May 29, 1934. R. L. DAVISON 1,960,575

FACTORY FABRICATED PARTITION AND CEILING CONSTRUCTION

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Fig. 1.

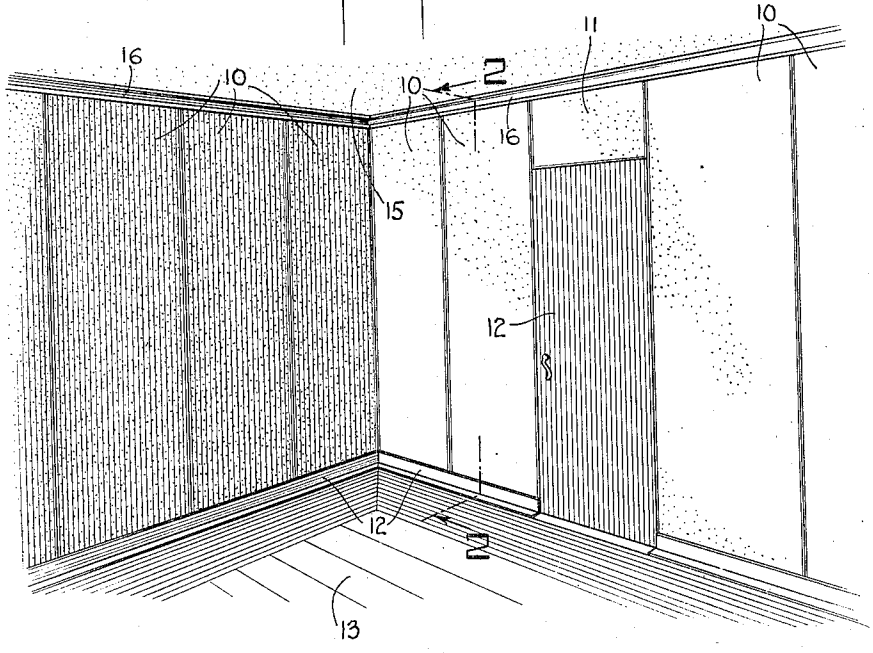


Fig. 2.

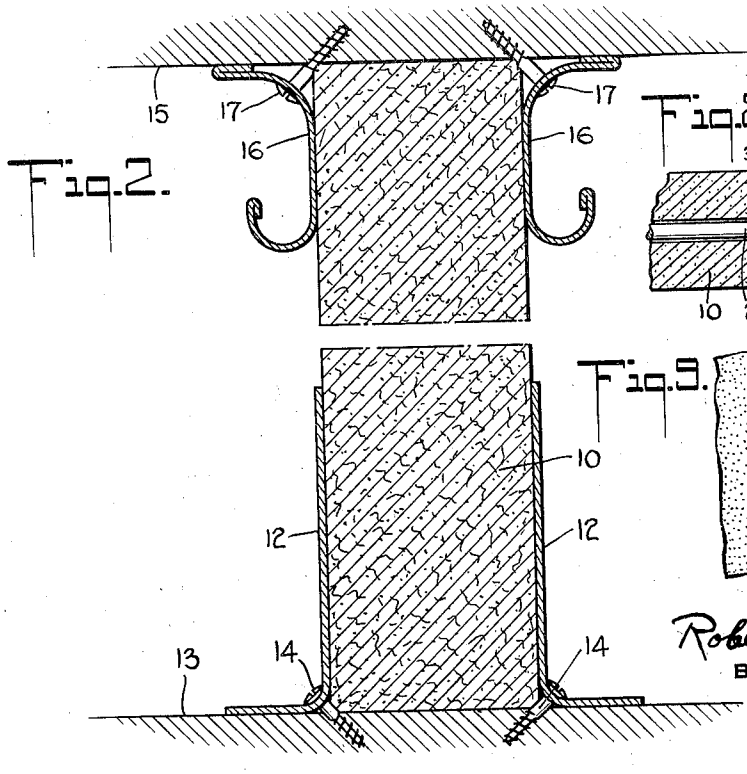


Fig. 8.

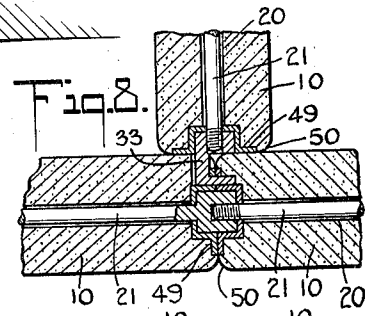
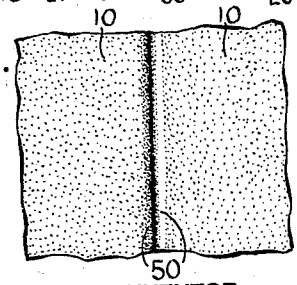


Fig. 9.



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Fig. 3.

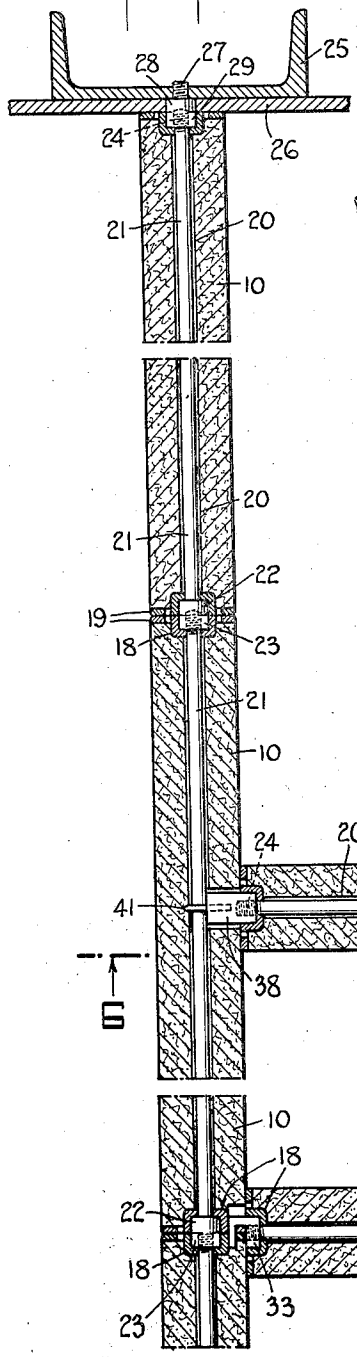
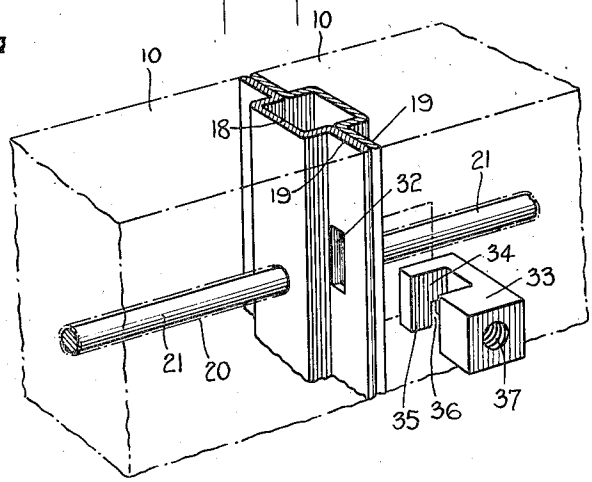


Fig. 4.



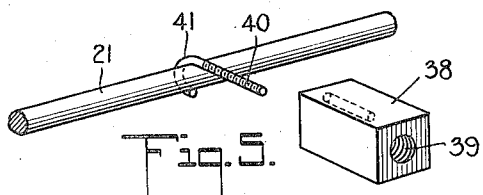
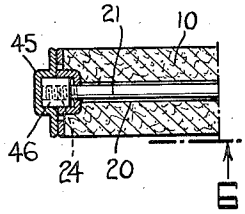


Fig. 5.



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Fig. 6.

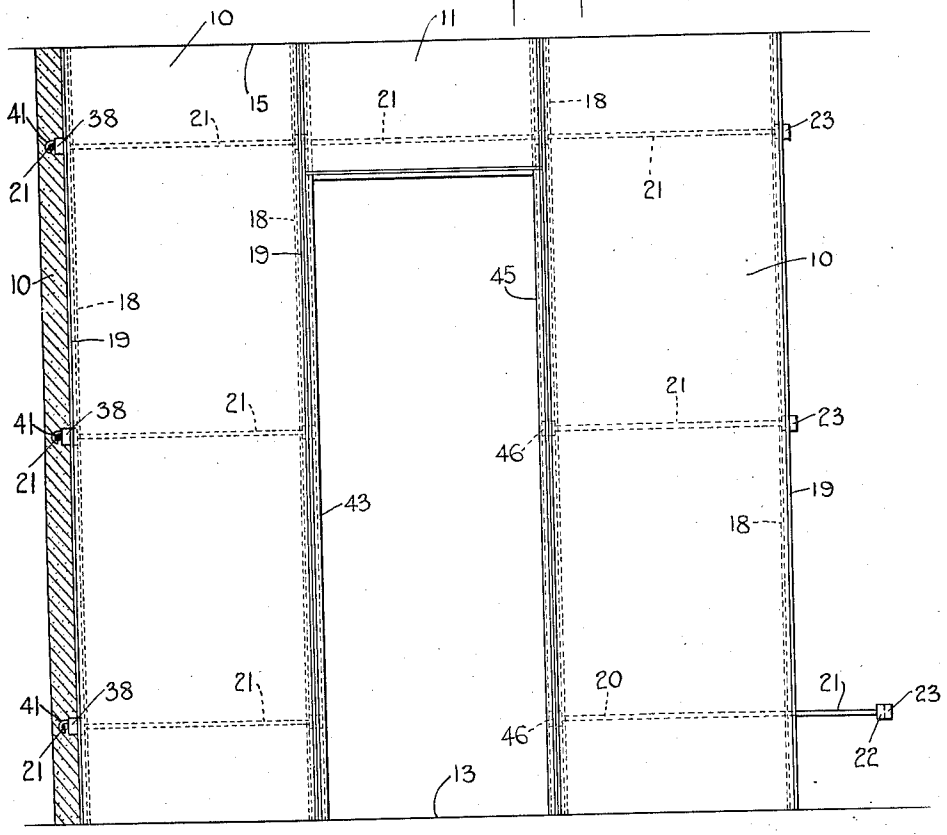
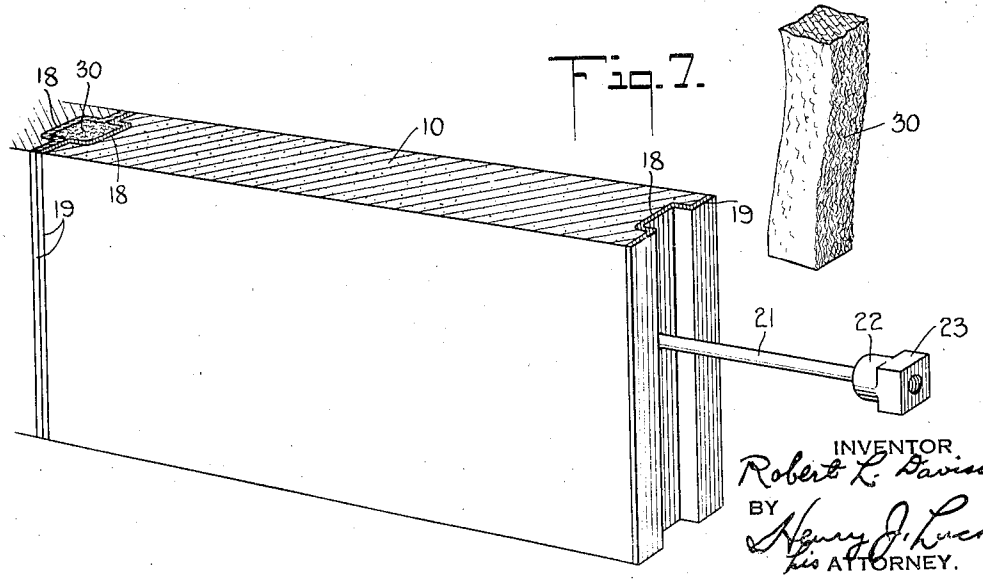


Fig. 7.



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UNITED STATES PATENT OFFICE

1,960,575

FACTORY FABRICATED PARTITION AND CEILING CONSTRUCTION

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Application February 6, 1932, Serial No. 591,395

10 Claims. (Cl. 72—46)

My present invention relates to interior building construction and more particularly to an improved combined sectional wall partition structure.

A feature of my invention relates to the novel structure of a wall partition panel or section wherein each section is provided with upright edges equipped with recessed strips which not only serve to protect and strengthen the section during shipment as well as when installed, but also serve as abutting end members and interlocking means for the ends of the connecting members employed to hold the sections when installed in aligned order.

A further feature of my invention relates to the improved means employed for holding the panels or sections in aligned order in assembled condition.

A still further feature of my invention relates to the improved novel means employed in attaching the end panels or sections of a partition made up of a plurality of sections in position against the inner face of the outer wall of a building or the like and in position against the side or face of a section or against the adjoining edges of a pair of adjacent sections when in the latter case it is desired to extend one partition at an angle to another partition.

Other features of my invention will appear as the description of the invention progresses.

In the accompanying drawings illustrating a preferred embodiment of my invention

Figure 1 is a perspective view of a corner of a room formed by partitions built in accordance with my invention;

Fig. 2 is a section on the line 2—2 of Fig. 1;

Fig. 3 is a sectional plan view of a pair of partitions in place showing the method of attaching the same to the outside wall of a building and also one method of attaching one partition to another;

Fig. 4 is a perspective view of adjoining portions of adjacent panels or sections constituting a partition and showing the method of attaching a section lying at an angle to the partition;

Fig. 5 is a perspective exploded view of the elements employed in joining a section of the partition at right angles to another partition and intermediate the upright or longitudinal edges of one of the sections of such partition;

Fig. 6 is an elevation of a plurality of assembled panels or sections forming a partition and showing the method of forming a door opening therein. This view being taken on the line 6—6 of Fig. 3;

Fig. 7 is a perspective view of portions of adjacent panels or sections of a partition showing a pair of sections joined end to end, and showing a section of the spline to be associated therewith;

Fig. 8 is a sectional plan of a portion of a wall partition, similar to Fig. 3, and showing a modified form of panel or section employed, and

Fig. 9 is an elevation of a portion of the partition shown in Fig. 9.

Referring to the drawings and particularly to Fig. 1, there is shown a plurality of sections or panels 10 constituting a partition, and arranged at an angle thereto is a partition comprising a plurality of sections or panels 10 and a special panel 11 constituting a spacer member to provide for a door opening 12 in one of the partitions. The panels or sections of each partition are arranged edge to edge in alignment with each other and the bottom portions of each of the panels or sections 10 fits into and is aligned by means of a plurality of angular base sections 12 spaced apart from each other and secured to the floor 13 by screws 14, or in any other suitable manner. Also, the upper ends of the panels or sections 10 are aligned and are held in position relative to the ceiling 15 by specially formed molding members 16 arranged on either side thereof as shown in Fig. 2, and held to the ceiling by screws 17, or in any other suitable manner.

Each of the panels or sections 10 is composed of preferably sound absorbing material which has its outer faces of denser material or of denser character than the inner portions and preferably I provide on the outer surface, or construct the outer surface of, a plurality of superimposed physically separate materials for the purpose of increasing heat and sound insulation.

The panels or sections 10 are preformed at the factory and are of standard size, it having been found that a width of 2′ 6″ is a particularly advantageous size as regards manufacturing, shipping and installing and the height is preferably 8′ though the same may be of any desired height as 8′ 6″, 9′, 9′ 6″, etc. Each panel or section is provided on its opposite vertical longitudinal edges with a groove in which fits a groove or channel 18 formed in the middle longitudinal section of a strip 19 of suitable material, as fiber or metal.

The strip 19 is attached to the panel or section 10 preferably by an adhesive during the process of manufacture, although it is obvious that the same may be attached at any time and by any means, as by screws, nails or other fastening means. Extending transversely through the sec-

tions or panels 10, that is, from one vertical or longitudinal edge to the other is a plurality of parallelly arranged holes 20. In the ordinary length of panel, that is a panel 8' in length or height, I preferably arrange three such parallelly arranged holes 20, one adjacent to the top, one adjacent to the bottom and one substantially midway of the length or height of the panel or section. Through each of the holes 20 extends a rod 21 provided on one end with a head consisting of a cylindrical member 22 of a diameter equal to the width of the channel 18 and of a depth or height equal to the depth or height of such channel 18, this head being immovably secured to rod 21. Formed integral with the member 22 is a square member 23 equal in length and width to the width of the channels 18, and of a thickness or height equal to the depth or height of the channel 18. This member 23 is drilled and tapped in alignment with the rod 21 to receive the other end of a similar rod 21, such end being threaded as indicated at 24.

Referring to Fig. 3, there is shown a channel section 25 preferably of metal and forming part of the outer wall of a building such as a house, such wall and therefore the channel 25 being covered with the usual wall surface 26 of plaster or similar material. This channel member 25 is drilled and tapped to receive the threaded end 27 of a cylindrical member 28 having formed on its outer end a squared member 29 similar in size and dimensions to the member 23 above described as being formed integral with the member 22 on the rod 21. The height of the member 28 is substantially equal to the thickness of the wall covering 26. The squared member 29 is drilled and tapped in alignment with the threaded end 27 to receive the threaded ends 24 of the rods 21. The position of the drilled and tapped holes which receives the threaded ends 27 corresponds to the position of the parallelly arranged holes 21 in the channels or sections 10. In assembling the sections or panels 10 to form a partition, I preferably utilize a resilient and compressible material 30 having sound absorbing qualities and place the same in one of the channels 18 on the edge of the panel or section 10. There is then screwed into the drilled and tapped holes 25, a plurality of the members 28, the squared ends 29 being aligned so as to engage with the now vertically arranged channel 18. Such channel 18, with the compressible and resilient material arranged therein, is forced into the position shown in Fig. 2 whereupon a wrench may be employed, in connection with the members 23, to firmly screw the panel or section 10 in position with respect to the channel 25 as shown in Fig. 3. When the rods 21 are tightened sufficiently to secure the panel or section 10 to the channel 25, the squared ends of the member 23 are aligned so as to enter the channel 18 of the next succeeding panel or section 10 to be employed. In assembling the second panel or section 10 to the first panel or section 10, there is utilized the sound absorbing resilient material 30. After the partition has been assembled, the same may be accurately lined up either square with the wall of which the facing 26 forms a part or at any other desired angle, and when in position the base members 12 are arranged in place and secured in position by the screws 14, and also the special molding 16 is secured in place on the ceiling by screws 17.

Rods 21, in addition to being used as a means for attaching the panels 10 edge to edge to form a partition, and to attach such partition to a wall, or to another partition, may be used as a supporting means for various articles such as bath accessories, towel racks, kitchen cabinets, and the like. Tubular members may be substituted for the rods 21 and members attached thereto and by means of which they are held in position, and when such tubular members are used, they may be utilized as conduits for electric wires, and the like.

Should it be desired to provide a doorway 12 in the partition, a special spacing section 11 is employed. This special section 11 is identical in construction with the regular sections or panels 10 except as regards length, and is therefore only provided with a single transversely arranged hole 20 through which extends the rod 21. It is obvious therefore that in providing for a doorway 12, the special section or panel 11 is attached to the upper end of the preceding regular panel or section 10 after which the next succeeding panel or section 10 is attached to the special section or panel 11, as above clearly described.

The door space 12 may have positioned thereabout the door trim elements 43, held in position on the blocks 23 by screws 44, such screws engaging the threaded hole provided ordinarily for the threaded end 24 of the rods 21. Where there are no blocks 23, as will be the case on one side of the door space 12, I provide blocks 46 drilled and tapped to receive the threaded end 24 of rods 21, such blocks 46 being welded or otherwise secured to the longitudinal channel in the strip 45.

It is sometimes necessary and desirable to attach a partition to a partition, the second partition extending outwardly from the first partition at an angle thereto and usually at a right angle. To provide for this contingency, I have arranged in the strips 19 of metal or other suitable material, vertical slots 32, the slots in each of the strips 19 being brought into alignment when adjacent panels or sections 10 are attached together, as clearly shown in Fig. 4 and such panels are adjacent to the holes 20. When it is desired to attach a panel to a partition so as to extend outward at an angle therefrom, I utilize a block 33, preferably square in cross-section, as shown in Fig. 4, and of a size to fit within the channels 18 in the strips 19 and in such block arrange a transverse groove 34, which groove defines a tongue 35 of a width equal to the width of the aligned slots 32, and in the body of such tongue and at the lower end thereof, I provide an upwardly extending groove 36 equal in width to the combined width of adjacent strips 19. This construction provides for the locking of the member 33 to the pair of strips 19 by inserting the tongue 35 through the slot 32 and then forcing the block 33 downwardly to lock the pair of strips 19 in the upwardly extending grooves 36. The block 33 is drilled and tapped as indicated at 37 to receive the threaded end 24 of a rod 21 and the bringing of the block 33 into the locked position as above described brings the drilled and tapped hole 33 in a horizontal line at the same vertical height above the bottom of the panels 10 as the holes 20 are in such panels. Therefore to attach a panel 10 to a pair of adjacent panels 10 and extend upwardly at an angle thereto such panel 10 is provided on the groove 18 with a strip of sound absorbing resilient material 30 and the blocks 33 forced into the groove 18 of such panel. The rods 21 of the panel are then screwed into the drilled and tapped holes 37 to securely fasten the panel into position after which the second

partition may be built up in the manner already described. It is to be understood of course, that a portion of the material constituting the panel 10 will have to be broken away to allow the insertion of the block 33 in the position above described, but this is of no consequence unless the partition is afterwards removed where it is a comparatively easy matter to fill in the holes produced by utilizing ordinary plaster or other cementitious material.

It is possible in my present invention to attach the end of a partition comprised of a plurality of panels of standard width and height to a partition at any point intermediate the ends of any panel or section thereof and in carrying out this feature of my invention, I provide a block 38 square in cross-section and of a size to fit snugly within the channel 18 of one of the end members 19 such block being drilled and tapped at 39 in a manner similar to the drilled and tapped end 37 of the block 33 above described, and also at the end of the block 38 opposite from the drilled and tapped hole 39 I drill and tap to permit the screwing in of the threaded portion 40 of a hook member 41. In utilizing this form of connecting means, it is necessary to break away a portion of the material of the panel or section 10 at the desired point and hook the member 41 over the rods 21 after which the panel 10 may be assembled on the blocks 38 in the manner above described with reference to the blocks 33.

Referring to Figs. 8 and 9, there is shown a modified form of section or panel 10, wherein the longitudinal edge is processed to eliminate the necessity of any metal or other protecting strip being visible. In this modification the strip 49 is substituted for the strip 19, and it will be noted that this strip is narrower than the thickness of the panel 10, and is inset in the longitudinal edge of the panel so as to flush, or substantially flush, with such edge. Further, the edges of the panel 10 are rounded as indicated at 50. When such modified form of panel 10 is employed in constructing a partition, only a single line is visible to denote the limits of adjacent panels 10, in contra-distinction to the plurality of parallel lines visible between adjacent panels in the structure above first described.

My invention is applicable to the construction of buildings, such as dwelling houses, by the use of factory fabricated units, which units may be assembled by relatively unskilled labor. The resulting structure is substantial, useful, pleasing in appearance, and is produced at a minimum cost as compared with the cost of like buildings constructed and erected in the usual way. With regard to the specific embodiment of my invention, as disclosed in the present application, the wall units or panels are preferably made with the outer, exposed faces of relatively hard material, which enables me to apply a surface finish thereto during the fabrication thereof, and no further finish is necessary.

It will be obvious that my invention is adapted to be used in the building up of partitions in buildings and the like without regard to the position of the underpinning or floor or ceiling construction and that the same may be assembled and disassembled by the use of unskilled labor. This feature enables me to dispense with the use of various trades that are ordinarily required to erect a wall such as carpenters, bricklayers, plasters, painters, etc. Also that a wall constructed in accordance with my present invention may be moved at any time and to any position desired, also by unskilled labor and that by properly finishing the various sections or panels at the factory, no other finishing is required and a satisfactory and useful partition or wall may be erected at any time by any ordinary person unskilled in the building trades.

In describing my invention, I have described the same with reference to a particular embodiment thereof, but it is to be understood that I am not limited to the exact construction shown and I may vary such construction within reasonably wide limits without departing from the spirit of the invention.

I claim:

1. An improved partition and combined wall of a building construction, comprising a plurality of panels arranged in a single plane and with their longitudinal edges abutting, means concealed within the body of the panels for attaching the panels together, said concealed means comprising a set of rods respectively carried by the panels, a wall, attachment means normally concealedly carried by the wall, the material of the wall being frangible to enable a portion of the same to be broken and removed to provide a recess for exposing said attachment means, and mechanical means removably secured to said concealed means of the panels for attaching the partition at its ends to the wall.

2. An improved partition and combined wall of a building construction, comprising a plurality of panels arranged in a single plane, and with their longitudinal edges abutting, means comprising a plurality of rods concealed within the body of the panels for attaching the panels together, said concealed means comprising a set of rods respectively carried by the panels, a wall, attachment means normally concealedly carried by the wall, the material of the wall being frangible to enable a portion of the same to be broken and removed to provide a recess for exposing said attachment means, and mechanical means removably secured to said concealed means of the panels associated with the rods of the end panels for attaching the partition at its ends to the wall.

3. An improved partition and combined wall of a building construction, comprising a plurality of panels arranged in a single plane and with their longitudinal edges abutting, means comprising a plurality of sets of parallelly arranged rods concealed within the body of the panels for attaching the panels together, said concealed means comprising a set of rods respectively carried by the panels, a wall, attachment means normally concealedly carried by the wall, the material of the wall being frangible to enable a portion of the same to be broken and removed to provide a recess for exposing said attachment means, and mechanical means removably secured to said concealed means of the panels associated with the rods of the end panels for attaching the partition at its ends to the wall.

4. An improved partition and combined wall of a building construction, comprising a plurality of panels arranged in a single plane, and with their longitudinal edges abutting, means concealed within the body of the panels for attaching the panels together, said concealed means comprising a set of rods respectively carried by the panels, a wall, attachment means normally concealedly carried by the wall, the material of the wall being frangible to enable a portion of the same to be broken and removed to provide a recess for exposing said attachment means, and mechanical means removably secured to said con-

cealed means of the panels for attaching the partition at its ends to the wall, and a finish member for the exposed longitudinal end of the last panel of the wall.

5. In an improved partition and combined wall of a building construction, including a pair of panels arranged with their adjacent longitudinal edges abutting to position the panels in a single plane, said concealed means comprising a set of rods respectively carried by the panels, a wall, attachment means normally concealedly carried by the wall, the material of the wall being frangible to enable a portion of the same to be broken and removed to provide a recess for exposing said attachment means, and mechanical means removably secured to said concealed means of the panels locking the panels together and extending laterally outward therefrom to form an attaching means for a partition to extend outwardly at an angle to the first said partition.

6. In combination with a pair of panels adapted to be arranged edge to edge to lie in the same plane, each panel being provided on its abutting edge with a metallic reinforcing means, aligned slots in the abutting reinforcing means, a locking block adapted to pass through the aligned slots and into position to lock the abutting reinforcing means in fixed position relative to each other, said block extending laterally outward from the face of the panels and means formed in said blocks for locking the longitudinal edge of a panel to the pair of panels and at an angle thereto.

7. An improved partition for interior building construction, comprising a series of panels arranged in groups and adapted to lie in a single plane and with the longitudinal edges of each group abutting, a special panel, shorter in length than the panels of the series, arranged to lie in the space between the groups of panels, and means individual to each panel and concealed within the body of the panels for attaching all of the panels together into a unitary structure,

8. An improved partition for interior building construction, comprising a series of panels arranged in groups and adapted to lie in a single plane and with the longitudinal edges of each group abutting, another panel, shorter in length than the panels of the series, arranged to lie in and only partially fill the space between the groups of panels, and means for attaching the partition to a wall.

9. An improved partition for interior building construction, comprising a series of panels arranged in groups and adapted to lie in a single plane and with the longitudinal edges of each group abutting, another panel, shorter in length than the panels of the series, arranged to lie in and only partially fill the space between the groups of panels, and means for attaching the groups of panels to a floor.

10. An improved partition for interior building construction, comprising a series of panels arranged in groups and adapted to lie in a single plane and with the longitudinal edges of each group abutting, another panel, shorter in length than the panels of the series, arranged to lie in and only partially fill the space between the groups of panels, and means for attaching the group of panels and the other panel in position with respect to a ceiling.

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