L. H. GARLINGHOUSE.

PANEL.

APPLICATION FILED OCT. 13, 1919.

1,417,664.

Patented May 30, 1922.

2 SHEETS—SHEET 1.

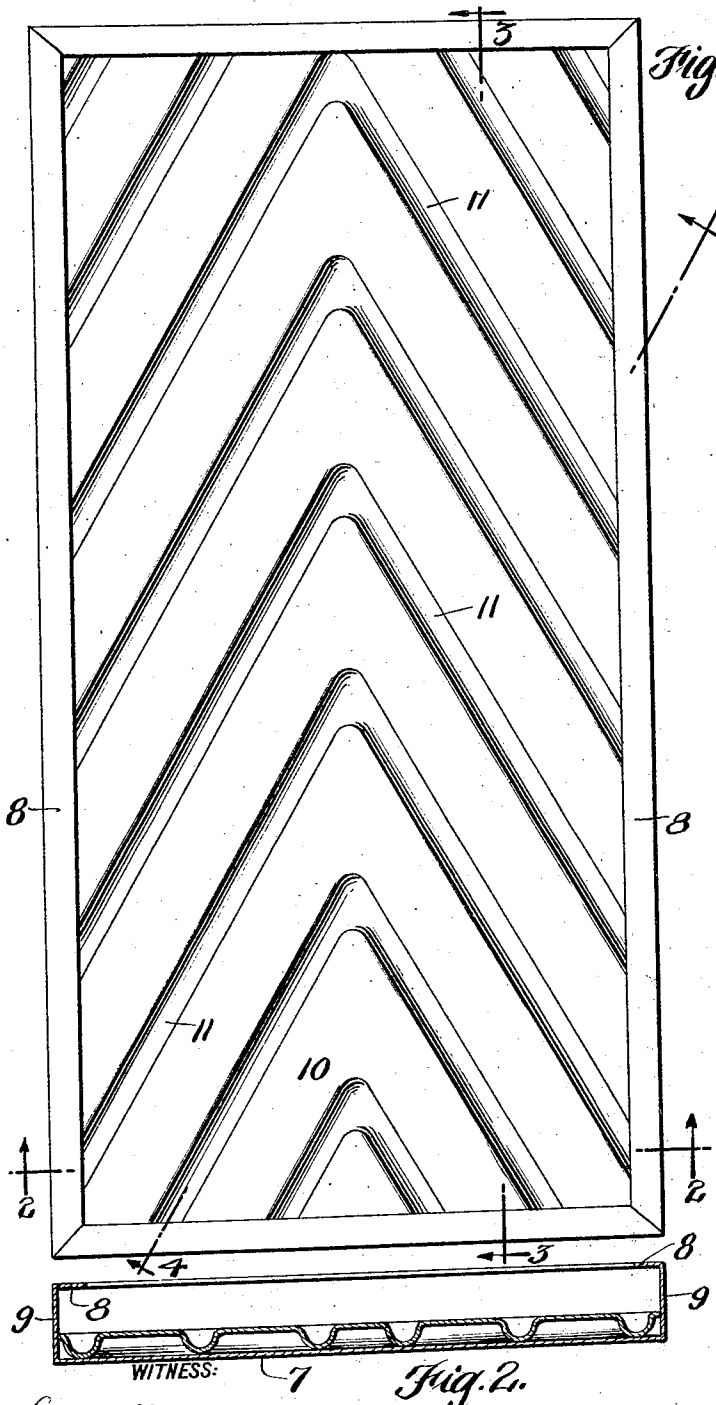


Fig. 1.

Fig. 2.

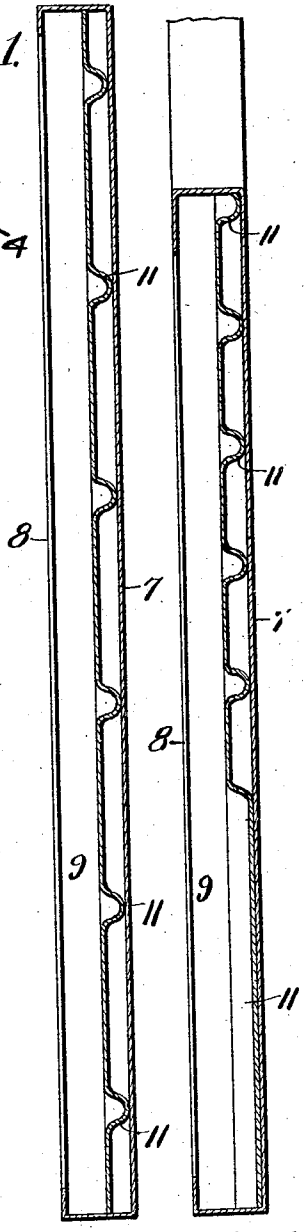


Fig. 3. Fig. 4.

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2 SHEETS—SHEET 2.

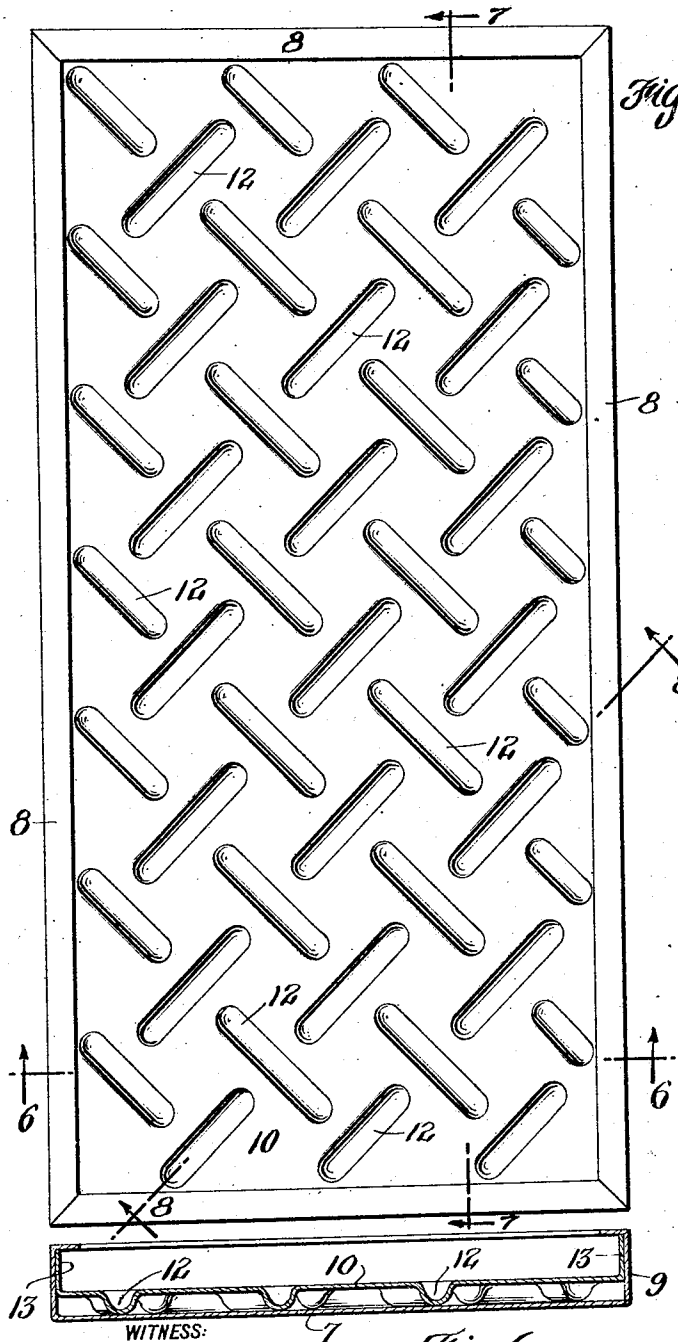


Fig. 6.

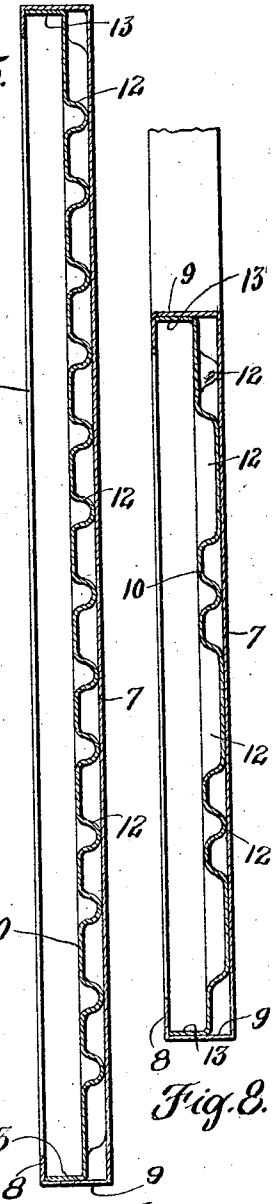


Fig. 7.

Fig. 8.

Fig. 5.

WITNESS:

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UNITED STATES PATENT OFFICE.

LESLIE H. GARLINGHOUSE, OF ASPINWALL, PENNSYLVANIA, ASSIGNOR TO BLAW-KNOX COMPANY, A CORPORATION OF NEW JERSEY.

PANEL.

1,417,664. Specification of Letters Patent. Patented May 30, 1922.

Application filed October 13, 1919. Serial No. 330,344.

To all whom it may concern:

Be it known that I, LESLIE HOLMES GARLINGHOUSE, a citizen of the United States, residing at Aspinwall, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Panels, of which the following is a specification.

This invention relates to panels for use in constructing floors, ceilings, walls and the like from plastic material, such for example as concrete, and it has for its primary object the provision of an improved panel which is simple in construction, easy to manufacture, and which will substantially uniformly withstand all stresses to which the panel may be subjected in service.

Another object of the invention resides in the provision of improved means for reinforcing panels, so disposed that the panel will be reinforced or braced in all directions in which load stresses or thrusts may be applied.

The foregoing, together with such other objects as may hereinafter appear, or are incident to my invention, I obtain by means of a construction which I have illustrated in preferred form in the accompanying drawings, wherein:

Figure 1 is a bottom plan view of a panel embodying my improvements; Figure 2 is a section taken on the line 2—2 of Figure 1; Figure 3 is a section taken on the line 3—3 of Figure 1; Figure 4 is a section taken on the line 4—4 of Figure 1; Figure 5 is a bottom plan view of a modification of invention; Figure 6 is a section taken on the line 6—6 of Figure 5; Figure 7 is a section taken on the line 7—7 of Figure 5; and Figure 8 is a section taken on the line 8—8 of Figure 5.

Referring now to the construction shown in Figures 1 to 4 inclusive, it will be seen that the panel comprises a sheet metal plate 7, preferably all of the edge portions of which are bent up at right angles, and then inwardly in a plane parallel to the main body of the panel, such arrangement providing inwardly turned flanged portions 8 and a connecting web portion 9. The sides and ends of the plate are therefore bent into the form of a channel, which lends great rigidity longitudinally and transversely of the panel.

Before the edge portions of the panel plates are bent inwardly to form the flanges 8, but after such edge portions have been bent at right angles to the main body of the plate, I insert a reinforcing plate, also of sheet metal, designated by the reference numeral 10. This sheet metal plate has pressed or otherwise formed therein a plurality of bead-like ribs or corrugations 11. It will be seen that these corrugations are arranged on a herring bone pattern with the apex of each corrugation preferably located in the longitudinal center line of the panel. The reinforcing plate 10 is inserted within the panel with the convex side of the corrugations down, and it is secured to the panels by any preferred means, such for example as spot welding at a plurality of points in the corrugations.

It will be observed that any line run through the panel will cut either the channel portions at the edges or the reinforcing corrugations, or both, this being clearly illustrated in the sectional view, Figures 2, 3 and 4.

It thus follows that the panel is reinforced and made rigid as against any load thrust or stress to which the panel might be normally subjected under service conditions and I am thus enabled to construct the panels of very light material. Furthermore, by virtue of the construction described, the edges and plane surfaces of the panel will remain true to line over a greatly extended period of use. This important advantage will be readily understood in the art.

In the construction shown in Figures 5 to 8 inclusive the panel plate is formed as before, but the reinforcing plate 10, instead of being provided with herring bone corrugations, has a plurality of rows of staggered corrugations 12, the adjacent rows of which are arranged preferably at right angles to each other and so disposed that the ends of one row project beyond a line cutting the ends of the adjacent row. These corrugations are pressed or otherwise formed in the plate and the plate is secured by spot welding, for example. The corrugations 12 do not extend to the margins of the plate 10 and the edge portions thereof are bent up to form flanges 13, over which the flange portions 8 of the panel plate 7 are adapted to be bent, as indicated at Figure 6. It will be seen that in this construction as well as in the construction

previously described no line can be drawn through the panel which does not cut either the edge channel portions or the reinforcing corrugations, or both. This will be clear from the sectional views. This form is also very light, and both forms are simple to manufacture.

I claim:—

1. A panel for mold apparatus for concrete work comprising a sheet metal plate provided with reinforcement, such reinforcement being so disposed as to be cut by any straight line drawn through the panel which would cut any two opposite sides.

2. A panel for mold apparatus for concrete work comprising a sheet metal plate having edge portions thereof flanged and being provided with reinforcement, the flanges and reinforcement being so disposed that either or both are cut by any straight line taken through the panel which would cut any two opposite sides.

3. A panel for mold apparatus for concrete work comprising a sheet metal plate substantially rectangular and having its edge portions bent up in channel form, together with a corrugated plate, the corrugations whereof are so disposed that any straight line taken through the panel which would cut any two opposite sides will cut either the channel or the corrugations or both.

4. A panel for mold apparatus for concrete work comprising in combination a metal plate and a second plate secured thereto, said second plate having formed therein a plurality of reinforcing corrugations so disposed as to be cut by straight lines taken through the plate which would cut any two opposite sides.

5. A panel for mold apparatus for concrete work comprising in combination a panel plate and a reinforcing plate therefor, said reinforcing plate being provided with a plurality of corrugations or ribs arranged in overlapping relation so that any straight line taken through the panel which would cut any two opposite sides will cut such corrugations.

6. A panel for mold apparatus for concrete work comprising in combination a sheet metal plate having the edges thereof bent into channel form, and a reinforcing plate having flanged portions at the edges fitting said channel portions and being provided with reinforcing ribs.

7. A panel for mold apparatus for concrete work having corrugated reinforcement so disposed as to be cut by any straight line taken through the panel which would cut any two opposite sides thereof.

In testimony whereof, I have hereunto signed my name.

LESLIE H. GARLINGHOUSE.