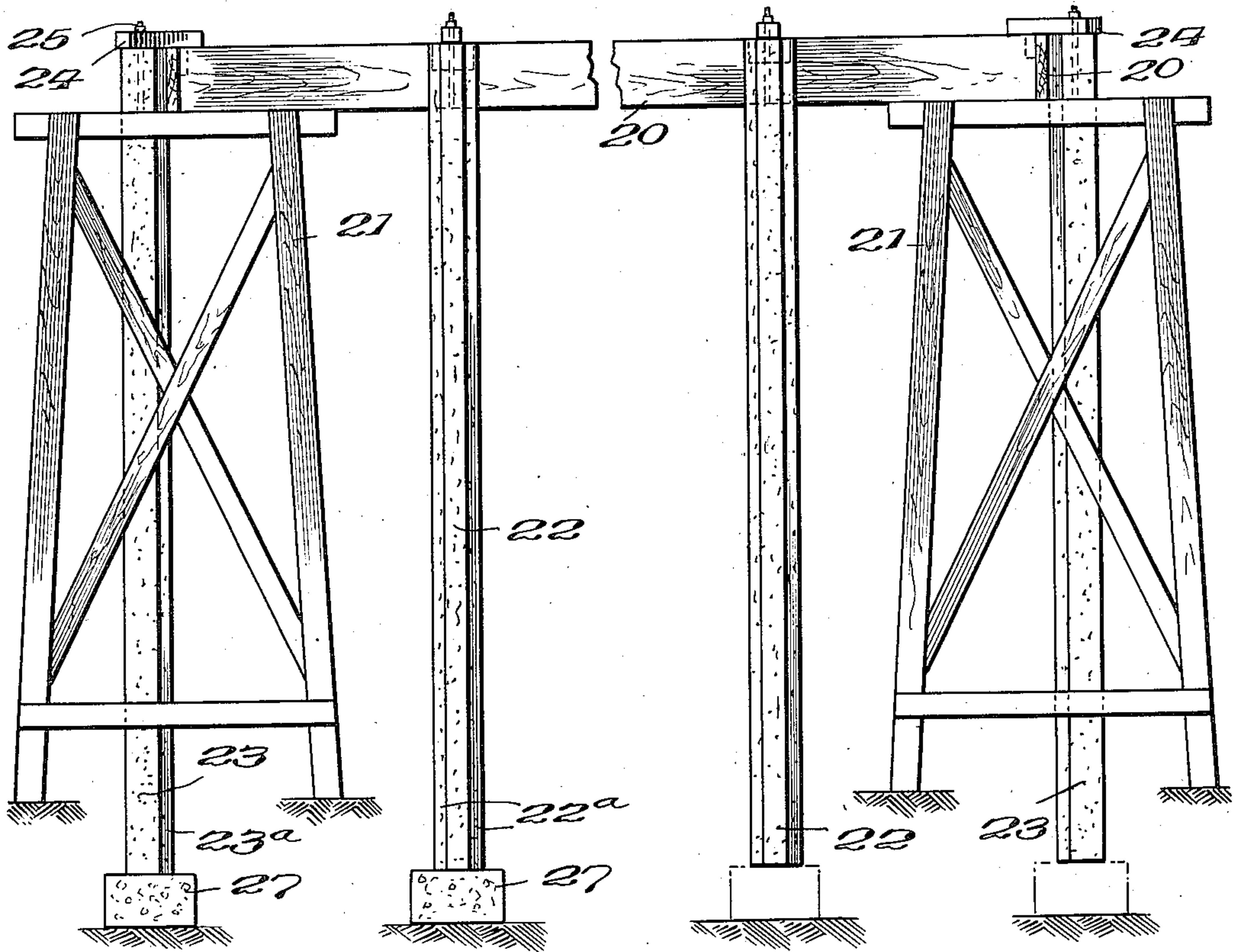


Fig. 1.

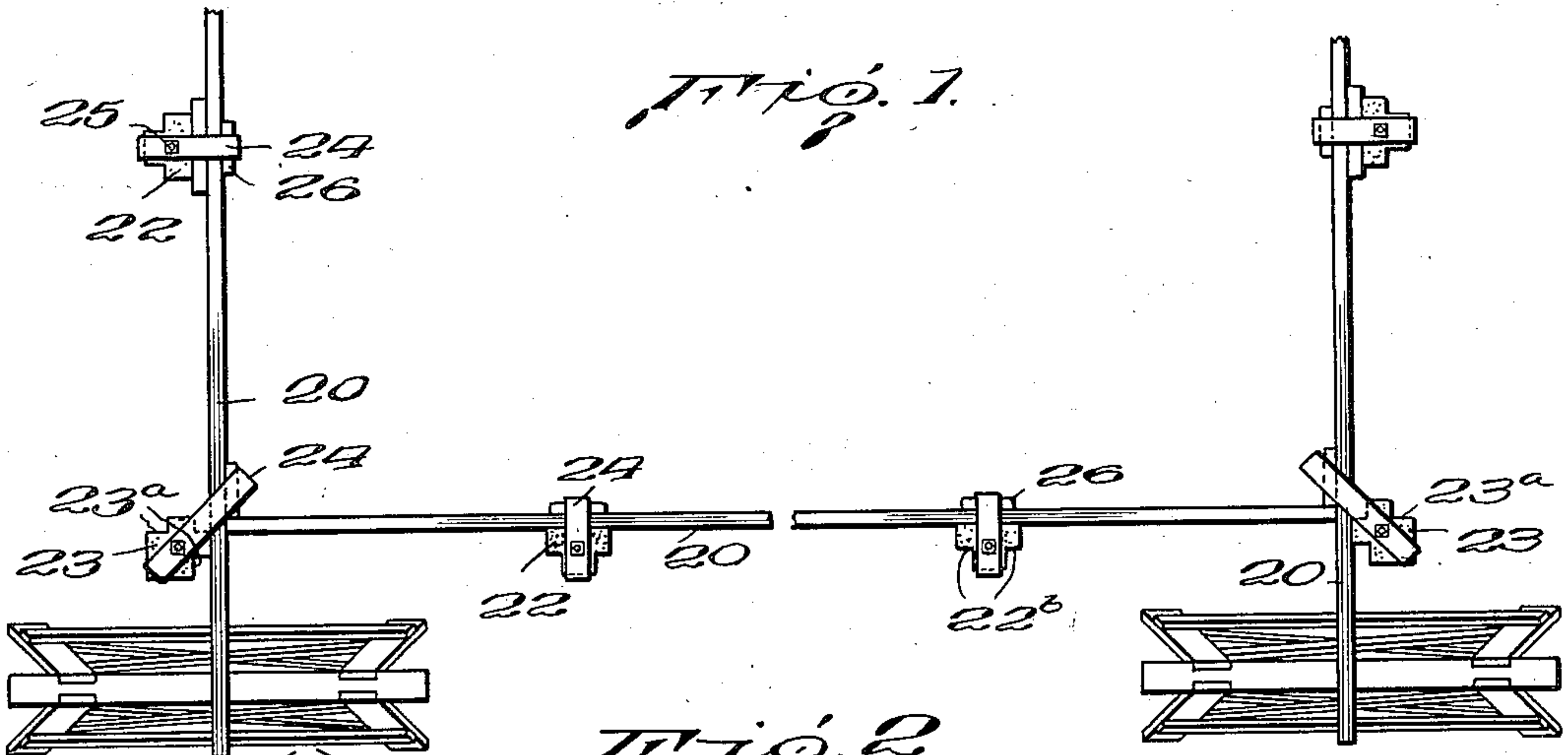


Fig. 2.

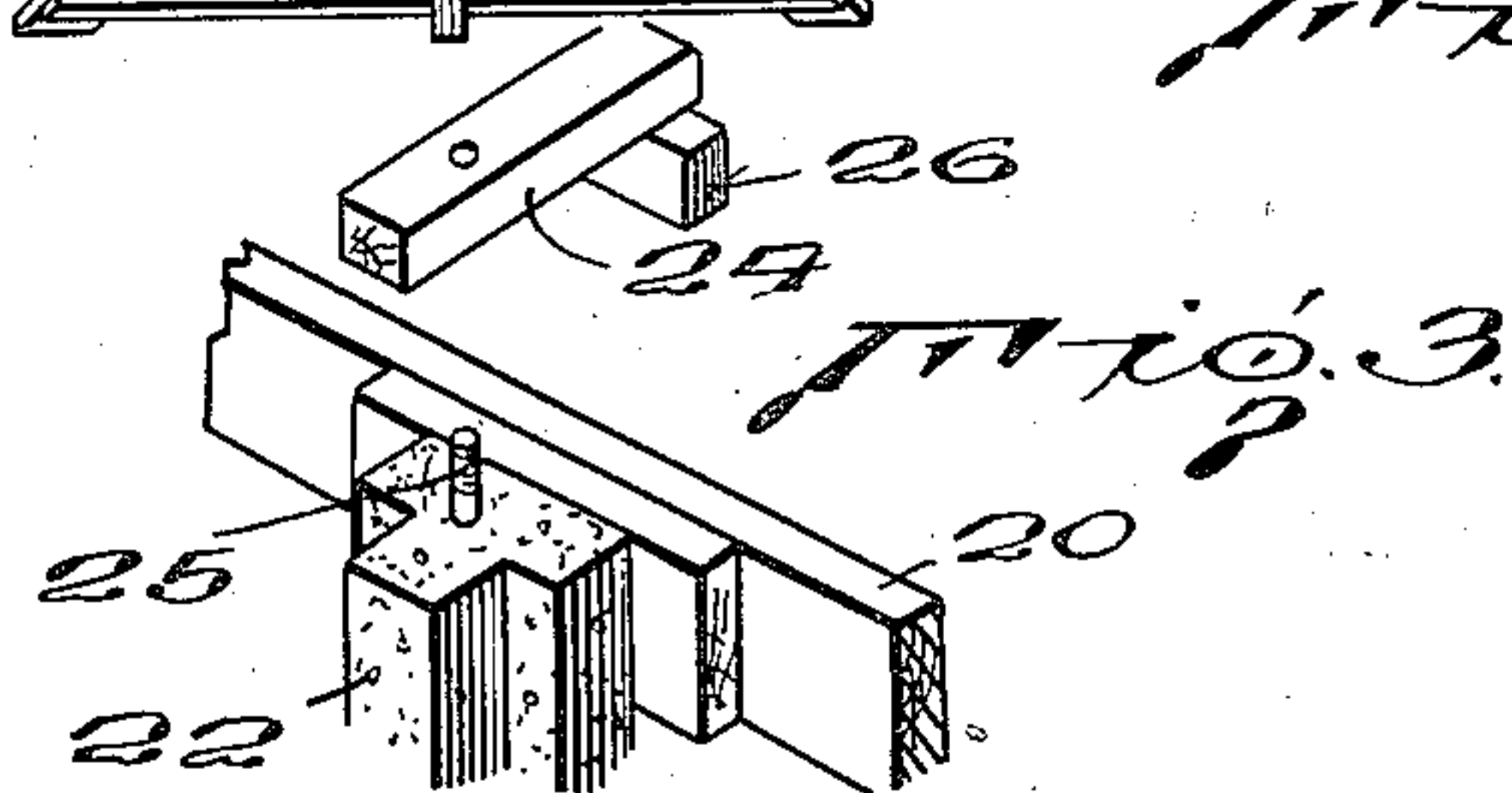


Fig. 3.

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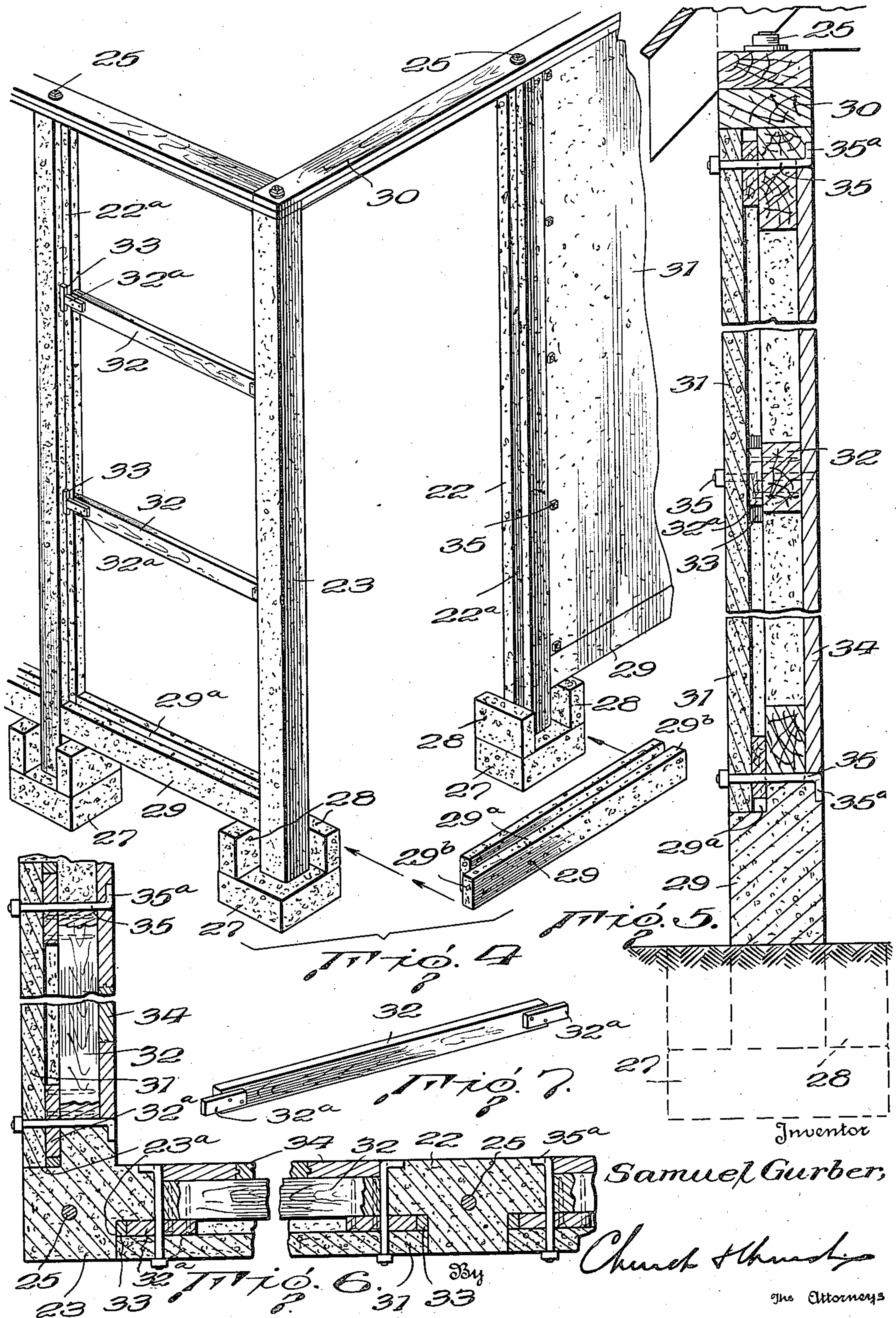
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3 Sheets-Sheet 3

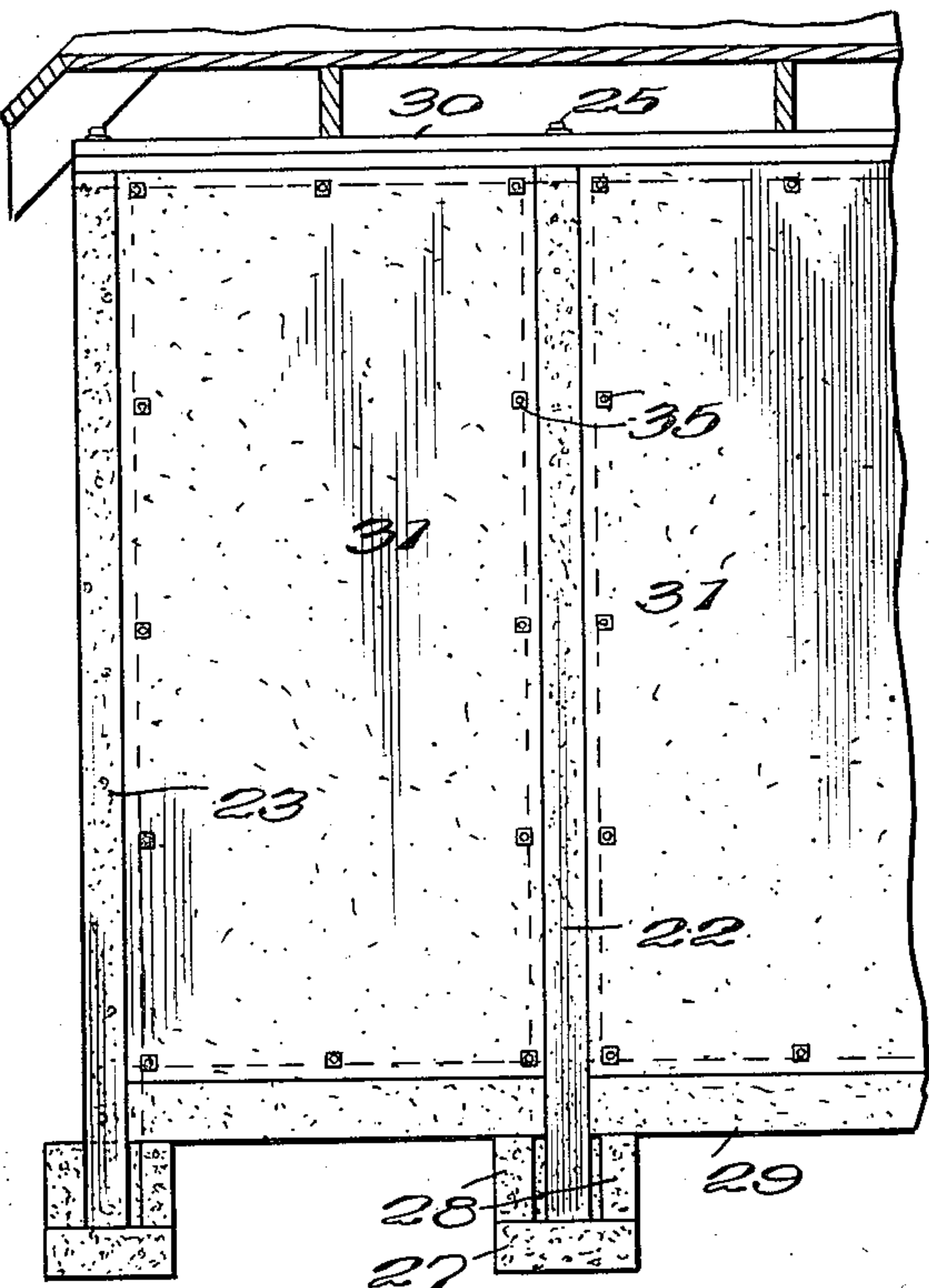


Fig. 8.

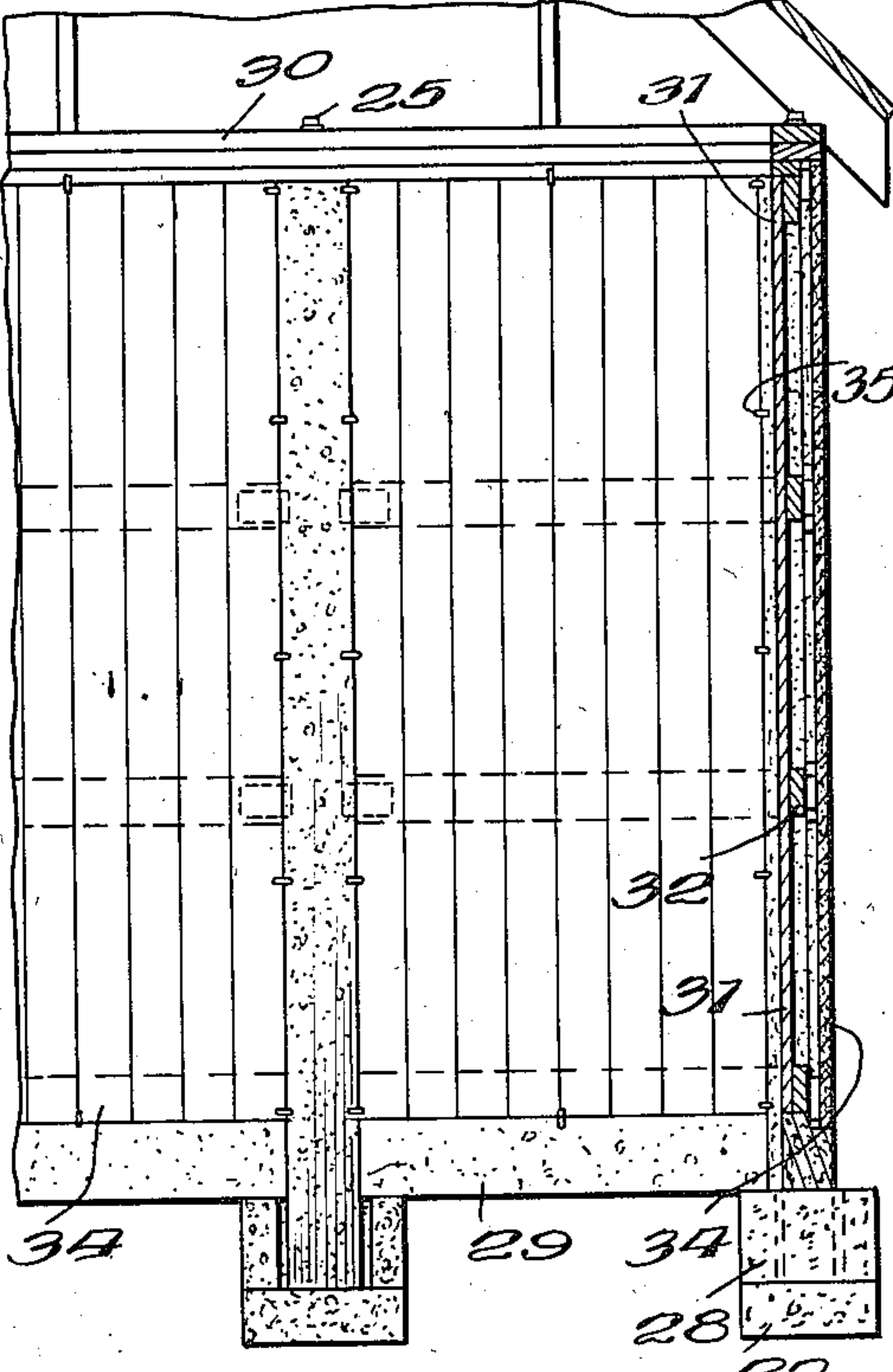


Fig. 9.

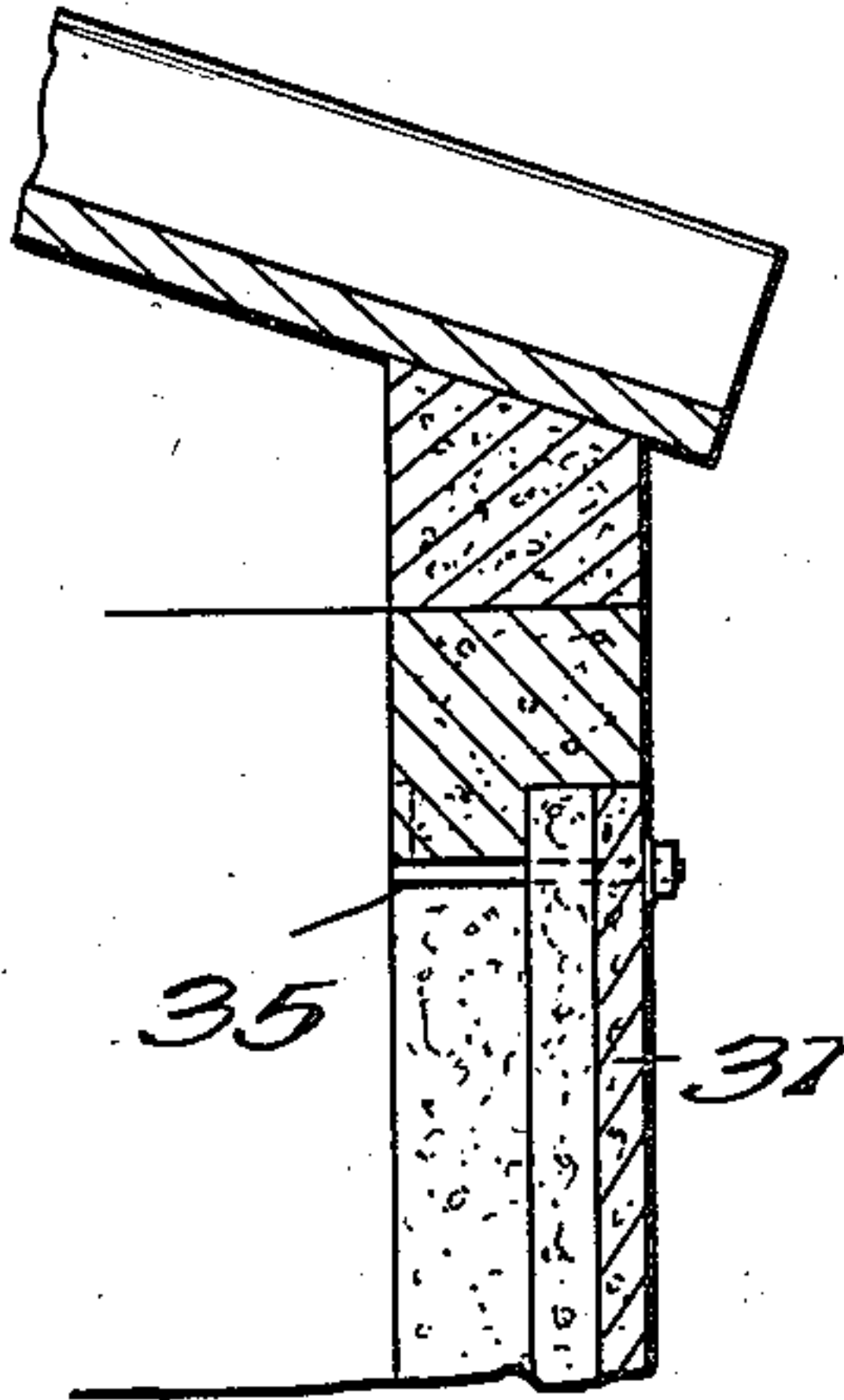


Fig. 10.

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## UNITED STATES PATENT OFFICE

2,012,191

## CONCRETE BUILDING CONSTRUCTION

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Application November 22, 1934, Serial No. 754,362

6 Claims. (Cl. 72—1)

This invention relates to improvements in the erection of concrete structures, particularly structures composed of preformed or precast concrete units.

One object is to erect portable concrete structures by a method of extreme simplicity both as to the erection and dismantling of the building.

A further object is to provide a concrete building construction wherein the number of structural units are of greatly reduced number.

Another object is to erect a concrete building wherein the exterior surface is composed of precast slabs securely seated in recesses in juxtaposed precast posts constituting a part of the building walls.

More specifically the invention contemplates the erection of concrete buildings by temporarily supporting a template in the plane of the top plate for the building walls; then suspending preformed posts from said template and subsequently forming footings for the posts after the perpendicular position of the latter has been fixed. After the footings, supporting the posts, are in place, preformed concrete sills are interposed between juxtaposed posts to hold them properly spaced while the temporary template is removed and replaced with the permanent top plate. After placement of the top plate the openings between juxtaposed posts are closed by precast concrete slabs at the exterior of the building and suitable surfacing material at the interior of the wall. The slabs are securely seated in recesses in the posts and bottom sills and are preferably retained in place by bolts passing therethrough, the inner ends of said bolts being offset and engaging in the posts.

With these and other objects in view, the invention consists in certain details of construction and combinations and arrangements of parts, all as will hereinafter be more fully described, and the novel features thereof particularly pointed out in the appended claims.

In the accompanying drawings:

Figure 1 is an elevational view with portions broken away, illustrating the mode in which the preformed posts are suspended from the temporary template while the post footings are formed;

Fig. 2 is a top plan view;

Fig. 3 is a detail perspective showing the devices for suspending one of the posts from the template;

Fig. 4 is a perspective view with the template replaced by the permanent top plate and with

the transverse spacers for the posts and a portion of one of the wall slabs in place.

Fig. 5 is a vertical section through the wall;

Fig. 6 is a horizontal section through the wall, the view including one of the corners of the building;

Fig. 7 is a detail perspective of one of the spacer members;

Fig. 8 is an exterior elevation of the wall;

Fig. 9 is an interior elevation thereof; and

Fig. 10 is a vertical section of the upper portion of a completed wall, showing a modified form of top plate construction.

As illustrated in Figs. 1 to 3, templates 20 are temporarily arranged along the walls of the building, being supported with their upper edges in the plane of the bottom of the permanent top plate of the wall which is later substituted for the templates. The templates may be supported in their proper positions by any suitable means, trestles 21 being shown in the present instance.

With the templates in place, the precast posts 22, 23 are suspended therefrom by blocks 24 secured on bolts 25 embedded in the upper ends of the posts. Preferably blocks 24 correspond to the thickness of the top plate and said blocks are secured on the templates by cleats 26. The corner posts are indicated at 23 and the intermediate posts at 22. The several posts are then plumbed and arranged perpendicular, after which footings 27 are formed beneath the posts and the lower ends on the posts fixed therein by filling in around the posts with blocks of concrete, earth or broken stone. Preferably, these fills comprise suitable supports, such as blocks 28 and after the latter are in place bottom sill members 29 are interposed between each pair of juxtaposed posts. Preferably members 29 are formed with end extensions 29b. With the posts thus braced, the templates are successively removed and replaced with top plate members 30 which are secured in place by the bolts 25. There is thus a rigid but readily removable frame work composed of the posts, bottom sill members and top plate.

The exterior wall surface may be of various constructions, but preferably, the openings between juxtaposed posts are closed by precast concrete slabs 31. It will be observed that recesses are formed in opposed surfaces of juxtaposed posts. Preferably the outside corners of intermediate posts 22 are recessed longitudinally, as at 22a and the two diagonally disposed outside corners of the corner posts 23 are formed with similar recesses 23a. The sill members 29 are



also formed with a longitudinal recess 29a which registers with the recesses in the posts. The end extensions 29b of the sills interlock in the recesses in the posts.

5 The slabs 31 are adapted to seat in the aligned recesses in the sills and posts so that their outer surfaces are flush with the surfaces of the posts. However, before placement of the slabs, one or more spacer members 32 are placed between  
10 juxtaposed posts, said members having end extensions 32a which project into the post recesses so that wedges 33 inserted between the posts and said extension ends will securely retain the spacers in place.

15 Any suitable surfacing material can be used for the interior wall surface, paneling 34 being illustrated in the present instance. Preferably the spacers 32 are of nailable material, for instance wood, and, if desired the wood panels 34  
20 may be nailed thereto.

The final securing means for fastening the concrete slabs 31 in place simply consist of bolts 35 which extend through the slabs and have their inner ends offset as at 35a to hook around  
25 or into the posts, the body of the bolt lying alongside of the post so that the only concrete unit requiring a hole bored therethrough is the slab.

In Fig. 10, a top plate, in the form of a precast concrete unit is substituted for the wooden top  
30 plate shown in the other views. With this construction, bolts 35 at the upper edges of slabs 31 have their inner ends bent upwardly to engage behind the top plate.

It will be seen that the present method of  
35 assembly and the resulting structure is quite simple; the building walls each comprise a comparatively small number of parts; and the entire structure is portable or can be dismantled with the greatest of ease.

40 What I claim is:

1. A concrete building construction, composed of precast concrete units, comprising concrete outside corner posts and intermediate posts, each post having two recessed outer corners, concrete  
45 slabs seated in said recessed corners and closing the space between juxtaposed posts, transverse members of nailable material extending between juxtaposed posts, inner wall surfacing material positioned against said transverse members, and  
50 securing bolts extending through said slabs and nailable members and engaging in said posts.

2. A concrete building construction, composed of precast concrete units, comprising concrete outside corner posts and intermediate posts, recesses in opposed faces of each pair of juxtaposed posts, transverse members of nailable material extending between each pair of juxtaposed posts, extensions on said members wedged

in said recesses, concrete slabs seated in said recesses and closing the space between juxtaposed posts, inner wall surfacing members, and fastening elements extending through said slabs and engaging in said posts.

3. A concrete building construction, composed of precast concrete units, comprising concrete outside corner posts and intermediate posts, two outside corners of each post having vertically extending recesses therein, transverse members of  
10 nailable material wedged in recesses of juxtaposed posts, concrete slabs seated in said recesses closing the space between juxtaposed posts, inner wall surfacing members positioned against said transverse members, and securing bolts extending  
15 through said slabs, said bolts having offset inner ends engaging in said posts.

4. A concrete building construction, composed of precast concrete units, comprising concrete outside corner posts and intermediate posts, vertically extending recesses in opposed faces of juxtaposed posts, bottom sills interposed between each two juxtaposed posts, said sills having recesses extending longitudinally of the upper surfaces in registry with the recesses in said posts,  
25 transverse spacer members intermediate juxtaposed posts, concrete slabs seated in the recesses of said posts and sills, and securing members extending through said slabs and secured to said posts.

5. A concrete building construction, composed of precast concrete units, comprising concrete outside corner posts and intermediate posts, juxtaposed posts having vertically extending recesses in their opposed faces, top plate anchoring  
35 elements embedded in the upper extremities of said posts, bottom sill members interposed between juxtaposed posts, transverse spacer members secured between juxtaposed posts, top plate elements secured at the upper extremities by said  
40 embedded anchoring elements, concrete slabs seated in said recesses and supported on said sills, and slab securing elements having offset ends engaging said posts.

6. A concrete building construction composed of precast concrete units, comprising concrete outside corner posts and intermediate posts, opposed faces of each pair of juxtaposed posts having vertically extending recesses therein, concrete slabs seated in the recesses and closing the  
50 spaces between juxtaposed posts, members of nailable material disposed between juxtaposed posts, inner wall surfacing members secured against said nailable members, and securing bolts extending through said concrete slabs and nailable members.

SAMUEL GURBER.