

Dec. 23, 1958

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2,865,476

WALL MOUNTED CANTILEVERED PARTITION

Filed Dec. 10, 1956

4 Sheets-Sheet 1

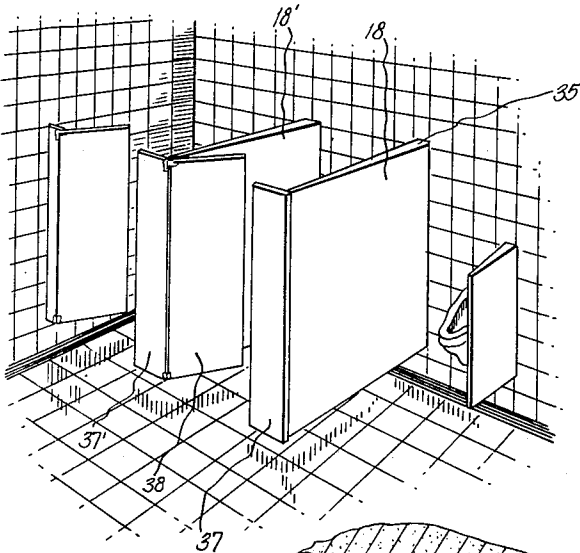


Fig. 1.

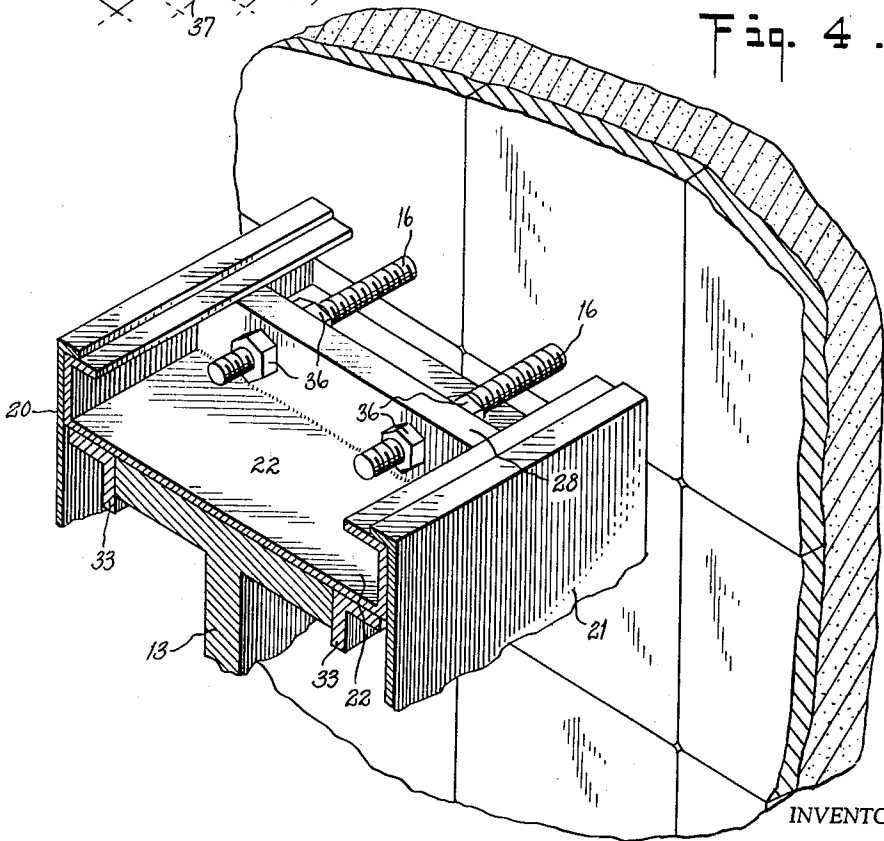


Fig. 4.

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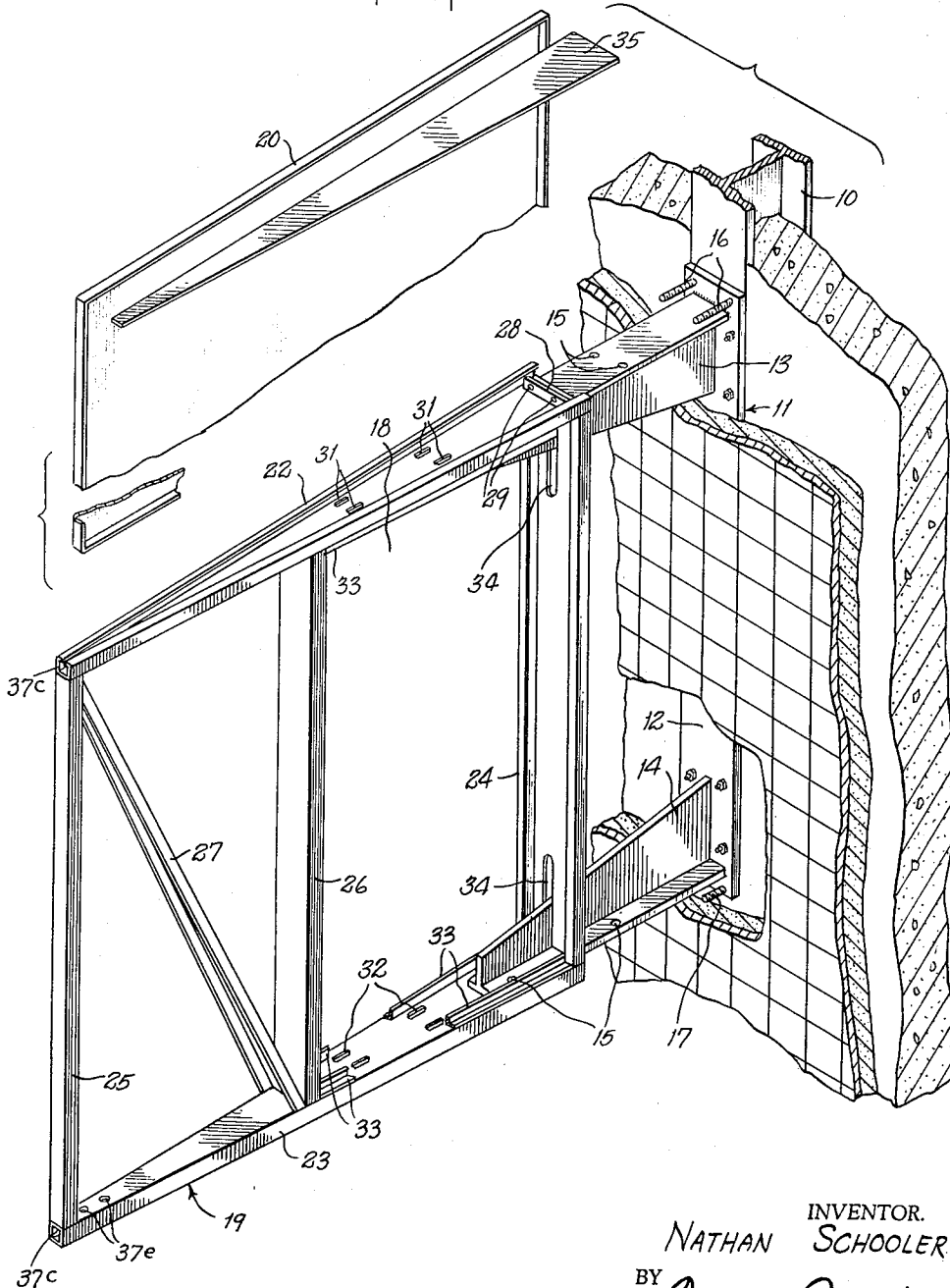
2,865,476

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4 Sheets-Sheet 2

Fig. 2.



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4 Sheets-Sheet 3

Fig. 3.

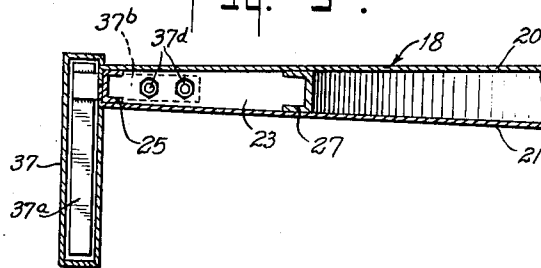


Fig. 7.

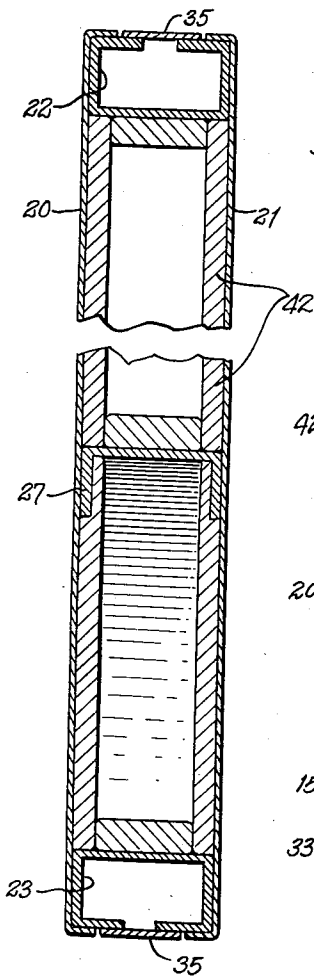


Fig. 8.

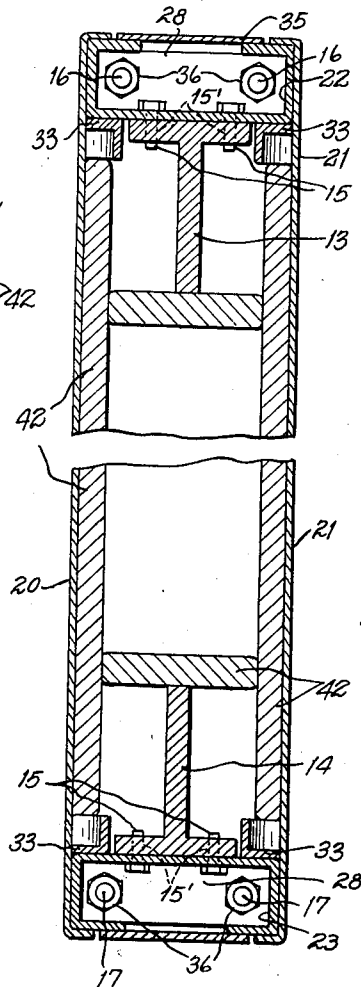
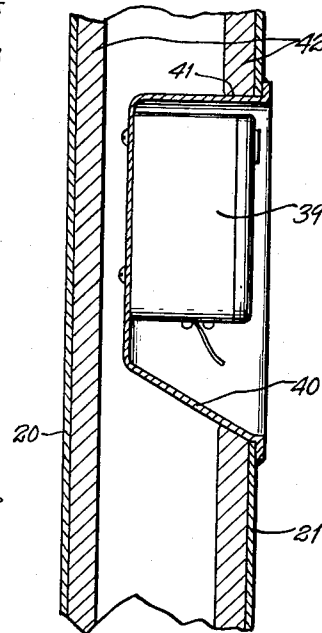


Fig. 9.



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4 Sheets-Sheet 4

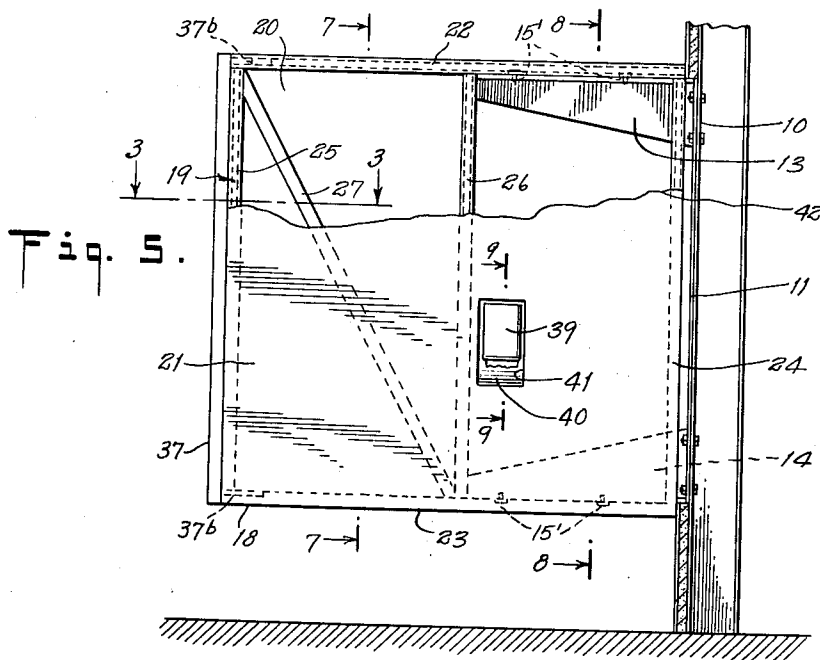
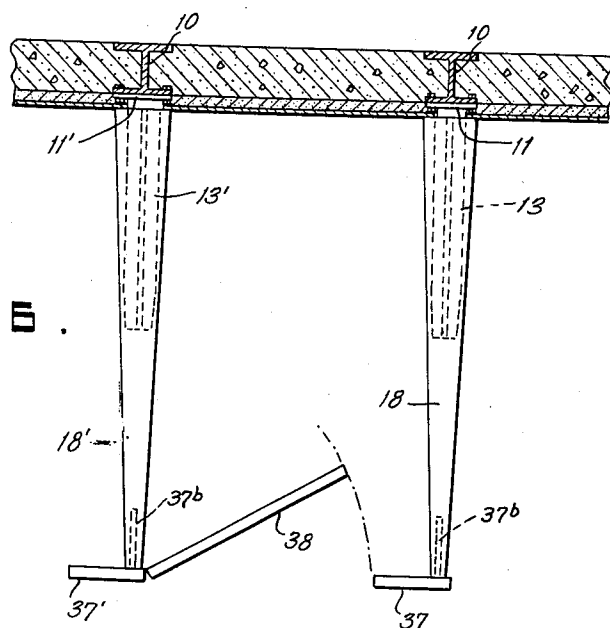


Fig. 6.



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1

2,865,476

WALL MOUNTED CANTILEVER PARTITION

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10 Claims. (Cl. 189—34)

This invention relates to novel improvements in the construction, fabrication and installation of wing partitions and in particular to such partitions used to provide a multiple lavatory cubicles and room divisions.

It has been the practice heretofore to construct such partitions of rectangularly shaped panels which are then hung vertically from a wall and held in place by ceiling columns and/or floor legs. These column and leg members were necessary because of the difficulty in adequately supporting the panel merely by fastening them to the wall.

It is an object of this invention to provide a partition that does not have ceiling columns or floor legs but a partition that may be mounted in a cantilevered fashion to the wall, without any loss of structural strength or possibility of injury to the wall. This construction eliminates the hazard of panels hanging from the ceiling, as well as cracks, holes and joints, thus providing for clear and smoothly finished ceilings and floors.

Another object of this invention is to provide a partition that is smooth throughout all of its exterior surfaces, having no visible or protruding joints, nuts, bolts and brackets or other encumbrances detracting from its appearance, utility and convenience.

Another object of this invention is to provide a partition that is simple in construction comprising few parts that may be pre-fabricated and that may be easily and cheaply packaged and shipped.

It is a further object to provide a partition in which there may be provided paper dispenser units, shelves or other objects recessed directly into the partition so as not to protrude or extend outwardly from it, thus preserving the flush smooth appearance and packaging qualities of the partition.

A further object is to provide a partition of this type that may be easily and swiftly installed in a lavatory without any major expense in labor or materials other than the cost of the partition. Being pre-fabricated in a number of parts, all of which are designated, they cooperate with each other so that installation may be made merely by bolting the parts together.

A room utilizing the partitions of this invention has many advantages, first and foremost being the fact that such a room will remain cleaner and more sanitary for a longer period of time than a similar room utilizing the prior constructions. The elimination of ceiling columns and floor legs eliminate those areas in which water and moisture tend to accumulate, and permits easy and swift cleaning of the floor area. It has a further advantage of providing partitions with great structural strength utilizing less material and less room space. These partitions, cheaply installed, require no servicing and will not loosen nor become detached from the wall. Another important advantage is in the appearance of the lavatory, which is greatly enhanced by the elimination of unsightly columns, brackets, nuts and bolts, giving to it a modern and fashionable decor.

Although reference herein is made to partitions for lavatories, it is obvious that these partitions may be used

2

for like results in a multiple of situations, for example in beauty parlors, business offices, medical examination rooms and in fact anywhere partitions are likely to be used.

Other more detailed objects will be seen from the following description and accompanying drawings, of which—

Fig. 1 illustrates a series of partitions as they would appear fully installed and ready for use;

Fig. 2 is an isometric view in exploded form of a single partition illustrating the features of this invention;

Fig. 3 is a horizontal cross-section through 3—3, Fig. 5, indicating the structure of the vertical frame member of the panel of this invention;

Fig. 4 is a detailed view of the adjustment device used in fastening the panel to the wall bracket;

Fig. 5 is a side elevational view of the panel as attached to the wall;

Fig. 6 is a top plan view of two partitions and door;

Fig. 7 is a vertical cross-section view through 7—7 of Fig. 5;

Fig. 8 is a vertical cross-section through 8—8 of Fig. 5, and

Fig. 9 is a vertical cross-section through 9—9 of Fig. 5.

As will be seen, this invention is in essence accomplished by fastening a cantilever bracket to a vertical structural member of the building before the room wall is finished. After the wall is tiled or finished as desired the panel is slidably mounted on the brackets and secured thereto. The partition is then ready for use.

In Fig. 2, a beam 10, here shown as an I beam, merely for illustration, is imbedded in the wall of the building constituting a pre-existing part of the structure of the building. A U-shaped bracket 11 is vertically attached to I beam 10 and is formed of a rectangular plate 12 and two horizontally disposed bracket arms 13 and 14 extending in cantilever fashion therefrom. The upper and lower bracket arms 13 and 14 have a T-shaped cross-section with their horizontal flanges parallel and both arms are secured normal to the plate 12. Both horizontal arms and the vertical width of the T may be tapered away from plate 12, as is shown in the drawings. The lower bracket arm 14 is similar in construction to the upper bracket arm 13 but is placed in opposed relationship to it. The horizontal flanges of the T-shaped arms are furnished with a series of threaded openings 15. The plate 12 has extending from it adjacent each of its outer edges a pair of bolts 16 and 17 parallel to the horizontal flanges of the cantilevered bracket arms 13 and 14.

A partition 18 comprising a frame 19 and two faces 20, 21 suitably attached to the frame is slidably mounted on the T-shaped cantilevered bracket arms 13 and 14. The partition as a whole may be tapered to correspond to the taper of the T-shaped bracket arms of the cantilever wall bracket so as to have the trailing end or portion adjacent the wall of greater width than its leading edge. This is done for the purposes of providing greater structural strength of the partition at the point of contact with the wall, less weight farthest from the wall to eliminate strain on the cantilever bracket, and to minimize the possibility of sway and movement from the wall.

The partition frame 19 is formed of an upper side member 22, a lower side member 23 of similar construction, a vertical rear side member 24 and a leading edge or vertical front side member 25, a vertical brace 26 and a diagonal brace 27 all rigidly secured together in any desired manner. As can be seen in the detail figures, the upper and lower side members are oppositely disposed to each other and parallel, are both congruous in all respects and are in the form of a C-shaped channel each having a cross bar 28 secured thereto adjacent its wide end and which is provided with a pair of holes 29 corre-

spondingly spaced to allow the bolts 16 and 17 of the wall bracket 11 to pass through them. In addition the horizontal side members 22 and 23 contain a series of slots 31 and 32 larger than, but correspondingly spaced to the threaded openings 15 in the horizontal flanges of the T-shaped bracket arms 13 and 14.

L-shaped rails 33 are suitably attached to the backs of the channel-shaped upper and lower side members 22 and 23 along the edges thereof so as to properly guide the partition onto the cantilever wall bracket arms 13 and 14.

The vertical rear side member 24 formed of a C-shaped channel beam has a slotted opening 34 located along the center of its back adjacent both its ends and each is of a sufficient length and width to accommodate the respective legs and flanges of the T-shaped bracket arms 13 and 14, see Fig. 2.

The vertical and diagonal braces 26 and 27 have a U-shaped cross-section for added strength and stability. The diagonal brace 27, in addition, is tapered in conformity with the overall shape of the partition.

A filler 42 of cellulose or other fibrous material is glued or otherwise adhered to the inner panels of the partition to decrease the hollowness thereof and to deaden the sound of anything striking it.

Referring to Fig. 2 it will be seen that prior to mounting the partition on the bracket arms 13 and 14, shown bolted to the I-beam 10, that the wall surface is completely finished as by final plastering and tile covering whereby the attachment of the bracket arms is completely concealed leaving exposed only the projecting bracket arms 13 and 14 which are adapted to fit within and support the partition 18.

It is to be understood that while the bracket arms 13 and 14 are shown directly attached to vertical I-beams 10 by way of illustration only, it is obvious that the same may be secured to any suitable supporting structure provided within the wall.

After the wall surface is finished the partition 18 is slid onto the cantilevered wall bracket 11 and before final bolting the partition may be adjusted so that it will hang in a true vertical position, thus compensating for any defect in the alignment of the I-beam 10 or the wall structure. The adjustment device may be seen in the details of Fig. 4. Although only the upper side member 22 and its corresponding T-shaped bracket arm 13 is shown in Fig. 4, a similar construction exists with the lower side member 23 and lower T-shaped bracket arm 14, note Fig. 2. In Fig. 4 it will be seen that the bolts 16 are placed through the holes 29, see Fig. 2, of the cross bar 28 of the side member 22. Nuts 36 are threaded in pairs onto the bolts 16 on both sides of the cross bar 28. By simple manipulation of either of the pairs of nuts the distance between the partition and the wall can be varied. This simple adjustment will result in perfectly vertically and horizontally aligned partitions.

Where the I-beam 10 or other wall support is vertical and the exterior wall surface is also vertical thus making for an ideal condition, the ends of the upper and lower side members 22, 23 can be drawn up tight and square against the tile surface of the wall as shown in Fig. 4.

Permanent fastening of the partitions 18 may then be made by fastening the partition and T-shaped bracket arms 13 and 14 together by bolts 15' inserted through slots 31 and 32 in the upper and lower side members 22 and 23 and engaging the threaded recesses 15 as shown in Figs. 5 and 8.

A cover 35 for the upper side member 22 and its companion for the lower side members 23 are provided which can be fastened to them in any desired manner after installation of the partition to provide a smooth and flush finish to all sides of the partition, concealing all objects within.

Although this description is of a complete structure and the device made thereby may be used as described, various

additional elements may be included to satisfy specific requirements and needs. For example, it is often desirable to furnish cubicles with doors so that a complete enclosure may be obtained. Figs. 1 and 6 illustrate this.

Stile 37 comprising a rectangular hollow panel formed in any desired manner is provided interiorly thereof adjacent its top and bottom with a bracket 37^a suitably secured in place. Each bracket 37^a includes an arm 37^b projecting outwardly of the stile, see Fig. 3, the arms 37^b being in vertical alignment adjacent a vertical edge of the stile and parallel, and are spaced apart such as to slide into the open end 37^c of the C-shaped upper and lower horizontal side members 22 and 23, see Figs. 2, 3 and 5 and directly seat on the inside surface of the bases of said C-shaped upper and lower horizontal side members 22 and 23 to support the stile 37 on the frame 19 of the partition 18. Bolts or screws 37^d secure the bracket arms 37^b to their associated supporting side members 22 and 23, there being openings 37^e, see Fig. 2, at the corresponding ends of the bases of the side members 22 and 23 to receive said bolts or screws 37^d. The means of fastening the stile 37 to the partition 18 will not be visible in the finished construction as cover 35 is placed over the upper and lower side members 22 and 23 of the partition concealing all nuts, bolts, or other objects within the channel frame members. A door 38 of standard construction may be hung on the stile 37', see Fig. 6, on an adjacent partition 18' in any known manner to obtain the desired result.

It may be desired to provide a paper dispenser for an individual cubicle. Such a device may be seen in Fig. 5 and in detail in Fig. 9 where a paperholder 39 attached to housing 40 is recessed into a rectangular opening 41 in one face panel of partition 18. The housing may be attached in any suitable manner such as by screwing, bolting, or clipping to the panel face.

In the preferred embodiment of this device it is desired that the structure of the partition be made of stainless steel and that all members of the partition requiring fixed attachment be welded together. However, this is not absolutely necessary, and as the material used may be of any substance, as for example, a wooden frame and plywood panel faces, welding may easily be replaced by other means such as bolting, screwing or riveting. Other structural material may be used as for example, the partition frame members may be replaced by other beam shapes with or without channels.

In addition, it is obvious that various other modifications and changes may be made in either the bracket, partition or accessories and that it is not desired to be limited by the description but only by the claims as appended hereto.

What is claimed is:

1. A wall mounted partition of the type described, comprising a wall bracket attached to a structural support located within said wall including a base plate, bracket arms having a T-shaped cross-section integrally attached at each end of said base plate and in opposed relation with each other extending perpendicularly to said base plate, a substantially hollow rectangular partition slidably mounted on said bracket arms, said partition comprising a frame, face panels secured to said frame, said partition frame comprising upper and lower horizontal frame members, front and rear frame members attached at the ends thereof to the ends of said horizontal frame members, said horizontal frame members being disposed in opposed relationship to each other and each of which comprises a channel beam, a cross bar integral with each said channel beam and adjacent the end attached to said rear vertical frame member, guide rails integrally attached to the edge of said channel beams and extending inwardly of the partition frame and in opposed relationship so as to permit and guide said T-shaped bracket arm to enter into said partition, said rear vertical frame member having slots at each end

5

thereof, said slots having a configuration corresponding to the cross-section of said bracket arms, and means wholly within said partition for fastening said partition to said bracket arms.

2. A partition as claimed in claim 1 further characterized in that said horizontal frame members of said partition are provided with covers of substantially the same length and configuration thereof whereby the upper face of the upper horizontal frame member and the lower face of the lower horizontal frame member may be concealed thereby after mounting of the partition.

3. A wall mounted room partition of the type described including a wall bracket attached to a structural support located within said wall comprising a base plate secured to said structural support, a T-shaped bracket arm integrally attached adjacent each end of said plate and extending cantilevered therefrom in opposed relation to each other outwardly from said wall, a pair of bolts integrally attached to each end of said base plate and extending parallel to each said bracket arm, a partition comprising a frame and two face panels secured thereto slidably mounted on said bracket arms, said partition frame comprising upper and lower horizontal side members, a rear vertical side member and a front vertical member, a vertical brace attached to each of said horizontal side members midway of their lengths, a diagonal brace attached at one end to said lower horizontal side member and to said vertical brace at their point of juncture and at the other end to the upper horizontal side member and said front side member at the juncture thereof, said rear vertical side member comprising a beam of C-shaped cross-section having T-shape slots at the ends thereof corresponding to the cross-section of said bracket arms, each of said horizontal side members comprising a channel beam of C-shaped cross-section, a cross bar within said channel beam adjacent the rear end thereof, said cross bar having a pair of holes spaced correspondingly to the bolts on said base plate which secure the horizontal side members thereto, and guide rails attached to the edges of said horizontal side members along the length thereof between said rear vertical side member and said vertical brace for guiding the T-shaped bracket arms through the T-shaped slots onto said horizontal side members as the partition is slidably mounted on said bracket arms, and fastening means carried by said horizontal side members wholly within said partition for securing the same to said bracket arms.

4. The wall mounted partition as set forth in claim 3 wherein angular adjustment of the partition relative to the base plate of the wall bracket may be effected by said pair of bolts extending through each said cross-bar, there being a pair of nuts on each bolt, one on each side of said cross-bars such that adjustment of said nuts on said bolts will effect placement of said partition in a true vertical position in the event the structural support within the wall or on the wall surface are out of plumb.

5. The wall partition as set forth in claim 3 wherein the top and bottom of the partition are open for access into the interior thereof to enable securing of the fastening means and bolts, and a cover plate for said top and bottom mounted on the horizontal frame members after said partition is fastened in position.

6. A wall bracket for mounting a wall supported partition comprising a vertical elongated base, a T-shaped bracket arm at each end of said base and integral therewith, each bracket arm having a vertical web and a horizontal flange, the bracket arms being so disposed that the webs are co-planar and opposite each other and the horizontal flanges being parallel to each other and the bracket arms being normal to the plane of the base, said base extending slightly beyond each horizontal flange, a pair of adjusting bolts fixed to each base extension and overlying in parallel relation its associated horizontal flange, a plurality of spaced threaded openings provided on said horizontal flanges on each side of said webs, said

6

horizontal flanges and said webs tapering from the outermost end of said bracket arms to said base.

7. A hollow cantilever wall supported partition comprising a rear vertical side member, a front vertical side member and upper and lower horizontal side members, all of said side members being rigidly joined at their ends to define a rectangular frame tapered from its front vertical side members to its rear vertical side member, each of said side members being formed of a channel member with the flanges of the vertical front and rear side members in opposed relation and with the flanges of the horizontal upper and lower side members extending outwardly in opposite directions, a transverse cross-bar secured within the channel of each said top and bottom side members adjacent the rear ends thereof and each provided with a pair of bolt receiving openings, a plurality of pairs of bolt receiving slots formed in the web of the channels of said upper and lower side members located between the medial portion and the rear ends thereof, a vertical brace substantially at the medial portion of said frame joined to the channel webs of said upper and lower side members, a diagonal brace extending from the juncture of said vertical brace with the lower side member to the juncture of said front vertical side member with the upper side member, a pair of guide rails secured to the edges of the channel webs of said upper and lower side members in opposed relation and extending from said vertical brace to said rear vertical side member, and a slotted opening adjacent each end of said rear vertical side member shaped to accommodate a supporting means for said partition.

8. The cantilever partition as set forth in claim 7, a face panel secured to each side of the partition frame to constitute therewith a preformed partition unit, and a separate cover plate for the upper and lower frame side members secured thereto, said face panels providing a smooth exterior surface free of any visible fastening means.

9. A wall mounted room partition comprising a wall bracket attached to a structural support located within said wall, including a base plate secured to said structural support, at least one bracket arm integral therewith and extending perpendicularly thereto and projecting outwardly from said wall, a substantially hollow partition unit slidably mounted on said bracket arm, said partition unit comprising a frame, face panels secured to said frame, said partition frame comprising upper and lower horizontal frame members, front and rear vertical frame members attached at the ends thereof to the ends of said horizontal frame members, said horizontal frame members being disposed in opposed relationship to each other and at least one of said horizontal frame members having means thereon for guiding said partition unit onto said bracket arm, said rear vertical frame member having an opening complementary in shape to the cross-sectional shape of said bracket arm permitting said bracket arm to pass through it into said partition unit and means wholly within said partition unit fastening said partition unit to said bracket, a stile, bracket members on said stile, an opening in the front end of each of the horizontal frame members receiving said bracket members, concealed means within said partition securing said stile bracket members to the partition frame whereby said partition and said stile will constitute a unitary structure.

10. A partition as claimed in claim 9 and further characterized in that at least one face panel of said partition unit has at least one article holding recess framed therein.

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