United States Patent

Curtess

[15] **3,685,222**

[45] **Aug. 22, 1972**

[54] **PREFABRICATED BUILDING STRUCTURE**

[72] Inventor: **Joan Curtess,** 6706 Hayvenhurst #10, Van Nuys, Calif. 91406

[22] Filed: **June 10, 1970**

[21] Appl. No.: **45,090**

[52] **U.S. Cl.** **52/90,** 52/211, 52/274, 52/282, 52/580, 52/586

[51] **Int. Cl.**.....**E04c 1/10**

[58] **Field of Search**.....52/584, 586, 309, 580, 90, 52/234, 211, 274, 282, 285

[56] **References Cited**

UNITED STATES PATENTS

2,228,363	1/1941	Penney	52/586 X
2,316,819	4/1943	Tedrow	52/285 X
2,363,233	11/1944	Dalton	52/586
3,051,277	8/1962	Day, Jr.	52/586 X
3,310,917	3/1967	Simon	52/586 X
3,378,977	4/1968	Vervloet	52/584

FOREIGN PATENTS OR APPLICATIONS

1,222,214	1/1960	France	52/586

Primary Examiner—Alfred C. Perham
Attorney—William C. Babcock

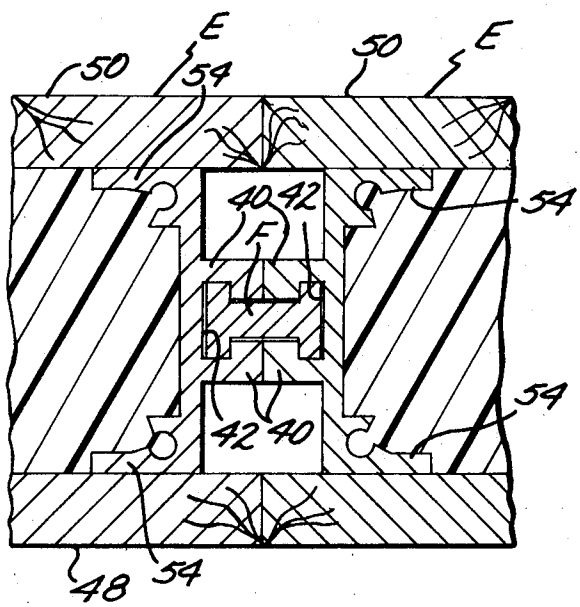
[57] **ABSTRACT**

A prefabricated building structure formed from extruded metallic elements and rectangular building members that are of such structure as to be removably keyed to said elements. Each panel includes a core of heat and sound insulating material inset in a hollow rectangular frame, either by fabrication or by injection of liquid and two rectangular panels bonded to the side surfaces of said frame and panels.

A first panel on each of said building members is adapted to be exteriorly positioned and is of a material substantially resistant to weathering conditions, with the second panel being of a suitable material to define a part of the interior surface of a building.

The building structure of the present invention formed from such elements and building members is sturdy, can withstand very substantial vertical and horizontal loads imposed thereon without damage thereto, is resistant to deteriorating warm, moist air, flame, and is not appreciably affected by the action of insects such as termites, or the like, and is lightening-proof.

11 Claims, 25 Drawing Figures



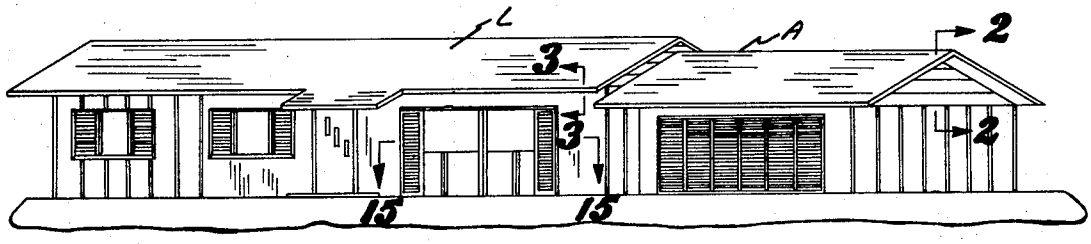


FIG.1

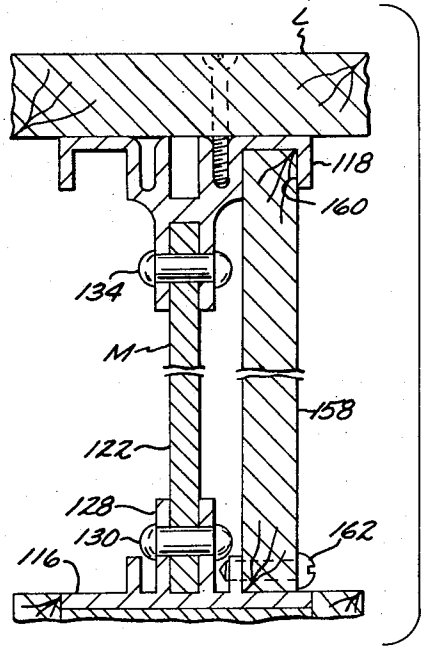


FIG.2

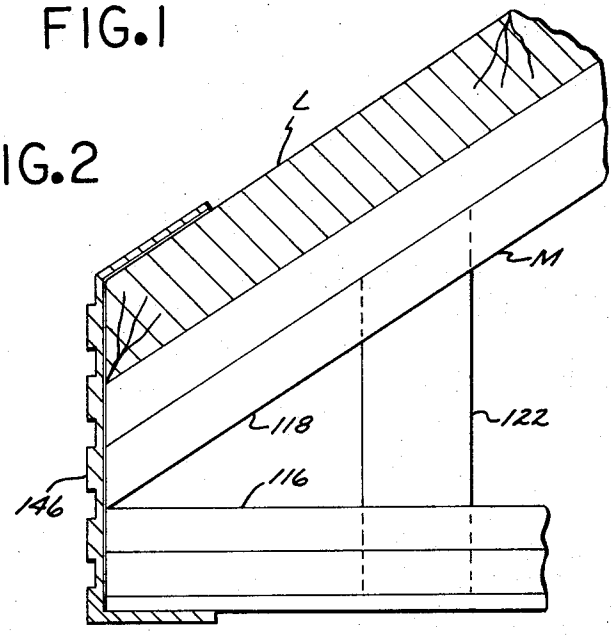


FIG.3

FIG.4

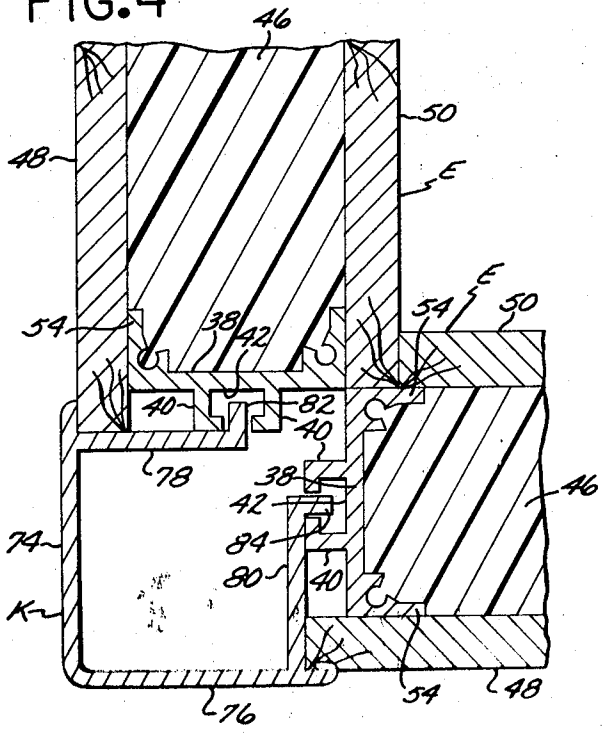
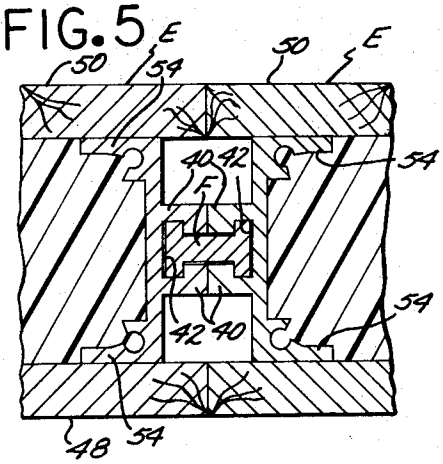
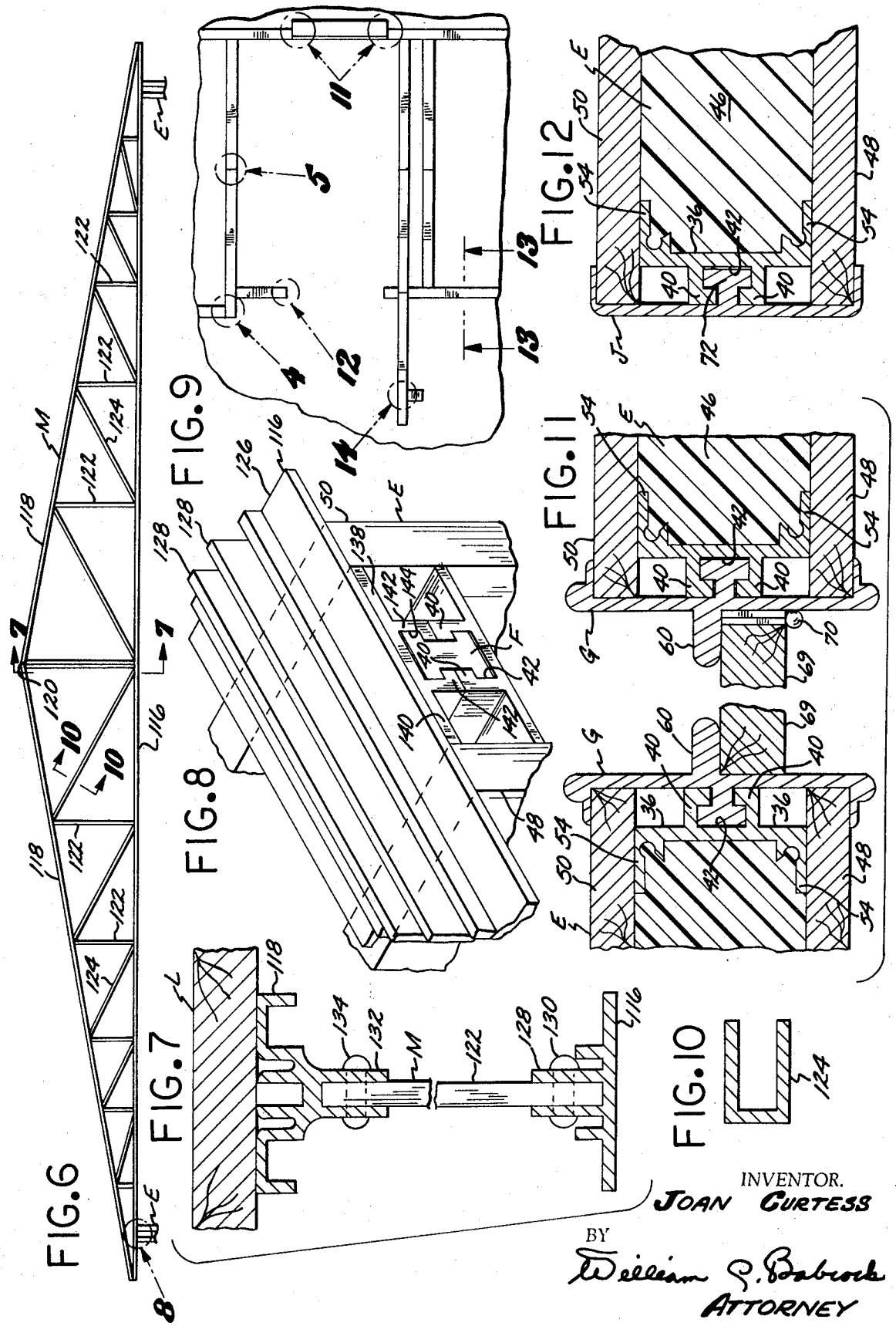


FIG.5



INVENTOR.
JOAN CURTESS

BY
William R. Babcock
ATTORNEY



INVENTOR.
JOAN CURTESS

BY
William S. Babcock
ATTORNEY

FIG.13

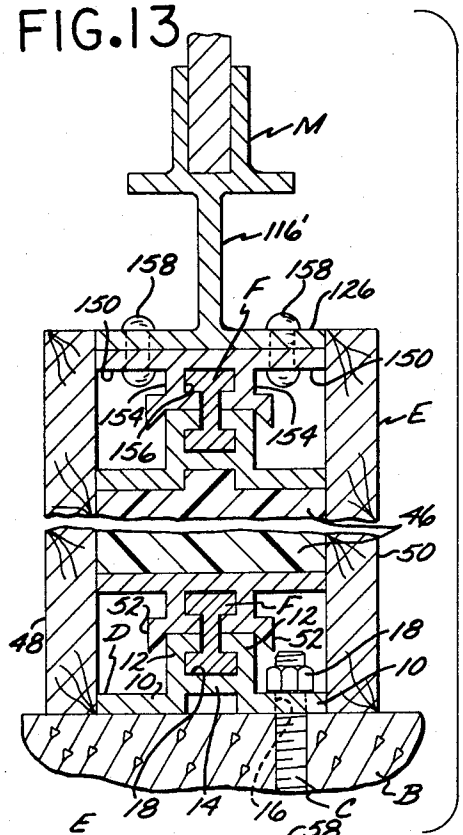


FIG.14

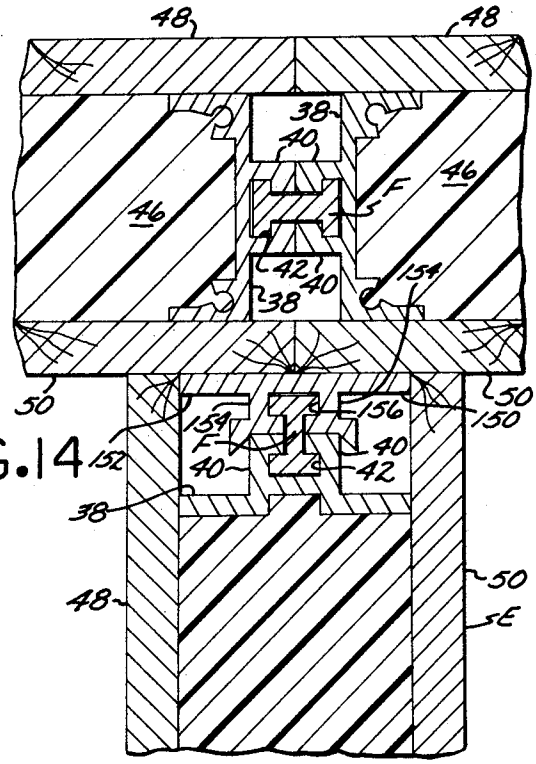
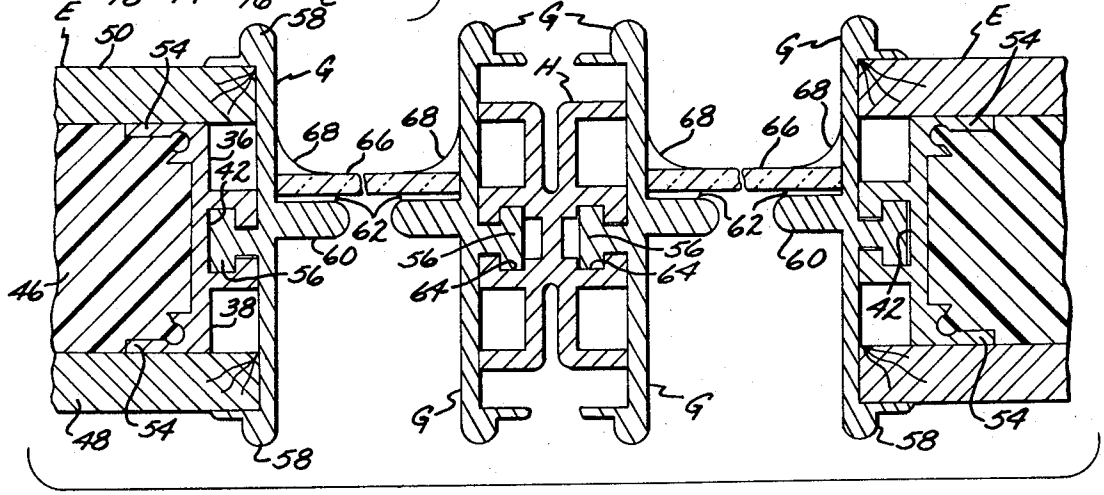


FIG.15



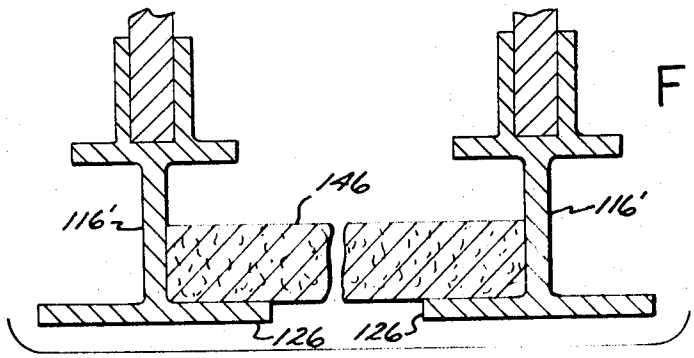


FIG.16

INVENTOR.
JOAN CURTESS
BY
William Q. Babcock
ATTORNEY

FIG.17

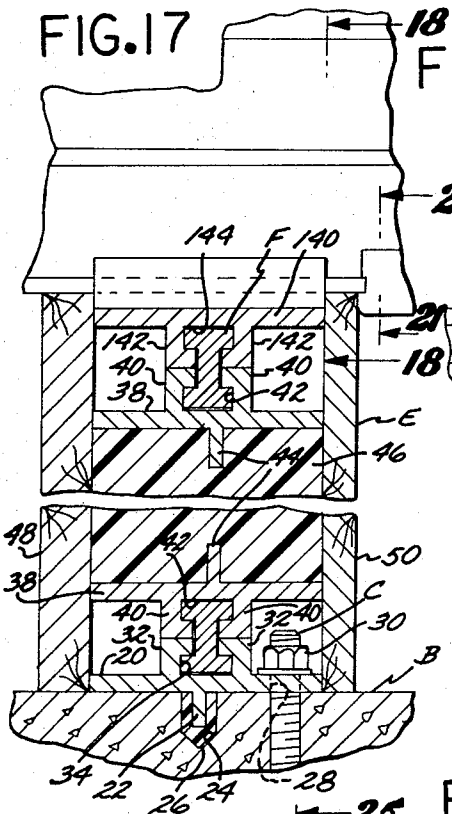


FIG.18

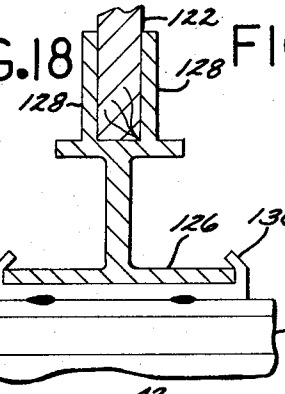
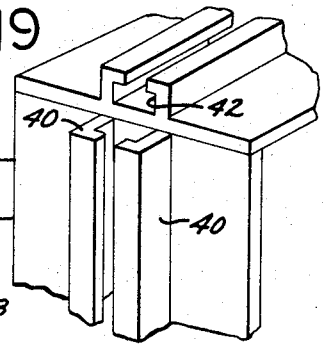


FIG.19



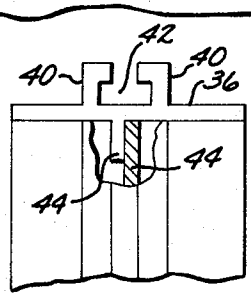


FIG.20

FIG.22

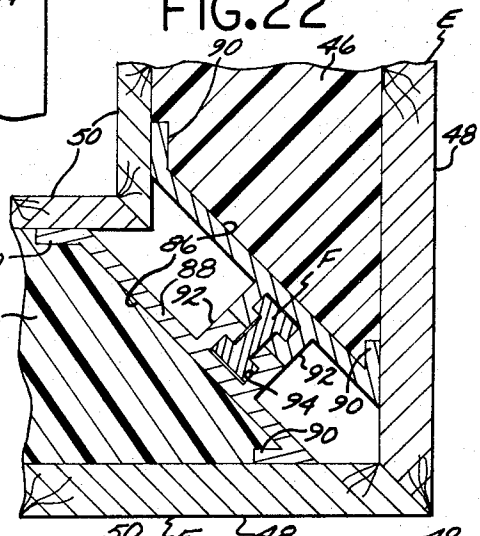


FIG.21

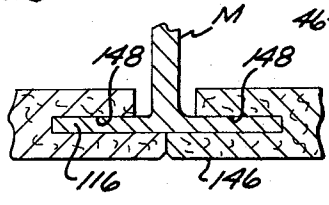


FIG.23

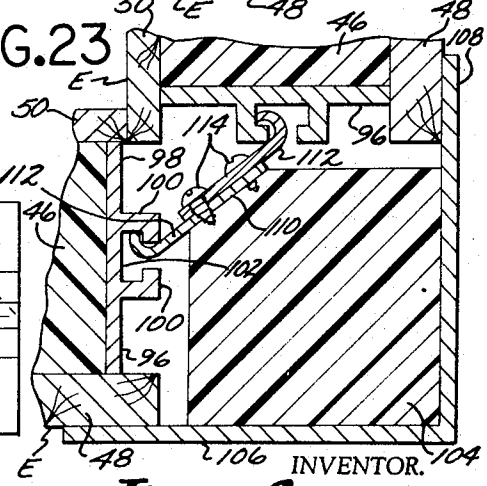
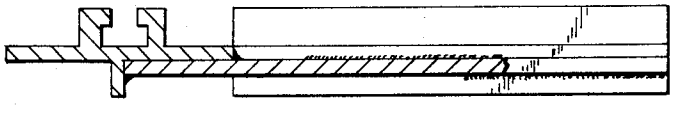


FIG.24

FIG.25



INVENTOR.
JOAN CURTESS
BY
William P. Babcock
ATTORNEY

PREFABRICATED BUILDING STRUCTURE

BACKGROUND OF THE INVENTION

1. Field of the Invention

A prefabricated building structure defined by a number of elongate extruded elements and heat and sound insulating panels embodying elements of electrical and plumbing that are removably keyed thereto to provide a building that is relatively inexpensive and simple and easy to erect.

2. Description of the Prior Art

In the past, numerous efforts have been made to provide prefabricated building structures that are of simple structure, inexpensive, having exceptional housing features and may be erected by relatively unskilled personnel without the necessity of taking specific measurements or the cutting and sawing of the component parts thereof, and in no way being detectable as a prefabricated building. Such prior efforts have failed, and heretofore the demand for prefabricated building structures that provide such operational advantages remained unfulfilled.

SUMMARY OF THE INVENTION

A plurality of preformed building members and extruded metallic elements that may be removably keyed together to provide a sturdy building of simple structure that is resistant both as to insects and the deteriorating action of moist, warm air, and also which resists heavy horizontal and vertical loads such as high winds and heavy deposits of snow.

A major object of the present invention is to provide an assembly of preformed, generally rectangular building members and elongate extruded elements that are adapted to be removably keyed together in a predetermined pattern to provide a building structure, with said assembly being performed without the necessity of taking measurements or the nailing, cutting or sawing of the building members or other component parts.

Another object of the invention is to supply a prefabricate building structure in which all of the building members and elements from which it is assembled are manufactured at a central location that may be remote from the job side, with the building members and elements being distributed to the individual locations where the buildings are to be erected in a finished condition, ready for assembly.

A still further object of the invention is to furnish a prefabricated building of relatively simple mechanical structure that is easy to erect, will sustain heavy horizontal and vertical loading, is substantially impervious to the deteriorating effects of water and moist air, and is highly resistant to the action of termites and other insects.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of a residential building constructed from rectangular components and elongate extruded elements removably keyed together;

FIG. 2 is a fragmentary vertical cross-sectional view of the residence shown in FIG. 1, taken on the line 2—2 thereof;

FIG. 3 is a fragmentary vertical cross-sectional view of the building shown in FIG. 1, taken on the line 3—3 thereof;

FIG. 4 is a horizontal cross-sectional view of the adjacent ends of two vertical building members that are disposed normal to one another and which cooperate with an extruded vertical element to define a corner of the building shown in FIG. 9;

FIG. 5 is a horizontal cross-sectional view of the adjacent ends of two vertical building members that are keyed together to form a part of a wall in the building shown in FIG. 9;

FIG. 6 is a side elevational view of one of the roof-supporting trusses used in the fabrication of the building shown in FIG. 1;

FIG. 7 is a vertical cross-sectional view of the truss shown in FIG. 6, taken on the line 7—7 thereof;

FIG. 8 is a fragmentary perspective view of an inner wall in the building shown in FIG. 1 keyed to the lower portion of the truss illustrated in FIG. 7;

FIG. 9 is a top plan view of an interior portion of the building shown in FIG. 1;

FIG. 10 is a transverse cross-sectional view of a portion of the truss shown in FIG. 6, taken on the line 10—10 thereof;

FIG. 11 is a horizontal cross-sectional view of two spaced vertical building members pivotally supporting a door therebetween as identified by the numeral 11 in FIG. 9;

FIG. 12 is a horizontal cross-sectional view of an end portion of a vertical building member that serves as an inner wall, as identified by the numeral 12 in FIG. 9;

FIG. 13 is a vertical cross-sectional view of a building member supported on a concrete slab, taken on the line 13—13 of FIG. 9;

FIG. 14 is a horizontal cross-sectional view of the junction of an outer and inner wall, identified by the numeral 14 in FIG. 9;

FIG. 15 is a horizontal cross-sectional view of an outer wall portion of the building shown in FIG. 1, taken on the line 15—15 thereof;

FIG. 16 is a fragmentary vertical cross-sectional view of the lower portions of two trusses and illustrating the manner by which a ceiling panel is supported therebetween;

FIG. 17 is a vertical cross-sectional view of a concrete slab-supported building panel, to the lower portion of which a truss is connected;

FIG. 18 is a fragmentary vertical cross-sectional view of the lower portion of a truss and the supporting building panel therefor, taken on the line 18—18 of FIG. 17;

FIG. 19 is a perspective view of a corner portion of the extruded frame forming a part of one of the building members;

FIG. 20 is a transverse cross-sectional view of a portion of one of the frames;

FIG. 21 is a fragmentary vertical cross-sectional view of a lower portion of a truss supporting the adjacent edge portions of two ceiling members;

FIG. 22 is a horizontal cross-sectional view of the adjacent end portions of two normally disposed vertical building members which cooperatively define a corner of the building shown in FIG. 1;

FIG. 23 is a horizontal cross-sectional view of the adjacent end portions of two normally disposed vertical building members that, together with a vertical post, cooperatively define a corner of the residence shown in FIG. 1;

FIG. 24 is a top plan view of the adjacent end portions of the normally disposed vertical building members which cooperate to define a corner; and

FIG. 25 is a vertical cross-sectional view of a portion of the building, taken on the line 25—25 of FIG. 24.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

A building A in the form of a residence is shown in FIG. 1, which is an example of a prefabricated building that may be erected by use of building members and elements that embody the present invention. The building A is preferably erected on a concrete slab B.

At the time the concrete slab B is poured, a number of stud bolts C are disposed in longitudinally spaced relationship to be partially embedded in the concrete and bonded thereto, with portions of the stud bolts extending upwardly from the concrete as shown in FIG. 13. A number of lengths of extruded sill members D are provided, and are supported on the upper surface of the concrete slab in such a manner as to define the lower extremities of the exterior and interior walls of the building A according to a predetermined plan, such as shown in FIG. 12.

Each sill D, as may best be seen in FIG. 13, has a transverse cross section that includes two spaced flanges 10 from which inverted L-shaped members 12 project upwardly at the adjacent extremities thereof, with the L-shaped members being connected by a transverse web 14. One of the flanges 10 (FIG. 13) has a number of spaced openings 16 formed therein through which upper portions of the bolts C extend. The upper portions of the bolts C are are engaged by nuts 18 to secure the sill members D to the concrete slab B. The upper portions of the L-shaped members 12, together with the web 14, cooperatively define a longitudinally extending space 19 of inverted T-shaped transverse cross section.

An alternate form of sill member D is shown in FIG. 17 that includes a single flange 20 that rests on the upper surface of the concrete slab B, and has a continuous rib 22 projecting downwardly into recesses 24 formed in the slab B.

The recesses 24 are filled with a commercially available mastic material 26 that seals with the rib 22. One side of the flange 20 has a number of longitudinally spaced openings 28 formed therein through which the upper portion of the bolts C extend. The upper portion of the bolts C are engaged by nuts 30, as may be seen in FIG. 17. Two laterally spaced members 32 of inverted L-shaped cross section project upwardly from flange 20 and cooperate with this flange to define a longitudinally extending space 34 of inverted T-shaped cross section.

Both the exterior and interior walls of the building structure A are defined by rectangular building members E disposed in side-by-side relationship to define a continuous wall structure, as will hereinafter be described in detail. Each building member E includes a hollow rectangular frame 36, as may best be seen in FIGS. 17 and 19.

Each frame 36 is defined by pairs of end pieces and side pieces of identical transverse cross section. Each side and end piece includes a flat rigid strip 38 provided with two laterally spaced projecting members of inverted L-shaped transverse cross section 40 that cooperate with the strip 38 to define a longitudinally extending space 42 of T-shaped transverse cross section. The strips 38 are preferably provided with ribs 44 which extend inwardly therefrom. The space defined within the confines of the frame 36 is filled with a core 46 of a material that has high sound and heat insulating values. The core 46 is anchored to the frame 36 by the ribs 44, as well as a bonding agent if required.

The sides and ends of the frame 36 are formed from an extruded metallic material that is preferably light in weight and impervious to deterioration when exposed to warm, moist air, such as aluminum or the like. The ribs 44, in addition to serving to maintain the core 46 within the confines of the frame 36, also have overlapping portions that are bonded to one another by conventional means to hold the side walls and end walls of the frame 36 together as shown in FIG. 20.

First and second rectangular panels 48 and 50, respectively, are bonded to the exterior surfaces of the frame 36 and core 46 (FIG. 17), with the panels 48 and 50 being of such height as to extend downwardly and upwardly relative to the frame, as illustrated in FIGS. 5, 11, and 12. Panels 48 and 50 also extend horizontally beyond the frame 36 (FIG. 5) to permit the vertical edges of the panels in adjoining building members E to be in abutting relationship when the panels are assembled into a wall structure.

If the first panel 48 is to be exteriorly disposed, it should be formed from a sheet material that is weather-resistant. The second interior panel 50 is preferably formed of sheet material of decorative appearance, or to which a decorative surface coating (not shown) may be applied.

Should it be desired, the lower horizontal frame 36 may have two laterally spaced angular extensions 52 formed on the L-shaped members 40, as shown in FIG. 13, to facilitate centering of one of the building members E on the sill D. Modified strips 38 may be used with frame 36 if desired, in which the strips have two laterally spaced flanges 54 extending inwardly towards one another which serve to hold the core 46 in a fixed relationship with the frame 36. This construction is illustrated in FIG. 15. The building members E (FIG. 13) are in longitudinal alignment with the sill members D and extend thereover, with the lower edges of the first and second panels 48 and 50 resting on or adjacently disposed to the upper surface of the concrete slab B.

The interior surfaces of the first and second panels 48 and 50 are adjacently disposed to the outer ends of the sill member flanges 10. A number of elongate keys F are provided that are of double T-shaped transverse cross section, and of such dimensions as to snugly engage the interior surfaces of the spaces 18 and 42, as shown in FIG. 13, to removably secure each building member E to a sill member D.

When it is desired to provide a window in a wall structure defined by a number of the building members E disposed as may be seen in FIGS. 13 and 15, a space of substantial width is left between two of the building members. In FIG. 15 a structure is shown in which two separate windows are provided in the space between two separated building members E. The adjacent vertical edges of the building members E are engaged by T-shaped keys 56 forming a part of extruded metallic sash members G. The ends 58 of each sash member G over-

lap exterior end surfaces of the first and second panels **48** and **50**, respectively. A rib **60** projects from each sash member G that supports a longitudinally extending resilient sealing member **62**.

A vertical extruded spacer H is provided, as may be seen in FIG. **15**, that defines two vertically extending spaces **64** that are adapted to snugly and slidably receive keys **56** to support the sash members G from the spacer. Two panes of glass **66**, or of other transparent material, extend between pairs of the sash members G (FIG. **15**), and are held in abutting contact with sealing members **62** by putty **68**, or the like.

When it is desired to provide a door in a wall defined by the building members E, a space is left between two of the building members and the adjacent spaced vertical edges of the building members are removably engaged by two of the sash members G (FIG. **11**). A door **69** is provided that is of such width as to span the distance between the two adjacently disposed sash members G. The door **69** is pivotally supported from one of the sash members G by hinges **70**, as shown in FIG. **11**, and when the door is in a closed position, the edge thereof opposite the hinges are in abutting contact with one of the ribs **60**. The door **69** may be provided with conventional locking means (not shown), to removably hold the door in the closed position relative to the rib **60** which serves as the door jamb.

When an interior wall of the building structure A terminates at the point identified by the numeral **12** in FIG. **9**, an end member J is provided that has two short flanges projecting therefrom to engage the free exterior end surfaces of the panels **48** and **50**, as illustrated in FIG. **12**. A longitudinally extending key **72** of transverse T-shaped cross section is provided in end member J and snugly engages the space **42** to removably secure the end member to the building member E.

The building members E (FIG. **5**) are removably held together with the panels **48** and **50** in abutting relationship by one or more of the keys F which snugly and slidably engage the spaces **42**. An example of such abutting relationship of the panel E is shown by the numeral **5** in FIG. **12**. When it is desired to form a corner in the building structure A, as shown in FIG. **12** and identified by the numeral **4**, two of the building members E are disposed normal relative to one another, with an end portion of one of the panels **50** being severed therefrom to permit the other of the panels to abut against one of the flanges **54**.

The space defined between the ends of the two normally disposed building members E is filled by a vertically extending corner member K having two normally disposed walls **74** and **76** from which two legs **78** and **80** extend inwardly, with end extensions **82** and **84** projecting into the spaces **42**. Portions of the wall **74** and **76** are bonded to the exterior end surfaces of the panels **48** by conventional means to hold the corner member in position relative to the two wall members E.

A first alternate form of corner section in a wall is shown in FIG. **22**. The two building members E at their adjoining edges are cut at an angle of 45°, and two abutting end pieces **86** are provided on the building members, with each end member including a web **88** that is secured to the panels **48** and angularly disposed flange **90**. Two laterally spaced inverted L-shaped members **92** project from web **88** and define a T-shaped space **94** therebetween. One or more keys F concurrently engage the two spaces **94** and serve to removably hold the two building members E in a corner-defining position as illustrated in FIG. **22**.

A second alternate means of defining a corner at the junction of two building members E disposed in a direction normal to one another is shown in FIG. **23**. The adjoining ends of the two members E are defined by end pieces **96** that include a web **98** which extends between the panels **48** and **50**. Each of the webs **98** has two laterally spaced members **100** of L-shaped cross section projecting therefrom, and the L-shaped members **100** cooperate with web **98** to define a longitudinally extending space **102** of T-shaped cross section. A corner post **104** is located between the ends of the two building members E (FIG. **23**) with the post **104** supporting two normally positioned walls **106** and **108** which overlap the end portion of the panels **48**. The post **104** is provided with a truncated vertically extending exterior surface **110** on which two clips **112** are supported by screws **114**, and the clips removably engage the spaces **102**.

The roof L of building structure A (FIG. **1**) is supported by a truss M of the configuration shown in FIG. **6**. Truss M includes a lower horizontal beam **116** that rests on the upper surface of the building members E defining the side walls of the building structure A.

Two angularly disposed beams **118** extend upwardly from the beam **116** to define an apex **120**. Struts **122** extend between beams **116** and **118**, and these struts are connected by reinforcing members **124**. The lower beam **116** is defined by a flange **126** from which two spaced legs **128** extend upwardly. The lower end of a strut **122** is situated between the legs **128**. Each strut **122** is connected to a pair of the legs **128** by a rivet **130**.

Each beam **128** is formed as an extruded section and includes two legs **132** that have the upper ends of a strut **122** located therebetween and connected thereto by a rivet **134**. The outer ends of beam **110** are slidably inserted in a clip **130** (FIG. **18**), which clip by welding, or the like, is rigidly secured to a connecting member **138**. Connecting member **138** includes a web **140** from which two laterally spaced L-shaped members depend (FIG. **17**), with these members and web cooperatively defining a longitudinally extending space **144** of T-shaped transverse cross section that is in vertical alignment with a space **42**.

One or more keys F are caused to concurrently engage the spaces **42** and **144** to secure the connecting member **138** and beam **116** to a wall section defined by building members E. When it is desired to secure an upper portion of a building member E to the lower beam **116** of the truss M, one of the connecting members **138** is secured to the under side and in vertical alignment with the upper portion of the building member E, as illustrated in FIG. **8**.

A preformed cornice **146** is shown in FIG. **3** that engages the roof L and extends between end portions of the trusses M. Means for forming a junction between a first wall defined by a number of building members E and a second wall normally disposed relative to the first wall is shown in FIGS. **12** and **14**. A vertically disposed connector **150** is bonded to two panels **50** of the building members E in the first wall at the junction of the

panels. Connector **150** includes an elongate strip **152** from which two spaced members **154** of L-shaped transverse cross section project and a vertically extending space **156** of T-shaped cross section therebetween. One or more keys F concurrently engage space **156** and space **42** defined in the end building member E of the second wall. The connector **150** may be secured to the flange **126** by rivets **158**, as shown in FIG. **13** to secure the upper portion of a building member E to a truss M.

When the truss M is disposed at the end of the building structure A, the truss can support a wall section **159**, as shown in FIG. **2**. The wall section **159** interlocks along the top edge thereof in a recess **160** formed in the truss M, and the lower portion of the wall section is secured to the truss by a number of screws **162**.

I claim:

1. A plurality of vertically positionable building members capable of being mounted on a horizontal sill member to support a roof load on the upper portions of said building members, said building members cooperating to define a continuous wall section, each of said building members including:

a. two rectangular, laterally spaced, transversely aligned panels that have vertical side edges, and horizontal top and bottom edges;

b. a substantially rectangular core of a light weight sound and heat insulating material that extends between said panels, said core of substantially less size than said panels;

c. a rigid load supporting rectangular frame formed from a plurality of extruded metallic members that encircle said core and are bonded to the interior surfaces of said panels, with each of said frames including a top and bottom member and two side members that are positioned inwardly a substantial distance from the vertical side edges of said panels as well as the top and bottom edges thereof, and each of said side members having a pair of laterally spaced projections of L-shaped transverse cross section extending outwardly therefrom that cooperate to define a vertically extending space of T-shaped transverse cross section, which pair of projections of one building member abut against said pair of projections of the building member next adjacent thereto when the vertical edges of said building members are in abutting contact; and

d. a plurality of first elongate keys of double T-shaped transverse cross section, with each of said keys engaging two of said vertically extending spaces of T-shaped transverse cross section to removably hold said building members in longitudinal alignment with said vertical edges of said panels in abutting contact to define a continuous wall, and said frame supporting the load imposed on the upper portion thereof from said sill without said core or panels being subjected to any appreciable portion of said load.

2. A first plurality of vertically positioned building members disposed to form a wall as defined in claim **1**, which wall is disposed above a horizontal foundation concrete slab, which wall and slab further include:

e. an elongate extruded metallic sill member secured to the upper surface of said slab and at least as long as said wall, with said sill member including a first pair of laterally spaced projections of L-shaped transverse cross section that extend upwardly therefrom and cooperatively define a horizontal space of T-shaped transverse cross section;

f. a plurality of second pairs of laterally spaced projections of L-shaped transverse cross section that extend downwardly from said bottom members of said frames and rest on the upper surfaces of said first projections when said building members are disposed to form said first wall portion, with said second pairs of projections cooperatively defining a longitudinally extending space of T-shaped transverse cross section; and

g. a second plurality of elongate keys of double T-shaped transverse cross section that concurrently engage said spaces of T-shaped cross section defined by said first and second pairs of projections to connect said wall to said sill member.

3. A first plurality of vertically positioned building members disposed to form a wall above a sill member as defined in claim **2**, which sill member further includes:

h. at least one protuberance that extends downwardly from said sill member into a recess of greater width and depth formed in said slab; and

i. a bonding agent that fills said recess and contacts said rib to affix said sill member to said slab.

4. A first plurality of vertically positioned building members and a sill member as defined in claim **2** to define a first portion of a wall in combination with a second plurality of vertically positioned building members, together with a second sill member which comprise a second portion of a wall that is longitudinally aligned with said first wall portion and spaced therefrom, which second wall portion is of the same structure as that of said first wall portion, which combination further includes:

h. two elongate vertically positioned end pieces of substantially the same width as the thickness of said building members, in which end pieces longitudinally extending third keys of T-shaped transverse cross section extend from first sides thereof, with said third keys slidably engaging vertical spaces of transverse T-shape defined by said projections on the sides of said building members most adjacent to the space between said first and second wall portions, and in which end pieces longitudinally aligned vertical ribs extend inwardly towards one another;

i. a pane of glass that spans said space between said first and second wall portions, the vertical edge portions of which are in abutting contact with said ribs; and

j. means for holding said pane of glass in abutting contact with said ribs to define a window.

5. A first plurality of vertically positioned building members and a sill member as defined in claim **2** to define a first portion of a wall in combination with a second plurality of vertically positioned building members and a second sill member comprising a second portion of a wall that is longitudinally aligned with said first wall portion and spaced therefrom, with said second wall portion being of the same structure as said first wall portion, which combination further includes:

h. two elongate vertically positioned end pieces of substantially the same width as the thickness of

said building members, in which end pieces longitudinally extending third keys of T-shaped transverse cross section extend from first sides thereof, with said third keys slidably engaging vertical spaces of transverse T-shape defined by said projections on the sides of said building members most adjacent to the space between said first and second portions, and in which end pieces longitudinally aligned vertical ribs extend inwardly towards one another;

i. a door of sufficient width to span the distance between said first and second wall portions;

j. hinge means for pivotally supporting the same from a first of said end pieces, with a vertical edge portion of said door when in a closed position abutting against said rib that projects from a second of said end pieces to serve as a jamb.

6. A first plurality of vertically positioned building members and a sill member as defined in claim **2** to define a first portion of a wall in combination with a second plurality of vertically positioned building members and a second sill member that comprise a second portion of a wall that is in longitudinal alignment with said first wall portion and spaced therefrom, with said second wall portion being of the same structure as said first wall portion, which combination further includes:

h. two elongate positioned end pieces of substantially the same width as the thickness of said building members, in which end pieces longitudinally extending third keys of T-shaped transverse cross section extend from first sides thereof, with said third keys slidably engaging vertical spaces of transverse T-shape defined by said projections on the sides of said building members most adjacent to the space between said first and second wall portions, with said end pieces having longitudinally aligned vertical ribs that extend inwardly towards one another;

i. a vertical divider intermediately positioned in the space between said first and second wall portions, in which divider two oppositely extending ribs that are longitudinally aligned with said ribs on said end pieces;

j. two panes of glass, the vertical edge portions of which are in abutting contact with said ribs on said end pieces and on said divider; and

k. means for holding said panes of glass in contact with said ribs to define two windows.

7. A first plurality of vertically positioned building members and a sill member as defined in claim **2** to define a first portion of a wall in combination with a second plurality of vertically positioned building members and a second sill member that comprises a second portion of a wall that is disposed in a direction normal relative to said first wall portion and cooperates therewith to define a corner, with said side members most adjacent to one another being parallel and at angles of substantially 45° relative to the exterior surfaces of said first and second wall portions, with said pairs of projections on said adjacent side members being in abutting contact and so held by a portion of said first keys.

8. A first plurality of vertically positioned building members and a sill member as defined in claim **2** to define a first portion of a wall in combination with a second plurality of vertically positioned building members and a second sill member that comprises a second portion of said wall that is normally disposed to said first wall portion and cooperates therewith to define a corner, with the inner vertical edges of said first and second wall portions being in abutting contact at said corner, and with the corner created by said first and second wall portions defining a vertically extending space of substantially square transverse cross section, which combination further includes:

h. a vertical post positioned is said space, with the first and second side surfaces of said post being parallel to and in alignment with the outer surfaces of said first and second wall portions;

i. a vertically extending member of L-shaped transverse cross section bonded to said first and second side surfaces and overlapping adjacent exterior vertical edge sections of said first and second wall portions; and

j. clamp means secured to said post for engaging said pairs of projections on said first and second wall portions that are most adjacent to one another for maintaining said post and first and second wall portions in fixed relationship at said corner.

9. A first plurality of vertically positioned building members and a sill member as defined in claim **2** to define a first portion of a wall in combination with a second plurality of vertically positioned building members and a second sill member that comprise a second wall portion, which first and second wall portions are parallel and in laterally spaced relationship, with said second wall portion being of the same structure as said first wall portion, which combination further includes:

h. a plurality of spaced roof-supporting members disposed above said first and second wall portions and of sufficient length to span the distance therebetween;

i. first and second elongate rigid parallel members secured to the lower end surfaces of said roof-supporting members and vertically aligned with said first and second wall portions, with each of said rigid members including a first pair of laterally spaced projections of L-shaped transverse cross section that extend downwardly therefrom, with each of said pairs cooperatively defining an elongate space of T-shaped transverse cross section;

j. a plurality of second pairs of laterally spaced projections of L-shaped transverse cross section that extend upwardly from said top members in said first and second wall portions, which projections cooperate to define two longitudinally extending spaces of T-shaped transverse cross section, with said first projections resting on said second projections;

k. a second plurality of elongate keys of double T-shaped transverse cross section that concurrently engage said spaces of T-shaped transverse cross section defined by said first and second pairs of projections to connect said roof-supporting members to said first and second wall portions; and

l. a roof-defining section held in a fixed position above said first and second wall portions by said roof-supporting members.

10. A combination as defined in claim **9** wherein said roof-supporting members comprise trusses, the lower

horizontal portion of each of which trusses includes a horizontal flange, which combination further includes:

m. a plurality of sheet ceiling panels that are held in fixed positions above said slab by engaging said flanges.

11. A combination as defined in claim **10** which further includes a third wall portion located intermediately between said first and second wall portions and parallel thereto, with said third wall portion being of the same structure as said first wall portion, which combination further includes:

m. a third rigid member connected to the lower portions of said trusses intermediate the ends thereof and in vertical alignment with said third wall portion, with said third wall portion being of the same structure as said first wall portion, which combination further includes:

n. a third rigid member connected to the lower portions of said trusses intermediate the ends thereof and in vertical alignment with said third wall portion, which third rigid member includes a third pair of depending L-shaped projections that extend the length thereof, with said third pair of projections cooperatively defining an elongate third space of transverse T-shaped cross section;

o. a plurality of fourth pairs of projections that extend upwardly from the top frame members of said third wall portion and cooperate to define a plurality of longitudinally aligned fourth spaces of transverse T-shaped cross section, with said third and fourth projections being in abutting contact; and

p. a plurality of keys of double T transverse cross section that concurrently engage said T-shaped spaces defined by said third and fourth projections to hold the upper end of said third wall portion in a fixed relationship with said truss and said first and second wall portions.

* * * * *