

[54] MODULAR BUILDING CONSTRUCTION

219,032 12/1958 Australia..... 52/586

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[52] U.S. Cl..... 52/92, 52/474, 52/498,
52/586

[57] ABSTRACT

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[58] Field of Search..... 52/92, 474, 498,
52/499, 501, 586, 475, 476, 578, 656

A modular building construction fabricated of a plurality of individual panel section modules selectively interconnected to each other by means of slide-in connecting members and the roof construction is made up of a plurality of roof ribs interconnected together at a common apex and which can be folded together in umbrella fashion and which when assembled to the panel building is adapted to support a canvass or similar roof covering. The individual panel section modules consist of frames of extruded metal such as aluminum, which by means of snap-in moldings support panels such as decorative plywood panels or plastic panels, window glass, screen or the like in selectively interchangeable fashion; the circumferential edges of the frames of the panel members are channeled and the individual panels are connected by connecting members of plastic or the like which are slid in place longitudinally to fit over protruding flanges provided in the opposite channels, or adjoining panel members.

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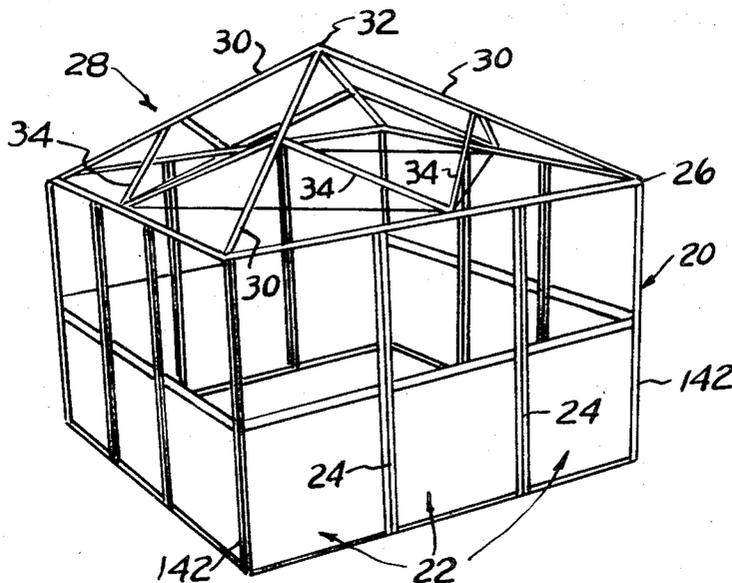
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7 Claims, 22 Drawing Figures



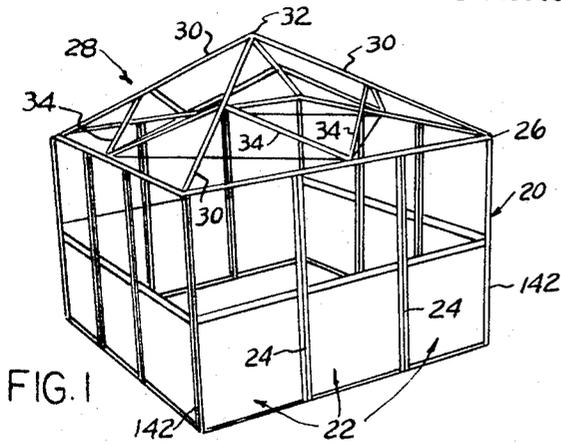


FIG. 1

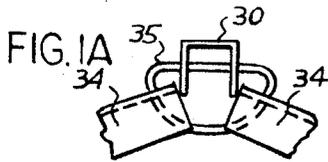


FIG. 1A

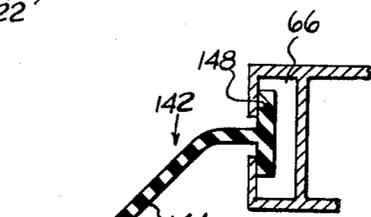


FIG. 3

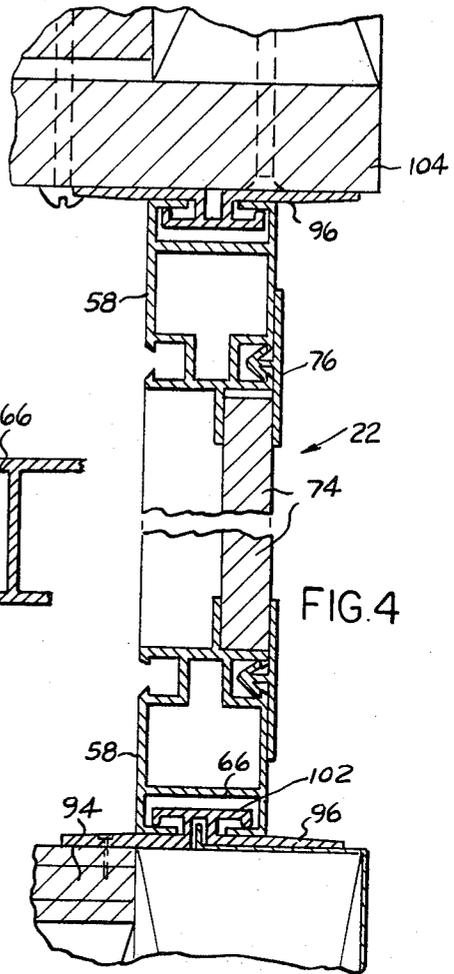


FIG. 4

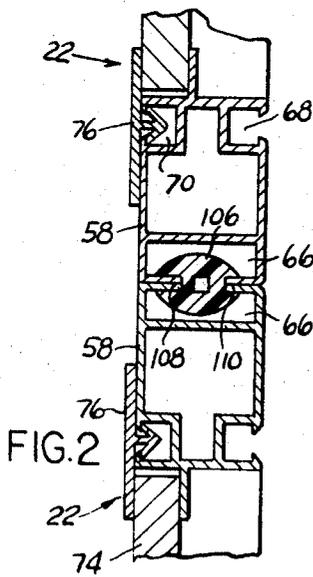


FIG. 2

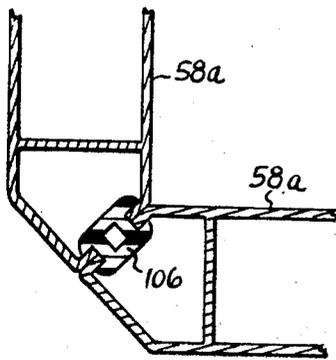
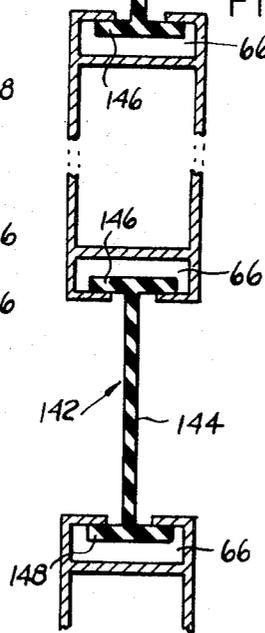


FIG. 9A

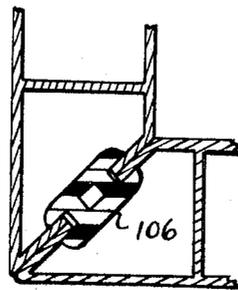


FIG. 9B

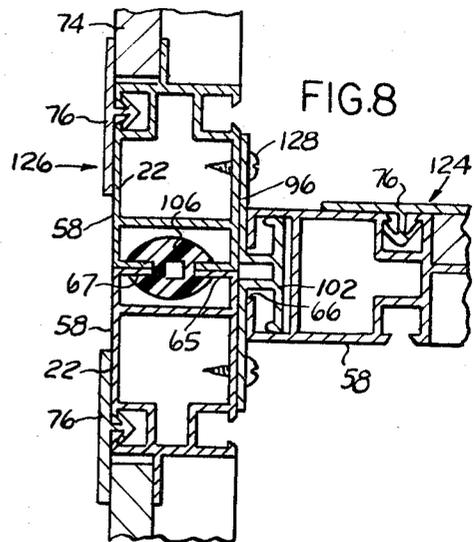
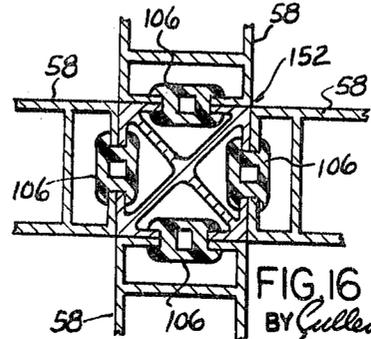
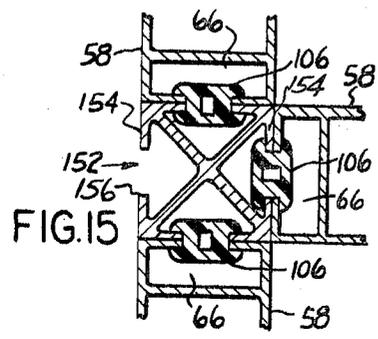
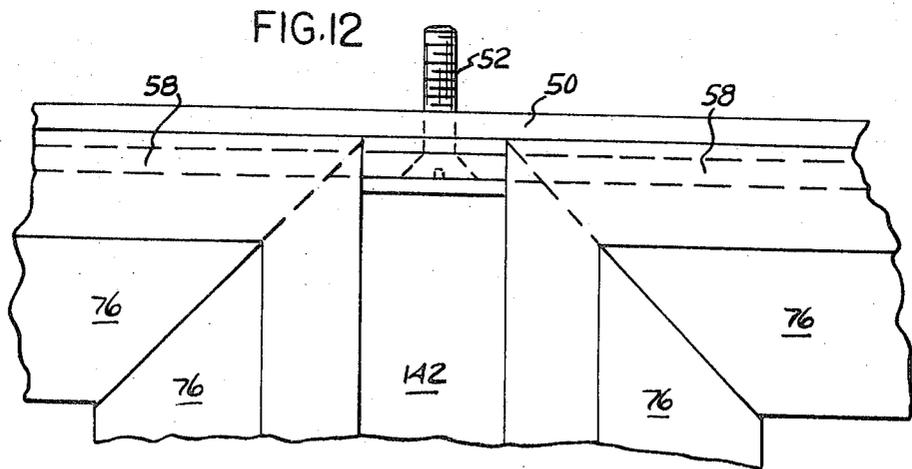
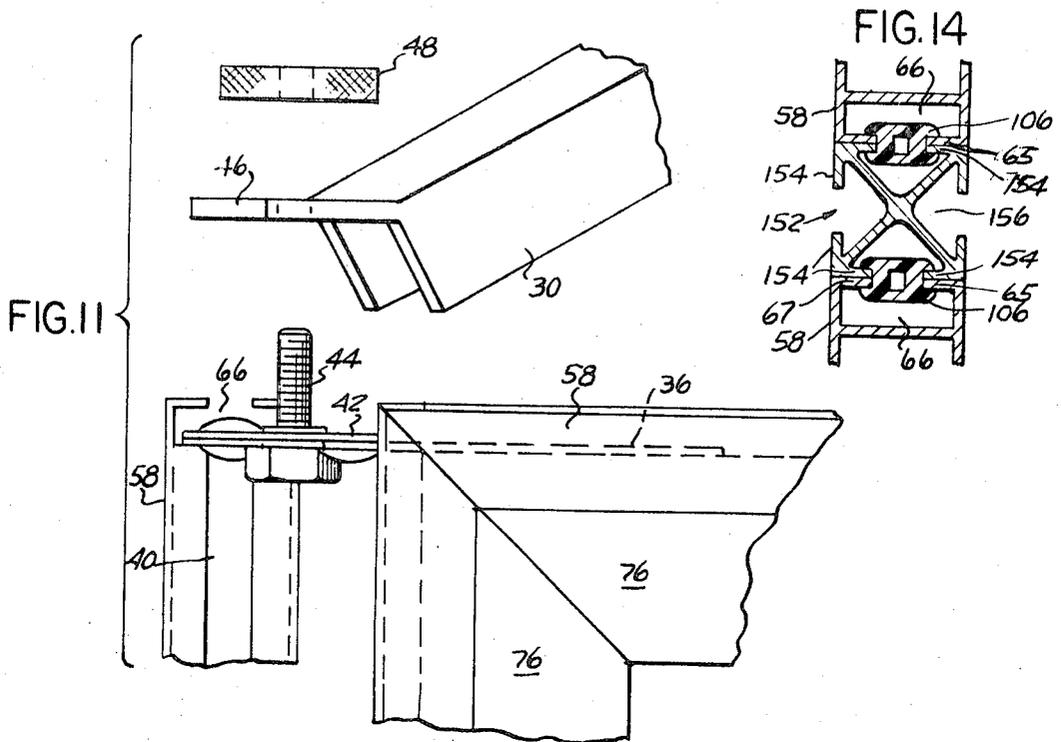


FIG. 8

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FIG. 17

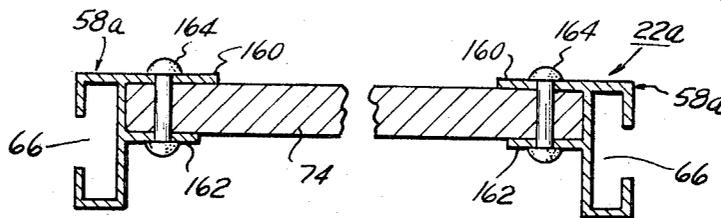
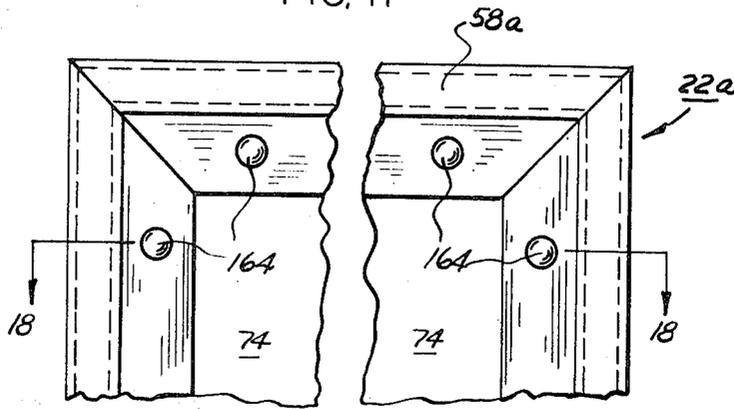


FIG. 18

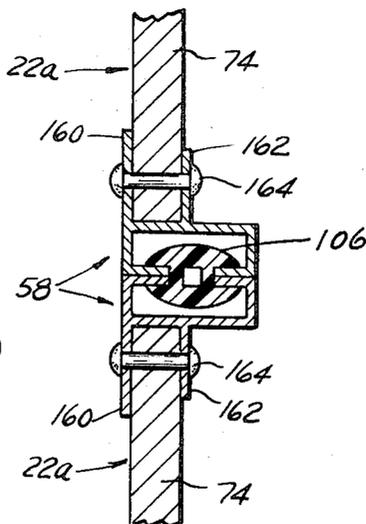


FIG. 19

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MODULAR BUILDING CONSTRUCTION

BACKGROUND AND SUMMARY OF THE INVENTION

The present invention refers to building constructions and more in particular to a prefabricated building construction which can be erected in place in a convenient and economical manner in a short time.

Building constructions employing individual prefabricated building modules, such as sections, partitions, roof sections, etc., are in common use today for quick erection of buildings at less cost than conventional building structures of masonry or wood frame and sidings. These prefabricated building structures are adaptable for the erection of temporary summer buildings such as garden houses, cottages and the like or may be erected as permanent buildings upon a foundation provided on the site of erection.

The individual side walls of the present invention are made up of a plurality of individual panel members or building modules, which include a rigid circumferential frame of extruded metal or the like into which a decorative panel is inserted and clamped in place by means of plastic hold down moldings. The moldings snap in place around the frame which for this purpose is provided with a circumferential groove to permit snap-in engagement of the molding attachment grip portion such that the molding partly overlaps a portion of the frame and the panel insert. The rigid frame of each of the panel modules is provided with a circumferential channel around its edges each of which having flange members internally thereof which permit the interconnection of adjacent panels by means of H-shaped hinge elements which in assembly are longitudinally slid over the adjoining flanges of adjoining panel modules. The top and bottom channel portions of the panel modules are adapted to receive hold down moldings similarly longitudinally slid into the flanged channels and which have outwardly extending longitudinal flanges for attachment of the hold down moldings to the floor and the ceiling of a building. Selected panel members are interconnected by pivotable hinges to provide the corner joints between adjoining angularly displaced panels or, conversely, in a more permanent building the corners of adjoining angularly displaced panel members are interconnected by a rigid corner joint and a pair of slidable connectors are slid into the channels and over the flanges of the adjoining rigid corner joint and the respective panel members.

In a temporary building such as a garden house, greenhouse, temporary cottage or the like, the corner joints of the building as well as selected intermediate joints between adjacent panel members are provided with fastening means such as threaded studs, to permit the attachment of the ends of the roof beams or trusses thereto which, in turn, are all pivotally interconnected to each other and terminate into a common apex such that the interconnected roof trusses can be unfolded outwardly in umbrella fashion for attachment of the ends of the individual truss members to the respective threaded truss fasteners at the corner joints and selected intermediate joints along the panel side walls of the building.

The present invention will be best understood by reference to the following detailed description in connection with the appended drawings illustrating several preferred embodiments of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

In the drawings:

FIG. 1 is a perspective illustration of a temporary building construction erected in accordance with the present invention and clearly showing the umbrella type roof construction for use in this type of building;

FIG. 1A is an enlarged fragmentary view of the roof truss assembly.

FIG. 2 is an enlarged fragmentary plan section through the outer wall of a more permanent building erected in accordance with the panel assembly of the present invention;

FIG. 3 is a fragmentary plan section of the flexible hinge assembly between panels;

FIG. 4 is a fragmentary cross-section similar to FIG. 3 through the opposite outer wall of a permanent building construction;

FIG. 5 is a fragmentary broken away front elevation of the panel structure;

FIG. 6 is a separate fragmentary cross-section through adjoining panel members illustrating the use of exterior and interior paneling;

FIG. 7 is an enlarged perspective fragmentary illustration of a corner portion of the panel module;

FIG. 8 is an enlarged fragmentary cross-section through a modified three-way joint arrangement of panel walls extending at a right angle to each other;

FIG. 9 is an enlarged fragmentary cross-section through a rigid corner joint between adjoining angularly displaced panel members;

FIG. 9a is a similar view omitting the separate corner joint;

FIG. 9b is a modification;

FIG. 10 is an enlarged fragmentary top plan view of a hinged corner joint between adjoining panels at their upper ends;

FIG. 11 is a composite fragmentary illustration of the attachment means of the roof truss to the corner joint shown in FIG. 10 for the building shown in FIG. 1;

FIG. 12 is a fragmentary view of two adjoining panels incorporating a roof truss attachment stud;

FIG. 13 is a composite fragmentary illustration of attachment means of another roof truss to the intermediate truss attachment stud of FIG. 12;

FIG. 14 is a fragmentary plan section of a rigid connector means between a pair of aligned panels;

FIG. 15 is a similar view of such connector means between three connecting panels at right angles;

FIG. 16 is a similar view of such connector means between four right angularly related panels;

FIG. 17 is a fragmentary broken away front elevation of a simplified panel assembly structure;

FIG. 18 is a fragmentary cross-section through the simplified panel structure of FIG. 17 as seen along line 18-18;

FIG. 19 is a fragmentary cross-section through a panel joining assembly embodying the modified panel structure of FIGS. 17 and 18.

DETAILED DESCRIPTION OF THE INVENTION

With reference now to the drawings, and particularly FIG. 1 and FIGS. 10 to 13 there is illustrated a temporary building construction 20 erected from prefabricated building modules, such as the present improved panel members 22, constructed in accordance with the present invention. Adjoining panel members 22 are

connected to each other along the sides of the building by means of connecting joints indicated at 24 and adjacent angularly disposed corner panel members are hingedly connected to each other by means of corner joints indicated at 142.

The temporary building construction 20 as herein shown may be utilized as a screened garden house, temporary cottage, utility shed or the like for quick erection and disassembly at any desired location.

The roof skeleton structure 28 of the building construction 20 is comprised of a skeleton of interconnected diagonal truss members 30 each of which being connected to a corner of the building and to each other in an upwardly converging direction to terminate at an apex point 32 substantially at the vertical center of the building. The diagonal truss members 30 are further connected to the top edge of the sides of the building, intermediate the corners, by means of support ribs 34, which are attached to truss members 30 and to the opposite edge of the side walls substantially at the center between the corners. In finishing of the building, the roof skeleton structure 28 is adapted to receive a roof cover such as canvass, or the like in the fashion of a tent. Ring 35 FIG. 1A flexibly connects ribs 34 to truss members 30.

With particular reference now to FIGS. 10 to 13, adjoining corner panel members of the building construction 20 are connected, at their upper ends by hinged corner joints 26. As shown in FIG. 10 and 11, the corner joint is composed of a pair of hinge plates 36 which are adapted to extend into a longitudinal top edge channel 23 provided along the upper edges of each of the panel members 22. The hinge plates 36 are secured within the channels 23 by means of fasteners 38. The outer ends of the hinge plates are each pivotally connected by means of a pair of hinge pins 40 to the opposite ends of a bracket connector 42.

The intermediate connecting bracket 42, that is, only the top bracket member 42 of the hinge assembly 26, is provided with a threaded stud 44 between the hinge pins 40, which threaded shank portion extends upwardly from the bracket as shown in FIG. 11. In assembly of the building construction 20 the threaded stud 44 is adapted to receive the apertured ear 46 provided at the lower end of each of the diagonal roof trusses 30 which is then secured in place by means of nut 48.

It will be understood that the other corner portions of the building construction 20 are similarly constructed and each of the corner hinge joints secures the lower end of one of the diagonal roof truss members 30 as shown and described in FIGS. 10 and 11.

With reference now to FIGS. 12 and 13, the supporting rib members 34 of the roof skeleton structure 28, are connected to the top edges of the side walls of the building construction 20 by the following means. The top edge channels 23 of adjoining panel members, between the corners of the building, receive a longitudinally adjustable support bar 50 which is slidingly supported along the internal flanges of the channel 23 as shown in FIG. 13. The slotted support bar 50 may be of any desired length for maximum support along the top edge of adjoining panels, which form the side walls of the building, so as to align all of the panels in coplanar position and to provide sufficient rigidity to the walls of the building structure. The slotted bar 50 is provided with threaded stud 52 which protrudes therefrom upwardly and which is adapted to receive the ear

54 of a pair of diagonal roof support ribs 34 as shown in FIG. 1. The attaching ears 54 of the roof support ribs 34 are then secured to the threaded stud 52 at a position intermediate opposite corners by means of a nut 56 as shown in FIG. 13.

With reference now to FIGS. 5 to 7, the present improved panel member 22 is comprised of a rigid circumferential frame 58, shown in elevation in FIG. 5 and in plan view in FIG. 6. The rigid frame 58 is made of any lightweight material, such as aluminum, and may be a composite structure in the form of a picture frame, that is, the continuous frame is assembled by means of a plurality of suitably mitered frame sections to form a rectangular enclosure. The individual mitered frame sections are attached to each other at the corners by means of fasteners 60 as indicated in FIG. 5. Each of the frame sections, as shown in FIG. 6 in cross-section, is of channel shaped structure comprising a first closed channel portion 62 extending longitudinally along each of the frame sections between the outer and inner edge thereof. The outer edge of each of the frame sections is provided with an open channel portion 64 continuously extending around the exterior edge of all of the frame members to form a continuous circumferential channel having an open slot 66. Inwardly, each of the individual frame sections is provided with a pair of opposite external radial slots or grooves 68 and 70 respectively which extend circumferentially around the inner and outer side of the rigid frame assembly 58. Furthermore, each of the individual frame members of the frame assembly 58 is provided with a central inwardly extending internal radial flange 72 which, when the frame is assembled, forms a continuous inner circumferential flange adapted to vertically align and support a decorative panel sheet 74 of any material construction such as plywood, plastic, glass, screen, or the like, thereagainst from either side as shown in FIG. 6; or two adjacent parallel panels may be provided confined within the frame assembly 58 for exterior and interior covering. Thus, in an actual building construction, an exterior panel such as, hardwood, or prefabricated panels of any plastic material may be provided together with an interior wall panel of any desired decorative appearance. The individual decorative panel sheets 74 in assembly are placed within the confines of the internal circumference of the frame assembly 58 for abutment against the radial aligned internal radial flange sections 72 of the frame assembly 58.

With particular reference to FIG. 6, in order to securely retain the panel sheets 74 within the rigid composite frame 58 against the internal co-planer flanges 72, longitudinal moldings 76 are provided preferably made of a flexible elastomer such as vinyl or the like. The longitudinal vinyl moldings 76 (of which there are four for each side of the panel assembly) are similarly mitered at both ends to be assembled in a picture frame like manner as illustrated in FIG. 5. The substantially flat moldings 76 are provided with a longitudinal center rib 77 which at its end terminates in angularly reverse inclined flexible flange portions 78 and 80 respectively.

The longitudinal opposed outer edges of both circumferential front and rear slots 68 and 70 of the frame assembly 58 are provided with inwardly protruding ridges 82 and 84 respectively extending the length of the slots 68 and 70. In assembly of the moldings 76 to the frame assembly 58, the flexible flange portions 78 and 80 of the center rib 77 of the moldings are pushed

into the respective slots **68** and **70** past the ridges **82** and **84** so as to snap into engagement behind the inner surfaces of the ridges, as illustrated, to thereby securely retain the molding **76** within the respective slot **68** or **70**. The exposed flat outer portion of the molding **76** is of sufficient width to abut against the outer surface of the frame assembly **58** adjacent the lateral grooves **68-70** on one side and overlap a substantial portion of the edge of the panel sheet **74** at the other side to thereby securely retain the panel sheet **74** within the frame assembly against the internal radial flange **72**.

The vinyl panel retaining moldings **76** may be decoratively sculptured, colored or otherwise ornamented for any desired aesthetic appearance.

As seen from FIG. 7, all of the four corners of the frame assembly **58** are notched or recessed as at **86** in such manner that notches **86** intersect a circumferential longitudinal slot opening **66** for a purpose to be described hereafter.

As seen at the bottom portions of the fragmentary broken-off illustrations, the rigid frame assembly **58** of the lower most panel assembly is rigidly attached in vertical position to the floor structure **94** of the building by means of a hold-down connector molding **96**. The hold-down connector molding **96** is preferably comprised of an extruded length of lightweight material, such as aluminum, having opposite outwardly protruding flange portions which extend to both sides beyond the lateral surfaces of the panel assembly. Centrally, the hold-down molding is provided with a rib portion **102** which is formed in the shape of a "T" in cross-section and which, in assembly of the panel of the present invention, is adapted to be longitudinally slid into the channel portion **64** of the rigid frame assembly **58** by means of the open longitudinal slot **66** for secure retention therein as shown. The longitudinal outer flange portions **96** at opposite sides of the panel assembly can then be secured to the floor structure **94** by any known fastening means such as nails or the like. The upper end of the panel assembly is similarly attached to the ceiling structure **104** by means of longitudinal hold-down members **96** as illustrated in FIG. 4.

Individual panel assemblies of the construction previously described are connected to each other to form a rigid wall structure as shown in FIG. 2, by the following means.

As will be noted in FIG. 2, two adjacent panel assemblies **22** are rigidly interconnected to each other to form a continuous rigid wall section by means of a longitudinal slidably insertable joint member **106** which, as seen in cross-section in FIG. 2, is of generally H-shaped configuration. The two adjoining panels **22** are placed in edgewise abutting relationship to each other so as to have the open slots **66** along the edge of the panels in opposed aligned relationship to each other when the channel portions **64** of the adjacent panel members are brought together in planar abutting relationship. The panel connecting joint member **106**, which is preferably made of a semi-rigid synthetic material, such as vinyl or the like, and which, as is shown, has a pair of opposite longitudinal slots **108** and **110** respectively extending the full length of the connecting member along the lateral side edges thereof. The longitudinal slots **108** and **110** of the connecting members **106** are of a width substantially corresponding to the double width of the material of the frame assembly **58**. Thus, in assembly of the panel members **22** to each

other, the connecting member **106** is slid vertically over each of the opposed and abutting outer flanges **65** and **67** of the opposed abutting frame assemblies **58** of adjoining panels, which form the longitudinal slots **66**, for receipt of the body portion of the connecting member **106**. Thus, both opposing flanges **65-67** of immediately adjoining panel members are locked together in clamping relationship by means of the slotted longitudinally inserted connecting member **106**.

It will be understood that any number of panel members may be similarly connected one to each other to form a continuous panel wall which is kept and secured in correct vertical planer alignment by means of the top and bottom continuous hold-down molding **96**, which, in the erection of the wall, correspond to the length of the finished wall and thus may extend along a plurality of interconnected panel members to rigidly interlock the plurality of panel members in planar vertical alignment after insertion of the intermediate vertical panel interconnecting members **106**.

The top and bottom hold-down moldings **96** are slidably insertable horizontally through the horizontal slot portions **66** of the respective frame assemblies **58** of adjoining panels by means of the notches or recesses **86** provided at the corners of each individual panel assembly as illustrated in FIG. 7. At the same time, the recesses or notches **86** at the corners of the panel assemblies provide sufficient clearance for vertical insertion of the panel connecting members **106**.

Thus, as described so far, it will be obvious that any panel wall assembly can be quickly taken apart or reassembled or completely removed if desired by simple removal of an interconnecting member **106** by vertical sliding movement of engagement with the adjoining flanges of the channels.

With reference to FIG. 8, there is illustrated another example of a three-way wall panel joint in which a panel wall **124** is joined at right angle to a panel wall **126**. The joint is provided at the interface of two adjoining panel members **22** which are connected by means of the sliding joint member **106**. To join panel wall **124** to wall **126** a hold-down molding such as **96** is provided which in the embodiments of FIGS. 1 to 4 is utilized to retain the panel walls on the ceiling and floor respectively of the building. In the embodiment of FIG. 8, the hold-down molding **96** is attached by means of fasteners **128** to the outside of opposite frame members **58** of adjoining panels **22**. The flanged rib **102** of the hold-down member **96** is adapted for slidable insertion through the lateral slot **66** of the frame member **58** of the right angle positioned panel member to thereby retain the panel wall **124** in a right angle position relative to the panel wall **126**.

It shall be noted here, that the horizontal hold-down members **96** which are adapted for slidable insertion through the top and bottom slots **66** of the frames **58** of the respective panel members, not only serve to attach the panel members to a ceiling or floor of a building or, respectively, to another panel wall, but they also serve to retain connected panel members in rigid planar vertical alignment by extending across the joints between adjacent panel members.

With reference now to FIGS. 9 to 9b there are illustrated several examples of adaptable corner joints between adjacent angularly disposed panel members to form the corners of a building structure.

In FIG. 9 for example, a corner frame 130 is employed which is triangular in cross-section and of tubular construction. The corner frame member 130 thus provides an angularly disposed outer side 132 joined to two angularly disposed shorter sides 134 and 136, respectively. Both of the shorter sides 134 and 136 are slotted longitudinally as at 138 and 140 respectively, which correspond to the lateral side slots 66 in the frames 58 of adjacent angularly disposed panel members 22. Thus, in assembly, the corner frame member 130 is placed in position such that the short sides 134 and 136 abut against the lateral outer surfaces of the frames 58 of the angularly disposed panel members 22. The corner frame member member 130 is then attached to the adjacent panel members by slidable insertion of a pair of joint members 106 through the aligned slots 138-66 and 140-66 respectively. The joint members 106 are the same as utilized to connect adjacent planar aligned panel members to each other as in FIGS. 2 and 8.

In FIG. 9a respective lateral ends of the frame members 58a of angularly disposed adjoining panel members 22 are extended to form substantially triangular configurations in cross-section as shown so that, when the two panel members 22 are disposed at right angles to each other, a corner joint is formed along the lateral side edges of adjacent panels. In this instance, only one slidable joint member 106 needs to be employed to connect the two panel members together by means of the opposed aligned slots 66 along the inner angularly disposed lateral side surfaces of the frames of adjacent panel members.

The embodiment of FIG. 9b is similar to that of FIG. 9a with the exception that the corner is extended to provide a pointed edge instead of an angularly disposed corner surface as in FIG. 9 and FIG. 9a. Connection of this corner joint is similar by means of a single slidably inserted joint member 106.

With reference to FIG. 3, selectively, if desired, instead of a semi-rigid slidable joint member 106, a flexible joint member 142 of any suitable elastomer material could be employed to join adjacent panel members 22 together. Thus, the flexible joint member 142 has an intermediate flexible web portion 144 which is connected at both ends to transverse flange portions 146 and 148 respectively. In assembly, the flexible joint member 142 is inserted through opposed lateral slots 66 of adjoining panel members in the manner similarly employed for the semi-rigid joint member 106. In this instance, however, it will be noted that adjacent panel members are spaced from each other a distance corresponding to the width of the intermediate rib member 144 of the flexible joint to thereby permit adjacent panel members to be angularly disposed to each other in any desired directions and to permit folding of the panels in accordian fashion for storage and transportation.

It will be obvious from the foregoing description and attached drawings that the present improved panel assembly system is extremely versatile in assembly of a variety of buildings and can be quick and easily assembled and disassembled. without the use of auxiliary fastening means by the provision of the slid-in joint members 106 or 142 respectively.

Similarly, it will be appreciated that panel sheets of any size and material can be easily attached, replaced and interchanged within the rigid frame structure 58 of

the individual panel members by provision of the snap-in moldings 76.

It will be noted from the drawings that the internal radial flanges 72 of the frame member 58 are slightly offset from the longitudinal center of the frame to thereby accommodate the securement of panels of different thickness and different material to the same plane member. This provides extreme versatility in the employment of any desired panel sheet, screen, window, plywood, hardwood, plaster board or the like.

Referring to FIGS. 14, 15 and 16, there is shown the use of a rigid connecting means for interconnecting a pair of aligned panels, FIG. 14, three right-angularly related panels, FIG. 15, and four right-angularly related panels, FIG. 16.

The connecting means 152 are the same in FIGS. 14, 15, and 16 and include an extruded elongated structure. This post-like structure includes in each of its four faces, opposing pairs of spaced flanges 154 and adjacent slots 156. In the respective FIGS. 14 through 16 where the edges of a pair of panels engage, they are joined together by the semi-rigid H-shaped joint members 106 which interlock with the adjacent panel flanges 65, 67.

With reference now to FIGS. 17 to 19, there is illustrated a simplified panel member assembly 22a. In this simplified structure the aluminum frame 58a retains only the outer circumferential channel 66 from the inside of which extend a pair of transversely spaced, parallel inwardly directed retaining flanges 160 and 162, respectively, which are spaced a distance corresponding substantially to the thickness of the panel sheet 74. The panel sheet 74, in this instance, is retained within the simplified frame 58a by means of a plurality of rivets 164 spaced circumferentially around the panel assembly and extending through predrilled apertures in the panel sheet 74 and through both inner retaining flanges 160 and 162 as shown.

The simplified arrangement eliminates not only the vinyl panel sheet retaining moldings 76, while simultaneously considerably reducing the manufacturing cost of the aluminum extrusion for the frame, but at the same time also eliminates the corner screw fasteners 60 between the adjoining mitered frame sections, as shown in the previous embodiments of FIGS. 5 and 7.

This arrangement provides a permanent panel member assembly by means of the permanent rivet attachment of the panel sheets 74 to the frame 58a, with no possibility of interchanging the panel sheets 74. This modified construction is of relatively low strength characteristic and this is usable only for such building constructions as dog houses, green houses, small tool sheds, and the like.

As shown in FIG. 19, adjacent panel members 22a are connected to each other by means of the semi-rigid longitudinal joint members 106 as described in the previous embodiments.

The present panel members 22 and 22a can be assembled into four types of buildings: (1) a light, folding, portable structure, FIGS. 1, 1a, 3 and 10 to 13; (2) a more permanent structure than type 1, such as outdoor storage sheds for garden tools, snow mobiles, boats and so forth, FIGS. 2 and 9 a & b; (3) a yet more permanent structure such as summer recreation cottages, migrant camps and similar temporary shelters FIGS. 4, 8 and 14 to 16; and, (4) a semi-permanent,

low-strength structure (FIG. 17 to 19) for use as dog houses, storage bins and the like.

All four types use similar wall panel members 22 or 22a but the connections may differ.

Type 1 uses flexible, hinge-like panel connectors 142 (FIG. 3) which facilitate folding for portability.

Types 2 and 4 use rigid panel connectors 106 which do not permit folding such as shown in FIGS. 2,8,9a,9b, and 19.

Type 3 uses an extruded metal, post-like element 152 (FIGS. 14,15 and 16) between adjoining panel members in conjunction with the semi-rigid connectors 106 between adjoining individual panel members. This makes 2 panel, 3 panel and 4 panel right angle connections possible with one standard panel width. These connections are necessary in type 3 buildings where there is the necessity to sub-divide the overall space into rooms.

Although the present invention has been described in connection with several preferred embodiments, it will be obvious that various changes in detail and arrangement may be made without departing from the spirit and essential characteristic of the invention as defined by the scope in the appended claims.

I claim:

1. A prefabricated building construction comprised of a plurality of side walls connected to each other to form an enclosure; said side walls being composed of a selected plurality of prefabricated panel assemblies interconnected to each other along vertical lateral edge surfaces and conjointly along the top and bottom edges of adjoining panel assemblies to provide co-planar alignment of adjoining panel assemblies of each of said side walls; means to releasably join adjacent side walls to each other in angular disposed relationship to form corners of said building structure; said building structure further comprising a roof skeleton assembly composed of a plurality of elongated rafters one end of each being joined to the top of a corner joint between adjacent side walls; all of said rafters converging upwardly in a direction towards each other to form a common apex; and a plurality of diagonal truss members each of which being jointed to one of said rafters and to the upper edge of a side wall intermediate said corner joints; each of said plurality of panel assemblies forming said side walls comprising a rigid circumferential frame; each of said panel frames being provided with circumferential channels having an open slot extending circumferentially around said rigid frame along the outer edge thereof; said rigid frame of each said panel assembly being further provided with a pair of circumferential grooves disposed one on each side of said rigid frame in aligned opposed relationship, internal flange means extending inwardly of said grooves, and portions of the internal surface of said frame immediately adjacent said flange means being adapted to support a panel sheet in co-planar aligned relationship within said frame; means cooperatively engageable within lateral portions of said frame channels to releasably connect adjacent panel assemblies to each other to form said side wall and; means cooperatively engageable within said opposed circumferential side grooves of said frame to retain said panel sheets within said frame.

2. In the building structure of claim 1, said releasable panel assembly connecting means comprising a longitudinal flexible member, substantially H-shaped in cross-section, comprising an intermediate web portion and

opposed transverse flange portions; said flexible connecting member being adapted to be slidably inserted within the lateral portions of said circumferential channel of opposed frame members of adjacent panel assemblies to thereby lock said adjacent panel assemblies to each other.

3. In the building structure of claim 2, said longitudinal flexible connecting member being made of an elastomer material to permit flexing of said web portion between said adjacent panel assemblies to thereby permit positioning of the adjacent panel assemblies at a desired angular direction relative to each other.

4. In the building structure of claim 2, said circumferential channel around the top, bottom and lateral edges of said rigid frame member intersect each other at each of the corners of said rigid frame member; said intersection being defined by opposite angularly related enlarged slot portions to permit the insertion of said H-shaped flexible joint members into said channels along the lateral edges of said rigid frame members of adjoining panel assemblies.

5. In the building structure of claim 2, said corner joint between adjacent angularly disposed panel assemblies comprising a hinge assembly having a first hinge plate adapted for slidable insertion with the top channel portion of the circumferential channel of one panel assembly and a second hinge plate adapted for slidable insertion with the top channel portion of the circumferential channel of an adjoining panel assembly; the free ends of both of said hinge plates being pivotally attached to opposite ends of a bracket member extending between said adjoining panel assemblies; each of said hinge bracket members carrying a threaded rod for securing of the lower ends of one of said roof rafters thereto; and means securing said first and second hinge plates to said rigid frame members of said panel assemblies.

6. In the building structure of claim 22, the further provision of the longitudinally adjustable slotted bar member adapted for slidable insertion within the top channel portion of selected ones of said frame members of the panel assemblies forming said sides of said building; said longitudinally adjustable slotted bar member providing a means for longitudinal planar alignment of said plurality of panel assemblies; each of said bar members being provided with at least one threaded stud member for securing of the lower ends of a diagonal truss member thereto.

7. In the building structure of claim 1, said opposite pair of circumferential side grooves provided along both sides of said rigid frame member being provided each with opposed internal longitudinal ridge portions protruding inwardly of said grooves; said panel sheet retaining means comprising a molding having a substantial planar body portion and a central rib extending longitudinally along said planar body portion on one side thereof; said rib having a pair of flexible flange means disposed at opposite sides thereof to permit insertion of said rib means within said circumferential side grooves past said protruding opposed ridges; said flexible flange means being expandable after insertion for locking engagement with said opposed ridge means within said grooves to thereby lock said molding in said groove to securely retain said panel sheet within said frame.

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