Feb. 8, 1927. 1,616,768

P. H. THOMASON

WALL PARTITION

Filed Sept. 25, 1924 3 Sheets-Sheet 1

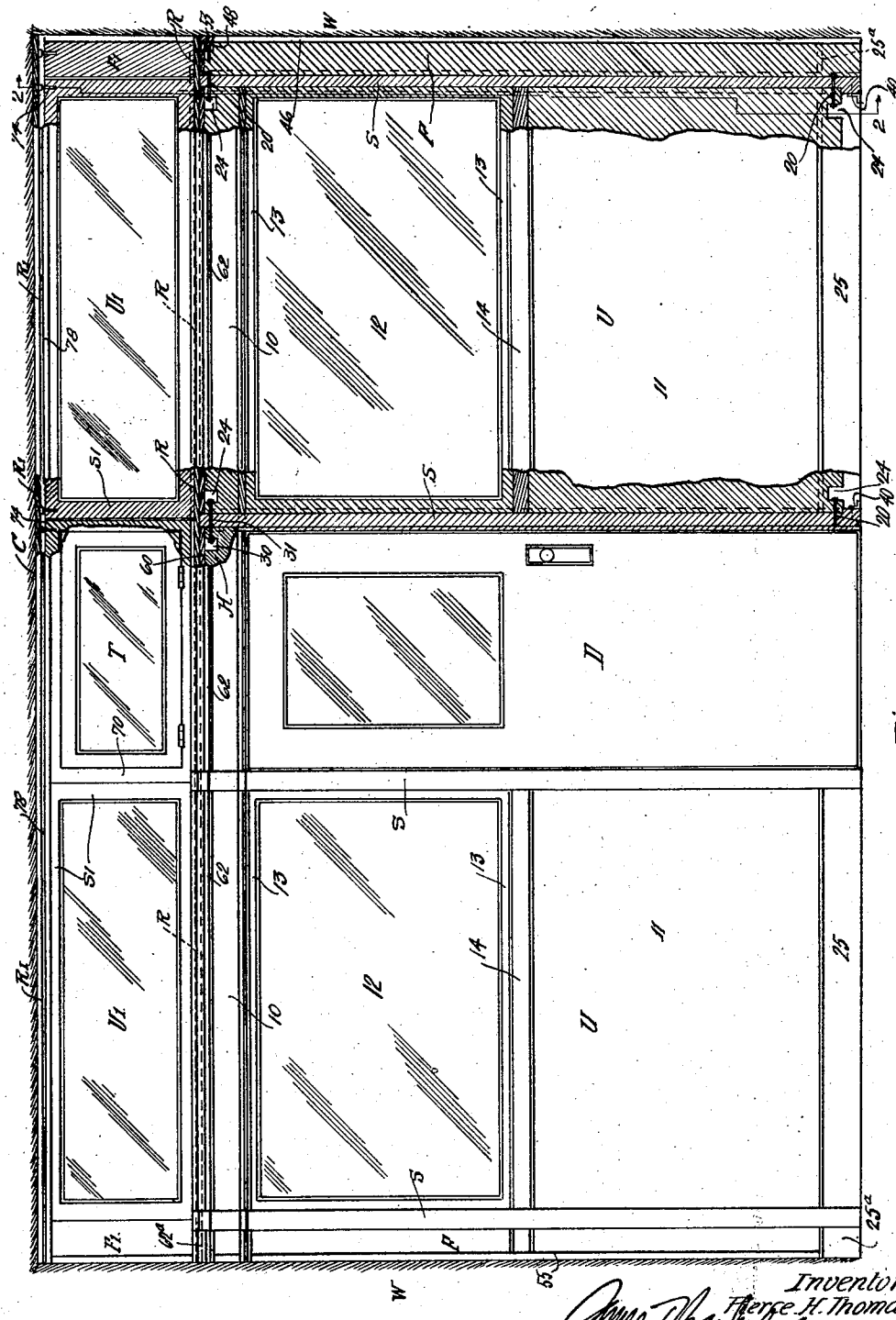

Fig. 1.

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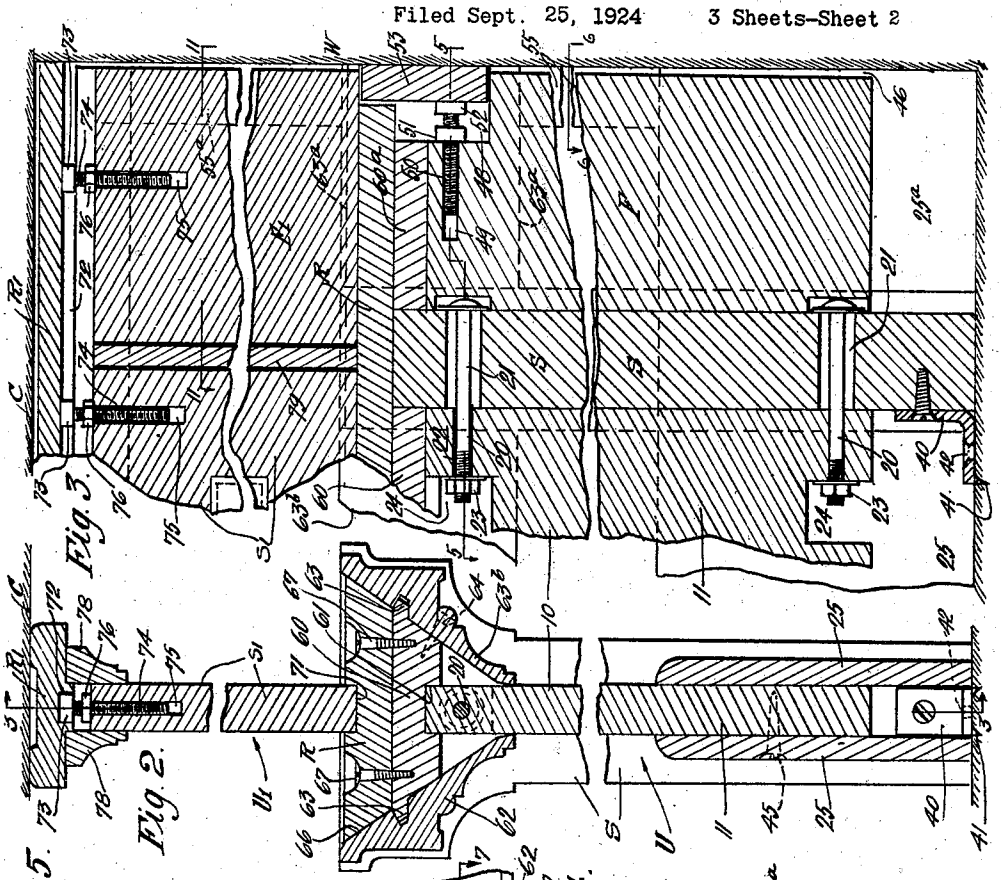

Fig. 3.

Fig. 2.

Fig. 5.

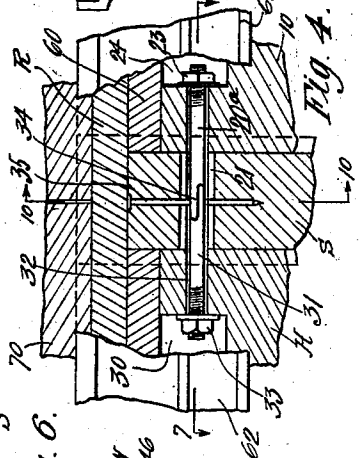

Fig. 4.

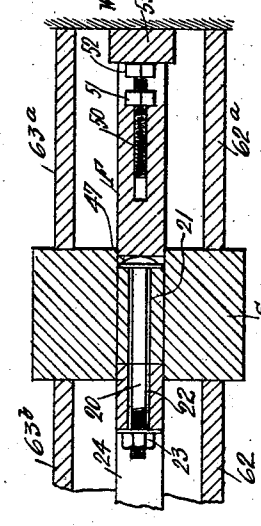

Fig. 6.

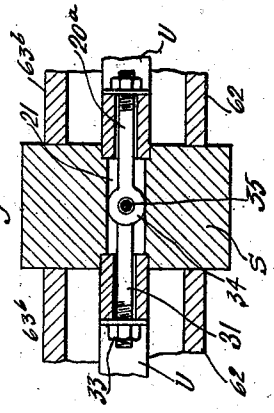

Fig. 7.

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Fig. 10

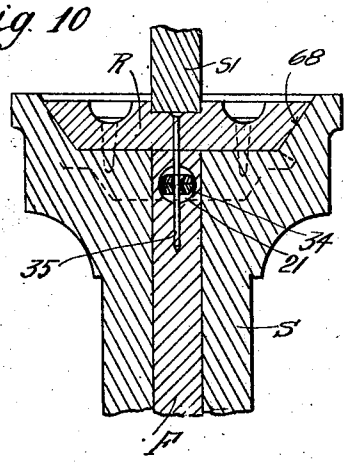


Fig. 11

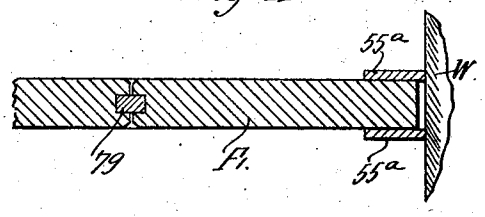


Fig. 9.

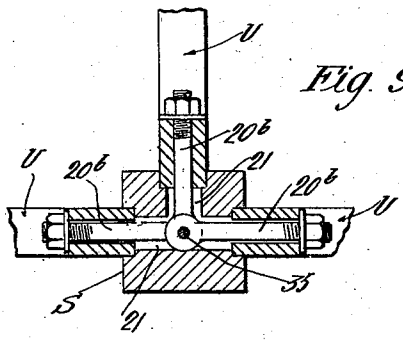
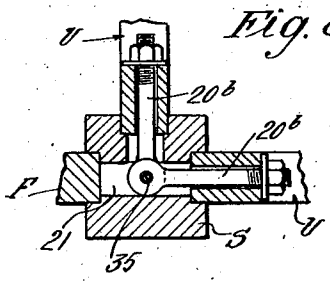


Fig. 8.



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Patented Feb. 8, 1927. 1,616,768

UNITED STATES PATENT OFFICE.

PIERCE H. THOMASON, OF LOS ANGELES, CALIFORNIA.

WALL PARTITION.

Application filed September 25, 1924. Serial No. 739,780.

This invention has to do with wall structures and the like; and particularly with partition walls such as are commonly used in offices; and although the invention is not necessarily restricted to the particular use about to be described, the present embodiment of the invention has been developed and designed particularly for partition installation in offices and the like after completion of the building structure itself.

It has been quite common in the past that, in rearranging suites of offices, partitions have been installed; and it has been common either to build such partitions in place, or to build the partitions in sections and then set them up in place. The sectional partitions have the advantage of being fabricated in a manufacturing establishment; but the previous shortcomings have been largely due to the lack of effective interconnection and stiffening between the sections, and also the lack of effective means for connecting or anchoring the partition to the building structure. The result has usually been that such partitions are neither rigid in themselves nor solidly set with reference to the building structure. A primary object of the present invention is to overcome these deficiencies; and to provide a partition structure that may be sectionally manufactured, that can be easily set up in position and firmly anchored or set in place, and that, when completed, is strong and rigid. Other objects of the invention will be best understood from the following detailed description of a preferred form and embodiment of the invention, reference for this purpose being had to the accompanying drawing in which—

Fig. 1 is an elevation, with parts in section, illustrating a typical partition wall in accordance with my invention;

Fig. 2 is an enlarged fragmentary cross-section taken on line 2—2 of Fig. 1;

Fig. 3 is a section taken on line 3—3 of Fig. 2;

Fig. 4 is a sectional enlargement of certain details shown in section in Fig. 1;

Fig. 5 is a detail section taken on line 5—5 of Fig. 3;

Fig. 6 is a detail section taken on line 6—6 of Fig. 3;

Fig. 7 is a detail section taken on line 7—7 of Fig. 4;

Figs. 8 and 9 are detail sections showing how the method of panel connection, similar to that shown in Fig. 7, may be used to connect panels at a corner or angle in a partition;

Fig. 10 is a section on line 10—10 of Fig. 4; and

Fig. 11 is a section on line 11—11 of Fig. 3.

In the typical partition wall shown in the drawings there is shown a partition provided with a central door D and a transom T above the door. On either side of the door and transom there are sectional units generally designated by U and U^1. In this particular installation the units are of equal widths and the door is centralized; but it will be readily understood that partitions may be set up with the units, doors, etc. in any desired arrangement. In the manufacture of partitions in accordance with this invention, the units will be manufactured in certain standard heights and widths; so that by proper selection of units a partition may be assembled to suit any situation. Having selected proper widths of units that come as near as may be to making up the full length dimensions of the partition, the remaining spaces are filled by what may be termed filling boards F and F^1 at the ends of the partition and adjacent the walls W of the building structure. These boards F and F^1 may be easily and quickly cut or finished to the proper size; and these are the only parts of the whole partition, with the exception of the continuous stiffening rail R and ceiling bearing rail R^1, and a few other small parts, that have to be dimensioned especially for a particular job.

Now, to describe first the structure of one of the sectional units U, it may be said to be a framed member with side posts or stiles S, a top rail 10, a solid panel 11 in its lower part and, if desired, a glass panel 12 in its upper part set in a sash 13, the sash being set between upper rail 10 and a middle rail 14. The whole framed structure of a unit U is held together by a bolting arrangement such as is generally shown in Fig. 1 and shown in detail in the other figures. For instance, upper rail 10 is bolted at the end to the upper ends of posts S by bolts 20 which pass through bores 21 in posts S and through bores 22 in rail 10, the nuts 23 of the bolts being located in notches 24 cut in the upper edge of rail 10. Similarly, the

frame structure of unit U is held together at the bottom by the same kind of bolts 20, arranged in the same way, except that here the bolts 20 engage the lower edge of panel 11 and notches 24 are cut in the lower edge of this solid panel. Where a solid panel is used in the lower part of the unit, as is usually the case, it is not necessary that the lower edge of the unit have a lower rail. And, in fact, it is desirable not to have a lower rail on such units because base boards 25 are used at each side of panel 11. These base boards cover the gap that might otherwise exist between the lower edge of panel 11 and the floor, and such gaps may thereby be of any dimension less than the vertical height of base board 25. This arrangement thus provides an easy method of making small adjustments in the height of the partition to suit the ceiling height of the room.

To tie adjacent units together substantially the same bolting means is utilized as above explained. As an illustration of this, an explanation of the tying of the two units U to the header H above door D will suffice. For instance, it will be readily understood that if the illustrated partition were not to be equipped with a door at D, another unit, built up like the units U, would be put in place instead of door D and header H. Thus, in this particular illustration, header H may be taken as indicative of any kind of unit. Header H has notches 30 cut in its upper edge near its ends and bolts 31, extending through holes 32 in the header, have their nuts 33 located in the notches 30. Now, as an illustration of the variety of manners in which the various bolts may be used, the bolts 20, as shown in Fig. 3, used at the outer edges of units U pass clear through posts S and have heads at the outer faces of those posts. On the other hand, where a post S comes between one unit and another, as between a unit U and such a member as header H, or where a post S forms a common post or stile for adjacent units, it may be desirable not to run the bolts 20 completely through the post or stile. Thus, for instance, at the upper inner edges of units U, where header H is set in, the bolts 20^a and bolts 31 are made with eyes 34 at their inner ends and these eyes are pinned into connection with the post, as for instance by driving a nail 35 through the bolt eyes from the end of the post. In Figs 8 and 9 there is illustrated how this method of bolting may be used to connect units that use a common stile or post and where the units are either set in the same plane or make angles with each other. For instance, at Fig. 8 two units are shown at right angles, with a common corner post S, and the bolts 20^b are shown accordingly arranged. In Fig. 9 three units U are shown, two in position to make a continuous partition wall and the other in position to make a cross partition wall, and the bolts 20^b are shown in corresponding arrangements.

From these illustrations it will be readily understood, without the necessity of further detailed description, how units may be set up to and rigidly connected with a common post, the units being in any plane arrangement desired, and the units being thus rigidly interconnected.

For the purpose of securing the set-up partition to the floor various means may be used. For instance, if the floor is of wood or covered with linoleum an anchor bracket 40 may be used, such a bracket being attached to the lower end of each post S and having on its lower face spurs 41 that may be driven into the floor or floor covering. In case the floor is of concrete or similar material, then these brackets may be anchored by boring a hole and setting in an expansion anchor bolt or screw; bracket 40 being provided with a hole 42 for this purpose. These brackets 40 are set, as illustrated, on the inside faces of posts S so that they are finally covered by base boards 25. One of these base boards 25 may be permanently attached to the unit structure while the other may be attached with screws 45 after the brackets 40 have been properly set on the floor. These base boards 25 are individual to each unit—they do not run the whole length of the partition but extend only between posts S. A short piece of base board 25^a may also be put in position, as illustrated, next to the walls W of the building structure and to cover the lower ends of filling board F and cover the gap otherwise existing below the lower end of that filling board and the floor.

The filling boards F, as before described, are used for the purpose of filling up the gaps that would otherwise exist between the outer ends of the set-up units and the walls W between which the finished partition wall is intended to extend. These filling boards F are finished to a length suitable to the height of units U and to widths that will substantially fill the gaps, preferably leaving a small gap of one-eighth or one-quarter inch or so at 46 between their outer edges and wall W. This small gap allows for any inaccuracies either of measurement or of the wall surface itself. The inner vertical edges of filling boards F lie in vertical grooves 47 in the outer face of posts S; and they are placed in position so that their upper ends are somewhat below the upper ends of the posts, and a small gap may be left between their lower ends and the floor B. These gaps, as hereinbefore stated, are covered by the short base boards 25^a. At the upper outer edge of each board F a notch 48 is cut and a hole 49 is drilled horizontally back into board F from this

notch 48. A bolt or cap screw 50 has its end extending into hole 49 and a nut 51 bears against the side surface of the notch while head 52 of the bolt bears against a small bearing block 53 that bears against the wall. Head 52 and nut 51 may be easily reached from the side, because they stand exposed in notch 48 until the cornice molding, as afterwards described, is put into place; and by proper manipulation of nut 51 bearing block 53 may be forced out against wall W. This being done at each end of the partition, it will be seen that each end is thus anchored firmly against the opposite wall W, and also that the various units of the partition are compressed together longitudinally.

After boards F have been properly placed and set as described the small gap at 46 is closed by the application of base board 25^a and small vertical cover strips 55, the gap and notch 48 at the upper end of board F being covered by the cornice molding as will be described.

At the upper edges of each unit U the posts S extend up beyond the upper edges of upper rail 10 of each unit, or above the upper edge of header H, as the case may be; this is clearly shown in Figs. 2, 3, and 4. The upper ends of posts may be figured or designed to correspond with the cornice molding that is used. Over the upper edge of each upper rail 10 of each unit, or over the upper edge of the header H, or any equivalent member in any units used, as the case may be, there is placed a head member 60, grooved at 61 on its under face to take the upper edge of rail 10, etc. These head members 60 are individual for each unit and are permanently built into the several units at the time of their manufacture, being for instance, glued or otherwise permanently connected with rails 10 and at their ends with posts S, between which posts they extend. Outside this head member 60, and to cover its outside face and to form a cornice mold, a permanent mold piece 62 is placed on one side of the unit, being permanently connected in suitable manner to rail 10 and also to the outer edge of the head piece 60, and being tongue and groove connected as at 63 to the head piece for the purpose of making a rigid and strong joint. This cornice molding also is individual to each unit and extends between posts S. A similar cornice molding 63 at the opposite face of the unit is put in place so that it can be removed and replaced, being held for instance by screws 64. These two cornice moldings cover up notches 24 and bolts 20; and removal of the removable mold 63 allows easy access to the bolts for setting up and for tightening. Likewise short pieces of the same kind of cornice mold, as shown at 62^a and 63^a cover the notch 48 and bolt 50 and bearing block 53. The molds 62^a and 63^a are secured to filler boards F in the same manner that molds 62 and 63 are secured to rail 10. Also at the upper edge of the filler boards short pieces of head piece 60^a are fitted just as head pieces 60 are fitted; and cornice molds 62^a and 63^a are likewise secured to these short head pieces 60^a.

After the units, that have been so far described, have been set up in place, then a continuous stiffening rail R, cut to proper length for the entire length of the partition wall, is put into place as illustrated. This stiffening rail R sets down on top the several head members 60 and 60^a, fits with its bevelled edges 66 between the inside angular or bevelled faces of molds 62 and 63, 62^a and 63^a, and is held down to these head members by screws 67. When this stiffening rail R is put in place it wedges down between the opposite molds 62 and 63 and also wedges into similarly shaped notches 68 at the tops of posts S, this stiffening rail passing continuously through the tops of posts S, as is best illustrated in Figs. 3 and 4. By being thus wedged into place this stiffening rail holds the various units rigidly in alinement. The units being thus held in rigid alinement along the tops and between their ends, and the ends of the partition, at the top, being held rigidly in engagement with, or anchored to, the building walls, it will be seen that the upper part of the partition structure is thus made rigid and strong. The lower part of the partition structure being anchored at the posts to the floor, the whole partition of both top and bottom, is held rigidly in place.

Now such a partition as this may be built only to the height of the cornice formed by molds 62 and 63; or it may be desired to carry it on up to the ceiling of the room. It will be noted that, due to the structure hereinbefore explained, a partition that is only built as high as the cornice will be perfectly strong and rigid—it is not necessary for the purposes of rigidity in this construction to continue the partition on up to the ceiling. However, in many instances it is desired to extend the partition to the ceiling and that is done in the manner now about to be described.

Units U^1 are provided in suitable vertical and horizontal dimensions so that by proper choice units may be chosen to suit any situation. These units U^1 may be, if desired, merely sashes S^1 with a glass panel or a solid panel inserted. The details of construction of these units are of no particular importance so far as the invention is concerned. Also, for a partition having a door, a frame 70 may be provided as a unit containing a transom T, or this unit may be built up in any suitable manner. The lower edges of these various upper units rest in a

longitudinal groove 71 in the upper face of stiffening rail R. Consequently, their lower edges are held in alinement by this continuous stiffening rail. The vertical dimensions of these various upper units are chosen so as to leave a small gap between their upper edges and ceiling C. In this gap a continuous ceiling bearing rail R^1 is placed. This rail has a longitudinal groove 72 along its under face, and the square heads 73 of bolts or cap screws 74 rest in this groove. These bolts or cap screws 74 project down into holes 75 bored into the upper edges of the upper units, and nuts 76 on the bolts may be turned to force the bolt heads up against rail R^1 and thus force rail R^1 up against the ceiling. Thus, the upper edges of the upper units are anchored to the ceiling; and, rail R^1 being continuous from end to end of the partition the upper edges of the upper units are held rigidly in alinement by rail R^1, just as their lower edges are held rigidly in alinement by stiffening rail R. Also it will be noted that this pressing of rail R^1 up against the ceiling presses the whole partition down against the floor and thus serves to hold the spurs 41 against lifting. The filler boards F^1 at each end of the upper part of the partition, above stiffening rail R, also have their lower edges resting in longitudinal groove 71 of rail R, and they also are equipped with bolts 74 which bear up against rail R^1. The gap immediately below rail R^1, and the bolts 74, are covered by two moldings 78 placed as illustrated. It has been explained how filler boards F are set in vertical grooves 47 in the outer faces of posts S; and filler boards F^1 may correspondingly have a similar connection with the vertical edges of units U^1 or their sashes S^1. For instance, the abutting vertical edges of sashes S^1 and filler boards F^1 may have corresponding grooves in which a lock tongue 79 may be placed. The several upper units may also be interconnected in this same manner. The slight gaps between walls W and the outer ends of filler boards F^1 may be covered by covering strips 55^a similar to cover strips 55.

Having described a preferred form of my invention, I claim:

1. A partition structure involving a plurality of units comprising vertical posts and an upper rail, a head piece over the rail between the posts, and cornice moldings at opposite sides of and projecting upwardly above the upper edges of the rail forming a groove between them, the posts projecting above the upper edge of the rail and being notched at their upper ends to form continuations of the groove, the said grooves and notches having downwardly converging sides; the several units being set end to end, and a continuous stiffening rail extending from end to end of the several units and resting in their said grooves and post notches, the rail having bevelled side edges and adapted to be wedged down into the grooves and notches to the several units; filler boards filling the spaces between the outermost posts of the partition structure and the wall surfaces between which the partition is set, and screw operated bearing blocks on the filler boards adapted to be forced against said wall surfaces.

2. A partition structure involving a plurality of units comprising vertical posts and an upper rail, a head piece over the rail between the posts, and cornice moldings at opposite sides of and projecting upwardly above the upper edges of the rail forming a groove between them, the posts projecting above the upper edge of the rail and being notched at their upper ends to form continuations of the groove, the said grooves and notches having downwardly converging sides; the several units being set end to end, and a continuous stiffening rail extending from end to end of the several units and resting in their said grooves and post notches, the rail having bevelled side edges and adapted to be wedged down into the grooves and notches to the several units; filler boards filling the spaces between the outermost posts of the partition structure and the wall surfaces between which the partition is set, and screw operated bearing blocks on the filler boards adapted to be forced against said wall surfaces; the stiffening rail having a longitudinal groove in its upper surface, a plurality of units set with their lower edges in said groove, a continuous ceiling bearing rail above the upper edges of said units, and means connecting said units to the ceiling bearing rail and whereby that rail may be forced up against the ceiling.

3. A partition structure involving a plurality of units comprising vertical posts and horizontal rails and panels, adjacent units having a common post between them, and means to hold adjacent units together endwise embodying two eye-bolts passing through and pinned centrally to the post and extending out on opposite sides into adjacent rails, the rails being notched to expose the ends of the bolts and take nuts therefor.

In witness that I claim the foregoing I have hereunto subscribed my name this 21 day of June 1924.

PIERCE H. THOMASON.