Jan. 14, 1936. E. LARSON 2,027,870

METAL PARTITION

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FIG. 1.

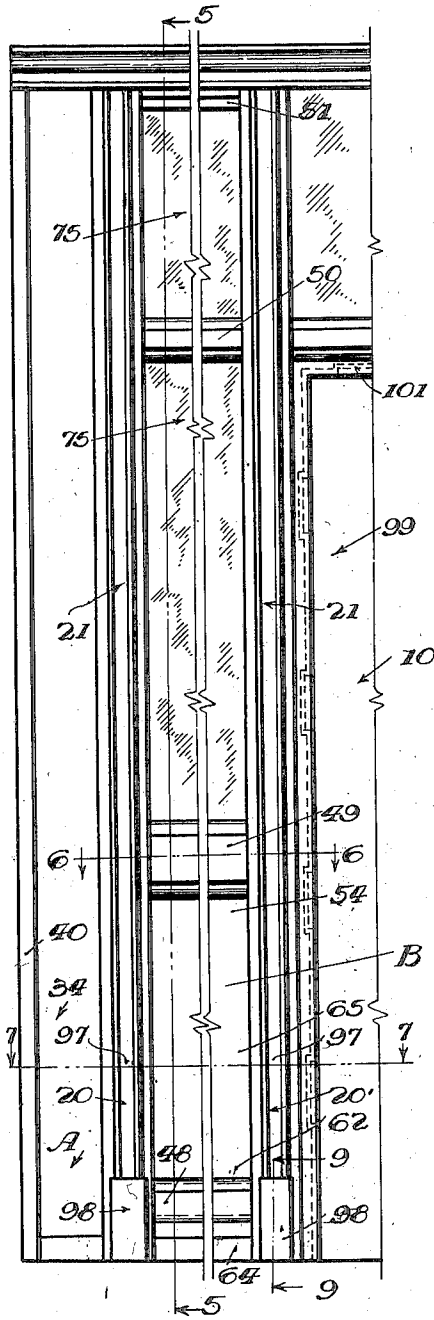


FIG. 2.

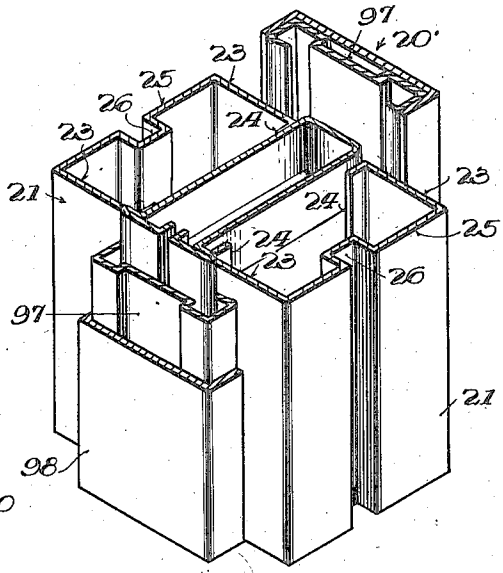
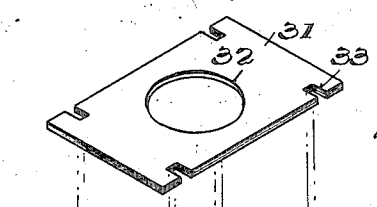


FIG. 3.



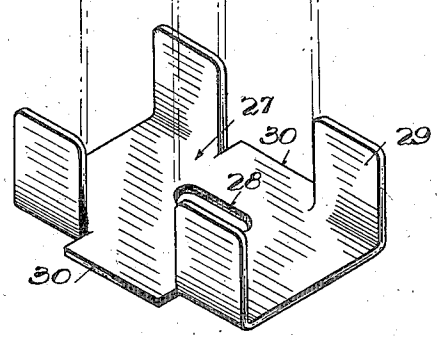


FIG. 4.

Inventor

Eric Larson.

By B. P. Tillburne

Attorney

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METAL PARTITION

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FIG. 5.

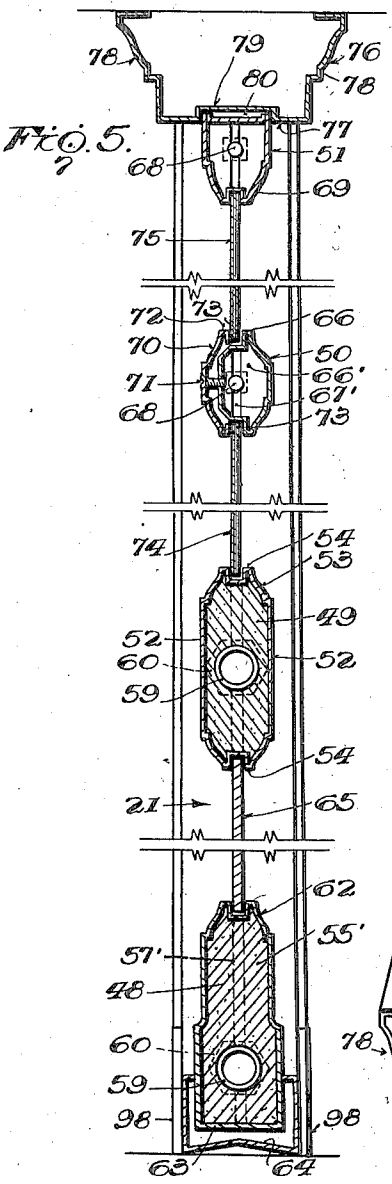


FIG. 6.

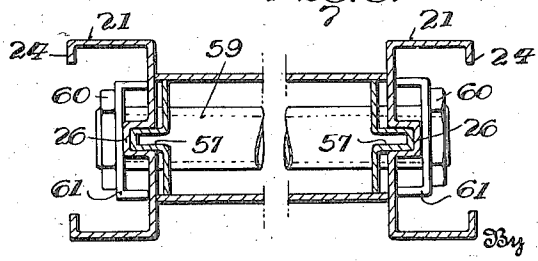


FIG. 7.

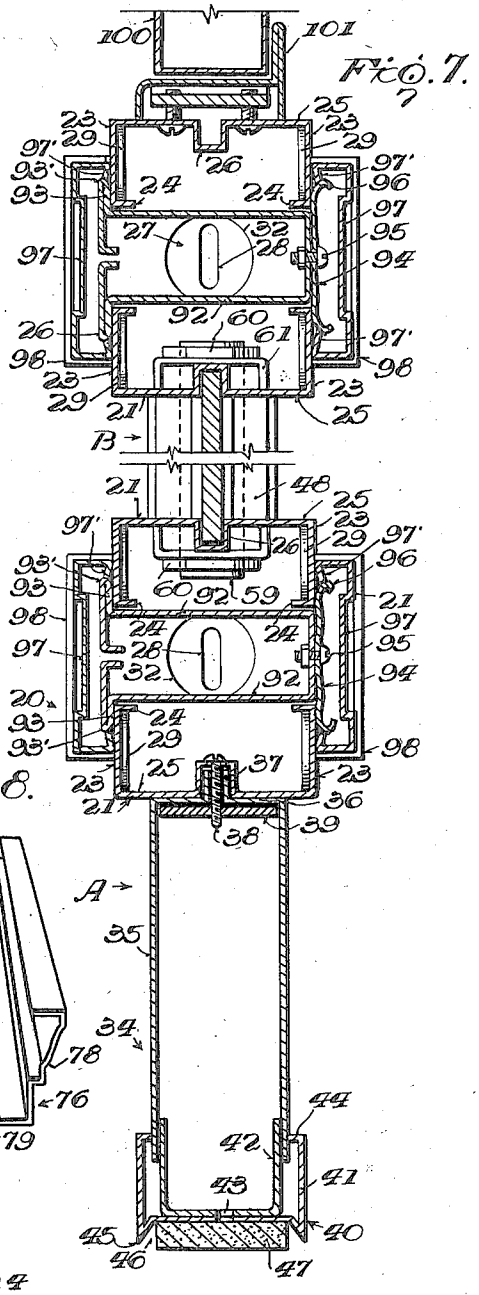
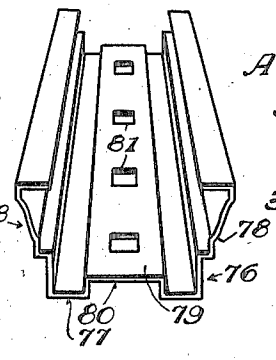


FIG. 8.



Inventor

Eric Larson.

By B. P. Fillburne

Attorney

Jan. 14, 1936. E. LARSON 2,027,870

METAL PARTITION

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FIG. 9.

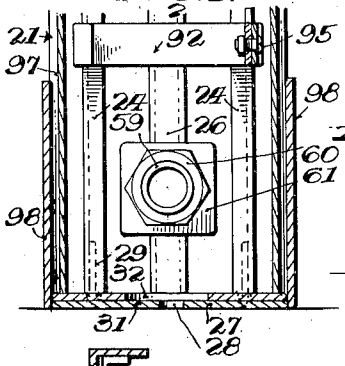


FIG. 15.

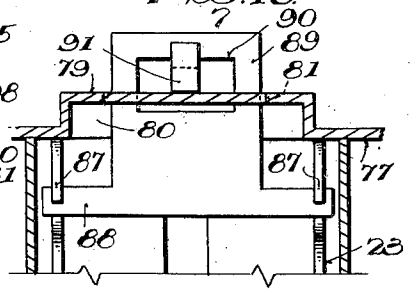
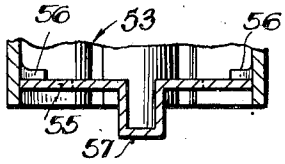


FIG. 13.



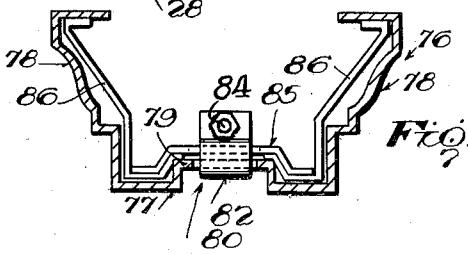


FIG. 10.

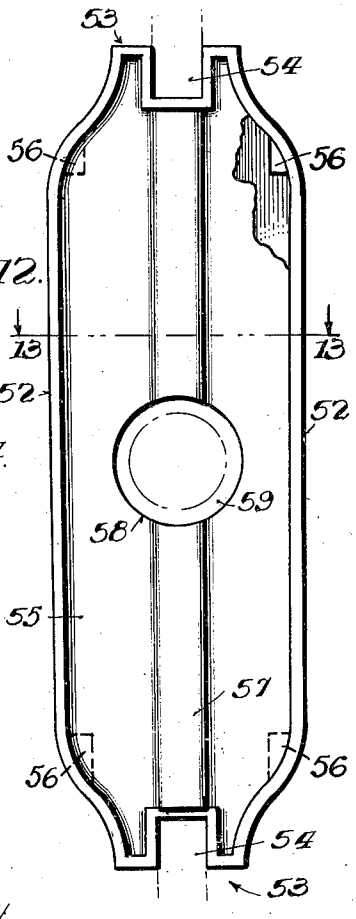


FIG. 12.

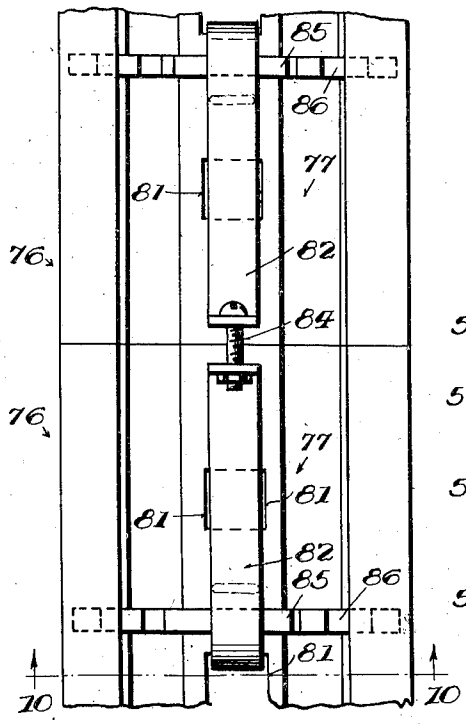
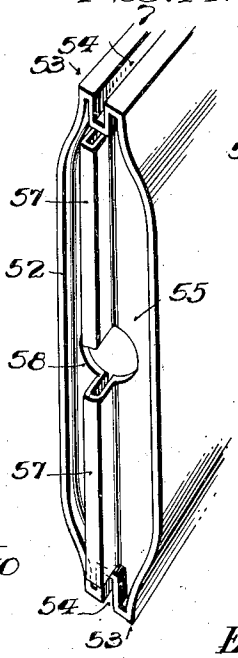


FIG. 11.

FIG. 14.



Inventor

Eric Larson.

By B. P. Fishburne

Attorney

Patented Jan. 14, 1936 2,027,870

UNITED STATES PATENT OFFICE

2,027,870

METAL PARTITION

Eric Larson, Washington, D. C.

Application June 30, 1934, Serial No. 733,295

20 Claims. (Cl. 189—34)

My invention relates to improvements in metal partitions.

An important object of my invention is to provide a metal partition which is sound-proof to a considerable extent.

A further object of the invention is to provide a metal partition so constructed that it may be quickly and conveniently wired.

A further object of the invention is to provide a metal partition formed in units which may be quickly and conveniently assembled and separated.

A further object of the invention is to provide a metal partition which is neat and attractive in appearance.

A further object of the invention is to provide adjustable means for regulating the elevation of the post unit or units, to properly level the partition.

A further object of the invention is to provide simple and strong anchor means for securing the post unit to the floor.

A further object of the invention is to provide detachable means for securely locking the cornice to the post units.

A further object of the invention is to provide simple and reliable means for connecting the cornice sections in such a manner that the connecting means is concealed from exterior view.

A further object of the invention is to provide adjustable means between the partition and the adjacent wall, to form a joint which will exclude light.

A further object of the invention is to provide clips for insertion between the posts of the post unit, which clips serve to hold the cover strips in position.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings forming a part of this application and in which like numerals are employed to designate like parts throughout the same,

Figure 1 is a side elevation, parts broken away, of a metal partition embodying my invention,

Figure 2 is a perspective view, parts broken away, of a post unit included in the invention,

Figure 3 is a perspective view of a base shim,

Figure 4 is a similar view of an anchor,

Figure 5 is a transverse vertical section taken on line 5—5 of Figure 1,

Figure 6 is a horizontal section taken on line 6—6 of Figure 1,

Figure 7 is a similar view taken on line 7—7 of Figure 1,

Figure 8 is a perspective view of the cornice,

Figure 9 is a detailed section taken on line 9—9 of Figure 1,

Figure 10 is a transverse section taken on line 10—10 of Figure 11,

Figure 11 is a plan view of the cornice, parts broken away,

Figure 12 is an end elevation of the chair rail,

Figure 13 is a transverse section taken on line 13—13 of Figure 12,

Figure 14 is a perspective view of one end of the chair rail, and,

Figure 15 is a side elevation of a locking plate.

In the drawings, wherein for the purpose of illustration is shown a preferred embodiment of my invention, the numerals 20 and 20' designate post units, each of which comprises a pair of spaced uprights or posts 21, preferably in the form of channels. Each channel-post includes oppositely arranged sides 23, provided at their ends with in-turned flanges 24, as shown. Each channel-post further comprises a side or bottom 25, and this side has its material at its central longitudinal axis bent inwardly for affording a groove 26.

Adapted for use with each post unit 20 and 20' is an anchor 27, having a centrally arranged slot 28 for receiving lag screws or bolts for rigidly attaching this anchor to the floor. The anchor 27 has vertical ears or extensions 29, at the corners thereof and also has horizontal extensions 30 between these ears. The numeral 31 designates a base shim, one or more of which may be used in connection with the anchor and the post unit, to adjust the elevation of the post unit, to properly level the partition. Each base shim 31 is in the form of a flat plate having a large central opening 32 so that access may be had to the slot 28 and the base shim is provided with notches 33, near its corners, to receive the vertical ears 29. In assembling the partition, the anchors 27 are first rigidly secured to the floor. The level of the floor is ascertained and the anchor, which is arranged at the high part of the floor, has no base shim applied thereto, but the anchor which is arranged at a lower point in the floor receives thereon one or more base shims 31, as may be required, to bring the upper surface of the base shim or shims up to a proper elevation. The base shims 31 are arranged upon the central portion of the anchor 27, the ears 29 extending

through the notches 33, and the opposite ends of the base shim extending outwardly beyond the ears 29. When the posts 21 in the post unit are positioned on the anchor, the ears 29 engage the inner faces of the sides 23 and these ears also engage between the flanges 24 and the sides 25. Since the base shim 31 projects longitudinally beyond the ends of the extensions 30, the inner portions of the sides 23 and the flanges 24 will rest upon the ends or corner portions of the base shim and be suitably supported thereby. It is thus seen that the anchor, with or without the base shim or shims, serves as means to positively hold the lower ends of the posts 21, in each unit, in place, and the shim or shims are mounted upon the anchor, to properly adjust the elevation of any post unit.

The numeral 34 designates an end fill panel as a whole, comprising spaced sides 35, which are bent at their inner edges to provide lateral extensions 36 disposed at a right angle to such sides 35, and these extensions carry flanges 37, extending longitudinally of the sides 35. The extensions 36 are adapted for insertion within the groove 26 of the adjacent post 21, and screws 38 pass through openings in the bottom wall of the groove and extend between the flanges 37, and have screw-threaded engagement with clamp-plates 39, disposed at intervals along the extensions 36. The sides 35 are preferably attached to the adjacent post 21 at the factory. The end fill panel 34 has associated therewith a horizontally adjustable wall-post 40, including an outer channel member 41 and an inner channel member 42, the bases of these channel members contacting and being rigidly secured together by welding or the like, and these bases have openings 43 formed therein to receive bolts, screws, or the like, to attach the wall-post to the adjacent plastered wall. The outer channel member has inwardly directed flanges 44, and the sides 35 have a sliding fit between the flanges 44 and the inner channel member 42. At its corners, the outer channel member 41 has its material bent to provide sharp projections 45 which are V-shaped in horizontal cross-section and afford a groove 46 between them for receiving a compressible packing strip 47 of felt, sponge rubber or the like. The adjacent post 21, wall-post 40 and wall-fill panel 34 preferably come assembled for affording a wall-fill panel unit A. The wall-post 40 (when the unit A is being placed in position) is first separated from the panel 34 and applied to the wall, such as a plastered wall, and the sharp projections 45 may be driven into the plaster and the compressible strip 47 will produce a tight joint with the wall, preventing the passage of light. The wall-post 40 is held in place upon the wall by screws or the like passing through the openings 43. The end fill panel 34 now has its sides 35 inserted between the flanges 44 and the inner channel member 42, and as these parts slidably engage, the end fill panel and its post 21 may be suitably horizontally adjusted so that the post can be brought into proper position upon the anchor 27, as explained.

The panel section B comprises the two adjacent inner posts 21 of the post units. Arranged between these posts 21 and rigidly connecting them is a horizontal base rail 48, a horizontal chair rail 49, a horizontal transom rail 50 and a horizontal cornice rail 51. The chair rail 49, see Figures 1, 5, 12, 13, 14, is hollow and embodies spaced sides 52, which are bent inwardly at their upper and lower edges, to provide tapered edge portions 53, having longitudinal grooves 54. The chair rail further embodies end elements 55, which are slid into the ends of the hollow chair rail and engage stops 56. These ends may or may not be welded in place, as desired. The ends 55 carry outwardly projecting tongues 57, which extend into the grooves 26 of the posts 21. The ends 55 are provided with large openings 58, for receiving a pipe or tube 59. The ends of this tube 59 extend into the post 21 and are threaded for receiving nuts 60, which engage U-shaped cleats 61, arranged as shown. It is thus seen that the pipe or tube with the nuts and associated elements will rigidly connect the posts 21 and the chair rail 49. The base rail 48 has its upper end tapered and this tapered end is provided with a horizontal groove 62, while its lower end 63 is flat. This base rail is also hollow, and is substantially the same construction as the chair rail, having ends 55', corresponding to the ends 55, and tongues 57' to enter the grooves in the posts 21. The same tube 59 and associated elements is employed, extending through the base rail 48 and connecting the posts 21 with this base rail. The function of the pipes or tubes 59 is to provide an unobstructed passage through which wires for lighting, telephones or the like may be readily guided and passed. Great difficulty has heretofore been experienced in wiring metal partitions of any considerable length. The tubes or pipes 59 eliminate all of this trouble as the wire may be readily threaded through the tube or pipe. In connection with the base rail 48, a channel-shaped adjustable mop strip 64 is provided which may be lowered to properly contact with the floor. A panel 65 is arranged between the chair rail 49 and the base rail 48, the upper and lower edges of this panel being held within the grooves 54 and 62, while its vertical edges are held within the grooves of the posts 21. The transom rail 50 tapers toward its upper and lower edges to provide a wall or shoulder 66. This rail is hollow and is of substantially the same construction as the rail 49, having ends 66' corresponding to the end 55, and the ends 66' have outwardly projecting tongues 67' to enter the grooves in the posts 21. The ends 66' have openings formed therein to receive a rod 68 which passes through openings formed in the posts 21 to project therein and carrying nuts on its screw-threaded ends. This rod serves to clamp the posts 21 upon the transom rail 50. The cornice rail 51 is of substantially the same construction as the transom rail 50 and is connected with the posts 21 in the same manner by the tongue and groove connections and by the rod 68. The cornice rail 51 tapers downwardly and has a horizontal groove 69. The transom rail 50 is provided with a detachable cover plate or cap 70, secured thereto by screws 71 or the like. This cap has flanges 72, adapted to be arranged opposite the flanges 66 and forming therewith horizontal grooves 73. The numerals 74 and 75 designate panes of glass, which are not assembled at the factory in the unit and for this reason the detachable cap 70 is provided, so that these panes of glass may be inserted in position after the unit has been installed. Each pane of glass may be adjusted horizontally so that its opposite edges will enter the grooves of the posts 21, for a short distance, for providing overlapping joints. I contemplate filling the base rail 48 and the chair rail 49

with a sound deadening material, such as ground cork or mineral wool, but the invention is not restricted to the use of this filling material. The rails 48, 49, 50, 51, panel 65 and posts 21 are assembled at the factory and constitute the panel unit B.

The numeral 76 designates a cornice mounted upon the posts 21 and wall-post. This cornice embodies a bottom 77 and sides 78. The bottom is bent or pressed upwardly to provide a longitudinal rib 79 and a groove 80, and this rib has openings 81. Adjacent ends of sections of the cornice may be brought into contacting relation, Figure 11, and clamped together by straps 82, arranged within the cornice, and having outer hooked ends to engage in selected openings 81, the inner ends of these straps being adjustably connected by a bolt 84 or the like. Transverse plates 85 are welded to the straps and engage the lower ends of splicing plates 86, as more clearly shown in Figure 11. The cornice is mounted upon the upper ends of the posts 21, while the cornice rail 51 will enter the groove 80 and the upper end of the end fill panel 34 will also enter the groove 80, for affording a light proof joint. The sides 23 have notches 87 formed therein to receive extensions 88 of a lock plate 89, adapted to project upwardly through a selected opening 81. This lock plate has an opening 90 to receive a wedge 91. In this manner, the cornice may be locked or clamped to one or both of the posts 21 in each post unit.

As explained, each post unit embodies a pair of oppositely arranged posts 21, which are mounted upon the anchor 27, the open sides of these posts being arranged innermost and facing each other. I provide U-shaped resilient clips 92 for insertion between the pair of posts 21 in each unit, after such posts have been set in position. Each U-shaped clip has its material at its free ends bent outwardly and then inwardly upon itself to form laterally projecting shoulders 93, having rounded edges 93'. A plate 94 is connected with the base of each clip by a bolt 95 and this plate has its ends bent laterally for affording rounded shoulders 96. In assembling the clips with the pair of posts 21, the bolt 95 is loosened and the plate 94 turned at about a right angle with respect to the clip, to assume a vertical position so that the base or small end of the clip may be passed with the plate through the passage between the posts 21, and the plate 94 is then returned to the horizontal position and the bolt 95 screwed up to clamp the plate in this horizontal position. The shoulders 93 and the ends of the plate 94 have clamping engagement with the outer surfaces of the sides of the posts 21, whereby the clip is securely held in place. Any suitable number of these clips may be used at spaced intervals along the posts 21. The numeral 97 designates post caps or cover plates, which are channelled and adapted to be arranged upon opposite sides of the posts 21 and having flanges 97' to spring behind the edges 93' and 96. The numeral 98 designates plint blocks which are channelled and are applied to the lower portions of the post caps or cover strips 97, and extend to the floor and thereby cover the anchors and shims. The cover plate extends to the shim or shims or the extensions 30 of the anchor, while the plint blocks 98 continue downwardly below these to engage the floor.

The next panel section 99, to the right, has been modified for the reception of a door 100. The modification includes the elimination of the base rail, chair rail and panels carried thereby, while a door jamb 101 is secured to the post 21 and the transom rail. The partition may be built with or without the door. The partition may embody any suitable number of sections B, with or without the section A. Sections A may be employed at both ends of the partition.

It is to be understood that the form of my invention herewith shown and described is to be taken as preferred example of the same and that various changes in the shape, size and arrangement of parts may be resorted to without departing from the spirit of my invention or the scope of the subjoined claims.

Having thus described my invention what I claim is:

1. In a metal partition, a post unit comprising a pair of spaced posts, vertically spaced U-shaped clips having sides and a base arranged within the space between the posts in the unit and extending transversely of the partition and provided near the ends of the sides and near the base with elements having shoulders, said elements being disposed exteriorly of the posts, and cover strips disposed to extend across the space between the posts and having flanges to engage with the shoulders so that the cover strips may be held in place.

2. In a metal partition, a post unit comprising a pair of spaced posts, U-shaped clips including sides and a base arranged within the space between the posts and extending transversely of the partition and provided near the free ends of the sides with lateral extensions, a plate adjustably connected with the base of each clip and extending laterally beyond the same when held in one position, the lateral extensions and plate being adapted to be arranged exteriorly of the posts, and cover strips having flanges to engage with the lateral extensions and the plate.

3. In a metal partition, a substantially U-shaped clip having sides and a base, said sides being provided near their free ends with lateral extensions having shoulders, a plate arranged at the base of the clip and adapted to project beyond the sides of the same and having shoulders near its free ends, and adjustable means for pivotally connecting the plate to the clip and to clamp the same to the clip in the selected adjusted position the arrangement being such that the plate may be adjusted to substantially a vertical position and the clip passed between two spaced posts so that the sides of the clip will be arranged in close relation to the posts and the plate subsequently moved to a substantially horizontal position to project laterally beyond the said sides.

4. In a metal partition, a pair of spaced hollow posts, vertically spaced substantially horizontal rails arranged between the hollow posts, a tube extending through one of the rails and into the hollow posts, means for attaching the tube with the hollow posts, and elements passing through the remaining rails and attached to the hollow posts, and panels secured to the rails.

5. In a metal partition, a pair of spaced hollow posts having openings formed therein at substantially the same elevation, a substantially horizontal hollow rail arranged between the posts, and a tube extending through the hollow rail and the openings in the posts so that access may be had to the open ends of the tube from the interior of the hollow posts, said tube having

means for securing the same within the openings in the posts.

6. In a metal partition, a pair of spaced hollow posts provided with longitudinal grooves, a partition structure arranged between the posts and having parts at its vertical edges to enter the grooves, and a tube extending through the partition structure and having its opposite open ends passing to the interior of the hollow posts, said tube having means to attach the same to the hollow posts.

7. In a metal partition, a pair of spaced hollow posts having closed sides provided with grooves, said closed sides also having openings formed therein, the opposite sides of the hollow posts being open, a hollow rail to be mounted between the hollow posts and provided at its ends with tongues to enter the grooves, said rail being also provided at its ends with openings, and a tube extending longitudinally within the rail and passing through the openings in the ends of the rail and the openings in the posts, said tube having means to attach the same to the posts.

8. In a metal partition, a post, a hollow panel attached to the post and comprising spaced sides, a wall post including an outer channel member and an inner channel member which are attached together and have their sides spaced, the sides of the hollow panel being adjustably mounted between the sides of the inner and outer channel members, the outer channel member having an exterior groove, and a compressible strip arranged within the groove to engage with the wall and form a light tight joint.

9. In a metal partition, a post, a hollow panel attached to the post and comprising spaced sides, a wall post including an outer channel member and an inner channel member having their sides spaced, the sides of the hollow panel being adjustably mounted between the sides of the inner and outer channel members, the outer channel member being provided at its sides with forwardly tapering longitudinal ribs adapted to be forced into a plastered wall, said ribs forming therebetween an exterior groove, and a compressible strip arranged within the groove to form a light tight joint with the plastered wall.

10. In a metal partition, spaced post units, each post unit including spaced posts, one post in each unit having notches formed therein near its upper end, panel structures connected with the post units, and a cornice mounted upon the post units, said cornice having a bottom provided with openings, locking plates to be passed through selected openings in the bottom of the cornice and having extensions to engage within the notches of the posts, said locking plates having openings formed in their upper portions, and wedges for insertion within the last named openings, said wedges being arranged above the bottom of the cornice.

11. In a metal partition, spaced post units, each post unit including spaced posts, one post in each unit having notches formed therein near its upper end, panel structures connected with the post units, a cornice mounted upon the post units, said cornice having a bottom provided with an upwardly pressed rib for affording a lower exterior groove, the upper ends of the panel structures extending into the groove, the rib being provided with spaced openings, locking plates to be passed through selected openings in the rib and having parts to engage within the notches, the locking plates having openings formed in their upper portions, and elements arranged above the rib and inserted within the openings of the locking plates.

12. In a metal partition, spaced posts, panel structures connected with the posts, cornice sections mounted upon the top of the posts, the cornice sections having bottoms provided with spaced openings, straps mounted within the cornice sections and having outer hooked ends to engage within selected openings in the bottoms, and an adjustable element connecting the inner ends of the straps.

13. In a metal partition, spaced posts, panel structures connected with the posts, hollow cornice sections mounted upon the top of the posts, the cornice sections having bottoms provided with spaced openings, straps mounted within the cornice sections and having outer hooked ends to engage within selected openings, transverse plates attached to the straps, splicing plates arranged within the hollow cornice sections and receiving the transverse plates thereover, and adjustable means connecting the inner ends of the straps.

14. In a metal partition, a post unit comprising a pair of spaced posts, a plurality of resilient substantially U-shaped clips for arrangement within the space between the posts, each clip comprising spaced sides and a base, said sides being provided near their free ends with outwardly directed lateral extensions, a plate pivotally mounted upon the base and extending laterally beyond the said sides when in the substantially horizontal position, said plate being adapted to be shifted to a substantially vertical position so that the clip may be inserted in place, and cover strips having parts to engage with the lateral extensions and the plate for holding the cover plates in position.

15. In a metal partition, a pair of spaced hollow posts, a partition structure arranged between the posts and connected therewith and including a hollow part, and a fixed electric wire guiding tube constituting a part of the completely assembled partition and extending through the hollow part of the partition structure and having its open ends in communication with the interior of the hollow posts whereby an electric wire may be passed from one hollow post to the other through the tube.

16. In a metal partition, a pair of spaced hollow posts having oppositely arranged openings, a partition structure arranged between the hollow posts and having a hollow part, an electric wire guiding tube extending through the hollow part and having its ends arranged within said openings and terminating adjacent to such openings, said tube constituting a part of the completely assembled partition, and means associated with the tube for connecting the hollow posts.

17. In a metal partition, a pair of spaced hollow posts, a partition structure between the posts and including a hollow part, and a tube rigidly connecting the hollow posts and disposed within the hollow part of the partition structure to receive and guide an electric wire from one post to the other through the partition structure.

18. In a metal partition, a pair of spaced hollow posts having passages so that access may be had to the interior thereof, a partition structure between the posts and having a hollow part, and a tube within the hollow part of the partition structure and having communication with the interior of the hollow posts and serving to re-

ceive and guide an electric wire from the interior of one hollow post to the interior of the other hollow post through the partition structure, and nuts having screwthreaded engagement with the ends of the tubes for clamping engagement with the posts.

19. In a metal partition, a pair of spaced hollow posts having oppositely arranged openings, a partition structure arranged between the posts and including a hollow part, a tube arranged within the hollow part of the partition structure and having its ends extending through the openings in the posts, said tube serving to receive and guide an electric wire passing from one post to the other, and adjustable means carried by the ends of the tube for clamping engagement with the posts, so that the tube positively connects the hollow posts.

20. In a metal partition, a post unit comprising a pair of hollow post elements, an anchor for the post unit provided with pairs of upstanding spaced ears, one pair of ears being inserted in one hollow post element and the other pair of ears in the other hollow post element, and a base shim of sufficient size to extend across the anchor and project beyond the opposite sides thereof, said base shim having pairs of notches for receiving the pairs of ears and serving to connect the ears and reinforce them against lateral flexing, the base shim also serving to support the hollow post elements.

ERIC LARSON.