

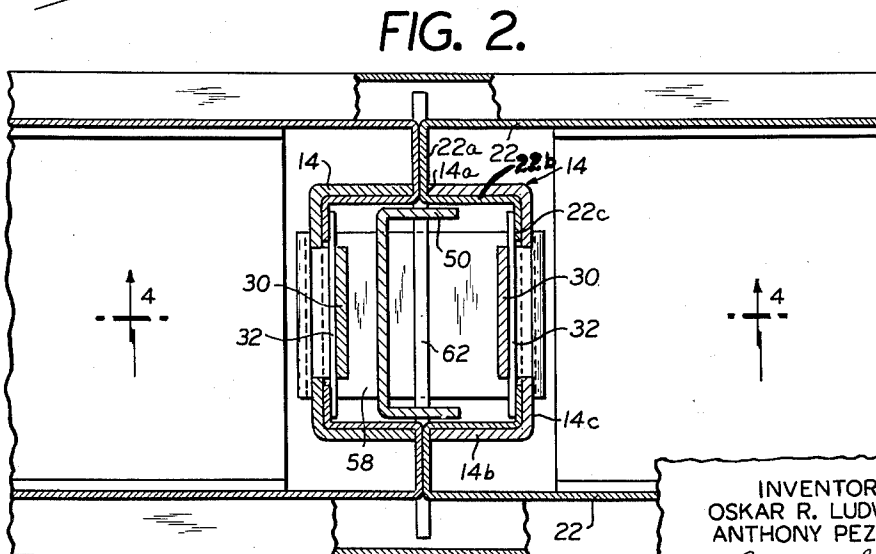
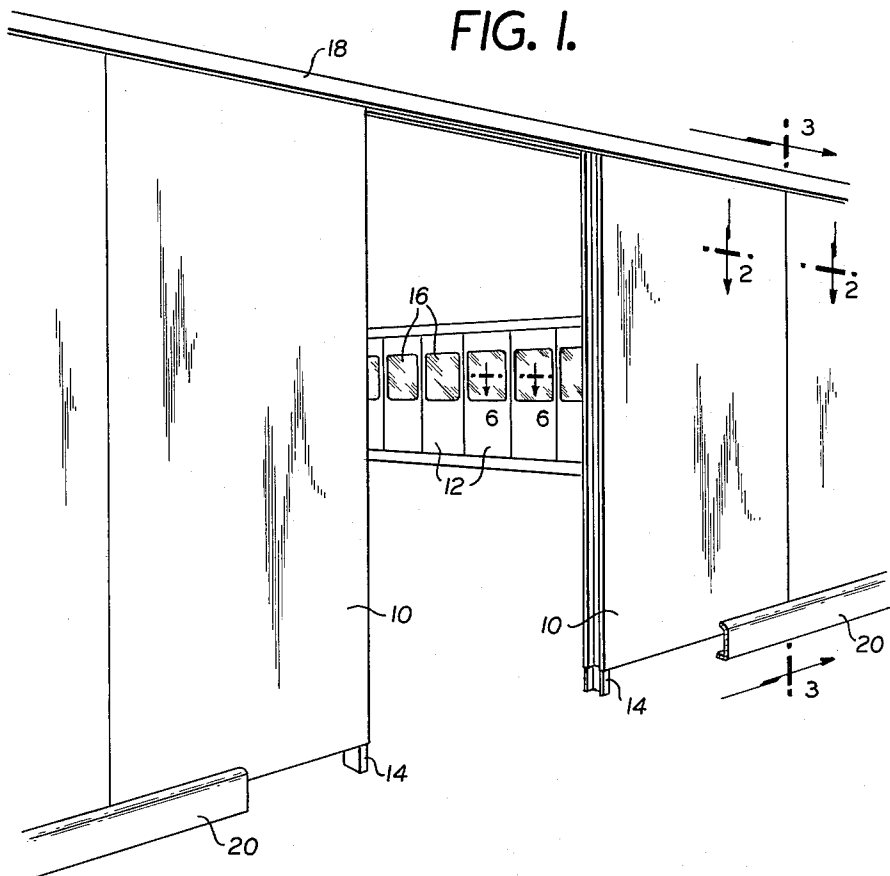
Sept. 12, 1961

O. R. LUDWIG ET AL  
ROOM DIVIDER PARTITIONS

2,999,568

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3 Sheets-Sheet 1



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FIG. 3.

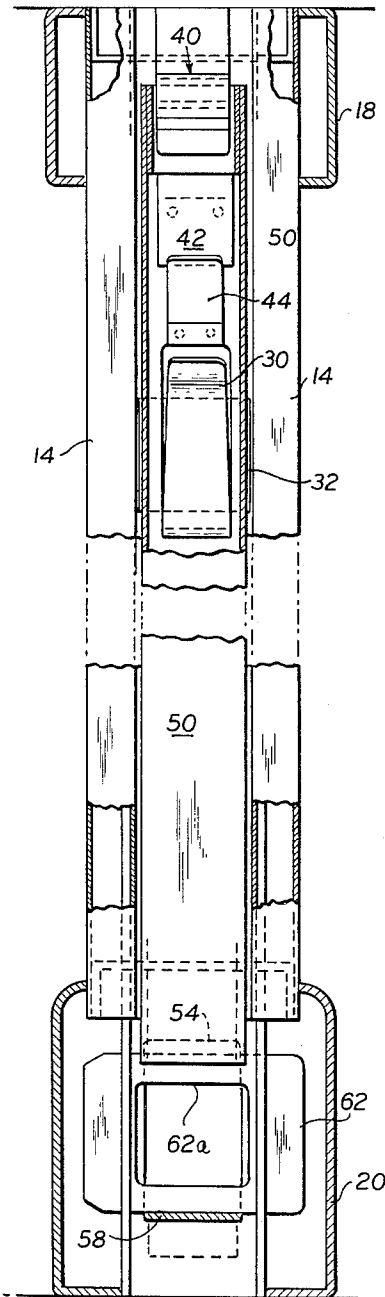
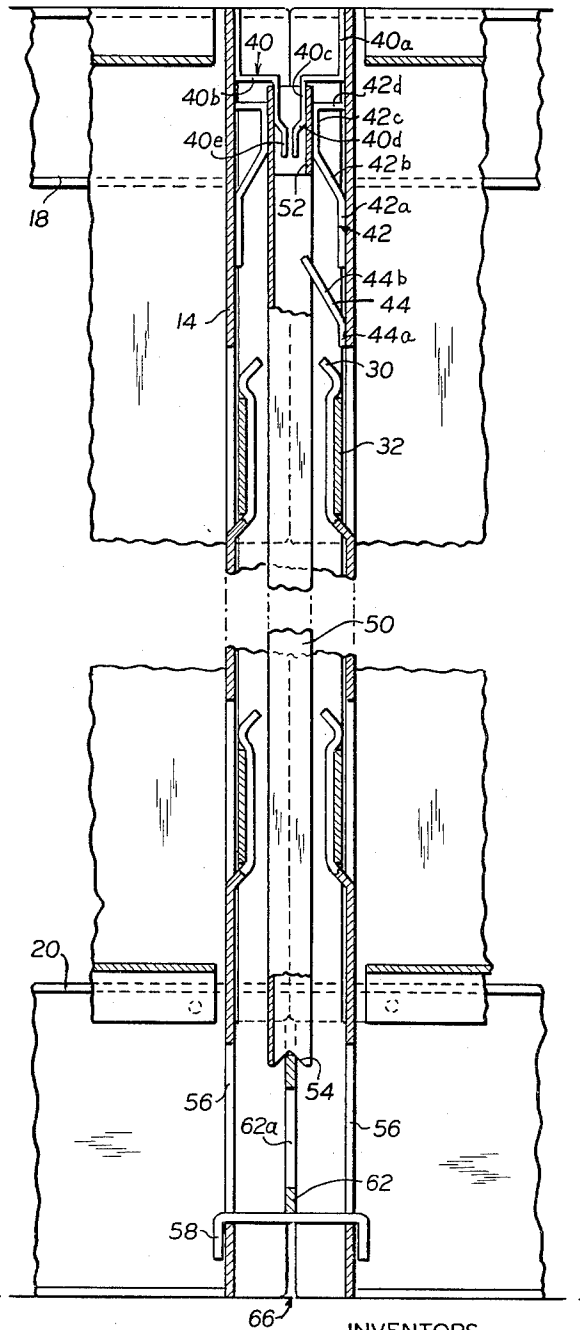


FIG. 4.



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FIG. 5.

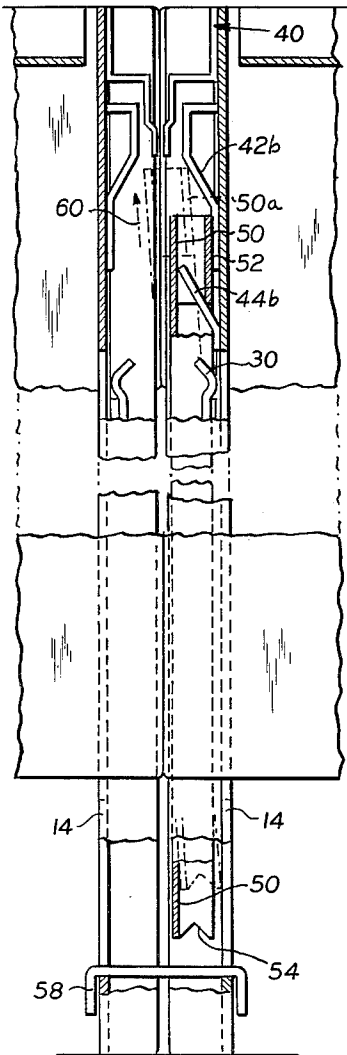


FIG. 6.

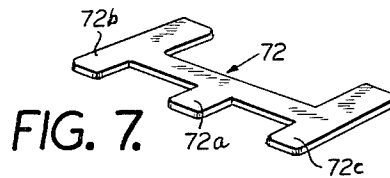
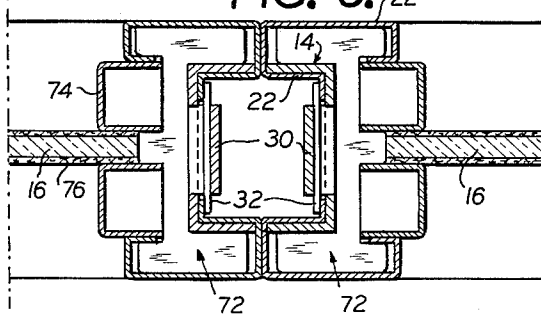


FIG. 8.

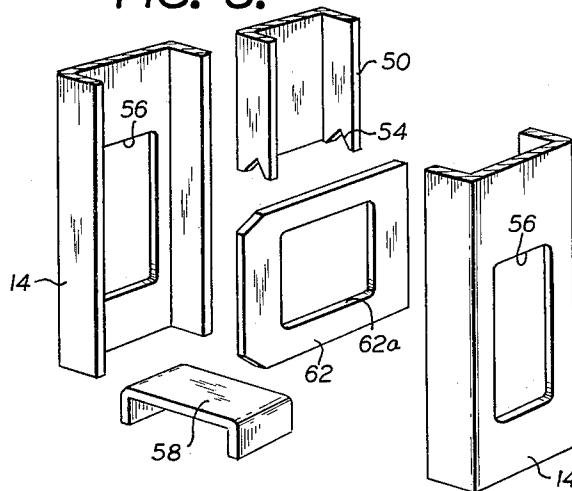
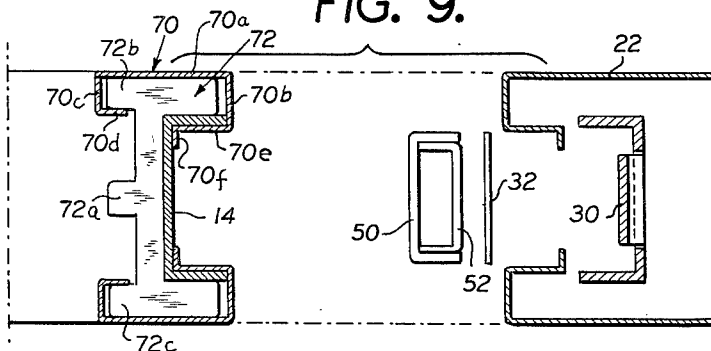


FIG. 9.



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2,999,568

## ROOM DIVIDER PARTITIONS

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Filed May 26, 1960, Ser. No. 31,977  
4 Claims. (Cl. 189-34)

This invention relates to vertical partitions of the type commonly used as space or room dividers. More specifically, the invention relates to room divider partitions of the type generally known as single-line partitions.

Room divider partitions of the general character under discussion comprise a plurality of horizontally spaced vertical posts and a plurality of panels mounted on said posts. The posts are usually secured to the floor and may, in addition, be secured to the ceiling. The panels may be opaque and made of such materials as sheet steel, plywood and the like, or they may be light-transmitting in the sense of being provided with glass window panes which are either translucent or transparent depending upon the requirements of each given installation.

In partitions of this general character, the post is usually exposed to view and there are at least two visible lines of juncture between each post and its adjacent panel structure. Sometimes four lines of juncture are visible at each post. In such case the post is flanked on both sides by cover strips which conceal the connecting elements between the posts and the panels. There are two lines of juncture between the post and said cover strips and two additional lines of juncture between said cover strips and the panels.

It is the object of this invention to provide a partition structure of the character described wherein the posts are concealed from view and the panel structures are placed edge to edge with only a single line of juncture between each adjacent pair.

This type of partition is known in the trade as a single-line partition and it is generally preferred over the two-line or four-line partitions above mentioned.

There is no serious difficulty in building single-line partitions of the permanent type, that is, partitions which are permanently installed. The difficulty arises in constructing single-line partitions which can readily be assembled and disassembled. The problem is to provide connecting means between the post and the panel structures, such connecting means to be concealed and yet readily accessible. By the same token, the post should also be concealed and equally readily accessible. In a single-line partition construction nothing is visible but the panel structures themselves and the single lines of juncture between them.

The object of the present invention is attained by the provision of dual or double posts between adjacent panel sections and connecting means between each pair of such posts. The posts are open channels disposed with their open sides in facing relationship. The connecting means is situated within and between said open channelled posts. Access to said connecting means may be had at the base of the posts, normally covered by a molding strip.

The essential feature of the connecting means resides in the provision of a locking element which is movable from a position wholly within one of the channel-shaped posts to a position across the line of juncture between the posts, extending partly into each post. When the locking member is lodged in its first-mentioned position, namely, wholly within one of the channel-shaped posts, there is no locking action between said locking member and said posts. When the locking member is disposed in its second-mentioned position, that is, between the two posts and projecting partly into each of them, the two posts are locked against relative movement laterally or transversely

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of the partition plane. In short, the locking member functions as an obstacle to block such relative movement between the two posts.

The movement of the locking member from its first-mentioned or unlocked position to its second-mentioned or locked position may be effected by various means and in various ways. Preferred is the cam mechanism shown in the drawing whereby the locking member is cammed laterally into locking position when it is moved upwardly and whereby said locking member is cammed laterally into unlocking position when it is moved downwardly. Such vertical movement either upwardly or downwardly of the locking member may be effected manually at the base of the posts.

Although the invention is applicable to partition structures made of various materials and in various designs, it is illustrated in the drawing solely in connection with one particular kind of sheet metal partition construction. This, however, will be understood as merely illustrative and not limitative of the scope of the invention.

The principles of the invention are illustrated in the accompanying drawing, in which

FIGURE 1 is a perspective view of a number of partitions made in accordance with one form of the invention.

FIGURE 2 is a fragmentary, enlarged, horizontal section on the line 2-2 of FIGURE 1, showing the posts and connections between two adjacent panel sections.

FIGURE 3 is an enlarged, fragmentary, vertical section on the line 3-3 of FIGURE 1, also showing the posts and connections between adjacent panel sections.

FIGURE 4 is another enlarged fragmentary, vertical section taken on the line 4-4 of FIGURE 2, said section being in a plane which intersects the plane of the section of FIGURE 3 at right angles, the locking member being shown in locking position.

FIGURE 5 is a vertical section similar to that of FIGURE 4 but showing the locking member in unlocked position.

FIGURE 6 is an enlarged, fragmentary, horizontal section on the line 6-6 of FIGURE 1 showing the present invention applied to partitions provided with window panes.

FIGURE 7 is a perspective view of one of the components of the partition structure herein claimed, said component being also shown in plan view in FIGURE 9.

FIGURE 8 is a fragmentary, perspective, exploded view of several of the components of the partition structure herein claimed.

FIGURE 9 is a fragmentary, horizontal section in exploded view showing some of the components of the partition structure herein claimed.

Referring now to FIGURE 1 of the drawing, it will be observed that the invention may be applied to solid or opaque wall partitions 10 and also to windowed partitions 12 as well as to any other conventional type of room dividing partitions of the character under discussion. Partitions 10 consist of a plurality of sheet metal panels and supporting posts 14 and such additional conventional framework as may be required. Partitions 12 consist of a plurality of sheet metal panels having glass windows 16 installed therein. These partitions 12 are also provided with supporting posts 14 and such additional conventional framework as may be desired. The upper and lower molding strips 18 and 20 respectively may be conventional although said lower molding strips 20 are herein used for a purpose which is not conventional. This purpose will shortly be described.

Supporting posts 14 are channel members which may be secured by conventional means to a floor and, in some cases, to a ceiling. The method and means of holding said posts in place are not herein claimed. It will be understood that each panel section is provided with two

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such channel-shaped posts 14, one along each vertical side edge thereof. Since the panel sections are placed side by side in typical partition arrangement each supporting post of each panel section will be disposed immediately adjacent and facing the supporting posts of the adjoining panel. This arrangement is best shown in FIGURE 2. It will also be seen in FIGURE 2 that the sheet metal sides 22 of each panel section are bent inwardly at right angles at their respective end portions to form transverse end walls 22a, said end walls having a pair of flange portions 22b formed thereon in parallel relation to each other and parallel to the sheet metal sides 22, said flanges 22b being themselves provided with inwardly bent end portions 22c which are aligned with each other and are parallel to the end walls 22a.

End walls 22a but the forward edges 14a of channel 14, side flanges 22b abut the side walls 14b of said channel on the inner facing sides thereof, and end portions 22c abut yoke or web 14c of said channel.

Struck out of said yoke or web 14c, inwardly thereof, and at predetermined locations thereon are locking clips 30. These locking clips are best seen in FIGURES 2, 3 and 4. Locking bars 32 are provided for such locking clips, one locking bar for each clip. It will be seen in FIGURE 2 that locking bars 32 are interposed between the locking clips 30 on the one hand and the end portions 22c of the sheet metal panel sides on the other hand, thereby clamping said end portions 22c against the yoke or web 14c of the channel. It is by this means that the sheet metal panels are detachably secured to the channel-shaped supporting posts 14. When the end walls 22a of each pair of adjacent panel sections abut each other, as shown in FIGURE 2, only a single line of juncture is visible between such adjacent panel sections, on their outer exposed sides.

Thus far it has been shown how each panel section is mounted on its channel-shaped posts 14. What will now be described is the method of locking adjacent posts 14 to each other and blocking out the light that might otherwise penetrate between the end walls 22a of the adjacent panel sections.

Tie clips 40 are secured, preferably by welding, to the upper ends of the yoke or web portions of the channel-shaped posts 14. Each such tie clip is provided with a first vertical flange 40a which is secured to said yoke or web, a horizontal flange portion 40b which extends outwardly at right angles from said vertical flange 40a, and a second vertical flange 40c which depends from the horizontal flange 40b. There is a diagonally bent portion 40d at the lower end of vertical flange 40c and a third vertical flange 40e which depends from said diagonal portion 40d. It will be noted in FIGURE 4 that vertical flanges 40c of adjacent tie clips 40 are disposed in spaced parallel relationship to each other as by vertical flanges 40e, the latter being situated closer to each other than the vertical flanges 40c. Indeed, it may be found desirable to abut said flanges 40e against each other.

Situated adjacent each tie clip 40 is a guide clip or bracket 42. Said guide clip is provided with a vertical flange 42a which is secured, preferably by welding, to the yoke or web channel post 14. Projecting diagonally outwardly and upwardly from vertical flange 42a is a diagonal flange or cam 42b, projecting upwardly from said diagonal portion is a second vertical flange 42c and projecting horizontally therefrom and toward the web or yoke channel post 14 is a horizontal flange 42d. It will now be observed in FIGURE 4 that the vertical flanges 42c of each pair of adjacent guide clips 42 are disposed in spaced parallel relation to each other, paralleling and overlapping the vertical flanges 40c of the adjacent tie clips. Horizontal flanges 42d of each pair of adjacent guide clips are horizontally aligned and their end portions abut the yoke or web of their respective channel-shaped posts 14.

Also secured to the web or yoke of one of the channel-shaped posts of each pair of such posts is a second guide

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clip 44. Said second guide clip is provided with a vertical flange 44a which is welded or otherwise secured to said yoke or web and a diagonal flange 44b which projects upwardly and diagonally from said vertical flange 44a. A locking channel 50 is provided for and between each pair of adjacent channel-shaped posts 14. Secured to the upper end of said locking channel 50 is a U-shaped member 52 which closes off said channel at its said upper end and forms what may be described as a box section or sleeve. At the lower end of the locking channel is a notch 54 which performs a function shortly to be described.

Cut-out portions 56 are formed in the yokes or webs of the channel-shaped posts 14 adjacent their lower ends. A tie clip 58 of inverted U-shape projects through said cut-outs 56 of adjacent posts 14, engages the yokes or webs of said posts and ties them together at their lower ends.

When locking channel 50 is disposed wholly within one of the channel-shaped posts 14, as shown in FIGURE 5, it is in unlocked position. U-shaped member 52 rests on diagonal guide flange or tongue 44b and the locking channel is thereby supported in said unlocked position. When it is desired to move said locking channel into locking position between the two adjacent channel-shaped posts 14, it is moved upwardly in the direction of arrow 60 shown in FIGURE 5. The U-shaped member 52 cams its way along the adjacent diagonal flange 42b of the guide clip or bracket 42. This is indicated by dotted lines 50a in FIG. 5. Further upward movement of the locking channel will bring it into its locking position as shown in FIGURE 4, flanges 40c, 40d and 40e of the tie clips 40 projecting into the box section formed at the upper end of said locking channel and flanges 42c of the guide clips 42 abutting the outer sides of said box section. More specifically, one of said flanges 42c abuts the yoke of the U-shaped member 52, and the other flange 42c abuts the yoke or web of the locking channel proper. It will thus be seen that the box section at the upper end of said locking channel is not only held centrally in place between the two channel posts 14 but it also performs the function of tying the upper ends of said posts 14 together. The lower end of the locking channel projects downwardly and is supported by a vertical plate 62. Said vertical plate 62 extends between said posts 14 and it stands on tie clip 58. It will be observed in FIGURE 4, for example, that the sheet metal side panels do not exceed the full distance to the floor. A space 66 is accordingly left between the two channel-shaped posts 14 which would otherwise be occupied by the end walls 22a of the sheet metal panels. It is through this space 66 that vertical plate 62 may project and it is held in vertical position by reason of its abutment against the forward edges 14a of the side flanges of said channel-shaped posts 14.

The upper end of vertical plate 62 projects into notch 54 of the locking channel and supports the locking channel in its locking position as shown in FIGURE 4.

The locking channel is now disposed between the side walls of the adjacent channel-shaped posts 14 and this prevents any lateral shifting or dislodgment of either of said posts relative to the other. Should it now be desired to move the locking channel to unlocking position, the following procedure takes place: Supporting plate 62 is removed from its supporting position shown in FIGURE 4. Locking channel 50 is now free to be moved downwardly to its unlocking position as shown in FIGURE 5. This involves a sideward movement of the locking channel in addition to its downward movement. The sideward movement is caused by reason of a camming action of diagonal tongue or flange 44b against the lower edge of the yoke of U-shaped member 52.

It will now be understood that when it is desired to shift the locking channel from one position to another, access may be had thereto throughout cut-outs 56 in the channel-shaped posts 14. Lower molding strips 20 are

first removed in order to expose the lower ends of said posts and thereby to gain access to the locking channel. It will be noted particularly in FIGURE 8 that the supporting plate 62 has a hole 62a formed therein. This hole registers in great part with cutouts 56 in posts 14 when said plate 62 is disposed in its supporting position on tie clip 58. Cut-outs 56 and opening 62a may be utilized as passageways for electrical conductors and similar equipment threaded through the apparatus.

Referring now particularly to FIGURES 6, 7 and 9, it will be observed that the present invention may be applied to windowed panel sections as shown in FIGURE 1. Sheet metal frames 70 are provided on opposite sides of each channel-shaped post 14. Each said frame consists of a side wall 70a, pair of spaced, parallel, transverse flanges 70b and 70c, respectively, an end flange 70d connected to flange 70c and disposed in spaced parallel relation to the side wall 70a, another flange 70e connected to flange 70b in spaced, parallel relation to wall 70a, and an end flange 70f connected to flange 70e in parallel relation to the end flanges 70b and 70c. A plate 72 is disposed against the outer walls of channel-shaped post 14 to serve as a core supporting the sheet metal frames 70 in the shape indicated in the drawing. Plate 72 is a modified I-shaped member having a centrally disposed tab portion 72a projecting outwardly therefrom. The transverse end portions 72b and 72c of said I-shaped plate 72 provide the cores for said sheet metal frames 70 and, in turn, said sheet metal frames lock said I-shaped plate 72 in place against channel-shaped posts 14.

Turning now particularly to FIGURE 6, it will be observed that channels 74 are placed between flanges 70d of the sheet metal frames and tab 72a of the I-shaped plate 72. These channels 74 serve as retaining members for the glass panes or windows 16. The side edges of said glass panes abut tab 72a and lateral shifting of the glass panes is accordingly prevented. Conventional means may be used to fasten the glass panes in place, for example, putty 76.

The foregoing is illustrative of preferred forms of this invention and it will be understood that these preferred forms may be modified and other forms may be provided within the broad principles of the invention and the scope of the claims.

We claim:

1. A partition construction of the character described, comprising a plurality of individual panel sections joined together to form a single partition, each said panel section being provided with end posts of channel shape, a locking member being disposed between the adjacent channel-shaped posts of adjoining panel sections, said locking member being movable from a position wholly

within one of said channel posts to a position partly within each of said channel posts, said latter position being its locking position and the former being its unlocked position, said locking member being a channel provided with a box section at its upper end, one of said channel-shaped posts having a pair of cam faces provided thereon for engagement with said box section of the locking channel, said locking channel being movable upwardly to bring its box section into engagement with one of said cam faces, thereby causing said locking channel to be cammed from its unlocked position wholly within said last-mentioned channel-shaped post to its locking position extending across and overlapping both channel-shaped posts, said locking channel being movable downwardly to bring said box section into engagement with the second cam face in order to cam said locking channel back to its unlocked position wholly within said first-mentioned channel-shaped post.

2. A partition construction in accordance with claim 1, wherein each channel-shaped post is provided at its upper end with a clip and a bracket situated a spaced distance from said clip, said box section being engageable with the clips of adjacent channel-shaped posts to tie said posts together at their upper ends, said box section being also adapted to abut the brackets on said adjacent channel-shaped posts to provide a rigid connection between them.

3. A partition construction in accordance with claim 1 wherein guide means are provided at the upper ends of the channel-shaped posts to center the upper end of the locking member between them, this being the locking position of said locking member, a supporting member being removably supported at the lower end of said channel-shaped posts, between said posts, and adapted to support the lower end of said locking member.

4. A partition construction in accordance with claim 1, wherein each panel section is provided with sheet metal sides, said sheet metal sides being wrapped around said channel-shaped posts, their marginal end portions being in abutment with the yoke portions of said channel-shaped posts, tongues being provided on said yoke portions and locking bars being clamped between said tongues and said marginal end portions of the sheet metal sides in order to secure said sheet metal sides to said channel-shaped posts.

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