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L. JACOBSON
MOVABLE PARTITIONS

3,228,157

Original Filed Feb. 27, 1961

3 Sheets-Sheet 1

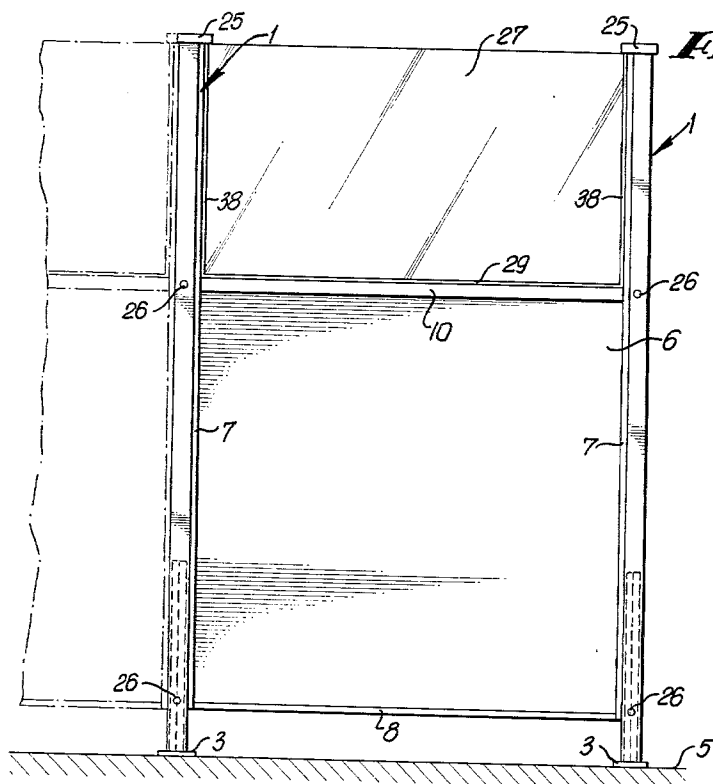


Fig. 1.

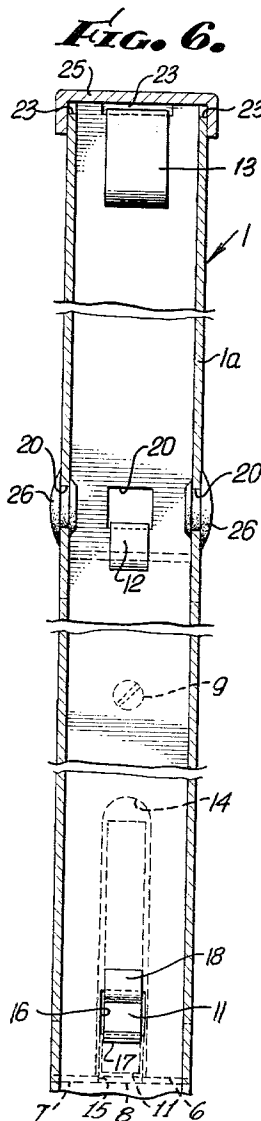


Fig. 6.

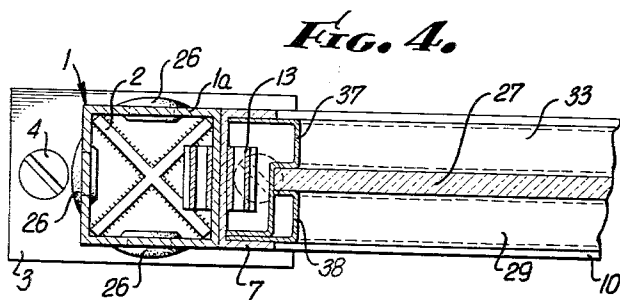


Fig. 4.

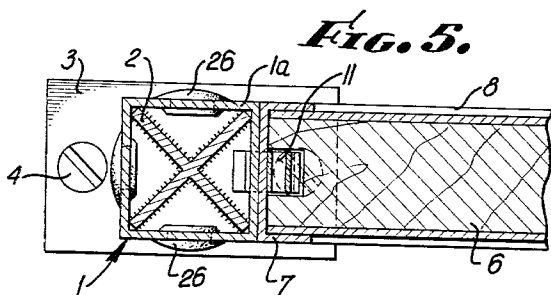


Fig. 5.

INVENTOR.
LOUIS JACOBSON
BY
Flam and Flam
ATTORNEYS.

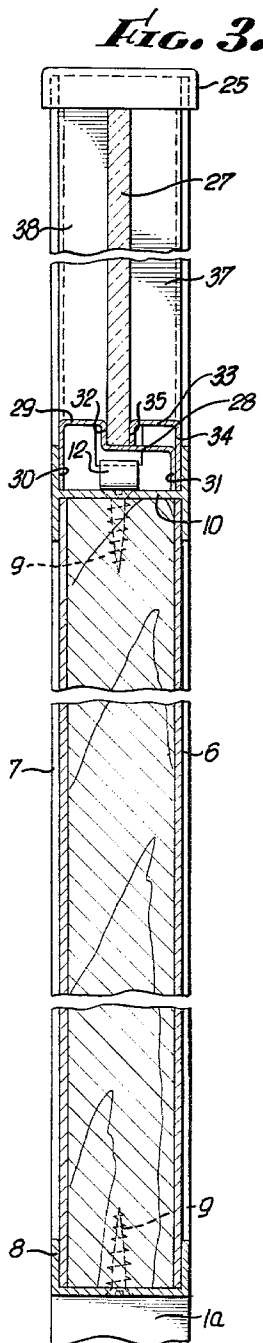
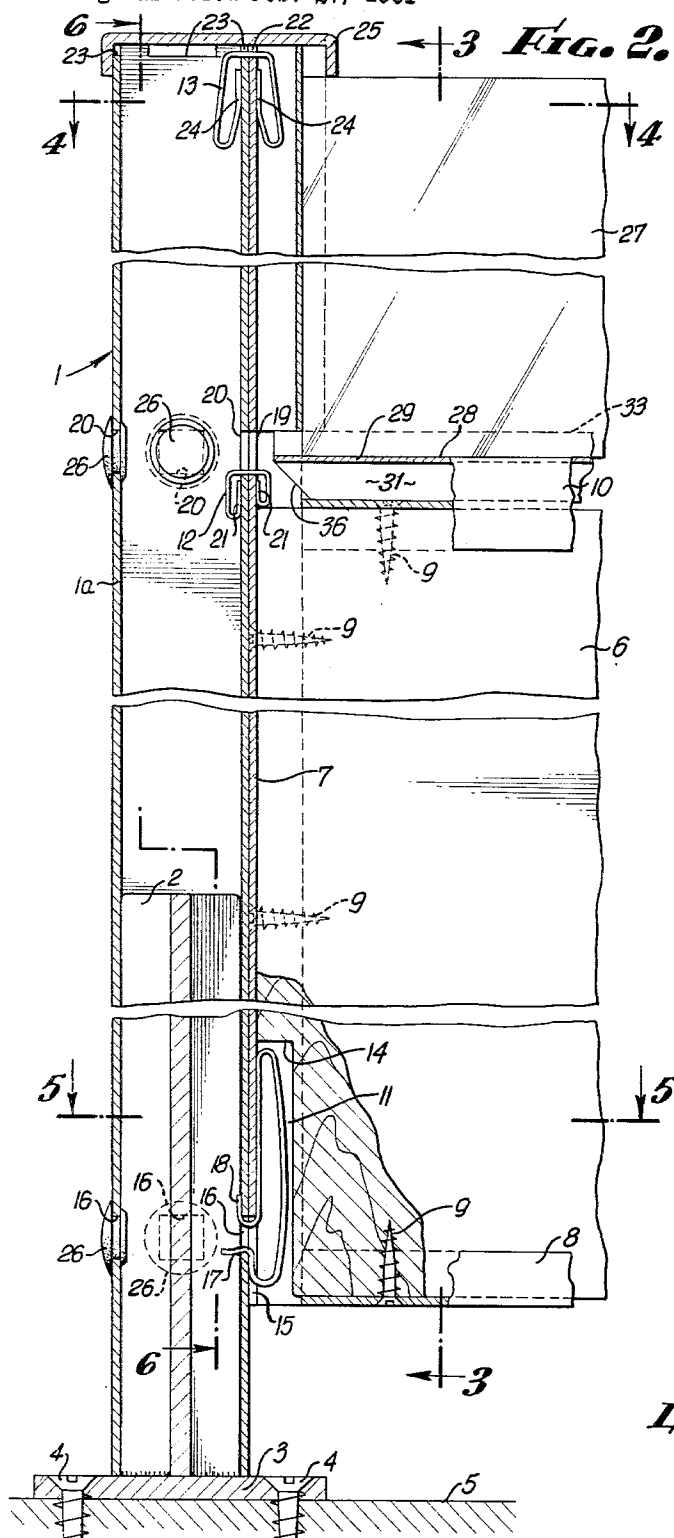
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INVENTOR.

LOUIS JACOBSON
BY

Flam and Flam
ATTORNEYS.

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Fig. 7.

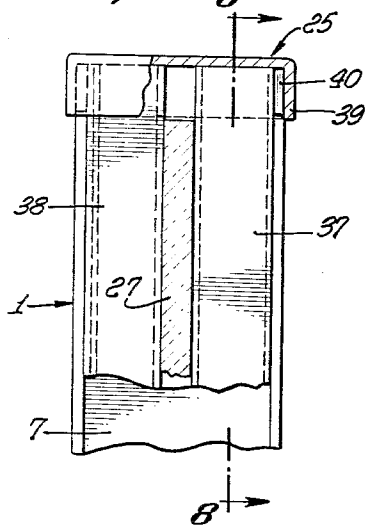


Fig. 8.

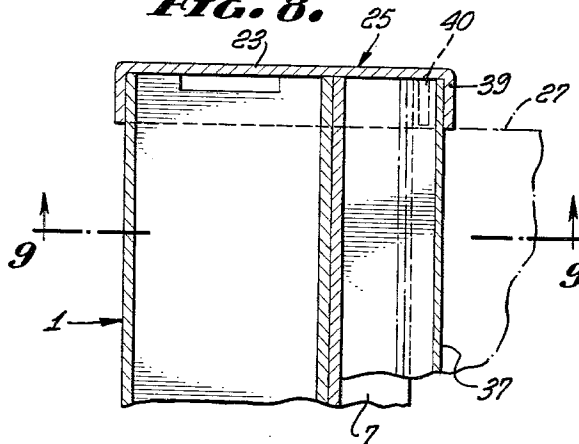


Fig. 10.

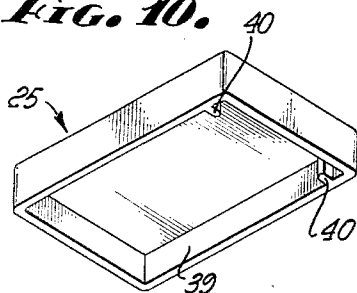


Fig. 9.

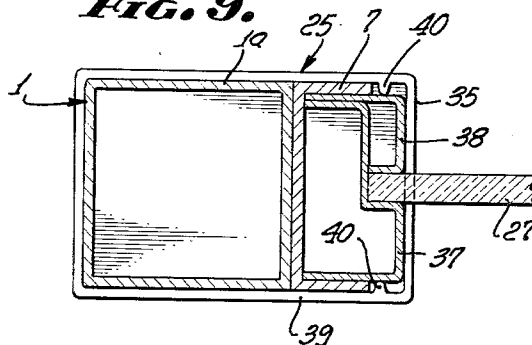


Fig. 11.

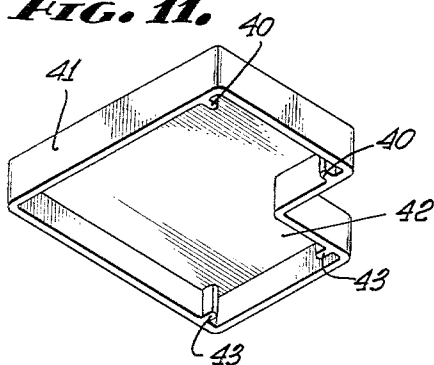
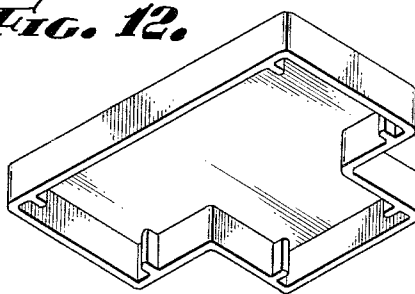


Fig. 12.



INVENTOR.
LOUIS JACOBSON
BY
Flam and Flam
ATTORNEYS

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MOVABLE PARTITIONS

Louis Jacobson, deceased, late of Burbank, Calif., by Bona Rose Jacobson, Burbank, and Curt P. Teller, North Hollywood, Calif., executors, assignors, by mesne assignments, to Movable Walls Corporation, Covina, Calif., a corporation of California

Continuation of application Ser. No. 91,980, Feb. 27, 1961. This application Apr. 13, 1964, Ser. No. 360,799

9 Claims. (Cl. 52-239)

This application is a continuation of my prior application Serial No. 91,980, filed February 27, 1961, now abandoned, and entitled Movable Partitions.

This invention relates to partitions, such as those made up of panels, and particularly to those that may be readily moved and assembled without causing the partitions to become permanently affixed.

Such partitions are found useful to subdivide an area as for offices, and now are found in a wide variety of forms.

It is one of the objects of this invention to provide a simple construction of this character in which the panels are so detachably attached to vertical supports as to facilitate the assembly.

For this purpose, use is made of removable clips that engage both the support and the adjacent panel.

It is often desirable to install window glass above the panels. It is another object of this invention to improve the mode of installation of such glass.

This invention possesses many other advantages, and has other objects which may be made more clearly apparent from a consideration of several embodiments of the invention. For this purpose, there are shown a few forms in the drawings accompanying and forming part of the present specification. These forms will now be described in detail, illustrating the general principles of the invention; but it is to be understood that this detailed description is not to be taken in a limiting sense, since the scope of the invention is best defined by the appended claims.

Referring to the drawings:

FIGURE 1 is an elevation of a movable partition section or segment, incorporating the invention, an additional segment being fragmentarily shown in phantom lines;

FIG. 2 is an enlarged fragmentary sectional view section taken through the vertical support of a movable partition incorporating the invention, some of the parts being broken away in order to reduce the size of the figure;

FIGS. 3, 4, 5 and 6 are detail sectional views, taken along planes corresponding, respectively, to lines 3-3, 4-4, 5-5 and 6-6 of FIG. 2;

FIG. 7 is an enlarged fragmentary view, partly in section, of the upper part of the vertical support, and better illustrating the details of the cap structure mounted on top of the support;

FIG. 8 is a sectional view, taken along a plane corresponding to line 8-8 of FIG. 7;

FIG. 9 is a sectional view, taken along a plane corresponding to line 9-9 of FIG. 8;

FIG. 10 is a pictorial view of the cap shown in FIGS. 7, 8 and 9; and

FIGS. 11 and 12 are views similar to FIG. 10, but illustrating caps adapted to cooperate with partition structures in which there are sections extending at right angles to each other.

The movable partition is supported generally by the aid of spaced, vertical, hollow support structures 1. As shown most clearly in FIGS. 4 and 5, these support structures are of square or rectangular shape. Each structure includes a hollow post or support 1a, made in tubular lengths of aluminum or an aluminum alloy by any appropriate forming process.

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In order to lend rigidity to the structure, a cross piece 2 extends into the bottom of the tubular member 1a. This cross piece may be made of steel or any appropriate material, and has an X section shown most clearly in FIGS. 4 and 5. This stiffener member may extend for several feet into the tubular member 1a.

The bottom of the tubular member or post 1a as well as the bottom of the reinforcing member 2 may be joined, as by welding, to a foot plate 3. The foot plate, in turn, may be attached, as by appropriate fastening means 4, to a floor 5 (FIG. 2).

Each of the four sides of the square tubular member 1a may support, as desired, a panel structure. Such a panel structure may include a hard board member 6 (FIGS. 2, 3 and 5). This panel member may be constructed of any desired material. Preferably a hollow core or honeycomb or solid structure, overlaid with a thin skin of about 1/8" decorative hardwood or the like, can be used. As shown most clearly in FIG. 5, opposite vertical edges of the hard board panels 6 are covered with channel members 7 that extend from the bottom of the panel member 6 substantially beyond the upper edges thereof (FIG. 1). The bottom edge of the panel member 6 is likewise covered with a channel member 8. These channel members may be appropriately fastened to the edges by aid of the fastening means 9, such as wood screws (FIG. 2). These channel members are preferably also made of aluminum or other metals.

Overlying the upper edge of the panel member 6 is a horizontal H-shaped structural metal member 10 also attached to the panel member 6 by fastening means 9. This member 10, as shown, extends as far as the edge of the channel member 7, as indicated clearly in FIG. 2.

In order detachably to hold the panel member 6 in place in spaced relation to the floor 5, use is made of a plurality of clips 11, 12 and 13. These clips are shown to best advantage in FIGS. 2 and 6.

The clip 11 has a looped configuration and is located in a recess 14 formed at the lower corner of the panel member 6. The recess 14 is open at the bottom. The channel member 7 is provided with a slot 15 registering with an opening or aperture 16 formed in the contiguous side of the tubular member 1a. The left-hand side of the loop formed by clip 11 closely approaches the inner surface of the channel member 7.

The clip has hook-like end extensions 17 and 18 hooking over the lower and upper edges of the opening 16. Furthermore, the clip 11, as shown most clearly in FIG. 6, is as wide as the opening 16. The clip is made of sufficiently rigid material so as to support the channel 7 in the position shown in FIG. 2. Due to the configuration of the clip 11, the channel 7 is held against separation from the vertical tubular member 1a.

The clip 12 extends through aligned openings 19 and 20 of square configuration, as shown in FIG. 6. These openings or apertures respectively are formed in the central flange of the channel member 7 and in the wall of the tubular member 1a.

The clip 12 has a configuration shown to best advantage in FIG. 2. It is provided with reentrant ends 21 engaging the inner surfaces of the member 7 and 1a. The openings or apertures 19 and 20 are large enough to permit removal of the clip 12 by upward movement and then transverse or lateral movement.

At the top of each of the elements 7 and 1a are aligning slots 22 and 23 through which the uppermost clip 13 extends. This clip is of generally the same configuration as clip 12, having the reentrant ends 24 and gripping the inner surfaces of the contiguous members 7 and 1a.

Assembly of the structure as thus far described is relatively simple. The ends 17 and 18 of clip 11 are first

inserted into the opening 16, leaving the clip 11 projecting from the post 1a. Then the panel structure is lowered, so as to rest the upper edge of channel slot 15 on the extension 18, the clip 11 being received in recess 14.

Then the clips 12 and 13 may obviously be assembled in a simple manner.

A panel may be removed from between two posts simply by removing the clips 12 and 13 and then lifting the panel until it clears the clips 11 at the respective posts. Thereupon, the panel can be moved laterally. The reverse procedure is also possible. Since installation and removal of panels need not be accomplished in alternate series with the posts, the post and panel system is quite adaptable to changing partition requirements.

Apertures corresponding to apertures 16, 20 and 23 are cut in each of the walls of the post 1a. A cap 25 may be appropriately fastened to the top of the post 1a by any simple means, and is of a configuration such as to fit the top of the post. A detailed description of the post will be set forth below.

The unused apertures 16 and 20 may be covered by the use of buttons 26 (FIG. 6) that are made of sufficiently elastic plastic material to permit snapping into these openings. These buttons have a round body, having a diameter substantially equal to the length of the side of the square openings 16 and 20, and have enlarged ends adapted to be squeezed through these openings.

The right-hand side of the panel structure 6 is similarly supported by upright supports 1 in the manner already disclosed.

Above the panel 6 and supported by the aid of the upper groove formed by the member 10, a window glass extension 27 is provided. This window glass extension has an upper edge coincident with the lower edge of the cap 25, as shown most clearly in FIG. 2. The lower edge rests upon the horizontal upper surface of a member 29. This member 29 is made of resilient metal having downwardly directed flanges 30 and 31. Flange 30 fits snugly against the left-hand flange of the H-shaped member 10. Flange 31 is spaced slightly from the corresponding flange of the member 10. The left-hand portion of the member 29 is elevated above the surface, forming a step defined by the vertical portion 32. Against this vertical portion the left-hand surface of the window glass 27 rests.

In order to hold the lower edge of the window glass 27 firmly against this vertical portion 32, use is made of a supplemental resilient beading member 33. This beading member 33 has a downwardly directed vertical flange 34 fitting snugly within the space formed between the flange 31 and member 10. A shorter flange 35 abuts the right-hand side of the glass 27, and rests on surface 28.

The window glass 27 is first inserted while member 33 is removed. Then the member 33 is pressed down to the position of FIG. 3, firmly grasping the lower edge of the glass 27.

As shown most clearly in FIG. 2, the member 29 has a slanting end 36 to clear the clip 12. The left-hand end of member 33 is also spaced from the bottom of the channel member 7.

The vertical edges of the window glass 27 are similarly supported. Thus, as shown most clearly in FIG. 4, a resilient metal member 37, similar to metal member 29, is disposed between the flanges of the channel member 7.

A cooperating resilient member 38 similar to member 33 is removably inserted to hold the edges of the window glass 27 securely in place.

Removal of the glass 27 may readily be accomplished by first removing the members 33 and 38. Furthermore, as indicated by the phantom lines in FIG. 1, a similar partition structure could be supported on the left-hand side of the vertical post 1a. In order to form a right angle takeoff, one of the other vertical faces of the post 1a may be used.

FIGS. 7, 8, 9 and 10 show in detail the manner of

assembly of the cap 25 with the top of the post structure 1. Thus, the cap 25 has a peripheral flange 39. This flange somewhat closely engages the post structure 1, as shown in FIG. 9, and extends over the elements 37 and 38. Since the width of elements 37 and 38 is less than the width of the post structure 1, inwardly directed projections 40 are provided which frictionally engage the members 37 and 38. The flange 39 rests on top of the window 27.

FIG. 11 illustrates a cap 41 having provisions for engaging a post structure where there are partitions at right angles leading from adjacent faces of the post structure 1. Thus, in this figure, projections 40 frictionally engage the elements 35 and 37 which extend horizontally, as viewed in FIG. 9, on the right-hand side of the post structure 1. If a similar partition structure be joined to the upper side of the square post 1, the cap illustrated in FIG. 11 would cooperate with the partition elements in the same manner as illustrated for the partition extending to the right as viewed in FIG. 9. Thus, there is a rectangular extension 42 (FIG. 11) which provides the projections 43 cooperating with the partition elements extending upwardly, as viewed in FIG. 9.

If there are partitions formed in three directions from any post structure 1, a cap structure, such as illustrated in FIG. 12, can be used. Similar constructions may be utilized for cap structures adapted to cooperate with four partitions extending, respectively, from each side of the square post structure 1.

What is claimed is:

1. In a partition structure: a panel member; means forming a vertical edge for the panel and attached to the panel; said panel member having a recess at one corner overlaid by said edge forming means; there being an opening in said edge forming means and communicating with said recess; a supporting for the edge forming means, having an aperture registering with said opening; a clip formed of a strip of material, having a single loop accommodated in the recess and ends extending into both the aperture and the opening; said edge forming means extending beyond the panel member and having another opening in said extending part, registering with an opening in the support; and an additional clip extending into said openings.

2. In a partition structure: a panel member; unitary edge forming means attached to the panel member and extending upwardly beyond the panel member; a hollow vertical support extending to the top of said edge forming means; means detachably connecting the lower edge of the panel member to the support; the upper contiguous ends of the support and of the edge forming means having aligned slots; a detachable clip straddling the bottoms of the slots and window sheet material detachably secured to the extending part of the edge forming means above the panel member.

3. The combination as set forth in claim 2, in which the clip has sides that make a bend, between which sides the hollow support and the edge forming means are grasped.

4. In a modular partition structure: a pair of spaced supporting posts having side surfaces; a panel fitting between the posts, and having opposite side edges engaging said side surfaces of the respective posts; said panel having a lower edge; a suspension element for each post detachably mounted at the said side surface of the corresponding post and in fixed position along the post; said panel having downwardly opening latching recesses in its lower edge into which said suspension elements are respectively received for releasably securing the lower end of said panel; said panel bearing upon said suspension elements whereby the suspension elements vertically support the panel; said panel clearing said suspension elements upon upward movement of the panel whereby the panel may be removed from between the posts while the posts are in place.

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5. The combination as set forth in claim 4 in which said latching recesses have openings in said side edges respectively whereby the suspension elements are fully received in the recesses and concealed thereby when the panel is in place.

6. The combination as set forth in claim 4 in which said posts are hollow, said suspension elements being in the form of spring clips, the said side surfaces having apertures at which the clips are installed, said clips having spring ends detachably engaging the edges of said apertures for mounting of said clips, said spring clips holding the panel in engagement with the posts.

7. The combination as set forth in claim 4 together with means carried by the panel for interlocking with the upper ends of said posts.

8. The combination as set forth in claim 4 in which said panel includes channel elements forming the said opposite side edges thereof.

9. In a modular partition structure: a pair of spaced supporting posts having side surfaces; a panel fitting between the posts, and having opposite side edges engaging the side surfaces of the respective posts; said panel having a lower edge; a pair of suspension elements respectively detachably mounted at said side surfaces of said posts; said panel having downwardly opening latching recesses in its lower edge into which said suspension elements are respectively received for releasably securing the lower end of said panel; said panel clearing said suspen-

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sion elements upon upward movement of the panel whereby the panel may be removed from between the posts while the posts are in place; said posts being hollow; said suspension elements being in the form of spring clips; the said side surfaces having apertures at which the clips are installed; said clips having spring ends detachably engaging the edges of said apertures for mounting the said clips; said spring clips holding the panel in engagement with the posts.

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FRANK L. ABBOTT, *Primary Examiner*.

RICHARD W. COOKE, JR., *Examiner*.