Dec. 17, 1957 L. S. SOGARO 2,816,329

PLASTIC BUILDING AND CONSTRUCTION UNIT

Filed April 28, 1955

Fig. 1.

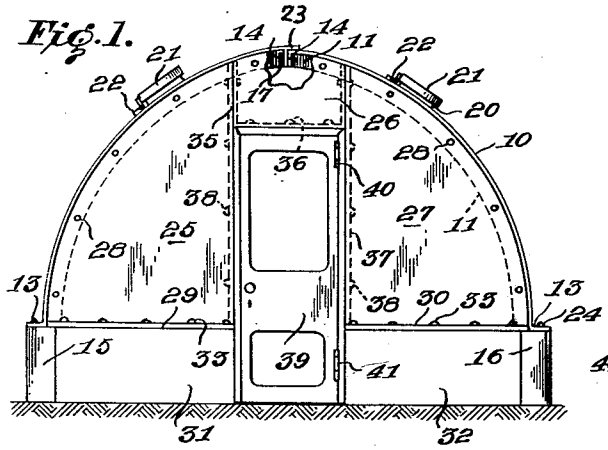


Fig. 4.

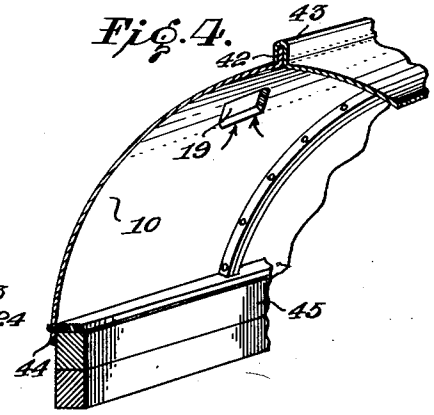


Fig. 2.

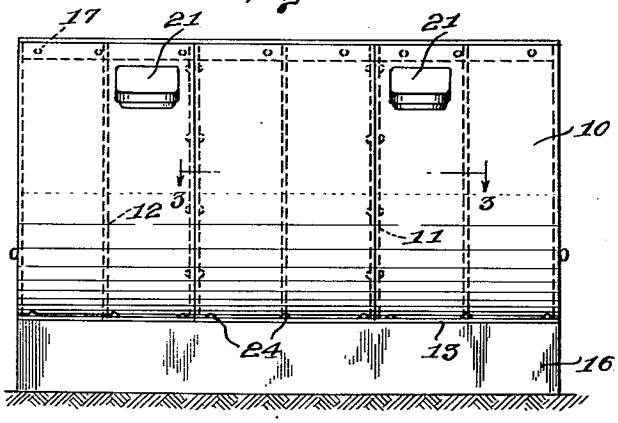


Fig. 5.

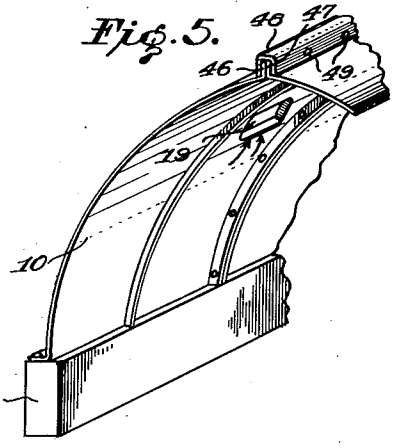


Fig. 3.

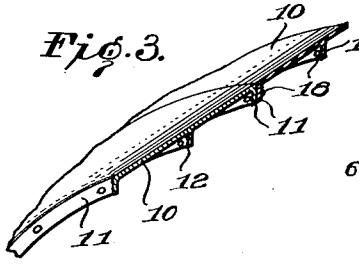


Fig. 6.

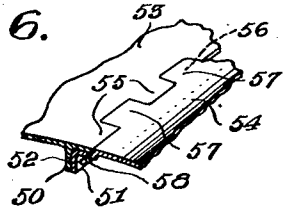
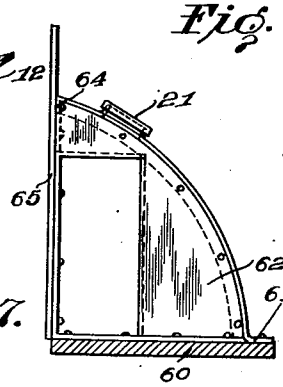


Fig. 7.



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United States Patent Office 2,816,329 Patented Dec. 17, 1957

2,816,329

PLASTIC BUILDING AND CONSTRUCTION UNIT

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Application April 28, 1955, Serial No. 504,463

1 Claim. (Cl. 20—2)

My present invention relates to a translucent plastic construction and plastic building unit.

It is an object of my invention to provide a readily assembled and knocked-down building construction for use as a greenhouse, chicken house, garage, shed and like.

Assuming, for example, that the present construction is used as a greenhouse to cover the regular outdoor hot beds or cold beds.

The translucent non-breakable plastic sheets forming the building construction will replace the breakable wooden framed glass constructions previously used for such purpose. Also, the sunshine and light of day pass through the present novel plastic sheets as effectively as heretofore with regular glass panels.

Another object is to provide a novel translucent panel of synthetic plastic formed with connecting flanges and reinforcment flanges adapted to be assembled to thereby form as many various sizes of constructions as may be needed.

Another object is to provide a synthetic plastic panel building construction, which may be ornamental and impregnated with a permanent color, whereby painting is not required and a construction result which is unaffected by weather conditions.

A further object is to provide a frameless building construction.

With the above and other objects in view which will become apparent from the following description, the invention consists of the novel panel unit and the novel arrangement and combinations thereof as illustrated in the accompanying drawings, wherein:

Figure 1 is an elevational view of one end of a building construction fabricated according to one form of my invention;

Figure 2 is a side elevational view of the building construction of Figure 1;

Figure 3 is a section view taken through two connected building panels along the line 3—3 in Figure 2;

Figure 4 is a partial perspective view of another form of my invention;

Figure 5 is a partial perspective view of a third form of my invention illustrating another novel roof rib or flange connection;

Figure 6 is a partial cross section of a fourth form of panel unit flange and connecting arrangements with a series of scalloped lapped tabs for side panel connections; and

Figure 7 is another arrangement of the building adapted for use as a half-section construction for cooperative connection to an existing wall or structure.

Referring in detail to the several views and first with reference to form one illustrated in Figures 1, 2 and 3, there is a complete building made from translucent panels **10** of molded sheets of synthetic plastic, such as acrylic resins, and polymers or co-polymers capable of producing a translucent sheet. These sheets or panels **10** may be rectangular and are formed with turned side connecting edges, such as apertured flanges **11** and spaced substantially parallel reinforcement ribs **12**, see Figure 3. Each panel **10** is molded into a concavo-convex rectangular configuration with the lower and upper end edge of each panel formed with a footing flange **13** and a roof flange **14**.

The respective lower footing flanges **13** are formed with fastener apertures to facilitate securing the assembled panel sections **10** to a base, such as side footings **15** and **16**, while the upper or roof flanges **14** are alignably apertured to receive fasteners **17**. The panel side connecting flanges **11** are secured together by fasteners **18**, and some of the panels **10** are cut out to provide a ventilator **19** formed with an exterior collar **20** for a closure cap **21** pivotally secured by a hinge **22** to a respective supporting panel **10**, see Figures 1 and 2.

One of the roof flanges **14** is provided with a lapped extension **23** adapted to more effectively seal the roof joint when the flanges **14** are secured together by fasteners **17**. After a group of panels **10** are secured together by fasteners **18** and a complete side building wall is thus assembled, the footing flanges **13** are then secured to the respective footings **15** and **16** by fasteners **24**. Then the roof flanges **14** are fastened together by fasteners **17** to thereby complete the sides and roof of the construction. After the assembly of the sides and roof, the ends of the building construction are still open.

Accordingly, end panel sections **25**, **26** and **27** are installed at each end. These panels are shaped and proportioned to define a doorway and are formed with fastener openings for alignment with the openings in the end side flange **11** of each section of assembled panels **10**, and are secured to the flange by fasteners **28**. The lower or footing edge of each respective panel **25** and **27** is formed with an exterior flange **29** and **30**, respectively, formed with fastener apertures for securement to the end footings **31** and **32** by fasteners **33**. Such footings and panels are preferably duplicated at the opposite end of the building.

A door frame **34** is mounted in the aperture defined by panels **25**, **26**, and **27** and is bolted to flange **35** of panel **25**, flange **36** of panel **26** and flange **37** of panel **27**, by fasteners **38**.

The frame **34** mounts a door **39** attached thereto by hinges **40** and **41**.

Figure 4 is a second embodiment of the invention, particularly in connection with the roof ribs **42** and **43** of the assembled panels, whereby bolts are not needed, and whereby the lower edge **44** of the side panels **10** lap over the exterior side of the footing member **45**.

With this arrangement the folded over roof rib **43** provides a groove into which slidably fits the roof rib **42** and makes a fluid-tight joint.

Figure 5 is a third embodiment of my invention and also relates to the roof ribs of the assembled panel sections. In this form the roof ribs **46** and **47** extend exteriorily of each panel **10** and are clamped together by a channel strip **48**. This strip slides on and over the flanges and is formed with crimps or indentations **49** to lock it in place.

Figure 6 is a fourth embodiment of my invention relating to the side panel interior flanges. In this form the flanges **50** and **51** are secured together by fasteners **52**. However, the exterior surface of each panel **53** and **54**, respectively, is alternately formed with a tab, and a correspondingly adjacent countersunk portion of a size corresponding to the tab.

For example, panel **53** is formed with alternate tabs **55** and intermediate countersunk portions **56**, and panel **54** is formed with alternate tabs **57** and countersunk portions **58**. The tabs **57** are staggered with respect to tabs

55, but are adjacent to portions 56 so as to seat flush in said countersunk portions. Therefore, when the tabs 55 and 57 are interleaved with the flanges 50 and 51 fastened together there is provided a flush lapped joint on the exterior side of the building.

A fifth arrangement of the invention is illustrated in Figure 7, wherein the side panels 10 are substantially of the same form as in Figures 1 and 2. However, in this arrangement there is a wood or concrete base 60 to secure the panel footing flange 61 thereto, and a single unit end panel 62 with an opening formed therein for a door 63 is provided, whereby the side wall construction of panels is attached by the roof rib or flange 64 to an existing vertical wall 65. This construction is very quickly and economically erected for smaller operations.

Thus there is provided a novel sheet plastic building panel, which is a single structural unit requiring no additional frame structures. Also this panel unit may be assembled in side and roof formations to form building structures of varying sizes and shapes to suit most any need.

Without further description it is believed that the foregoing description is sufficiently complete, clear, concise and positive in terms to enable any person skilled in the art to practice this invention. However, it is to be expressly understood that although only a few forms of my invention are illustrated in detail, that other elements and combinations of elements and panels, which may now occur to others are likewise intended to be covered hereby. To determine the scope of my invention, reference should be had to the appended claim.

What is claimed is:

A building having arched sides and roof formed of synthetic plastic concavo-convex panels, said panels on each side of the building each having an inwardly directed flange along each side edge and along one end edge, the opposite end edge of each panel being provided with an outwardly directed flange, each panel being further provided with a reinforcing rib disposed between and parallel with said side flanges, fastening means connecting said side flanges together and fastening means

connecting said flanges along said one edge of the panels together, a footing disposed along each side of the building, fastening means connecting said outwardly directed flanges to said footings, the inwardly directed end flanges of the panels at one side of the building being disposed at the ends of the panels in longitudinal alignment, and the inwardly directed end flanges of the panels at the other side of the building being disposed inwardly of the ends of the corresponding panels with the flanges engaged and with an edge portion of the last named panels overlapping the ends of the first named panels in the provision of a weather seal, each of certain of said panels at each side of the building being provided with a ventilating opening, a collar surrounding said opening, and a closure cap pivotally connected to said panel and telescopically engageable over said collar, each end of said building comprising a panel adjacent each side thereof and a panel adjacent the top thereof, said panels having adjacent straight edges providing a door opening, the arcuate margins of said last panels being secured to the outermost flanges on said side and roof panels, a door frame mounted in said door opening, and a door pivotally supported in said opening.

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