

[54] **BUILDING CONSTRUCTION**

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[51] Int. Cl. ....E04b 1/32

[58] Field of Search.....52/86, 293, 295, 584, 588, 52/82, 199, 302

[56] **References Cited**

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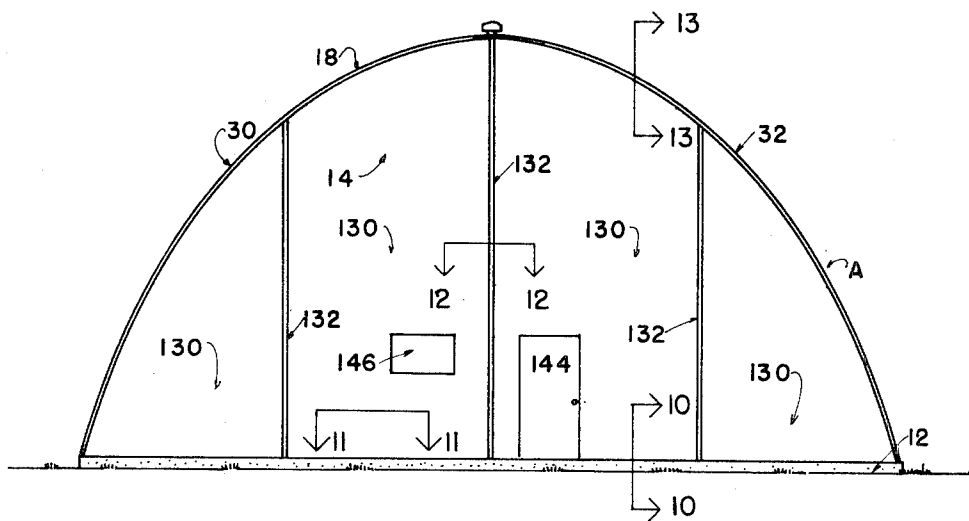
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[57] **ABSTRACT**

The invention relates to a building constructed by attaching to each other and to a footing a series of curved plastic roof panels, each of which includes molded-in support members, and by simultaneously assembling end walls, attaching said walls to the footing, and thereafter interlocking the said end walls with the panels comprising the end of the roof to establish a weather seal.

**5 Claims, 13 Drawing Figures**





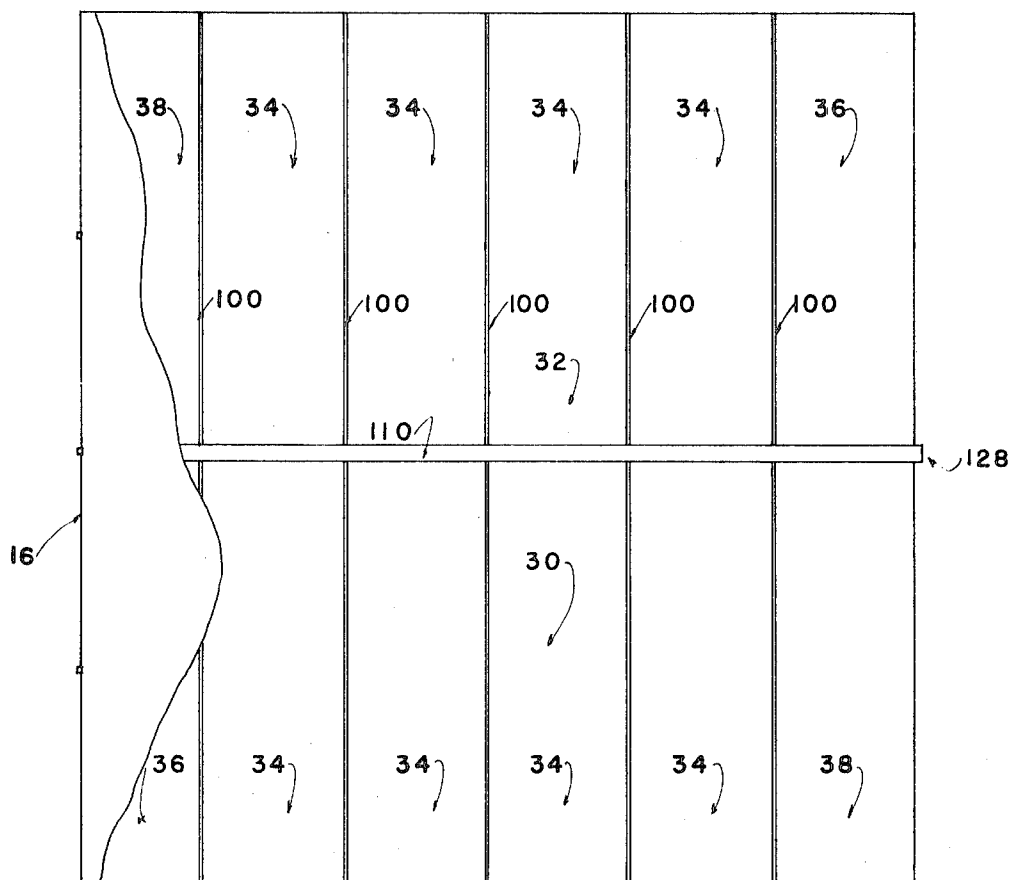


FIG. 3

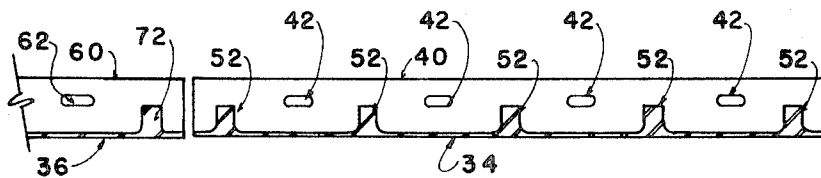


FIG. 4

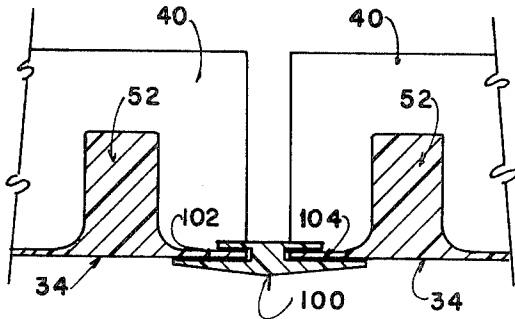


FIG. 5

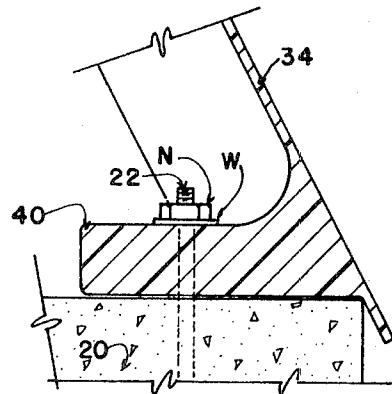


FIG. 8

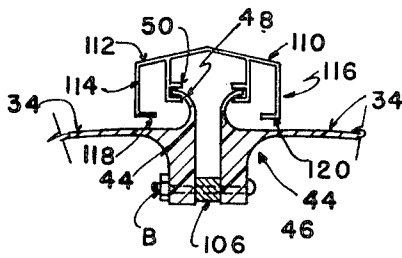


FIG. 6

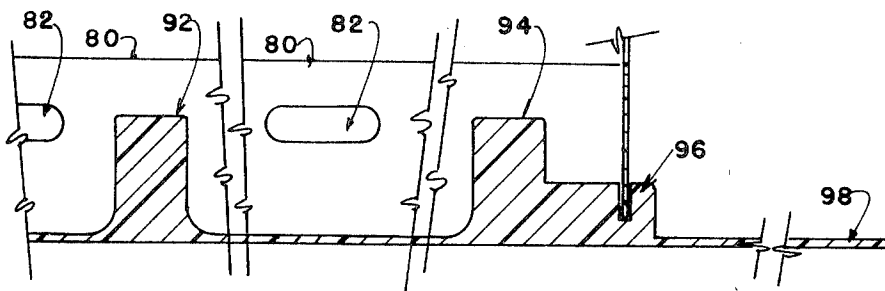


FIG. 7

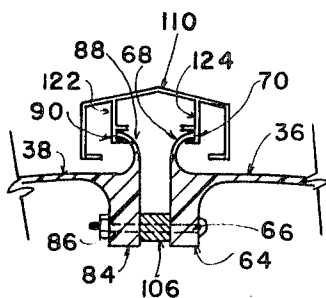


FIG. 9

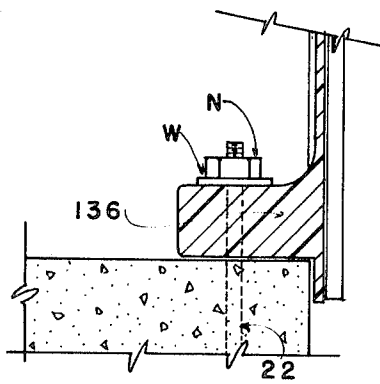


FIG. 10

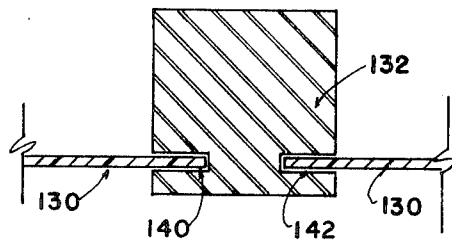


FIG. 12

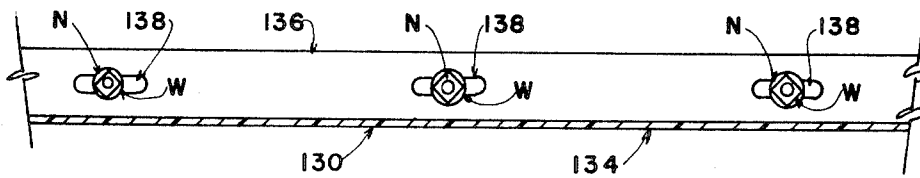


FIG. 11

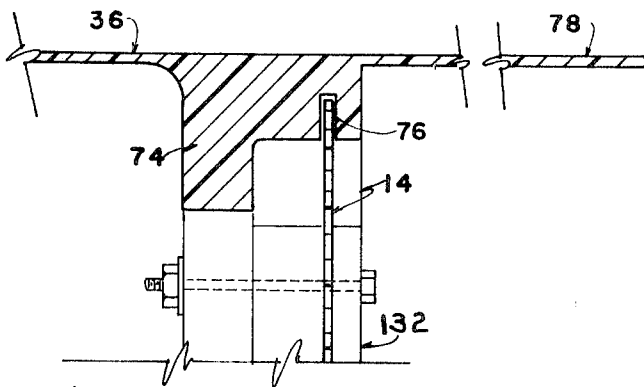


FIG. 13

**BUILDING CONSTRUCTION**

It is the object of this invention to provide a plastic building utilizing self supporting panels which may be readily erected on a footing without requiring the erection of supporting structure.

With the above and other objects in view, which will become immediately apparent on reading this instrument, my invention lies in the unique and novel form, construction, arrangement and combination of parts shown in the drawings, described in the specification, and claimed in the claims.

**THE DRAWINGS**

In the Drawings:

FIG. 1 is a front elevational view of a building constructed in accordance with my invention;

FIG. 2 is a side elevational view thereof;

FIG. 3 is a plan view thereof;

FIGS. 4, 5, 6, 7, 8 and 9 are enlarged fragmentary sectional views taken along lines 4-4, 5-5, 6-6, 7-7, 8-8, and 9-9 respectively of FIG. 2; and

FIGS. 10, 11, 12 and 13 are enlarged fragmentary sectional views taken along lines 10-10, 11-11, 12-12 and 13-13, respectively, of FIG. 1.

**CONSTRUCTION**

Referring now in more detail and by reference characters to the drawings, which illustrate a preferred embodiment of my invention A designates a building comprising a footing 12, front and back walls 14 and 16 respectively, and an arcuate roof 18.

The footing 12 comprises a flat, rectangular block 20 of concrete which is provided around its periphery with a plurality of regularly spaced, upwardly projecting, threaded lugs 22, each of which has been integrally located in the block 20 at the time of pouring.

The roof 18 comprises a pair of complementary intersecting sections 30 and 32, each of said sections including a plurality of center panels 34, a left end panel 36, and a complementary right end panel 38, the left end panel 38 being the mirror image of the right end panel 36 as seen in the drawings. The center panels 34 are made of plastic material and are molded to integrally include:

a lower, inwardly presented, horizontal attachment rib 40 provided with a plurality of spaced elongated slots 42 adapted for receiving the lugs 22; an upper, inwardly presented attachment rib 44 including a plurality of regularly spaced bores 46 adapted for receiving elongated bolts B;

an upwardly extending flange 48 located opposite the rib 44 and including an outwardly presented lip 50; and

a plurality of spaced, vertical support ribs 52, all spaced inwardly of the ends of the panel 34. Similarly the left end panel 36 includes:

a lower, inwardly presented, horizontal attachment rib 60 provided with a plurality of spaced elongated slots 62 adapted for receiving the lugs 22; an upper, inwardly presented, horizontal attachment rib 64, including a plurality of regularly spaced bores adapted for receiving the bolts B;

an upwardly extending flange 68 located opposite the rib 64 and including an outwardly presented lip 70;

a plurality of spaced, vertical support ribs 72, all spaced inwardly of the ends of the panel 36; and end rib 74 which is substantially wider than the support ribs 74 and which includes a continuous slot 76 adapted for receiving the upper end of the panels comprising front and back walls 14 and 16 as will be pointed out later in more detail; and

an outwardly projecting overhang flange 78. Also similarly, the right end panel 38 comprises:

a lower, inwardly presented, horizontal attachment rib 80 provided with a plurality of spaced elongated slots 82 adapted for receiving the lugs 22; an upper, inwardly presented, horizontal attachment rib 84 including a plurality of regularly spaced bores adapted for receiving the bolts B;

an upwardly extending flange 88 located opposite the rib 84 and including an outwardly presented lip 90;

a plurality of spaced, vertical support ribs 92, all spaced inwardly of the ends of the panel 38; and end rib 94 which is substantially wider than the support ribs 94 and which includes a continuous slot 96 adapted for receiving the upper end of the panels comprising front and back walls 14 and 16 as will be pointed out later in more detail; and an outwardly projecting overhang flange 98.

Provided for joining the complementary vertical edges of the panels 34, 36, and 38 is a plurality of flexible, elongated joiner strips 100 having opposing outwardly presented slots 102, 104 adapted for press-fitting retention of the edges of the panels 34, 36 and 38 along their complementary margins.

The sections 30 and 32 are secured to each other by inserting bolts B through the complementary bores 46, 66, and 86 in the panels 34, 36, and 38 respectively and tightening the bolts drawing the ribs 44, 64 and 84 toward each other and snugly against small spacer blocks 106 which have been inserted between the ribs where the bores 46, 66 and 86 are in alignment with similar bores in opposing ribs. This provides a firm union between the sections 30 and 32 and similarly provides an upper air outlet for the roof 18.

An elongated vent cover 110 is provided for covering the complementary edges of the sections 30, 32. The vent cover 110 includes an upper face 112 which projects outwardly past the outer edges of the lips 50, 70 and 90; a pair of depending lateral walls 114, 116 which are spaced outwardly of the lips 50, 70 and 90; a pair of inwardly presented flanges 118, 120 at the ends of the walls 114, 116 respectively; and inwardly of the walls 114, 116, a pair of spaced, depending, continuous brackets 122, 124, each respectively provided at its end with inwardly presented slots adapted for receiving, in snug-fitting relation, the edges of the lips 50, 70, 90, as seen in the drawings. End caps 126, 128, are provided at opposing ends of the vent cover 110 to form a compact closure.

The front and back walls 14 and 16 are substantially identical in construction and comprise a plurality of end panels 130 and a plurality of panel connectors 132. The panels 130 include an enlarged flat sheet 134 of plastic material terminated along the lower margin by an inwardly projecting rib 136 which includes a plurality of spaced slots 138 adapted for receiving the lugs 22. The upper margins of the panels 130 are cut to conform to the contour of the roof 18 and are sized and adapted for snug fitting disposition in the slots 76, 96 of the end ribs 74, 94, respectively, of the roof end panels 36, 38, as shown.

As seen in the drawings, the panel connectors 132, each include opposing slot elements 140, 142, adapted for receiving the lateral edges of the adjacent panels 130, and are bolted or otherwise rigidly secured at their respective tops to the contiguous portions of the ribs 74, 94. Where desired, conventional doors 144, and windows 146, may be installed in the panels 130 using conventional construction techniques.

**ASSEMBLY**

The building A is assembled by first taking a pair of opposing center panels 34 from opposing sections 30 and 32, and joining said panels to each other in snug but not tight fitting disposition by inserting bolts B through the common bores 46 with the respective spacer blocks in position with the respective slots 42 disposed over the appropriate lugs 22 in the footing 20. Thereafter, nuts N are tightened to the bolts B and the lugs 22 using washers W in such manner that the assembly may be moved laterally in the direction of the slots 42. The above steps are then repeated for each opposing pair or center panels 34 until all pairs of panels are united to each other and are disposed on their respective lugs 22.

Thereafter one end of the building A is formed by combining the right end panel 36 from one section with the left end panel 38 from the other section, all in a similar manner. Before that end of the building A is secured to the lugs 22, the panels 130 and connectors 132 which form the wall comprising that particular end of the building A are assembled and firmly secured to the lugs 22. With that particular wall in

place, the end roof assembly is raised on the lugs 22, moved into position with the slots 76, 96 over the upper end of the panels 130, and thereafter secured into place by tightening the nuts N and washers W on the lugs 22, which action draws the upper ends of the panels 130 snugly into the slots 76, 96.

Finally, that end of the building is made secure by bolting or otherwise rigidly securing the panel connectors 132 to the end ribs 74, 94.

The other end of the building A is similarly secured and assembled. The gaps between the various adjacent roof panel assemblies are than closed by installing the joiner strips 100 which is done by pressing the slots 102, 104, over the ends of complementary panels 34 and 34, 36, 38, as the case may be, sliding the various panels backwardly and forwardly over the lugs 22 to insure joints of uniform size and maximum sealing. Thereafter the nuts N are tightened to the lugs 22 and the roof panels 34, 36 and 38 and the wall panels 130 are all secured in place.

The construction is completed by attaching the brackets 122, 124 of the vent cover 110 to the various lips 50, 70, 90 comprising the apex of the roof, and thereafter attaching the end caps 126, 128.

Of course, the molding in or other installation of various windows and doors and the like may be made without departing from the nature and principal of my invention. It should be further understood that changes and alterations in the various structures as to form, arrangement, combination of parts and construction may be made and substituted for what is herein shown without departing from the nature or principle of my invention.

Having thus described my invention what I claim and desire to secure by Letters Patent is set forth in the following claims:

1. A plastic building for assembly upon a rectangular footing which integrally includes a plurality of fixed regularly spaced, upwardly extending anchor bolts, said building comprising an arcuate roof and front and rear walls,

said arcuate roof comprising a pair of converging roof sections each having at least one center panel and a pair of opposing end panels, each panel being molded plastic material and integrally including horizontal upper and

lower attachment ribs and a plurality of spaced vertically extending support ribs, the lower attachment ribs being adapted for secured flushwise engagement with the footing over the anchor bolts and the upper attachment ribs being adapted for secured attachment to the complementary upper attachment rib in the complementary roof section,

said end panel each also including a vertically extending outer attachment rib having a downwardly presented slot sized for snug-fitting overlapping engagement with the upper margins of the front and rear walls, each of said roof sections also including a plurality of vertically extending I shaped sealer strips each sized for snug-fitting overlapping engagement with the outwardly presented ends of complementary panels whereby to provide a water and weather seal therebetween.

2. The building of claim 1 in which the roof sections are held in slightly spaced separation from each other by spacer blocks mounted between complementary upper attachment ribs, each panel is also provided along its upper margin with an upwardly extending lip, and a continuous cover engages the lip of each panel along the entire roof providing a top closure over the separated roof sections.

3. The building of claim 1 in which the lower attachment rib of each panel is provided with means for providing front to rear movement of the panel with respect to the anchor bolts.

4. The building of claim 1 in which the front and back walls each include a plurality of spaced, vertically extending wall panels, each provided along its lower margin with a flat, inwardly extending attachment rib adapted for secured flushwise engagement with the footing over the anchor bolts, and each wall panel further including a contoured upper margin adapted for nested disposition within the downwardly presented slot in the outer attachment ribs.

5. The building of claim 4 wherein the front and back walls also include vertical posts between the adjacent panels, each post being provided with lateral slots adapted for receiving the complementary ends of the adjacent panels and also being secured at the top to the outer attachment ribs in the end panels.

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