

Feb. 21, 1967

A. F. FERREIRA

3,304,683

WALL STRUCTURE

Filed Feb. 5, 1964

3 Sheets-Sheet 1

FIG. 5.

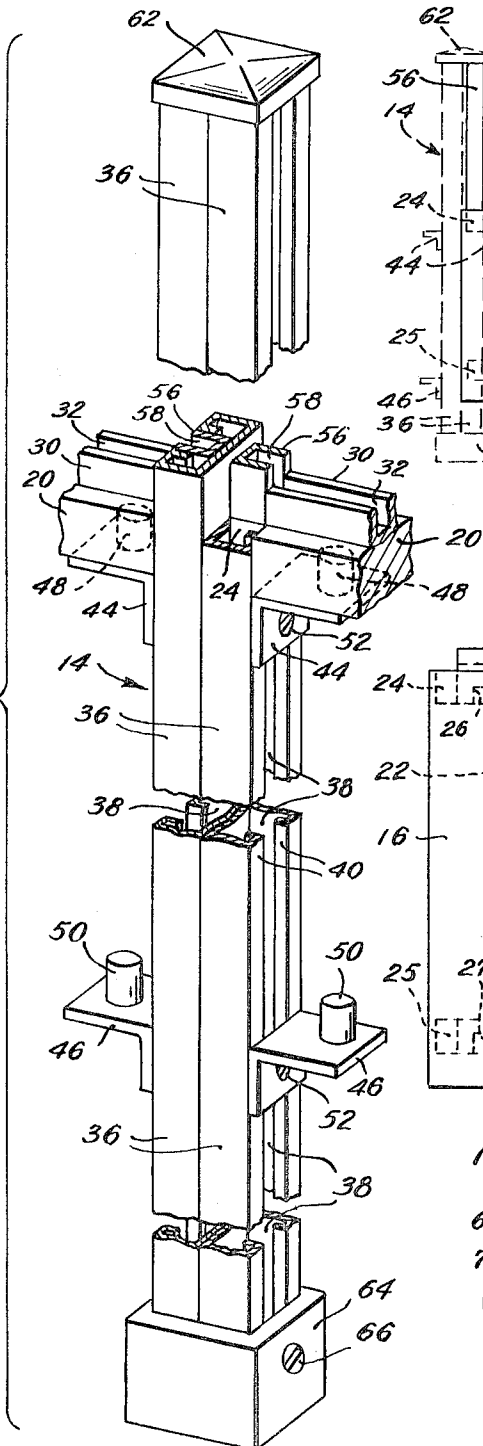


FIG. 1.

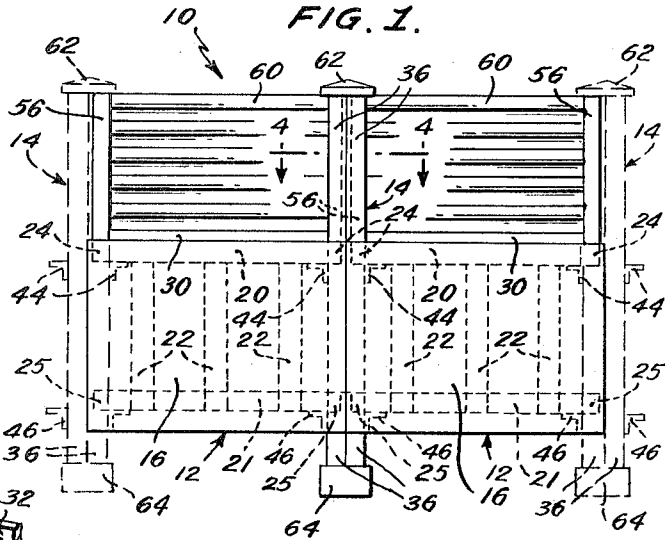


FIG. 2.

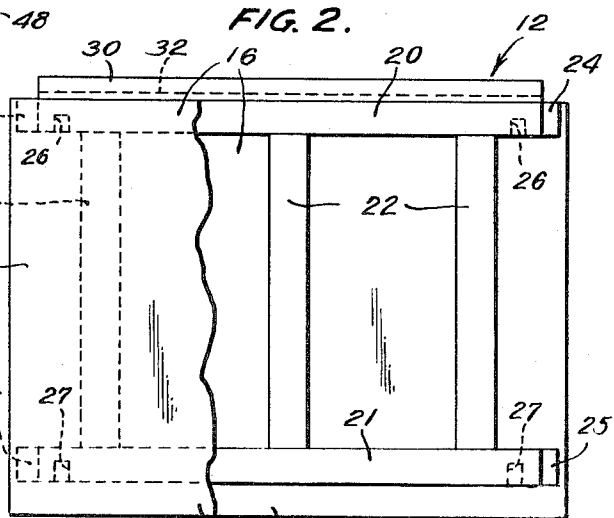
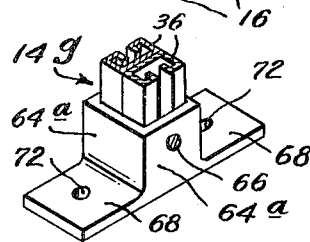


FIG. 5a.



INVENTOR.

ANTHONY F. FERREIRA,

BY

Thorndike M. Gunn
ATTY.

WITNESS: *Edward J. Connors Jr.*

Feb. 21, 1967

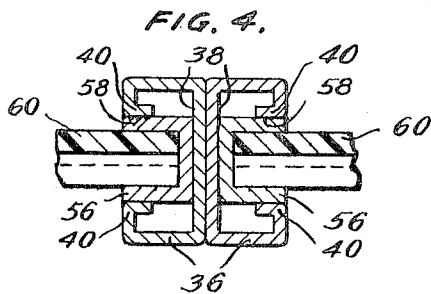
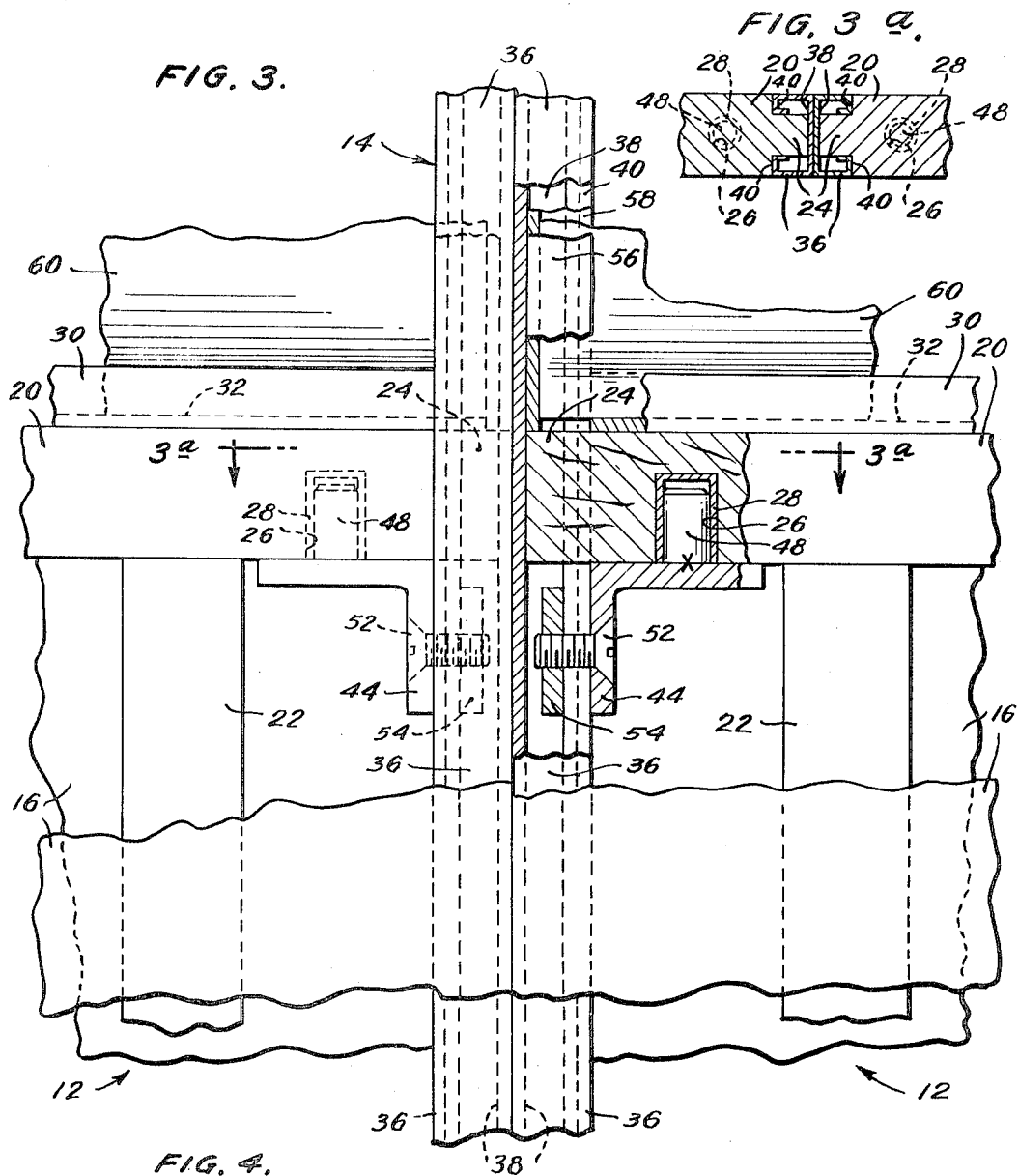
A. F. FERREIRA

3,304,683

WALL STRUCTURE

Filed Feb. 5, 1964

3 Sheets-Sheet 2



INVENTOR.

ANTHONY F. FERREIRA,

BY

Edward J. Connors Jr.

ATT'Y.

WITNESS: Edward J. Connors Jr.

Feb. 21, 1967

A. F. FERREIRA

3,304,683

WALL STRUCTURE

Filed Feb. 5, 1964

3 Sheets-Sheet 3

FIG. 6.

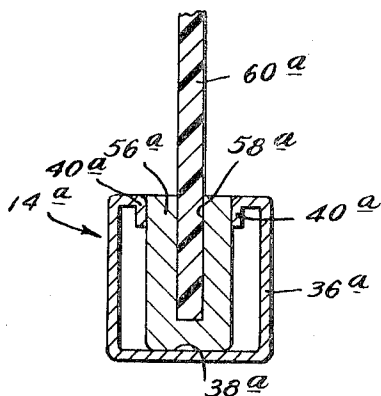
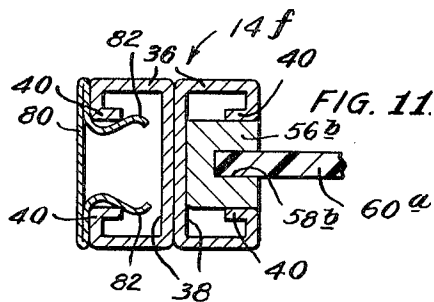
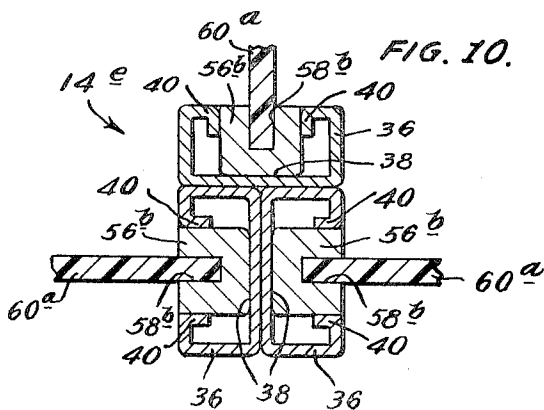
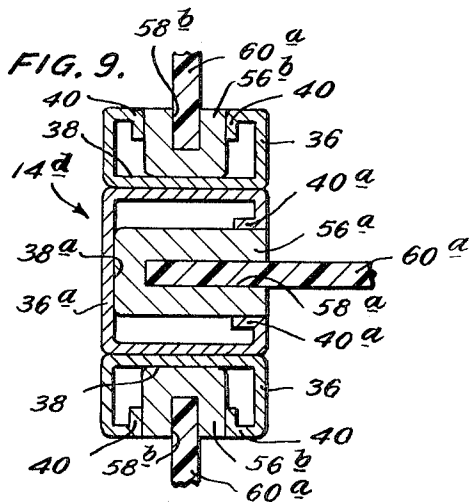
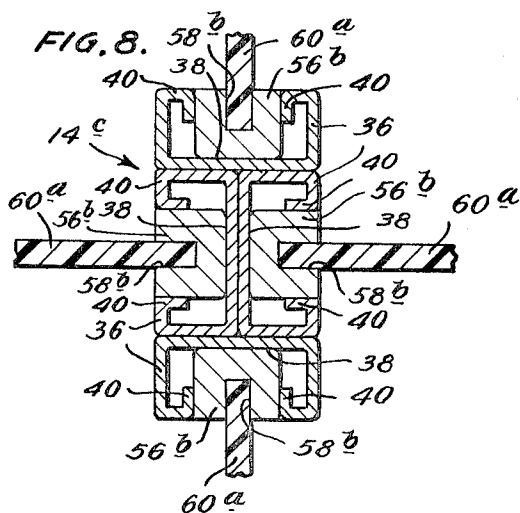
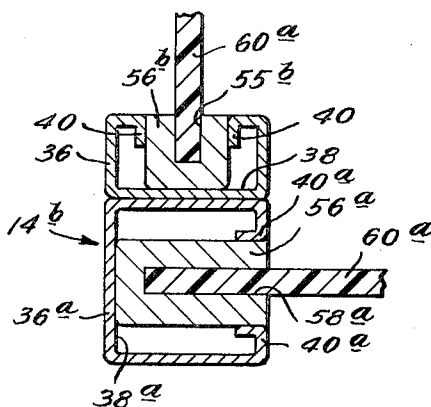


FIG. 7.



INVENTOR.

ANTHONY F. FERREIRA,

BY

Anthony F. Ferreira

ATT'Y.

WITNESS: Edward J. Connors Jr.

1

3,304,683

WALL STRUCTURE

Anthony F. Ferreira, Attleboro Falls, Mass., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Feb. 5, 1964, Ser. No. 342,635

5 Claims. (Cl. 52-497)

This invention relates to a new and improved wall structure which is particularly adapted for, although not limited to, use as a portable partition for forming an office cubicle, room divider or the like.

Among the several objects of the invention is the provision of a new and improved wall structure which is of rugged construction and yet is simple in design, relatively light in weight and easily manufactured; the provision of a wall structure which is portable and whose component parts are easily assembled and aligned for forming a wall structure; and the provision of a wall structure which contains a minimum number of critical parts, which is relatively inexpensive and which is capable of being quickly and easily assembled and disassembled and transported to another location for reassembly.

Other objects will be in part apparent and in part pointed out hereinafter.

The invention accordingly comprises the elements and combinations of elements, features of construction and arrangements of parts which will be exemplified in the structures hereinafter described and the scope of the application of which will be indicated in the following claims.

In the accompanying drawings in which one of the various possible embodiments of the invention is illustrated:

FIG. 1 is a side elevation of a wall structure embodying the instant invention;

FIG. 2 is an enlarged, partly fragmentary view similar to FIG. 1, showing a panel assembly according to the instant invention;

FIG. 3 is an enlarged, partly fragmentary, partly sectional view of a portion of the structure shown in FIG. 1;

FIG. 3a is a sectional view taken on line 3a-3a of FIG. 3;

FIG. 4 is a sectional view taken on line 4-4 of FIG. 1;

FIG. 5 is a fragmentary perspective view of a post assembly according to the instant invention;

FIG. 5a is a fragmentary perspective view of a modified form of the post assembly of FIG. 5; and

FIGS. 6-11 are enlarged, sectional views similar to FIG. 4 showing various modifications of the assembly shown in FIG. 4.

Similar reference characters indicate corresponding parts throughout the several views of the drawings.

Dimensions of certain of the parts as shown in the drawings may have been modified or exaggerated for the purposes of clarity of illustration.

Referring now to the drawings, there is shown in FIG. 1 a wall structure embodying the instant invention and generally indicated by reference numeral 10. The wall structure includes one or more units, each of which includes a panel assembly generally indicated by reference numeral 12 and a post assembly generally indicated by reference numeral 14.

As best seen in FIG. 2, panel assembly 12 includes a core or support frame comprising upper and lower (as viewed in FIG. 2) cross pieces 20, 21, respectively, and one or more connecting members 22 all of which are joined together by suitable fasteners such as, for example, bolts, screws, glue or the like, to form the support for a pair of substantially planar panel members 16 sandwiched about the frame. Panel members 16 are formed of a suitable, inexpensive, relatively light-weight and strong

2

material such as, for example, quarter-inch plywood, while the cross pieces 20, 21, and connecting members 22 are formed of a suitably inexpensive, strong, relatively lightweight material such as, for example, redwood. Members 20, 21 and 22 have cross sectional dimensions such that, when the panel is in assembled form, panel members 16 are separated by a distance slightly greater than the width of post 14 to permit panels 16 to overlap post assembly 14 as described hereinafter.

Cross pieces 20 and 21 have, at each of their ends, portions of reduced width thereby forming upper and lower (as viewed in FIGS. 1 and 2) alignment tongues 24 and 25, respectively. Located in cross pieces 20, 21, intermediate the panel members 16 and adjacent tongues 24, 25, are, respectively, upper and lower apertures or receptacles 26, 27, formed in members 20 and 21. These receptacles extend upwardly from the bottom (as viewed in FIG. 2), and partially through the thickness of cross pieces 20 and 21. As best seen in FIG. 3, receptacles 26 and 27 are provided with ferrules 28 formed of a material of suitable strength such as, for example, steel, to strengthen and preserve the configuration of the receptacles.

Attached to the upper side of member 20, as viewed in FIG. 2, is a channel member 30 extending along all or at least a portion of the full width portion of cross piece 20 and having a U-shaped cross sectional configuration which provides a channel or slot 32 on cross piece 20. Alternatively, member 30 may be formed of a pair of strips attached to member 20 which together with the upper surface of member 20 provides the channel 32 on member 20. Member 30 is formed of a suitably inexpensive strong and lightweight material such as, for example, wood or plastic. Members 20 and 30 are attached to each other by suitable fasteners such as, for example, by glue, screws, bolts or the like.

As best seen in the embodiment shown in FIG. 5, post assembly 14 includes a pair of upstanding post members 36 formed of a material of suitable strength such as, for example, steel, each having a substantially U-shaped cross sectional configuration to form a channel or slot 38 extending the length of post members 36. As best seen in FIG. 4, post members 36 have a generally rectangular shape in cross section and are joined at the apex portions of their U-shape as, for example, by welding such that post assembly 14 forms substantially a square in cross section. Each of post members 36 has L-shaped lips 40 running the length of members 36 which are secured to or preferably formed integrally with the free ends of the legs of members 36 to form guides or retaining shelves in channel 38.

Mounted on each of post members 36 are upper and lower (as viewed in FIG. 5) L-shaped bracket members 44, 46, respectively, each of which includes on one leg thereof upstanding pins 48, 50, which may be formed integrally with the brackets or preferably secured thereto as, for example, by welding, screws or the like. Bracket members 44, 46 and pins 48, 50 are formed of a material of suitable strength such as, for example, steel. The pins 48, 50 have a size and configuration slightly smaller than the inner dimensions of ferrules 28, such that they may be inserted in a close fitting relationship in the ferrules to mount panel assembly 12 on post assembly 14. The other leg of each of the L-shaped bracket members 44, 46, is adjustably retained against the lip portion 40 of post members 36 as, for example, by threaded members 52 and nuts 54. In this manner, L-shaped brackets 44 and 46 are adjustably connected with post members 36 such that their relative position along the length of members 36 may be adjusted to thereby adjust the position of panel assembly 12 along the length of post assembly 14.

3

In an upper portion of post 36, above the upper bracket 44 (as viewed in FIG. 1), a channeled insert member 56 formed of a suitably light and inexpensive material such as wood and having a generally U-shaped cross sectional configuration, is mounted in channel 38. As best seen in FIG. 3, the lower portion of member 56 rests on tongue 24 of panel assembly 12 when the wall structure is in the assembled form. Insert member 56 is retained in channel 38 by the lips 40 and the apex wall of post member 36. In addition, insert member 56 is retained in channel 38 at its lower end (as viewed in FIG. 5) by an abutting end of member 39 and at its upper end by a cap 62 which is frictionally held on the upper ends of posts 36. Member 56 provides a channel or slot 58 for receiving a peripheral portion of panel member 60 which may, for example, be translucent, transparent, opaque or colored, as desired and formed of glass, plastic or glass fiber material sold under the trademark Fiberglass, or other suitable material. The bottom portion of panel member 60 (as viewed in FIG. 1) is received within channel 32 in member 30. In the embodiment, shown in FIGS. 1, 3 and 4, panel member 60 is corrugated to provide additional strength.

A supporting foot 64 is adjustably mounted on the lower portion of post 36 by suitable fasteners such as, for example, screw 66 and a nut (not shown). This provides a means for adjusting the relative height of post assembly 14, since member 64 is adjustable in its position along the length of post 34.

A modified form of the post assembly 14 is shown in FIG. 5a and generally indicated by reference numeral 14g. Assembly 14g includes a modified support foot 64a which may be used interchangeably with foot 64 but is preferably used where added rigidity is desired as, for example, on the end post of a wall structure. Foot 64a includes a pair of toe-like projections 68 extending outwardly from the bottom of foot 64a in a direction transverse to the direction in which the panel assembly 12 extends from the post assembly. The toes 68 include apertures 72 through which suitable fasteners such as bolts, screws, or the like, may be inserted to attach foot 64a and hence the wall structure to a floor surface. Foot 64a is adjustably mounted to post members 36 similarly to foot 64 by fastener 66.

In FIGS. 6-11 are shown several alternate forms of the post assembly 14 which may be used depending upon whether the post assembly is at the end of a wall structure or at the joint between two or more panel units in a wall structure. Thus, the post assembly 14a shown in FIG. 6 and the assembly 14f shown in FIG. 11 are designed for use when the post assembly is at the end of a wall structure. As shown in FIG. 6, post assembly 14a includes a U-shaped post 36a whose periphery forms generally a square in cross section of substantially the same size as the pair of posts 36 shown in FIG. 4. Post 36a includes a channel 38a and lips 40a for receiving and retaining an insert member 50a having a channel 58a which receives a panel member 60a. Panel member 60a, in the embodiments shown in FIGS. 6-11, has a planar, non-corrugated form. As shown in FIG. 6, the exterior of the apex wall of post 36a forms an attractive end of regular configuration to the wall structure in which it is employed.

Referring now to FIG. 7, a post assembly generally indicated by reference numeral 14b, is shown which is designed for use as the corner post at the junction of two panel units in a wall structure. Post assembly 14b includes a post 36a, insert member 56a and panel member 60a of the type shown in FIG. 6. In addition, post 36 is secured to post 36a in the manner described in connection with posts 36 in FIGS. 4 and 5. An insert 56b having a channel or slot 58b for receiving panel member 60a is retained in channel 38 by lips 40.

In FIG. 8, there is shown an assembly 14c which includes posts 36, inserts 50b, and panel 60a arranged to

4

provide a post assembly for use at the junction of four panel units. Assembly 14d, useful for the junction of three panel units, includes the structure shown in assembly 14b plus an additional post 36, insert 58b and panel 60a arranged in or opposite side of post 36a. Assembly 14e which may also be used at a junction of three panel units includes the structure of assembly 14c with post 36 omitted. Assembly 14f, shown in FIG. 11, is useful as an alternate form of end post which may easily be converted to an assembly as shown in FIG. 4. In assembly 14f, one of two posts 36 includes a cover strip 80 having spring fingers 82 bearing against lips 40 to retain cover strip 80 in the channel side of post 36. The other post includes a channel insert 56b and panel 60a arranged as in FIG. 7.

Assembly of the wall structure 10 is accomplished as follows: A post 36 of the type shown in FIG. 6 or, alternatively, FIG. 11, is selected as one end of a wall structure. Brackets 46 and 48 are mounted in channel 42 and adjusted to the height desired depending on the space desired between the floor and the bottom of panel assembly 12 and the height desired for panel 60. The post assembly 14 is then set up by securing shoe 64a to the floor. The height of the assembly is set by adjusting assembly 14g in shoe 64a.

A second post 36 having brackets 46 and 48 secured thereto is then selected and a panel assembly 12 is attached thereto to form a panel unit. This is accomplished by inserting tongues 24 and 25 into the channel 42 to align the panel assembly with the post 34. When the tongues are fully inserted, pins 48 and 50 will be aligned with receptacles 26 and 27, respectively, and the assembly 12 may be lowered to the mounted position shown in FIGS. 1 and 3. The panel unit is then connected to the end post in the manner described in connection with forming the panel unit. Thereafter, the appropriate insert members 58 (or 58a or 58b) are selected and placed in channels 56 (or 56a or 56b) and a panel member 60 or 60a is placed therein. Finally, the cap 62 is placed on posts 36. It will be seen that by the proper selection of the assemblies, shown in FIGS. 4 and 6-11, the desired arrangement for a cubicle or room divider 10 is provided.

In view of the above it will be seen that the several objects of the invention are achieved and other advantageous results are obtained.

It is to be understood that the invention is not limited in its application to the details of construction and arrangements of parts illustrated in the accompanying drawings, since the invention is capable of other embodiments and of being practised or carried out in various ways. Also, it is to be understood that the phraseology and terminology employed herein is for the purpose of description and not of limitation.

As many changes could be made in the above constructions without departing from the scope of the invention, it is intended that all matter contained in the above description and shown in the accompanying drawings, shall be interpreted as illustrative and not in a limiting sense, and it is also intended that the appended claims shall cover all such equivalent variations as come within the true spirit and scope of the invention.

I claim:

1. A wall structure comprising a vertical support member, said support member having a substantially U-shaped portion in cross section having a retaining lip thereon; an L-shaped bracket; retaining means interconnected with said bracket and engaging said lip to slidably mount said bracket on said support member; an upstanding pin on said bracket; a panel member having an aperture therein which receives said pin to mount said panel member in abutting engagement on a portion of said supporting member.

2. A wall structure comprising a substantially upstanding support member, the support member having a substantially U-shaped portion in cross section having a re-

5

taining lip thereon formed along a portion of its length; an L-shaped bracket; retaining means interconnected with one leg of said bracket and engaging the lip to adjustably mount said bracket on the support member; an upstanding pin on the other leg of the bracket; a panel member, including a core member and a pair of substantially planar sheets sandwiched about said core member; and a receptacle formed in a portion of the core member and receiving said upstanding pin to mount said panel member on said support member.

3. A wall structure comprising a substantially vertical support member, said support member having a substantially U-shaped portion in cross section having a retaining lip thereon; an L-shaped bracket; retaining means interconnected with one leg of said bracket and engaging said lip to adjustably mount said bracket on said support member; an upstanding pin on the other leg of said bracket; a panel member, including a core member and a pair of substantially planar sheets sandwiched about said core member; an aligning tongue member on said core member slidably received in said channel; and an aperture in said core which receives said pin to mount said panel member on said support member.

4. A panel assembly for demountable engagement with an upstanding post assembly comprising:

- (a) a pair of substantially planar sheets;
- (b) a core member about which the planar sheets are sandwiched in a substantially parallel spaced relationship, a portion of the periphery of the planar sheet projecting beyond the periphery of the core member;
- (c) a tongue formed on the end of the core member and extending between the projecting peripheral portions of the planar sheets;
- (d) a receptacle formed in a first portion of the tongue and designed to receive a portion of the post assembly to mount the panel assembly thereon to form a wall structure; and

6

(e) a projection formed on a portion of the tongue and designed to project into a portion of the post assembly to align the post assembly and panel assembly.

5. A post assembly for demountable engagement with a panel assembly comprising:

- (a) an elongated support member having a channel formed therein and running along the length of the member to provide the member substantially U-shaped cross-sectional configuration to receive a portion of the panel assembly;
- (b) a lip formed on each of the ends of the legs of the U-shaped cross section and extending along the channel portion of the support member out into the middle of the channel;
- (c) an L-shaped bracket;
- (d) retaining means interconnected to one leg of the bracket and engaging the lips to adjustably mount the bracket on the support member; and
- (e) a pin mounted in the other leg of the bracket and engageable with a portion of the panel assembly to mount the panel assembly and form a wall structure.

References Cited by the Examiner

UNITED STATES PATENTS

2,137,767	11/1938	Betcone	52—495 X
2,175,717	10/1939	Kerr	52—239 X
3,228,157	1/1966	Jacobson	52—239

FOREIGN PATENTS

205,507	11/1956	Australia.
651,525	10/1962	Canada.
1,271,108	12/1961	France.

HARRISON R. MOSELEY, *Primary Examiner*.

W. E. HEATON, K. DOWNEY, *Assistant Examiners*.