May 15, 1962 R. O. YOUNG 3,034,609

BUILDING PARTITION STRUCTURE

Filed July 11, 1960

FIG. 1

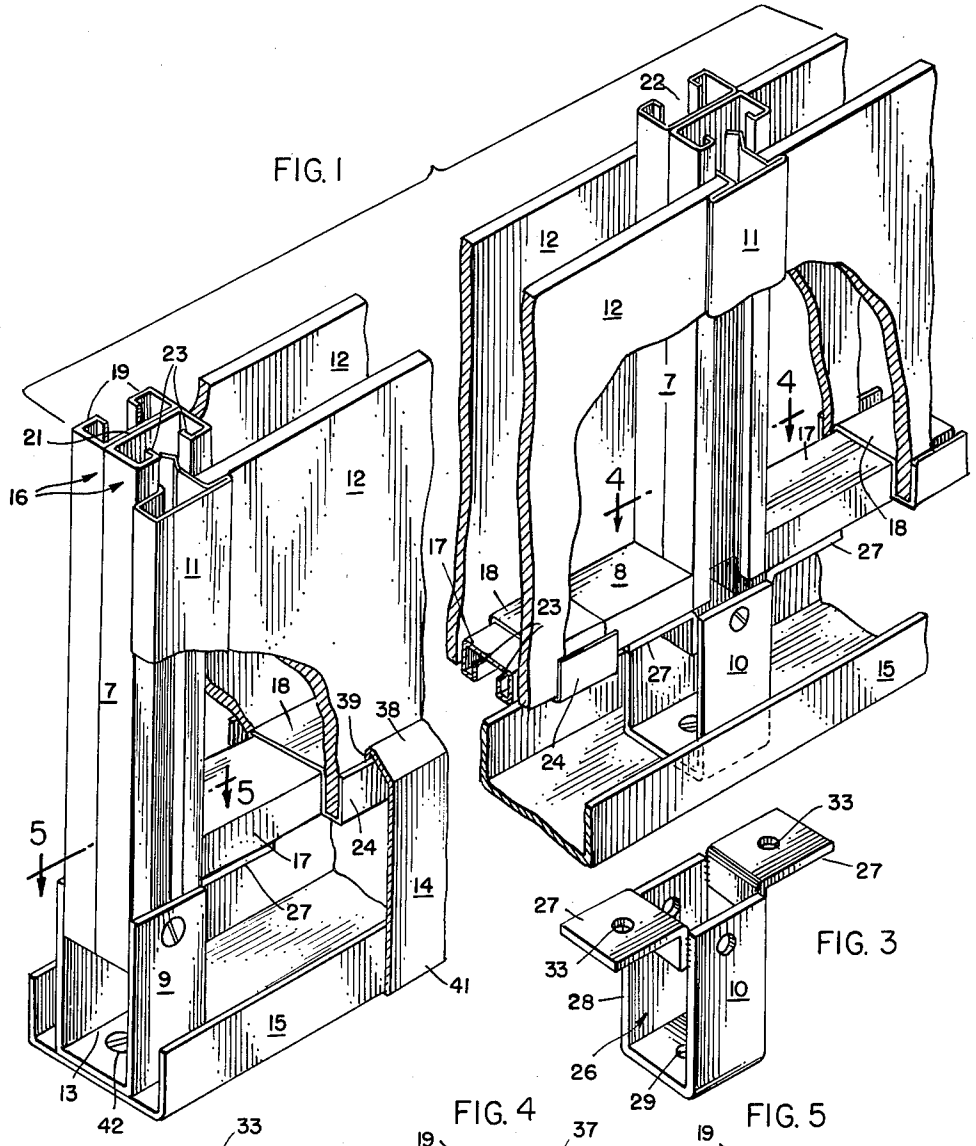


FIG. 3

FIG. 2

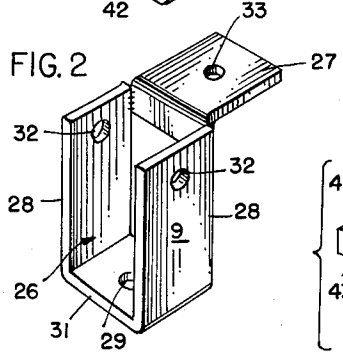


FIG. 4

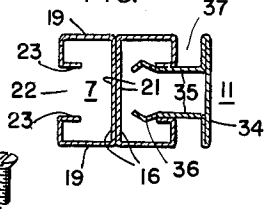


FIG. 5

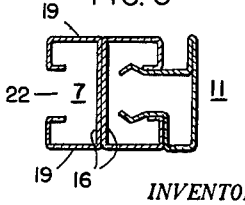
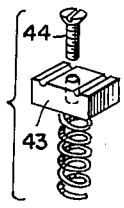


FIG. 6



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BUILDING PARTITION STRUCTURE

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This invention relates to partition structures for building interiors.

The main objects of this invention are to provide an improved structure for the erection of interior partitions in various kinds of buildings; to provide an improved structure of this kind assembled from preformed vertical and horizontal elements having inwardly-facing panel-seating grooves along opposite edges of the elements to secure spaced parallel panels in place; to provide improved base pedestals for the support of the framed panels above the floor to locate a concealed service-line raceway throughout the length of the partition; and to provide an improved partition structure of this kind the several units of which are of such simple construction as to permit a very economical manufacture thereof for subsequent, facile, on-the-job assembly to erect full- or partial-height partitions for practically any desired division of floor space with an underlying, readily-accessible raceway.

In the adaptation shown in the accompanying drawings:

FIG. 1 is a perspective view of a section of partition constructed in accordance with this invention, certain portions of the partition being broken away to more clearly indicate the interior form of parts thereof;

FIG. 2 is a perspective view of one form of base pedestal especially suitable for the end support of the framework above the floor to provide the desired raceway;

FIG. 3 is a view of similar base pedestal most suitable for use intermediate the length of the panel-supporting framework;

FIG. 4 is a cross-sectional view taken on the plane of the line 4—4 of FIG. 1;

FIG. 5 is a similar view taken on the plane of the line 5—5 of FIG. 1; and

FIG. 6 is an exploded fastener of the type used to secure certain of the parts of the structure in assembled positions.

The essential concept of this invention involves three forms of channel-shaped members secured together either in back-to-back or nested relationship to constitute vertical and horizontal frame elements, respectively, having bordering, inwardly-facing grooves for seating spaced, parallel panels, the frame elements being supported above the floor on base pedestals which provide a horizontal raceway throughout the length of the partition for the concealed location of service facilities, always easily accessible by the removal of a baseboard apron.

A building partition embodying the foregoing concept comprises frame elements 7 and 8 assembled in rectangular relationship and supported on base pedestals 9 and 10 whereby panel-retainers 11 positioned on the frame elements 7 coact with the frame elements 8 to support parallel panels 12 above a horizontal raceway 13 closed in by a baseboard apron 14 and confined within a troughlike member 15.

The frame elements 7 and 8 are similar in that they are formed of specially structured channel shaped members. These frame members 7 and 8 differ, however, in that the element 7 consists of two identically formed members 16 bonded back to back, the element 8 consists of one of the same differently-formed members here designated as 17 and one or more superimposed nested members in the form of clips 18.

The two channel-shaped members 16, which constitute a frame element 7, have their lateral portions turned inwardly to form right-angle extensions 19. Thus, in cross-section, each member 16 might be said to be in the form of parallel, L-shaped extensions 19 disposed transverse to a connecting base 21, with a longitudinal slot 22 between the inwardly extending flanges 23.

The channel-shaped member 17 is the same in form as the member 16, except it is a single channel. Thus the two frame elements 16 and 17 require only the one type of channeled shaped member to construct both the vertical and the horizontal frame elements for a double-wall partition.

The clips 18 differ from the members 16 and 17 in that the lateral portions are turned outwardly to form right-angle extensions 24. Thus, the clips 18, it may be said, are in the form of a pair of parallel L-shaped extensions 24 disposed transverse to a connecting base. However, with the clips 18 the L-shaped extensions 24 face outwardly providing inwardly-opening grooves for the seating of the panels 12. The selected number of clips 18 are set in nested relationship over the member 17 to constitute the horizontal frame element 8.

The base pedestals 9 and 10 are identical in that each consists of a U-shaped part 26 with a flange 27. They differ only in that the pedestal 10 has two such flanges 27. The reason for that difference is that the one-flange pedestal 9 is used to support vertical and horizontal frame elements 7 and 8 at the end of a partition, whereas the two-flange pedestal 10 is used to support vertical and horizontal frame elements 7 and 8 intermediate the ends of the partition.

The flanges 27 here are shown of L-shaped cross-section with the short transverse part welded across one—or both—open sides of the legs 28 of the respective U-shaped parts 26, adjacent the upper ends of the legs 28. The precise manner in which the parts 26 and the flanges are thus integrated by welding necessarily is not critical. In the drawings these flanges 27 are shown of the same transverse width as the distance between the inner faces of the legs 28 and the parts 26. Also, as here shown, the under faces of the flanges 27 are substantially in the plane of the upper ends of the legs 28. However, it is obvious that the flanges 27 could be of a width equal to the outside width of the parts 26 and the top faces of the flanges 27 could be flush with the upper ends of the legs 28.

Each of the parts 26 is formed with a hole 29 in the base 31 and holes 32 adjacent the upper ends of the legs 28. Each of the flanges 27 has a hole 33 substantially centrally therein. These holes 29, 32 and 33 are for receiving fasteners, as will be explained presently.

The panel retainers 11 formed of spring metal and each in cross-section is shaped somewhat like a double-stem T, having a base 34 outwardly from which are disposed a pair of parallel stems 35, spaced inwardly from the edges of opposite base 34 (see FIGS. 4 and 5). Inwardly of their ends, the stems 35 are crimped to form ridges 36. The spacing of these stems 35 is such as to permit them to be compressed slightly to enter the slots 22 between the extensions 19 of the members 16 whereupon they spring outwardly to firmly grip the members 16 with the lower ends of the retainers resting on the top edges of the legs 28 of the respective U-shaped parts 26 of the pedestals 9 and 10. So positioned these panel retainers 11 provide grooves 37 (FIGS. 4 and 5) registering with the grooves formed by the extensions 24 of the members 18 for seating the panels 12. It will be noted, especially from FIG. 5, that the panel retainers 11 for the ends of a partition have one of the stems 35 shortened and the base fold spaced from the base 34 to eliminate a groove along that perimeter of the panel retainer 11.

The panels 12 may be of any standard materials available on the market or, obviously, they may be specially formed when conditions require.

The closure apron 14, for the raceway 13, comprises a sheet-metal plate with one lateral portion thereof bent to provide a tapered top section 38 and with the perimeter beyond the taper 38 turned inwardly to form a hook 39. In height the apron 14 is such that the opposite lateral edge is disposed along the floor in contact with the trough-like member 15.

The member 15 is another channel-form part which is laid on the floor under the pedestals 9 and 10. This serves to keep the service lines within the limits of the flanges of the member 15.

The base pedestals 9 and 10 and the frame elements 7 and 8 make possible the erection of double-wall partitions with a raceway 13 extending the full length of the partition at the base thereof. The raceway is accessible from both sides of the partition for the installation of requisite service facilities such as electrical conduits for lights, telephone, and power and, in cases where needed, certain types of fluid conduits.

Such a double-wall partition is installed in the following manner:

The raceway member 15, is laid on the floor with its median disposed along a predetermined center-line for the partition. Base pedestals 9 are set at the ends of the member 15—where the partition is to end—and anchored to the floor by suitable fasteners such as screws 43 (FIG. 1). Depending upon the length of the horizontal frame elements 8, one or more base pedestals 10 are anchored to the floor by similar fasteners 42 at points where there are to be intermediate vertical frame elements 7.

The several vertical frame elements 7 have their lower ends telescoped in between the legs 28 of each of the base pedestals 9 and 10 and respectively anchored thereto by fasteners extending through the holes 32. A type of fastener most suitable for this purpose is such as heretofore disclosed in Patent No. 2,345,650 and shown here in FIG. 6. These fasteners, it will be noted, comprise a nut 43 dimensioned and recessed to seat on the edges of the flanges 23 of the frame members 16, with the bolt 44 inserted through the holes 32 in the pedestal legs 28.

It is the use of this type of base pedestal and fastener that makes possible a most precise adjustment of the vertical frame element 7 for whatever height of partition may be required.

The vertical frame elements 7 thus having been positioned on the pedestals 9 and 10, the horizontal frame elements 8 are interposed between the pedestals 9 and 10 and set on the respective flanges 27. Such horizontal frame elements 8 preferably are anchored to the flanges 27 by fasteners such as shown in FIG. 6 extending through the holes 33 and clamped to the flanges 23 of the nested channel member 17.

The frame elements 7 and 8 all having been set up there is formed the raceway 13 of ample dimensions extending the full length of the partition. At any time after such setting of the framework access readily is had for the installing, repair and/or replacement of the service facilities for the partition-off portions of the building.

All of the frame elements 7 and 8, for a desired partition, thus having been anchored to the pedestals 9 and 10, the requisite number of clips 18 are set in nested positions along the member 17. Thereupon the panels 12 are set in the grooves provided by the extensions 24 of the horizontal frame elements 8, whereupon the panel-retainers 11 are snapped in place on the vertical frame elements 7 to complete the assembly as indicated in FIG. 1.

Finally, when the initial running of the facilities in the raceway 13 has been completed, the aprons 14 have the hooks 39 inserted over the respective edges of the extensions 24 of the horizontal frame elements 8 and pressed down with the lower perimeter of the aprons 14 abutting the sides of the raceway member 15.

When it is desired to remove such a structured partition, the disassembly can be effected as expeditiously as it was erected. All the parts thereof can be removed without damage for subsequent set-up in another location.

Although but one specific embodiment of this invention is herein shown and described it will be understood that details of the construction shown may be altered or omitted without departing from the spirit of the invention as defined by the following claims.

I claim:

1. A building-partition comprising, vertical and horizontal frame elements each consisting of nested channel-shaped members forming opposed, inwardly-opening panel-seating grooves along the opposite edges of the elements, a pair of spaced parallel panels seated in the grooves, and a plurality of base pedestals supporting the assembled frame elements and panels above the floor to provide a raceway along the horizontal length of the partition.

2. A building-partition comprising, vertical frame elements consisting of channel-shaped members bonded back-to-back, a horizontal frame element consisting of a channel-shaped member and a series of clips nested on said latter member in spaced relation to each other, the lateral portions of said clips being shaped to provide inwardly-opening panel-seating grooves along the opposite lateral edges of the horizontal elements, base pedestals supporting the assembled frame elements above the floor to provide a raceway under and along the horizontal frame element, channel-shaped panel retainers nested in the opposite sides of the vertical frame elements to form inwardly-opening panel-seating grooves along opposite lateral edges registering with the grooves of the horizontal frame elements, and a pair of spaced parallel panels seated in said grooves at the opposite sides of the assembled frame elements.

3. A building-partition comprising, vertical and horizontal frame elements each consisting of nested channel-shaped members forming opposed inwardly-opening panel-seating grooves along the opposite edges of the elements, a pair of spaced parallel panels seated in the grooves, a plurality of U-shaped base pedestals each having a transverse flange bonded across the upper ends of the parallel leg parts thereof, and fasteners securing the ends of the leg parts of each pedestal to the ends of the vertical frame elements and the flanges to the ends of the horizontal frame element resting on the flanges, whereby the assembled frame elements and panels are disposed above the floor to provide a raceway under and along the length of the partition.

4. A building-partition comprising, vertical frame elements consisting of channel-shaped members bonded back-to-back, a horizontal frame element consisting of channel-shaped members nested one within the other, the lateral portions of the outer of the nested members being shaped to provide inwardly-opening panel-seating grooves along the opposite lateral edges of the horizontal elements, a plurality of base pedestals each having a transverse flange bonded across the upper ends of the parallel leg parts thereof, fasteners securing the ends of the leg parts of each pedestal to the end of the vertical frame elements and the flanges to the ends of the horizontal frame element for supporting the assembled frame elements above the floor to provide a raceway under and along the horizontal frame element, channel-shaped panel retainers nested in the opposite sides of the vertical frame elements to form inwardly-opening panel-seating grooves along opposite lateral edges registering with the grooves of the horizontal frame elements, and a pair of spaced parallel panels seated in the grooves at the opposite sides of the assembled frame elements.

5. A building-partition comprising, vertical and horizontal frame elements each consisting of nested channel-shaped members forming opposed inwardly-opening panel-seating grooves along the opposite edges of the elements,

a pair of spaced parallel panels seated in the grooves, a plurality of base pedestals supporting the assembled frame elements and panels above the floor to provide a raceway along the horizontal length of the partition, and a plate having one lateral portion thereof bent to form a hook seated in the panel-seating groove along the bottom horizontal frame element with the other lateral edge of said plate disposed along the floor, whereby said plate constitutes a removable apron concealing the raceway.

6. A building partition comprising, vertical frame elements consisting of channel-shaped members bonded back-to-back, a horizontal frame element consisting of a channel-shaped member and a series of spaced clips nested on said latter member, the lateral portions of the outer of said clips being shaped to provide inwardly-opening panel-seating grooves along the opposite lateral edges of the horizontal element, a plurality of base pedestals each having a transverse flange bonded across the upper ends of the parallel leg parts thereof, fasteners securing the ends of the leg parts of each pedestal to the end of a vertical frame element and the flanges to the ends of a lower horizontal frame element for supporting the assembled frame elements above the floor to provide a raceway under and along the horizontal frame element, channel-shaped panel retainers nested in the opposite sides of the vertical frame elements to form inwardly-opening panel-seating grooves along opposite lateral edges registering with the grooves of said clips, a pair of spaced parallel panels seated in said grooves at the opposite sides of the assembled frame elements, and a plate having one lateral portion thereof bent to form a hook seated in the panel-retaining groove of the lower horizontal frame element with the other lateral edge of the plate disposed along the floor, whereby the plate constitutes a removable apron concealing the raceway.

7. A building partition comprising, opposedly-spaced vertical frame elements each consisting of a pair of back-to-back bonded members of U-shaped cross section the lateral portions of which are turned inwardly to form opposed right-angle extensions, a lower horizontal frame element consisting of a member of U-shaped cross-section which has the lateral portions turned inwardly to form opposed right-angle extensions and mounting a plurality of other U-shaped members which have their lateral portions turned outwardly to form right-angle extensions defining inwardly-opening panel-seating grooves, panel retainers in cross-section form of a base with transverse parallel tongues yieldingly embraced between the right-angle extensions of the members of each vertical frame element to space the base of each panel retainer from the respective member to provide inwardly-opening panel-seating grooves registering with the panel-seating grooves of the horizontal frame element, a pair of spaced parallel panels seated in the registering grooves at the opposite sides of the assembled frame elements, and base pedestals supporting the assembled frame elements and panels above the floor to provide a raceway along the length of the lower horizontal frame element.

8. A building partition comprising, opposedly-spaced vertical frame elements each consisting of a pair of back-to-back bonded members of U-shaped cross section the lateral portions of which are turned inwardly to form opposed right-angle extensions, a lower horizontal frame element consisting of a member of U-shaped cross-section which has the lateral portions turned inwardly to form opposed right-angle extensions and mounting a plurality of other U-shaped members which have their lateral portions turned outwardly to form right-angle extensions defining inwardly-opening panel-seating grooves, panel retainers in cross-section form of a base with transverse parallel tongues yieldingly embraced between the right-angle extensions of the members of each vertical frame element to space the base of each panel retainer from the respective member to provide inwardly-opening panel-seating grooves registering with the panel-seating grooves of the horizontal frame element, a pair of spaced parallel panels seated in the registering grooves at the opposite sides of the assembled frame elements, base pedestals supporting the assembled frame elements and panels above the floor to provide a raceway along the length of the lower horizontal frame element, and a plate having one lateral portion thereof bent to form a hook seated in the panel-seating groove along the bottom horizontal frame element with the other lateral edge of the plate disposed along the floor, whereby the plate constitutes a removable apron concealing the raceway.

9. A building partition comprising, opposedly-spaced vertical frame elements each consisting of a pair of back-to-back bonded members of U-shaped cross section the lateral portions of which are turned inwardly to form opposed right-angle extensions, a lower horizontal frame element consisting of a member of U-shaped cross-section which has the lateral portions turned inwardly to form opposed right-angle extensions and mounting a plurality of other U-shaped members which have their lateral portions turned outwardly to form right-angle extensions defining inwardly-opening panel-seating grooves, panel retainers in cross-section form of a base with transverse parallel tongues yieldingly embraced between the right-angle extensions of the members of each vertical frame element to space the base of each panel retainer spaced from the respective member to provide inwardly-opening panel-seating grooves registering with the panel-seating grooves of the horizontal frame element, a pair of spaced parallel panels seated in the registering grooves at the opposite sides of the assembled frame elements, an upwardly-open U-shaped base member positioned on the floor below the assembled frame members and panels, and a plurality of base pedestals interposed between the U-shaped base member and the bottom frame element and anchored to the floor to support the assembled frame elements and panels above the floor to provide a raceway under and along the length of the lower horizontal frame element.

10. A building partition comprising, opposedly-spaced vertical frame elements each consisting of a pair of back-to-back bonded members of U-shaped cross section the lateral portions of which are turned inwardly to form opposed right-angle extensions, a lower horizontal frame element consisting of a member of U-shaped cross-section which has the lateral portions turned inwardly to form opposed right-angle extensions and mounting a plurality of other U-shaped members which have their lateral portions turned outwardly to form right-angle extensions defining inwardly-opening panel-seating grooves, panel retainers in cross-section form of a base with transverse parallel tongues yieldingly embraced between the right-angle extensions of the members of each vertical frame element to space the base of each panel retainer from the respective member to provide inwardly-opening panel-seating grooves registering with the panel-seating grooves of the horizontal frame element, a pair of spaced parallel panels seated in the registering grooves at the opposite sides of the assembled frame elements, an upwardly-open U-shaped base member positioned on the floor below the assembled frame members and panels, a plurality of base pedestals interposed between the U-shaped base member and the bottom frame element and anchored to the floor to support the assembled frame elements and panels above the floor to provide a raceway under and along the length of the lower horizontal frame element, and a plate having the upper lateral portion tapered inwardly and upwardly and the edge bent to form a hook seated in the panel-retaining groove in the lower horizontal frame element with the other lateral edge of the plate disposed along the floor in contact with the U-shaped base member whereby the plate constitutes a removable apron concealing the raceway.

11. A building partition comprising, opposedly-spaced

vertical frame elements each consisting of a pair of back-to-back bonded members of U-shaped cross section the lateral portions of which are turned inwardly to form opposed right-angle extensions, a lower horizontal frame element consisting of a member of U-shaped cross-section which has the lateral portions turned inwardly to form opposed right-angle extensions and mounting a plurality of other U-shaped members which have their lateral portions turned outwardly to form right-angle extensions defining inwardly-opening panel-seating grooves, panel retainers in cross-section form of a base with transverse parallel tongues yieldingly embraced between the right-angle extensions of the members of each vertical frame element to space the base of each panel retainer from the respective member to provide inwardly-opening panel-seating grooves registering with the panel-seating grooves of the horizontal frame element, a pair of spaced parallel panels seated in the registering grooves at the opposite sides of the assembled frame elements, an upwardly-open U-shaped base member positioned on the floor below the assembled frame members and panels, a plurality of U-shaped base pedestals each having a transverse flange

bonded across the upper ends of the parallel leg parts thereof, fasteners securing the ends of the leg parts of each pedestal to the ends of the vertical frame elements and the flanges to the ends of the horizontal frame element resting on the flanges, other fasteners anchoring the pedestals and the base member to the floor to support the assembled frame elements and panels above the floor to provide a raceway under and along the length of the lower horizontal frame element, and a plate having the upper lateral portion tapered inwardly and upwardly and the edge bent to form a hook seated in the panel-retaining groove in the lower horizontal frame element with the other lateral edge of the plate disposed along the floor in contact with the U-shaped base member whereby the plate constitutes a removable apron concealing the raceway.

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