

May 15, 1934.

G. W. WILLIAMS
BUILDING CONSTRUCTION

1,958,933

Filed Dec. 30, 1929

2 Sheets-Sheet 1

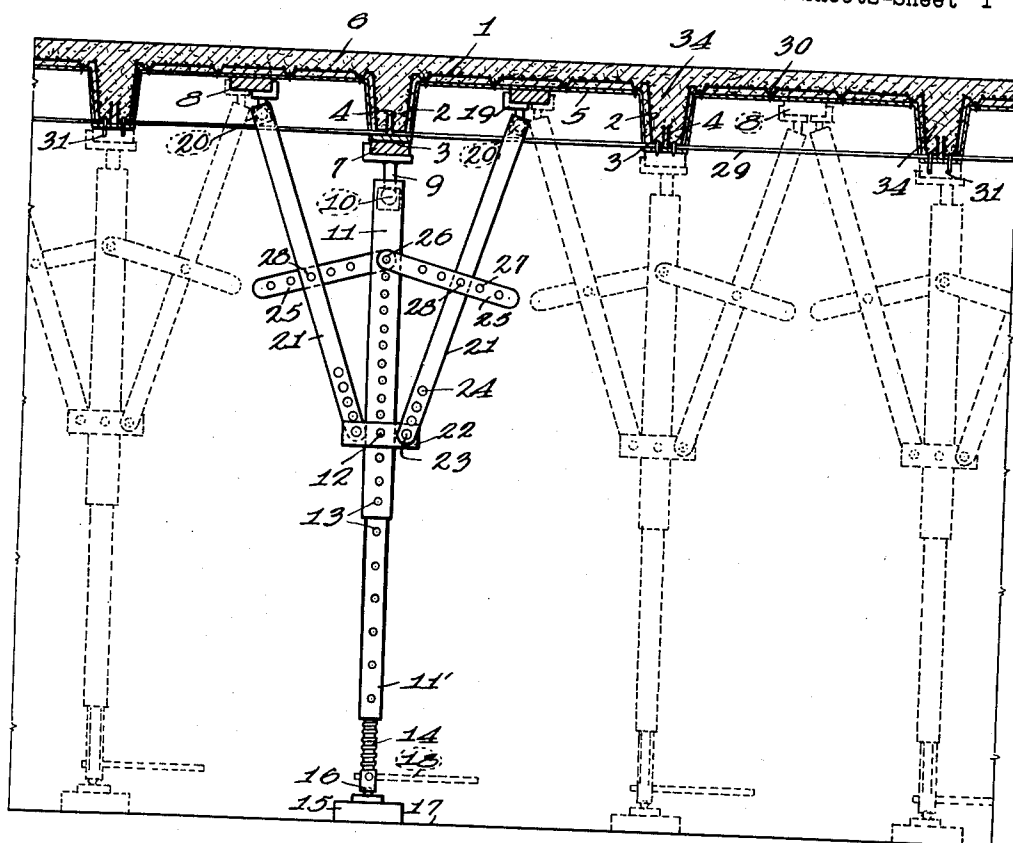


Fig. 1.

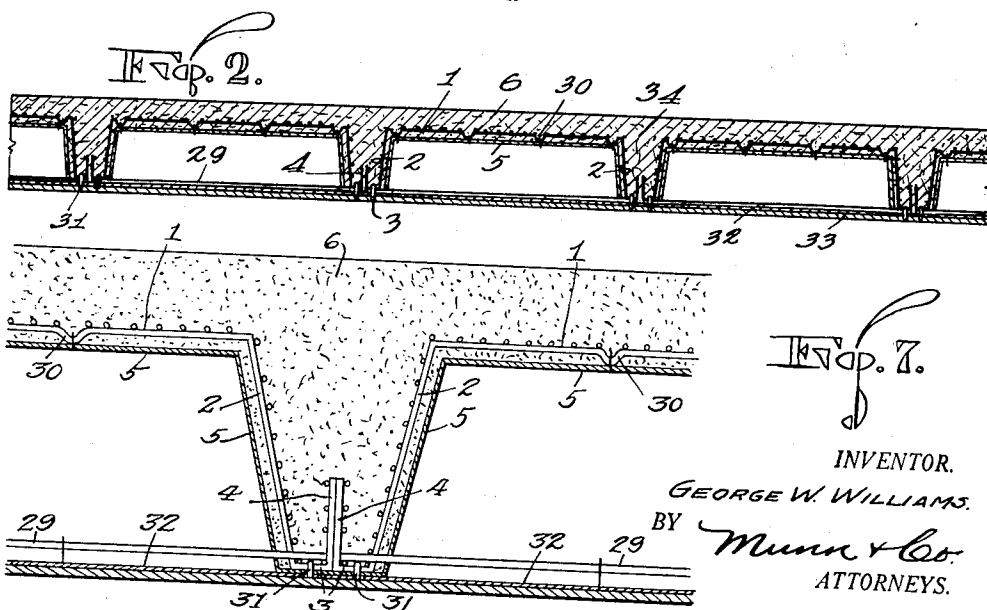


Fig. 2.

Fig. 7.

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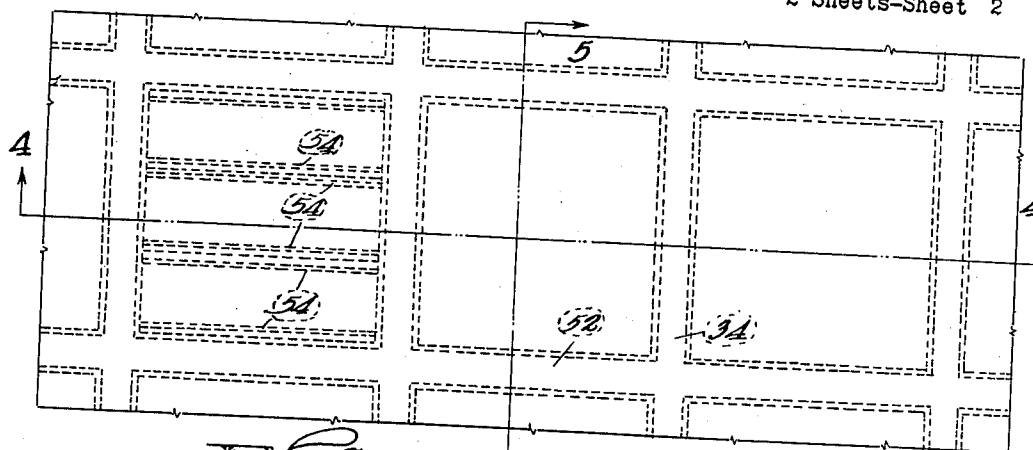
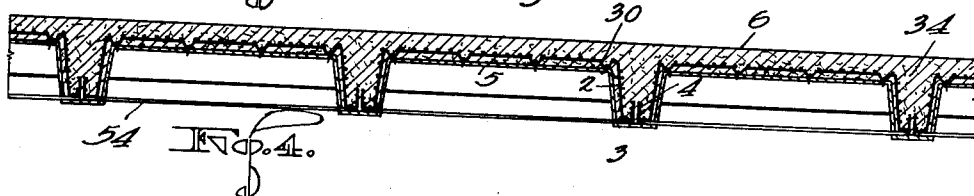
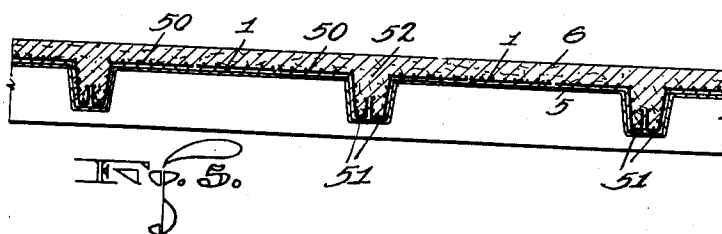
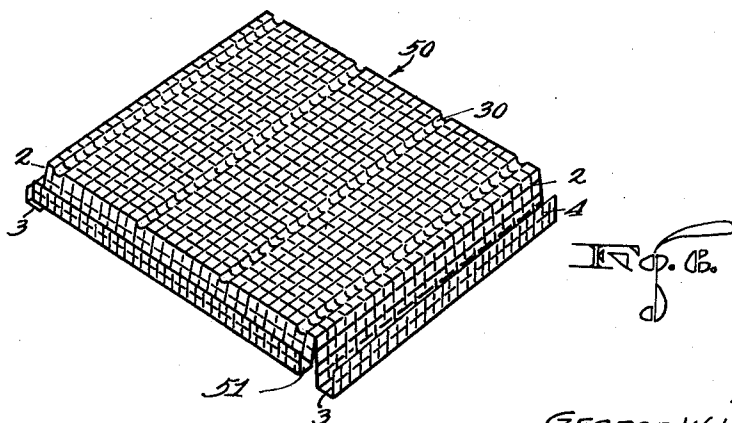
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UNITED STATES PATENT OFFICE

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BUILDING CONSTRUCTION

George W. Williams, Burlingame, Calif.

Application December 30, 1929, Serial No. 417,499

6 Claims. (Cl. 72—66)

My invention relates to improvements in building construction, and it consists in the combinations, constructions and arrangements hereinafter described and claimed.

5 An object of my invention is to provide a form for supporting the concrete before it sets and for forming the concrete into floor or ceiling supporting ribs, these ribs being integral with the floor or ceiling. The forms also act as reinforcing members for the concrete, and they are designed to form a part of the completed structure.

It is now the practice to provide temporary forms for holding the plastic concrete in place until it sets and then for removing these forms after the concrete has set. This requires a contractor to rent the forms and then to clean them before returning them to the renting company. With the present invention, the necessity of removing the forms after the concrete has set is done away with.

A further object of my invention is to provide a device of the type described that makes use of forms for providing main supporting ribs of concrete and transverse supporting ribs of concrete, these transverse ribs extending at an angle with respect to the main ones. I also make use of a novel scaffolding for supporting the forms during the time the latter are supporting the concrete prior to its setting. This scaffolding is removed after the concrete has set, and may be used again.

Other objects and advantages will appear as the specification proceeds, and the novel features of the device will be particularly pointed out in the claims hereto annexed.

My invention is illustrated in the accompanying drawings, in which:

Figure 1 is a transverse section through a ceiling or floor in which my improved forms are used,

40 Figure 2 is a transverse section showing the completed floor or ceiling,

Figure 3 is a top plan view of a modified form of the device,

45 Figure 4 is a section along the line 4—4 of Figure 3,

Figure 5 is a section along the line 5—5 of Figure 3,

50 Figure 6 is a perspective view of the modified form used in Figures 3, 4 and 5, and Figure 7 is an enlarged sectional view showing a portion of Figure 2.

In carrying out my invention, I provide a form preferably constructed of wire screen, the mesh of the wire being of any desired size. Each form

comprises a top portion 1, downwardly inclined sides 2, horizontal portions 3, and vertically-extending portions 4. Adjacent forms are laid side by side as shown in Figure 1 so as to position the portions 4 near each other. I provide a paper backing 5 that covers the portions 1, 2 and 3 but does not cover the portions 4. The portions 4 act as reinforcing means for the concrete 6, because the portions become embedded in the concrete while the latter is in a plastic condition.

I support the forms 1 by means of planks 7, and I dispose these planks beneath the portions 3. Additional planks 8 are provided for supporting the portions 1 of the form. The planks 3 are carried by a stand 9 that has a universal connection at 10 with a telescoping upright 11. The upright 11 is adjusted as to height by means of a pin 12 that may be passed through aligned openings 13 in the two telescoping members of the upright 11.

Fine adjustment may be had by turning a screw 14 that is threaded into the lower member 11'. The screw has a universal connection with a block 15 at 16, and the block 15 rests upon a floor 17. The screw 14 is rotated by means of a handle 18 until the right pressure is brought to bear upon the plank 7.

The planks 8 disposed on each side of the plank 7 are supported by the same upright 11. Figure 1 clearly shows how the planks 8 rest upon platforms 19, these in turn having a universal connection at 20 with arms 21. The arms are adjustably connected to a collar 22 that is slidably mounted on the member 11. Pins 23 are insertable in openings 24 for permitting the adjustment of the arms 21 with respect to the planks 8 and the telescoping member 11.

The angular position of the arms 21 is controlled by short arms 25 that are pivotally secured to the telescoping upright 11 at 26. The arms 25 have a plurality of openings 27 therein, and pins 28 may be passed through any one of these openings and through openings in the arms 21 for securing the arms in the required angular position. If desired, the planks 8 may be supported by pairs of arms 21, these arms in turn being carried by adjacent telescoping uprights 11.

The portions 2 are prevented from moving toward each other by wire struts 29 that extend between the portions. The concrete may now be poured and will fill the recesses formed by the portions 2 and 3 of the forms 1, and will embed the portions 4. Any thickness of floor desired may be had by applying the requisite amount of concrete. The portions 1 of the forms have

depending projections 30 for spacing the paper backing 5 the necessary distance below the forms. This permits the concrete, while in a plastic state, to embed the portions 1, 2 and 3.

After the concrete has set, the scaffolding may be removed, and it will be seen that the forms 1 provide a permanent structure with the concrete 6. Eyelets 31 carried by the portions 3 are now used for supporting metal lath 32 that in turn carries plaster or cement 33 that forms the ceiling for the room beneath the floor. The completed structure will take the appearance shown in Figure 2.

In Figures 3 to 6 inclusive I show a slightly modified form of the device. The form 50 shown in Figure 6 is identical to that of the form 1, but in addition it is provided with trough-shaped portions 51 that form transverse concrete ribs that extend at an angle with the concrete ribs 34 formed by the forms 1. The forms 50 are provided with portions 2, 3 and 4 similar to the same portions in the form 1. The portions 3 are supported by the scaffolding shown in Figure 1. The forms 50 are placed side by side so as to cause troughs 51 in adjacent forms to be positioned near each other. These troughs will form the transverse girders 52 shown in Figure 5. It is obvious that the form 50 may be alternated with the form 1, or that several forms 1 may be used and then a form 50. In this way the transverse ribs 52 can be spaced at any desired distance.

The form 50 is provided with a paper backing 53 similar to the paper backing 5, and the portions 2 are kept separated from each other and from bending with respect to the other portions by reinforcing wires 54, these being similar to the wires 29. In all other respects, the form 50 and the flooring formed thereby is identical to the form shown in Figure 1. Further description need not be given.

Reinforcing wires are preferably placed adjacent to the upper edges of the portions 4 and extend from form to form, thus affording a tying link for each row of forms. These wires are represented by the uppermost dots on the portions 4 in Figures 1, 2 and 4.

Although I have shown and described several embodiments of my invention, it is to be under-

stood that the same is susceptible of various changes, and I reserve the right to employ such changes as may come within the scope of the invention as claimed.

I claim:

1. A building form for a concrete floor or ceiling comprising a flat portion, and inclined portions having trough-shaped ends, said form having a paper backing covering the entire form with the exception of the upstanding end portions of the trough.

2. A building form for a concrete floor or ceiling comprising a flat portion, and inclined portions having trough-shaped ends, said form having a paper backing covering the entire form with the exception of the upstanding end portions of the trough, the flat portion having projections spacing the paper backing the desired distance below the portion.

3. A floor-supporting form comprising perforated members with downwardly-inclined portions forming troughs, bracing members extending between the troughs for preventing their collapsing when receiving concrete, and a ceiling supported by the bracing members.

4. A floor-supporting form for concrete comprising a perforated member with downwardly extending portions forming troughs and backing carried by the form and being spaced therefrom for allowing concrete to embed the form.

5. Floor-supporting forms for concrete comprising perforated members with downwardly extending portions forming troughs, the troughs extending at right angles with respect to each other, and backing carried by the forms and being spaced therefrom for allowing concrete to embed the forms.

6. A floor-supporting form for concrete comprising a perforated member having a flat portion with trough-shaped portions disposed at the edges of the flat portion, the flat portion having spaced corrugations for strengthening the form, and backing carried by the form and being spaced therebelow for supporting the concrete that passes through the form, whereby the form is embedded and acts as a reinforcing member for the concrete.

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