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H. H. ZIMMERMAN

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BUILDING STRUCTURE OR UNIT

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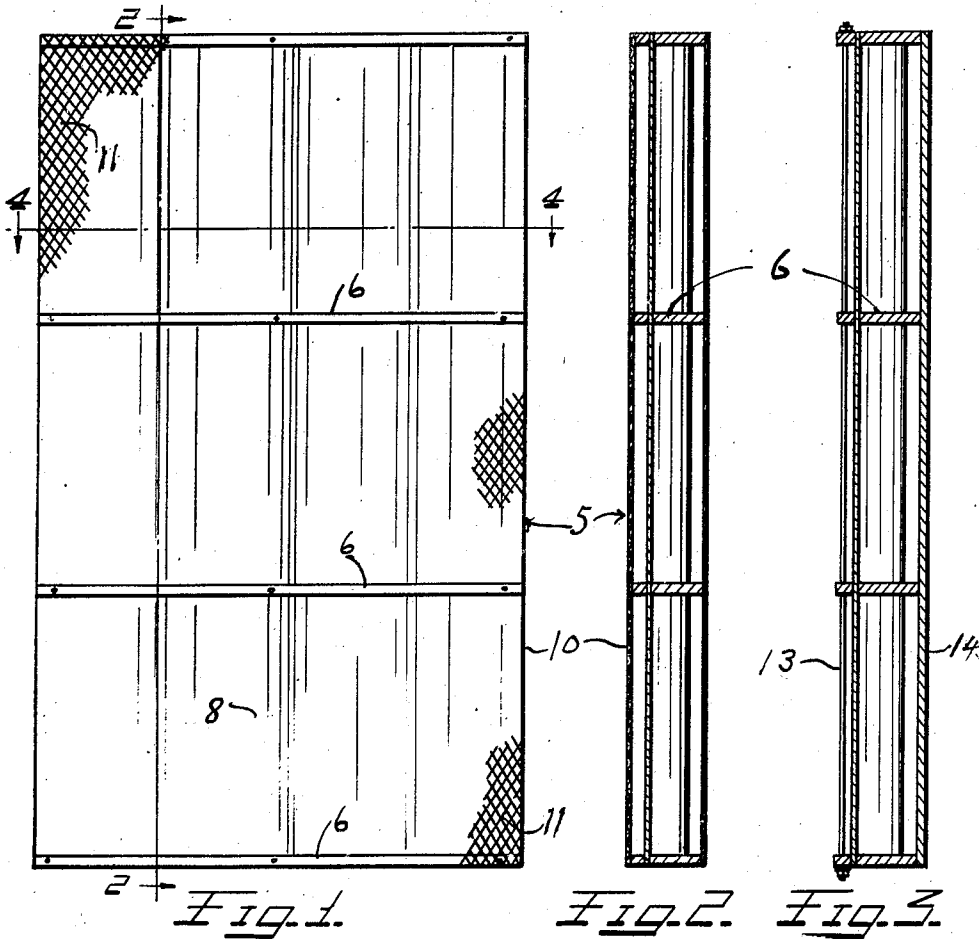
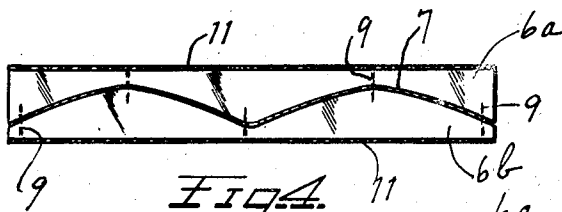
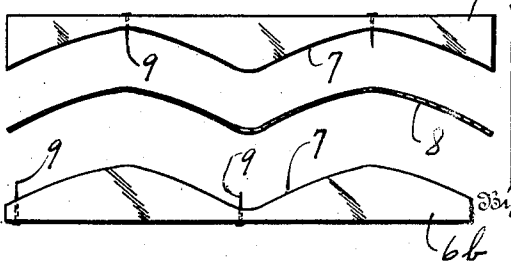


Fig. 5.

Inventor

H. H. ZIMMERMAN

Adam E. Fisher

Attorney

UNITED STATES PATENT OFFICE

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BUILDING STRUCTURE OR UNIT

Henry H. Zimmerman, Columbus Junction, Iowa

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1 Claim. (Cl. 20—91)

This invention relates to building structures or units, and the chief object of the invention is to provide a building structure in the nature of a low-cost and relatively light load-bearing unit wherein the strengthening principle of corrugated forms as applied to relatively light materials, is made use of in lieu of the strength afforded by sheer mass and weight of heavier materials.

Another object of the invention is to provide in a building unit or structure, a relatively light, strong and low-costing support or load bearing element, for locating and setting up in the wall, floor, ceiling or other structure, and upon the outer faces of which the plaster or cement, or floor surfacing may be applied in usual manner.

With the stated objects in view, with such other objects and advantages as may appear from the specification, a preferred embodiment of the invention is shown in the accompanying drawing, wherein:

Figure 1 is a side elevation of a building unit of the kind referred to, for insertion as a core within a wall, the outer lath or plaster mesh being omitted except for fragments shown at the upper left and lower right corners and on the right margin.

Figure 2 is a section on the line 2—2 of Figure 1.

Figure 3 is a view in general similar to that of Figure 2, showing however a floor unit or structure.

Figure 4 is a horizontal section on the line 4—4 of Figure 1.

Figure 5 is a view similar to that of Figure 4, with the parts of the unit separated.

In practising this invention, as for example in the creation of a wall unit 5, I take a plurality of tie-boards or stay-boards 6, of the desired length, width and thickness, and by the use of a common pattern, stencil or template (not shown), saw them as under uniformly from end to end, along wavy, furrowed, fluted or corrugated parting lines 7, thus severing the boards into complementary parts 6a, 6b. When thus sawed apart upon a common plan or pattern, the parting lines 7 of a regular and even stack of such boards, will of course exactly register with each other. The desired number of these parted boards to complete the unit are then laid edgewise upon the assembling floor, in regularly spaced, parallel and aligned position, with their parting lines 7 also in alignment. The upper halves 6a of the boards are then removed, and a sheet or sheets of flexible ply-board, or sheet-metal 8, or other

suitably thin and flexible material are evenly laid upon the lower up-edged parts 6b of the boards, these sheets of material being first corrugated, as shown in Figure 4, to conform with the corrugations of the lines 7 of the boards. The upper parts 6a of the boards are then positioned edgewise upon the lower parts 6b, with the sheets 8 interposed. The board parts 6a, 6b are finally nailed together edge-wise, as shown at 9, thus locking the parts firmly together to form the core 10.

It is to be noted that the wavy lines 7 of the corrugations of the boards are substantially extended or spread in a longitudinal direction, so that the connecting angles are substantially obtuse angles and not acute angles, and that the nails 9 connecting the complementary portions of the boards 6a, 6b, pierce through and enter these parts of the boards at the apices of these obtuse angles, and thus pass through these apices of the interposed metal sheets 8. By this arrangement the parts are conveniently anchored together, and by virtue of the long sides of the obtuse angles of the sheets 8, transverse stresses imposed upon the core 10 as a whole, are more efficiently opposed and resisted.

The core 10 is then covered at each side with any desired facing, according to the use intended. For walls or ceilings a wire plaster mesh 11 would ordinarily be stretched over and nailed tightly to the edges of the tie-boards 6. Or metal lath or tiling may be employed. If plaster mesh is used, the usual plaster or cement facings would be spread upon the mesh.

In Figure 3 is shown a floor unit, reinforced at the under side by tension bolts 13 to counteract the weight of the floor 14.

Units thus formed may be used for wall, floor, ceiling or roof structures, and by virtue of the corrugated formation of the sheet inserts 8, have great strength combined with lightness, and present great resistance to lateral stresses. These units are thus well adapted for use in pre-fabricated houses and portable structures of all kinds.

The partings 7 between the board sections must of course be of sufficient gauge or width to accommodate the thickness of the sheet 8 in each case, to prevent binding.

While I have herein shown and described certain embodiments of the invention and certain physical features thereof, the same may be changed or modified within the scope of the claim.

I claim:

A light weight building unit comprising an

elongated relatively thin metallic sheet, said sheet having a plurality of longitudinally extending corrugations obtuse angled in cross section, a plurality of uniform reinforcing members extending transversely of the sheet at longitudinally spaced intervals, each of said members having its length approximately corresponding to the width of said corrugated sheet with its width greater than and its thickness less than the depth of the corrugations, said bar being cut from end to end in a plane perpendicular to the side faces

thereof in an undulatory line conforming to the cross sectional contour of the sheet to form a pair of approximately corresponding longitudinally divided sections having their cut edges pressed against the respective faces of the sheet in opposed relation, and fastening elements driven transversely through the respective sections of each bar and through alternate apices of the sheet.

HENRY H. ZIMMERMAN.