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3,570,200

PARTITION PANEL STRUCTURES

Filed April 14, 1969

2 Sheets-Sheet 1

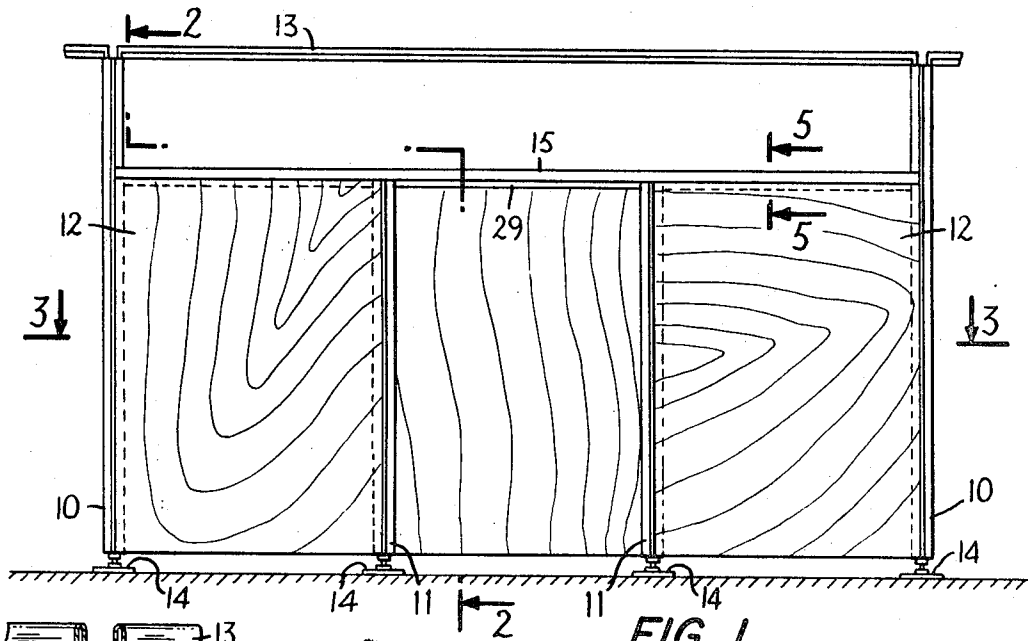


FIG. 1

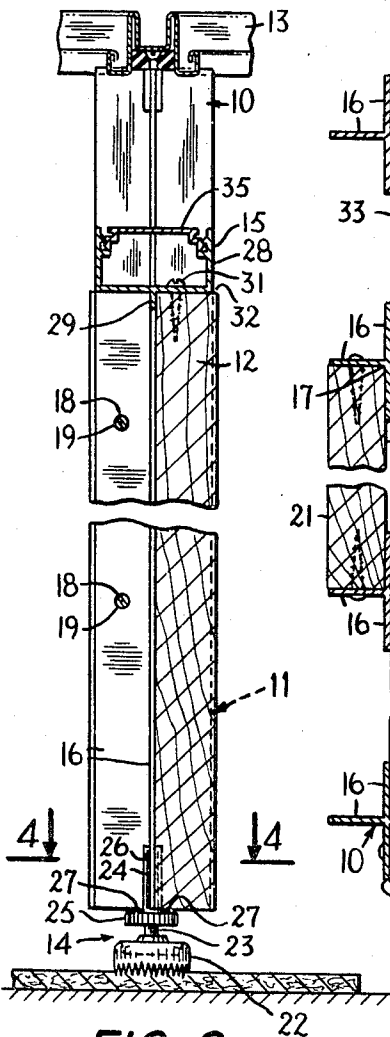


FIG. 2

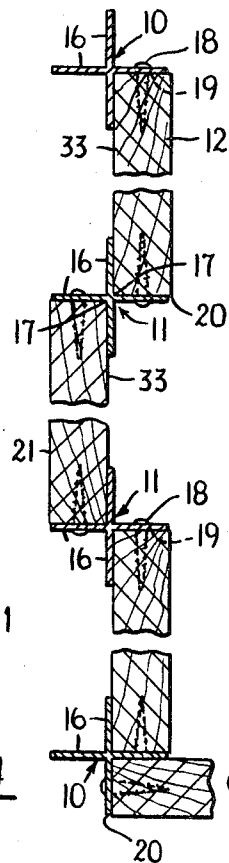


FIG. 3

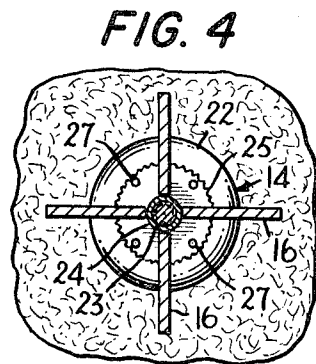
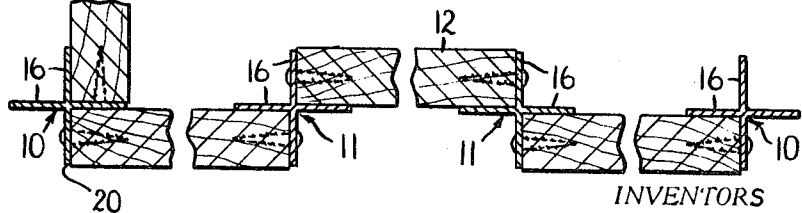


FIG. 4



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FIG. 5

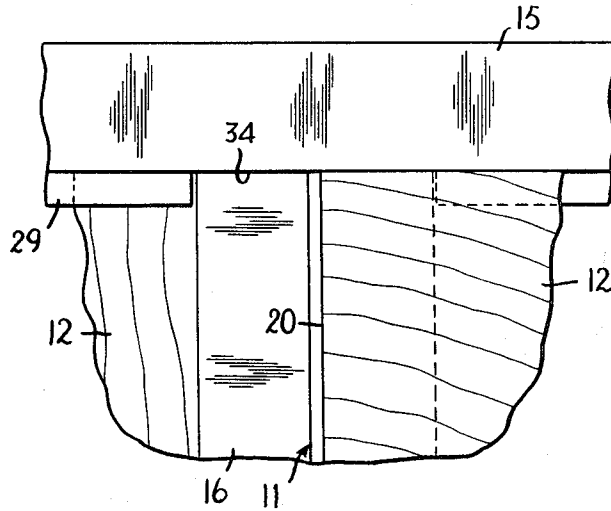
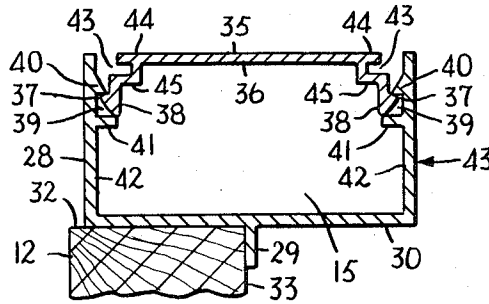


FIG. 6

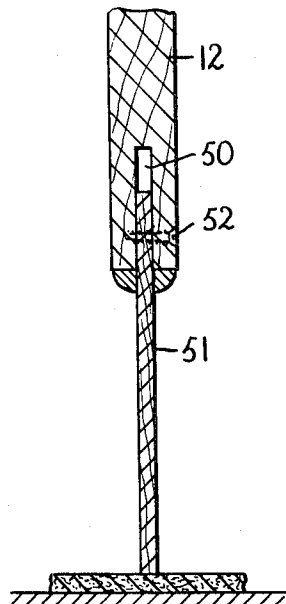


FIG. 7

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PARTITION PANEL STRUCTURES

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12 Claims

ABSTRACT OF THE DISCLOSURE

An interior partition panel structure which includes an extruded vertical post support having a cross-sectional configuration of a cross formed by orthogonally intersecting flat members, and an adjustable base member. Panels join the posts with the panel edges received in corners defined between the orthogonal flat members of the posts, and with adjacent panels at each post having their edges located in diagonally opposite corners. A transom bar mounted along the top edges of the panels is fitted with a removable cover, and a projecting rib of the transom bar serves to align the panels along their top edges. A baseboard slidably received in a slot in the bottom of the panels can be used to fill the space between the bottom of the panels and the floor.

BACKGROUND OF THE INVENTION

This invention relates to an improved interior partition panel which is both esthetically appealing and easy to erect and disassemble, and which employs a novel supporting post that may be used at corners and in straight-runs of the partitions to accept panels of any standard design without the use of special fittings and hardware.

Interior partitions for office buildings, schools and factories are in widespread use for dividing large rooms into smaller areas of various sizes, and there are many types of partition assemblies for as many specific purposes. Of the several known types of assemblies, however, many are intended for permanent erection only or require specially designed fittings, hardware and panels so that little versatility is available from any single assembly. Moreover, many interior partitions are both complex to erect and expensive to purchase, restricting their appeal for temporary partition installations. In general, the trend in such partitions has been away from simple, universal designs.

In several known types of structural frame members for partitions, the vertical and horizontal framing members are of complex extruded cross-sectional configuration, having various webs and flanges defining grooves and channels for receiving attaching hardware consisting of lugs, brackets and other interlocking attachments for securing the panels to the framing members. Yet other supporting posts, although structurally simple, require unsightly fastening lugs and brackets for attaching the partition panels.

It therefore is an object of this invention to provide a simply constructed interior partition panel structure which can be easily and quickly assembled and disassembled.

It is another object of this invention to provide a partition structure with a minimum number of elements, all of which may be inexpensively and quickly mass produced.

It is a further object of this invention to provide a partition structure of neat and unique esthetic appearance, and which avoids the primary objections to structures of the prior art.

SUMMARY OF THE INVENTION

In brief, these and other objects of the invention are attained by an interior partition panel structure which includes a vertical, preferably extruded, post support having a cross-sectional configuration of a cross formed between intersecting flat flanges or webs. Preferably, the posts are supported by adjustable base members. Edges of closure panels are received in corners defined between the intersecting webs of respective posts, and panels are attached to the webs by screws or other suitable fastening elements. In the preferred embodiment, the edges of adjacent panels are received in diagonally opposite corners of the same post, and a transom with a removable snap-on cover is mounted along the top of the panels and includes a downwardly projecting rib serving to align the panels at the top. The bottom edges of the panels may be provided with a slot to slidably receive a baseboard, which may be added to fill the space between the bottom of the panels and the floor.

BRIEF DESCRIPTION OF THE DRAWINGS

For a better understanding of the invention, reference may be made to the following detailed description of exemplary embodiments, and to the drawings, in which:

FIG. 1 is an elevational view of an interior partition panel structure in accordance with the invention;

FIG. 2 is an enlarged, fragmentary cross-sectional view taken on line 2—2 of FIG. 1;

FIG. 3 is an enlarged, fragmentary cross-sectional view taken on line 3—3 of FIG. 1;

FIG. 4 is an enlarged cross-sectional view of a vertical support element taken on line 4—4 of FIG. 2;

FIG. 5 is an enlarged cross-sectional view of a transom element taken on line 5—5 of FIG. 1;

FIG. 6 is an enlarged elevational view showing the intersection of a vertical support element, partition panels and transom; and

FIG. 7 is an enlarged fragmentary cross-sectional view of the lower portion of a partition panel with an adjustable baseboard suitable for use with the invention.

DETAILED DESCRIPTION OF THE INVENTION

FIG. 1 illustrates an erected partition assembly according to the invention which includes vertical post supports 10 and 11 to which are affixed wood or metal partition panels 12. The panels may be, for example, standard commercial doors of hollow plywood box construction, or any other commercially available panel. Since the assembly is designed for maximum versatility and requires no special attaching hardware, the selection of the panel size and material is not critical. The posts 10, 11 may extend to the ceiling to be joined to a ceiling channel 13, although the posts need not be longer than the height of the partition.

Each of posts 10, 11 has a supporting base member 14 at its foot that can be adjusted to raise and lower the height of the post and attached panels relative to the floor level. A transom 15, more fully described below, is mounted at the top of the panels 12.

Each vertical post 10, 11, as illustrated best in FIGS. 2, 3 and 4, has a cross-section in the shape of a square cross formed by a pair of flat webs, or flanges, 16 intersecting at right angles. Preferably, the posts are extruded in unitary form from a suitable material, such as aluminum, which can be cut in any desired length and given an attractive finish by etching, anodization or spray coating, as desired. The vertical edges 17 of adjacent panels are received in diagonally opposite post corners defined between the intersecting webs 16, and the panels are affixed to the posts by screws 18 or other suitable fasteners

extending through holes **19** bored in the webs and engaging the panel ends **20**, or, in an alternative arrangement, engaging the panel sides **21** near the panel ends. In the resulting configuration of the preferred arrangement, the panel sections **12** alternate on opposite sides of those webs which extend parallel to the plane of the finished partition structure.

As shown in FIGS. 1, 2 and 3, the vertical posts **10** may be used as either end posts or corner posts. Because of the configuration of the support posts, panel ends **20** need not abut the same projections of the common web, thereby making all panel ends accessible to fasteners extending through the web and allowing the mounting of panels along the partition wall in any desired order. Moreover, the alternating, staggered displacement of the panels forwardly and rearwardly of the webs parallel to the finished partition makes the partition esthetically more pleasing and interesting to a viewer. In this connection, it will be noted that the panels can be disposed consecutively in a common direction, rather than in alteration forwardly and rearwardly.

The base member **14** associated with each post, as depicted in FIGS. 1, 2 and 4, consists in part of a foot or rug grip **22** attached to an externally threaded screw leg **23**. The screw leg **23** is received in a hollow internally threaded cylindrical bushing **24** to which is attached a knurled adjusting nut **25** for adjustment of the bushing with respect to the legs **23**. Each nut includes protrusions **27** from its upper surface for engaging the ends of the web members at the lower end of the post support when the nut is turned, thus preventing undesired turning of the nut once set. The base supporting bushing **24** fits into a recess **26** formed between notched portions of the intersecting webs at the lower end of each vertical post and, thus, the bushing may be easily inserted or removed from the post, eliminating the need for special attaching devices between the base member and the posts.

When the adjusting nut **25** is turned, the bushing **24**, the top of which contacts the upper end of the recess **26** is lowered or raised relative to the leg **23**, thereby raising or lowering the post height from the floor. Each post can thus be individually adjusted in height to compensate for variations in floor elevations from point to point.

The transom **15**, illustrated in FIGS. 1, 2 5 and 6, consists in part of a transom channel member **28** with a rib **29** projecting downwardly from the undersurface **30** of the member **28**. Screws **31**, extending through holes bored in the under surface of the channel member and into the upper ends **32** of the panel section, may be used to secure the transom atop the partition. The faces **33** of the panel sections are fitted against and aligned by the rib which, in addition, gives a finished appearance to the otherwise exposed top edges of the panels, as is best observed from FIGS. 5 and 6. A recess **34**, formed where the rib **29** is cut away, receives a vertical post **11** at each intersection of the transom, panel sections, and vertical posts, as depicted in FIG. 6.

A snap-on cover **35**, consisting of a cover piece **36** having a latch **37** along each longitudinal edge covers the open channel of the member **28**, providing a closed conduit for electrical or communications wiring. Each latch **37** consists in part of a hook **38** which locks into a recess **39** formed between an inwardly and downwardly tapering projection **40** and an inwardly projecting flange **41**. When the cover is placed over the opening of the channel member and pushed downwardly, the walls **42** of the member **28** spring apart slightly as the hooks **38** pass over the tapering surfaces of the projections **40**. The cover **35** also includes a narrow channel **43** formed between the portions **44**, **45** to accept a prying instrument for removal of the cover. A screw driver, for example, inserted into the channel **43** and forced downwardly deflects the channel walls **42** outwardly to release the hooks **38** from their positions in the recesses **39**.

FIG. 7 illustrates a panel having a slot **50** at its lower

edge to accommodate a wood or metal baseboard **51** free to slide within the slot. The baseboard may be lowered to a desired level to completely close the space between the bottom of the panel and the floor and fastened by a screw **52**.

The embodiments of the invention described herein are illustrative only. Many variations and modifications may be made by one skilled in the art without departing from the spirit and the scope of the invention. For example, the webs of the support post need not intersect at precisely right angles, so that the corners formed by the webs might define acute and obtuse angles. Further, adjacent panels need not be staggered forwardly and rearwardly of the partition line, even though adjacent panel edges are located in diagonally opposite corners of the post. In addition, panel edges need not be located in diagonally opposite corners, but, instead, panel ends may abut the same projections of a common web. All such variations and modifications, therefore, are intended to be included within the scope of the appended claims.

We claim:

1. A partition panel structure comprising a multiplicity of post supports, each of the post supports including four flange portions and each adjacent pair of flange portions intersecting perpendicular to each other thereby defining between the four flange portions two pairs of diagonally opposite right-angle corners, a multiplicity of panel elements, each of the panel elements including opposite longitudinal panel edges disposed substantially perpendicular to opposed major faces of the panel elements, at least one corner of each of the support posts receiving one of such opposite longitudinal panel edges and each opposite longitudinal panel edge being received by one of said post supports the received longitudinal panel edge abutting against a portion of one of the flange members which defines the receiving corner in face to face relation and a portion of one major face of the panel element abutting an adjacent flange portion of the receiving corner in face to face relation, and spaced fastening elements extending through the portion of each flange member against which a longitudinal panel edge abuts, like fastening elements engaging the panel end and securing the panel element to the post support.

2. A partition panel structure in accordance with claim 1 wherein the post supports include a recess at the lower end of the post supports formed at the intersection of the web members, and a supporting base member for the post supports received in the recess.

3. A partition panel structure in accordance with claim 1 wherein panel elements whose longitudinal axes are substantially parallel are juxtaposed with their respective adjacent longitudinal edges being received in opposite corners of a common post support.

4. A partition panel structure in accordance with claim 1 wherein panel elements whose longitudinal axes are perpendicular to each other are positioned with their respective longitudinal edges being received in adjacent corners of a common post support.

5. A partition panel structure in accordance with claim 1 wherein panel elements whose longitudinal axes are perpendicular to each other are positioned with their respective longitudinal edges being received in opposite corners of a common post support.

6. A partition panel structure in accordance with claim 1 further comprising a transom member including a channel member having upstanding walls connected by an undersurface which abuts in face to face relation the upper longitudinal edge of corresponding panel elements, a rib connected to the undersurface and projecting downwardly along the longitudinal axis of the undersurface, the rib abutting in face to face relation one of the major faces of the panel elements, and spaced fastening elements extending through the portion of the undersurface against which the longitudinal edge of the corresponding panel elements abut, the fastening elements engaging the upper

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panel end and securing the transom member to the corresponding panel elements.

7. A partition panel structure in accordance with claim 6 wherein a cover member is connected to the upstanding walls, the upstanding walls including means for fastening the cover member to the walls.

8. A partition panel structure in accordance with claim 7 wherein the fastening means includes an inwardly projecting flange connected to each of the upstanding walls and further includes an inwardly and downwardly tapering projection connected to the upstanding walls above the flanges thereby forming a recess, and latch means connected to the cover member which joins in locking relation with the recess.

9. A partition panel element in accordance with claim 8 wherein the latch means includes a hook element for insertion into the recess.

10. A partition panel element in accordance with claim 9 wherein the cover member includes a step portion, and further includes a flange member extending laterally outward and over the step portion thereby forming a recess in the cover member.

11. A partition panel structure in accordance with claim 2, in which the supporting base member comprises:

- a foot;
- an externally threaded screw leg attached to the foot; and
- a hollow internally threaded cylindrical bushing engaged with the screw leg and received in the post support recess.

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12. A partition panel structure in accordance with claim 11, further comprising:

- an adjusting nut attached to the bushing and including at least one upward protrusion on its upper surface positioned to engage the ends of the web members at the bottom of the post support when the nut is turned.

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