April 20, 1943. L. C. SIGLOCH ET AL 2,316,980

WALL ASSEMBLY

Filed Sept. 1, 1939 3 Sheets-Sheet 1

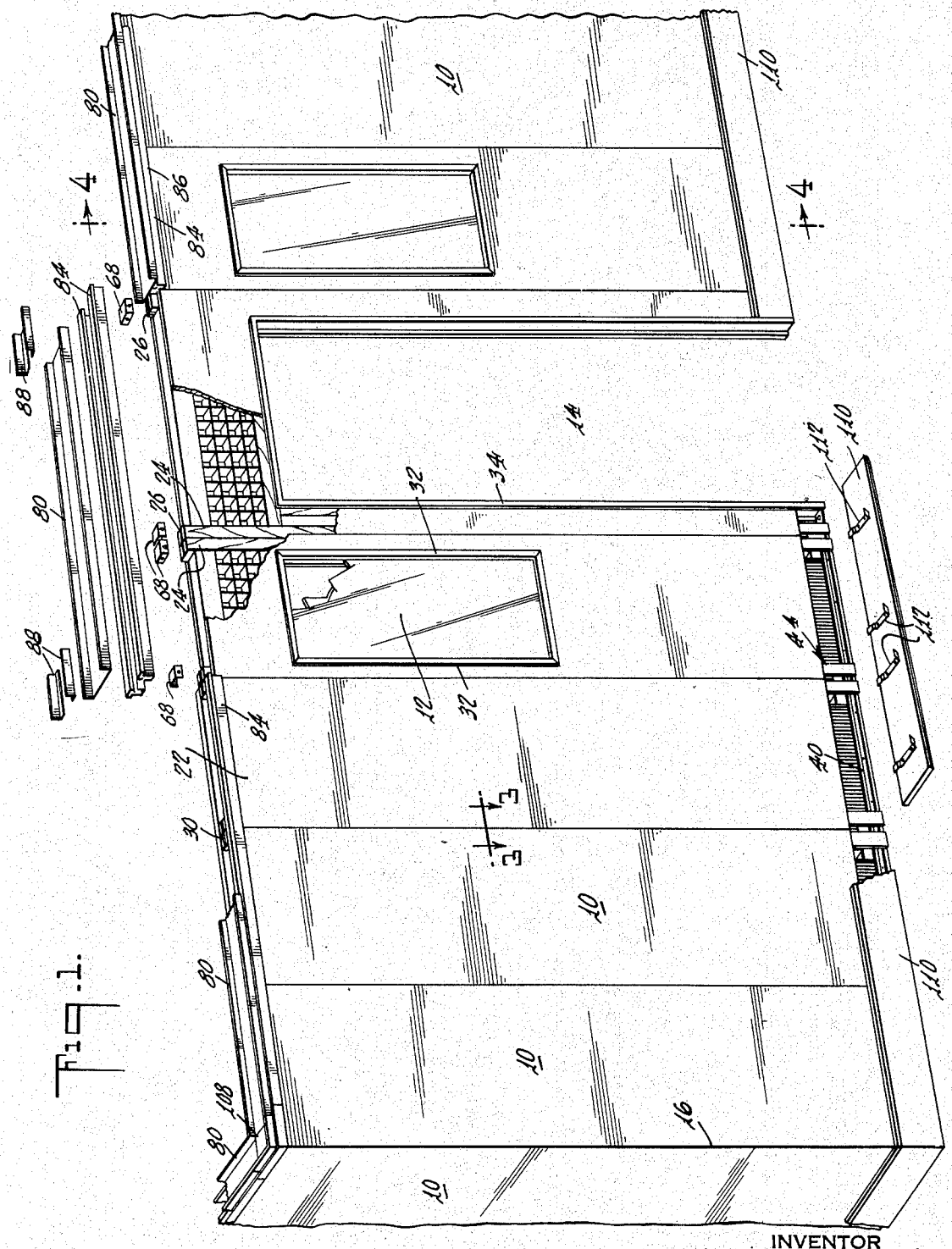


Fig. 1.

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WALL ASSEMBLY

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Fig. 3.

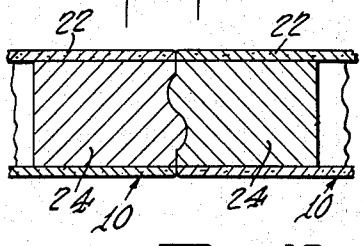


Fig. 8.

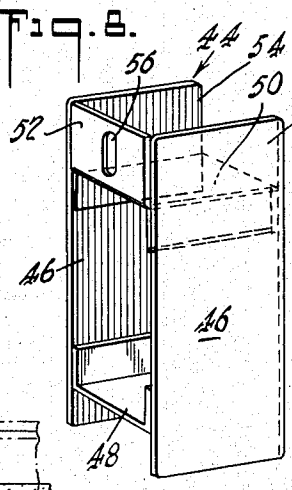


Fig. 2.

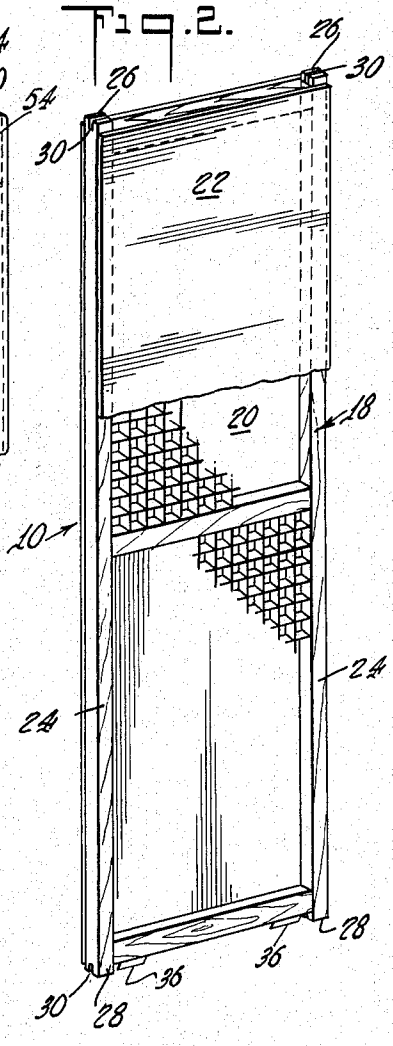


Fig. 10.

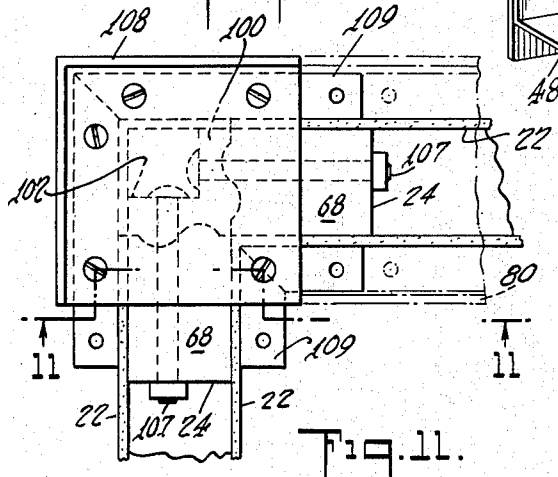


Fig. 11.

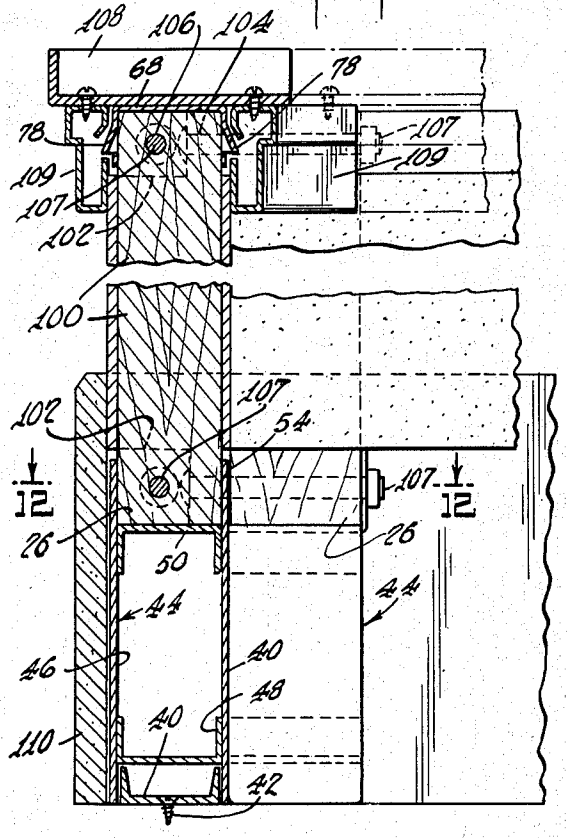
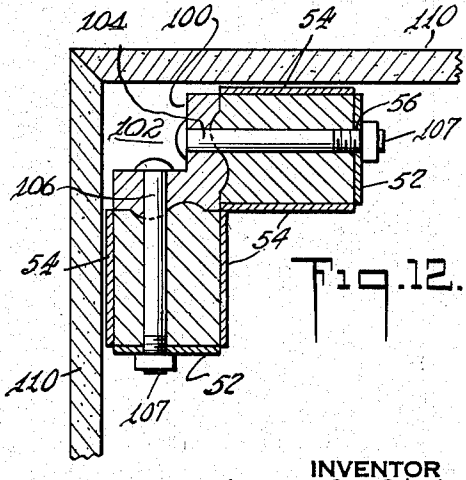


Fig. 12.



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WALL ASSEMBLY

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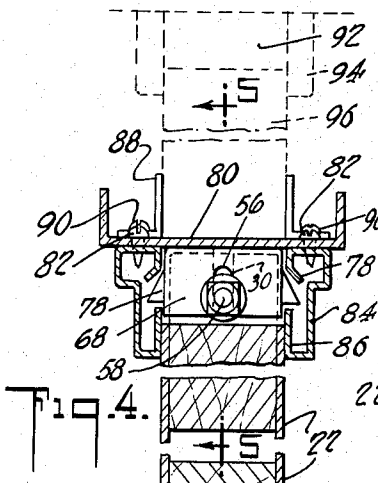


Fig. 4.

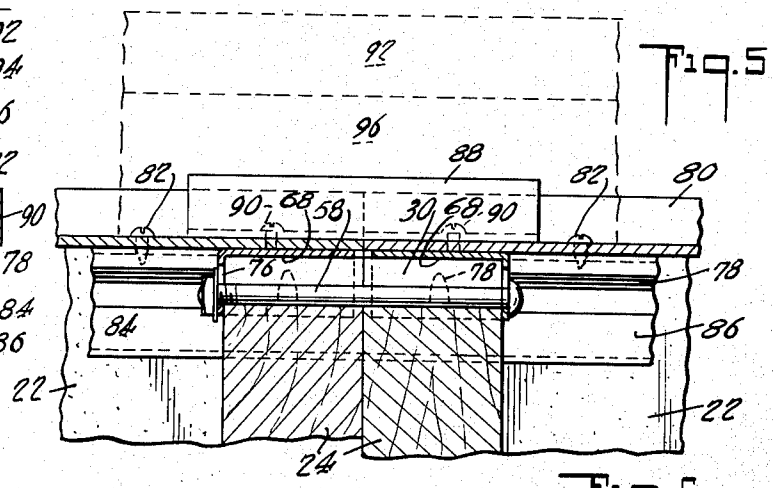
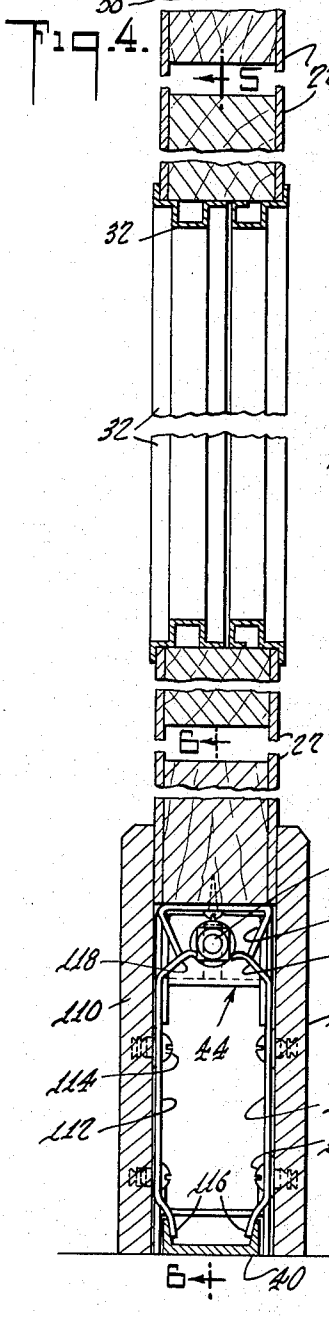


Fig. 5.



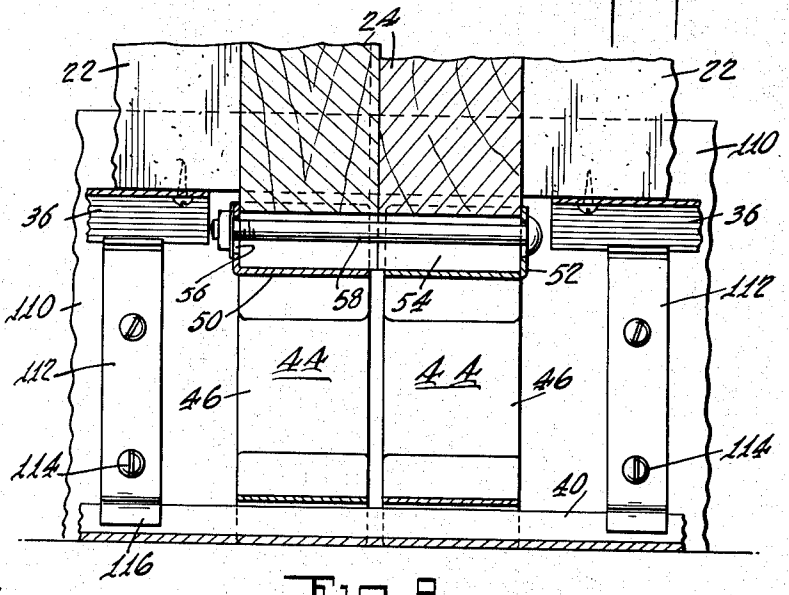


Fig. 6.

Fig. 8.

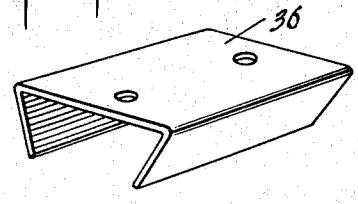
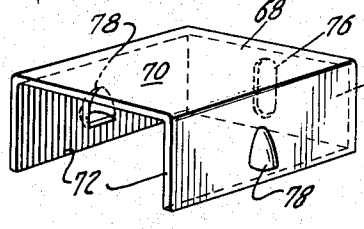


Fig. 7.



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UNITED STATES PATENT OFFICE

2,316,980

WALL ASSEMBLY

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Application September 1, 1939, Serial No. 292,976

13 Claims. (Cl. 20—4)

The present invention relates to improved wall or partition assemblies for subdividing space in office buildings and the like.

It is quite common to arrange or rearrange suites of offices by the installation of partitions which are either built in place or made up of pre-fabricated sections. The sectional partitions, fabricated for the most part in a manufacturing establishment, have numerous obvious advantages. However, the structures of this type heretofore proposed have not provided the desired lightness in weight and ease of assembly and in other ways have failed to meet the requirements of the art.

An object of the present invention is to provide an improved wall or partition assembly made up of pre-fabricated sections arranged for ready assembly without the requirements of any great amount of skilled labor.

Another object of the invention is the provision of a wall or partition assembly which is light in weight, rigid and non-rattling and resistant to transmission of sound therethrough.

A further object of the invention is the provision of an assembly of the type referred to above which will permit of the removal of one or more panels from any portion thereof without requiring the disassembly of the entire partition.

A still further object of the invention is the provision of an improved panel construction for an assembly of the type referred to.

Our invention will be more fully understood and further objects and advantages thereof will become apparent when reference is made to the detailed description thereof which is to follow and to the accompanying drawings, in which

Fig. 1 is a perspective view of an assembly in accordance with the invention with parts broken away for ease of illustration;

Fig. 2 is a perspective view of a panel, with parts broken away, employed in the construction of Fig. 1;

Fig. 3 is a sectional view on an enlarged scale taken on the line 3—3 of Fig. 1;

Fig. 4 is a sectional view on an enlarged scale taken on the line 4—4 of Fig. 1;

Fig. 5 is a sectional view taken on line 5—5 of Fig. 4;

Fig. 6 is a sectional view taken on line 6—6 of Fig. 4;

Fig. 7 is a perspective view of an element of the assembly;

Fig. 8 is a perspective view of another element of the assembly;

Fig. 9 is a perspective view of a further element of the assembly;

Fig. 10 is a detail view illustrating a corner construction of the assembly of the instant invention;

Fig. 11 is a sectional view taken on the line 11—11 of Fig. 10; and

Fig. 12 is a sectional view taken on the line 12—12 of Fig. 11.

Referring now to the drawings, and particularly to Fig. 1, there is shown a wall or partition assembly comprising a plurality of similar panels 10 secured in edge-to-edge abutting relationship. As illustrated, the panels may be imperforate throughout their areas or may include a window opening 12 or door opening 14. The partition assembly may be employed in any desired manner to subdivide a space and may extend around a corner as indicated generally at 16.

The several panels 10 of which the wall or partition is primarily composed each comprises in the preferred embodiment (see Fig. 2) a frame 18 of wood or other suitable material, a core 20 within the frame, and facing panels 22 secured over the frame and core. Suitably, the panels are constructed as described in the copending application of George D. Kellogg, Serial No. 54,011, filed December 12, 1935, issued September 19, 1939, Patent No. 2,173,808, to include a lightweight core, preferably in the form of a grid as illustrated in Fig. 2. The grid is composed of intersecting strips of a fibre board material having relatively broad supporting faces for the face panels. The face panels 22 are adhesively secured to opposite sides of the core and to the frame members, the facing panels being formed of a material which is substantially stable as to shape upon exposure to air of varying relative humidity. Suitably, for this purpose sheets of a hardened compressed asbestos-cement composition are employed. In lieu of such sheets, facing elements comprising a composite of a plurality of plies of wood veneer may be used, the grain in one ply preferably extending at an angle to the grain in adjacent plies. Although the above described constructions are preferred, it will be understood that any other suitable type of panel structure may be employed.

Stiles 24 of frame 18 project above and below the panel proper to provide extending end portions 26 and 28, respectively. The extending portions 26 and 28 are provided with passageways 30 which may be notched as illustrated, or which may comprise perforations or the like, for the reception of panel securing means as hereinafter

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fully pointed out. The panels each carry attaching clips **36** (see particularly Figs. 2 and 9) for a purpose later to be described. The faces of the stiles **24** forming the edges of the panels are of substantially S-configuration (see particularly Fig. 3), the position of the "S" in the face of the stile constituting one edge of the panel being reversed to that at the other edge, whereby the contiguous faces of the stiles of adjacent panels cooperate to provide an interlock as illustrated in Fig. 3.

Panels which are to include windows or the like are of substantially the same construction as those described above, except that a window frame member **32** of any suitable type, such as illustrated for example in Figs. 1 and 4, and suitably formed of metal or the like, is secured about a window opening cut in the panel. Similarly, the door openings may be defined by door casing members **34**, suitably formed of metal. The panels may be formed of different widths and will preferably be supplied in a number of stock sizes and window and door types to permit of suitable arrangement to provide the desired wall structure.

The partition assembly includes a base member, suitably a channel **40** extending the length of the partition, except at the door openings, and secured to the floor of the room as by screws **42** or other suitable means. A panel support **44** (see Figs. 1, 4, 6 and 8) is provided for each of the lower extending portions **28** of the panel stiles. The supports include legs **46**, suitably braced as by element **48**, constructed to straddle channel member **40** in relatively tight-fitting relationship, whereby the supports are maintained against lateral shifting. The supports **44** are suitably formed of metal and include substantially cup-shaped means for receiving a lower extending portion **28** of a panel stile, the cup-like means comprising a base **50**, a back wall **52**, and side walls **54**. Back wall **52** includes an aperture **56**, preferably elongated as illustrated, to receive a securing means.

Supports **44**, with their legs straddling channel member **40**, engage the lower extending portions **28** of the stiles of the panels **10**, placed in edge abutting relationship in the manner illustrated particularly in Figs. 1, 4 and 6. When in this position, apertures **56** line up with the slots **30** in the stile ends, the elongation of the apertures insuring such alignment, irrespective of slight variations in the vertical positioning of the supports and panels. A bolt or other similar fastening means **58** is then passed through the aligned slots **30** of the contiguous portions **28** of adjacent panels and the apertures **56** of the supports and drawn up tightly to bring the abutting edges of the panels in close engagement and to fasten the panels rigidly to the supports.

A cap member **68** (see Figs. 1, 4, 5 and 7), suitably formed of metal and comprising a top **70**, side flanges **72** and an end flange **74**, is provided for each extending stile portion **26** at the upper ends of the panels. End wall **74** includes an elongated aperture **76** and side flanges **72** are formed with locking lugs or abutments **78**. The latter are preferably struck up from the metal of the cap **68**, but may be formed in any suitable way. Cap members **68** are placed over the ends of extending portions **26** of the panel stiles, as illustrated particularly in Figs. 1, 4 and 5 with apertures **76** in alignment with the notches formed in the stiles, the elongation of the apertures aiding in securing sufficient vertical alignment to permit the passage of bolts **58** through the notches and apertures. The bolts are then drawn up tightly to bring the upper portions of panel edges in close abutting relationship.

A stiffening rail is provided to extend longitudinally of the upper edge of the assembled panels, the stiffening rail comprising an open channel member **80** (see Figs. 1, 4 and 5) to which molding strips **84** are secured as by screws **82** or the like, the channel and molding strips preferably being formed from sheet metal. The stiffening rail, including channel **80** and molding strips **84**, is suitably formed into lengths sufficient to overlie a plurality of the panels. Molding elements **84** include a retroverted extending flange **86**.

In the assembly of the stiffening rail on the partition, the molding strips are suitably secured to channel **80** and the stiffening rail as a whole forced down over the upper edges of the panels until flanges **86** snap beneath lugs **78** formed on cap members **68**.

If it is desired to extend the partition structure to the ceiling of the room or space in which the partition is located, angle members **88**, either in the form of continuous strips or relatively short sections as illustrated in Fig. 4, are secured as by screws **90** or the like to channel **80**. A strip **92** is secured to the ceiling by any suitable means and side strips **94** are carried thereby to provide a downwardly facing channel. Panels **96**, which may be of any suitable type but preferably are constructed similarly as the panels **10**, fill the space between the opposing channels with their edges seated therein.

Referring now particularly to Figs. 10, 11 and 12, a corner construction for the assembly is disclosed. The corner construction includes a corner post **100** formed of wood or the like, adjacent edge faces of which are of an S-configuration complementary to that of the abutting panel stiles. Upper and lower ends of corner post **100** are recessed as at **102**, the walls defined by the recesses being perforated as at **104** and **106**, respectively, in line with the slots of the panel stiles. Bolts **107** pass through the aligned perforations and slots of the panels to secure the corner post to the adjacent panels on each side of the corner in a similar manner to that in which the adjacent panels are secured together. The S-shaped configuration of the confronting faces of the panels and the corner post insure a tight joint and alignment of the panels with the corner post. The extending channels **80** terminate adjacent the corner and a special corner channel member **108** is provided (see Fig. 10) having the flange on only its outer two edges. Molding strips **109**, constructed to form a bevel joint at the corner, are secured to the member **108**, the molding strips preferably being of such length as to break joints with the channel **108**.

For attachment of an end of the partition to another partition wall or to a permanent wall of the building, a stud, substantially corresponding to a stile of the panels, may be secured to the wall in any suitable manner and secured to the adjacent panel in the same manner that the panels are secured together.

The lower end of the partition or wall, including the supports **44** and channel **40**, are covered by a finishing construction comprising a baseboard **110** which is preferably made in a plurality of sections. The baseboard may be formed of wood, metal, or the like, but preferably comprises a hardened compressed asbestos-cement material.

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The baseboards carry attaching clips 112 secured thereto by expansion bolts 114 or the like. The attaching clips include a toe 116 adapted to be hooked over the flange of channel 40 and a bent projecting portion 118 adapted to be pressed into resilient interlocking engagement with the side flange, previously referred to, of elements 36 carried by panels 10. In the assembly of the baseboards with the partition structure the toes of the elements 112 are inserted over the flanges of channels 40 and the upper ends of the boards then swung inwardly until portions 118 resiliently interlock behind the flanges of the elements 36. The base panels may be removed by merely forcing outwardly the upper edge of the panel to release the resilient interlock.

A partition or wall structure in accordance with the invention is adapted for ready assembly and disassembly, is light in weight, and otherwise meets the requirements of the art. Any desired portion of the partition may be removed without affecting the remainder by disassembling the baseboards and stiffening member from the portion of the partition to be removed, withdrawing the bolts connecting the panels at this location, and pressing outwardly on contiguous panels adjacent the joint to swing them out of alignment with the remainder of the partition.

Due to the snap engagement of the molding strips of the stiffening rails behind lugs 78 of cap members 68, removal of the stiffening rail requires merely the insertion of a suitable tool such as a screw driver behind the molding strips to press in flanges 86 while the stiffening rail is lifted upwardly. The substantial S-configuration of the adjoining edges of the panels, holds the panels tightly against rattling and against lateral shifting when the bolts 58 are in place, and also prevents the presence of cracks which will permit light infiltration through the joint between the panels.

Having thus described our invention in rather full detail, it will be understood that these details need not be strictly adhered to, but that various changes and modifications will suggest themselves to one skilled in the art, all falling within the scope of the invention as defined by the subjoined claims.

What we claim is:

1. A wall assembly comprising panels in edge abutting relationship and each including means extending beyond the ends of the panels proper adjacent their longitudinal edges, unitary cup-like means receiving said first-named means, and means passing through said first-named means and a wall of each said cup-like means for maintaining said panels in said edge abutting relationship.

2. A wall assembly comprising panels in edge abutting relationship and each including a frame comprising longitudinal stiles having portions extending beyond the ends of the panels, supports for said panels, each support comprising extended legs and a unitary cup-like means for receiving each of the extending stile portions at the lower end of said panels, unitary caps for receiving the extending stile portions at the tops of said panels, and means passing through extending stile portions of adjacent panels and through walls of said cup-like elements and said caps adjacent the bottoms and tops of said panels, respectively, to maintain said panels in edge abutting relationship.

3. A wall assembly comprising panels in edge abutting relationship, each of said panels including a frame comprising stiles extending above the panel, cap members fitting over each of said extending stile portions and including locking lugs, means passing through adjacent of said extending stile portions of adjoining panels for maintaining said panels in assembled relationship, a stiffening member overlying and extending longitudinally of the upper edges of said assembled panels, and means secured to said stiffening means and cooperating with said lugs for maintaining said stiffening means on the assembly.

4. A wall assembly comprising panels in edge abutting relationship, each of said panels including portions extending beyond the upper ends of the panels proper adjacent their longitudinal edges, cap members fitting over each of said extending portions and including locking lugs, means passing through adjacent of said extending portions of adjoining panels for maintaining said panels in assembled relationship, and a stiffening rail overlying and extending along the upper edges of said assembled panels, said rail including molding members cooperating with said lugs for maintaining said stiffening rail in position on said assembly.

5. A wall assembly comprising panels secured in edge abutting relationship, members carried by the upper edges of said panels including locking lugs, and a stiffening rail comprising a channel member with its base resting on and extending along the upper edges of said assembled panels, said rail including molding members depending therefrom and cooperating with said lugs for maintaining said stiffening rail in position on said assembly.

6. A wall assembly comprising panels secured in edge abutting relationship, members carried by the upper edges of said panels including locking lugs, a stiffening rail comprising a channel member with its base resting on and extending along the upper edges of said assembly, said rail including a molding member depending therefrom and comprising a retroverted flange for snapping engagement below said lugs.

7. A wall assembly comprising panels in edge abutting relationship, each of said panels including a frame comprising stiles extending above the panel, cap members fitting over each of said extending portions and including locking lugs, means passing through adjacent of said extending portions of adjoining panels for maintaining said panels in assembled relationship, a stiffening rail overlying and extending along the upper edges of said assembled panels, said rail including molding members comprising a retroverted flange for snapping engagement below said lugs.

8. A wall assembly comprising panels supported from a floor in edge abutting relationship, each of said panels including means extending beyond the lower ends of the panels proper adjacent their longitudinal edges, a base member secured to the floor in vertical alignment with the assembly, and unitary supports including legs positioned by said member and cup-like elements for receiving said extending means.

9. A wall assembly comprising panels supported from a floor in edge abutting relationship, each of said panels including means extending beyond the lower ends of the panels proper adjacent their longitudinal edges, a base member secured to the floor in vertical alignment with the assembly, and unitary supports including legs positioned by said member, a cup-like element for receiving

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each of said extending means, and bolts connecting adjacent of said extending portions of adjoining panels.

10. A wall assembly comprising panels supported from a floor in edge abutting relationship, each of said panels including a frame comprising stiles extending below the panel, a base member secured to the floor in vertical alignment with the assembly, and unitary supports including legs positioned by said member and cup-like elements for receiving said extending portions of said stiles, and bolts connecting adjacent of said extending portions.

11. A wall assembly comprising panels supported from a floor in edge abutting relationship, a base member secured to the floor in vertical alignment with the assembly, means supporting the panels in spaced relationship to said base member, baseboards closing the space between said panels and said base member, members including resilient flanges carried by the lower edge of said panels, and locking means carried by said baseboards cooperating with said last-mentioned members.

12. A wall assembly comprising panels supported from a floor in edge abutting relationship, a base member secured to the floor in vertical alignment with the assembly, means supporting the panels in spaced relationship to said base member, baseboards closing the space between said panels and said base member, members including resilient flanges carried by the lower edge of said panels, and locking means carried by said baseboards, each of said locking means comprising a toe inserted over a flange of said base member and a resilient projecting portion in yieldable interlocking engagement with a flange of one of said second-mentioned members.

13. A wall assembly comprising panels extending at right angles to each other, each of said panels including a frame comprising stiles extending from the ends of said panel, unitary cup-like members receiving said extending stiles, a stud in the corner between said panels, and means passing through the ends of the stud, the extending portions of the adjacent stiles of the panels and a wall of the cup-like members securing said panels to said stud.

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