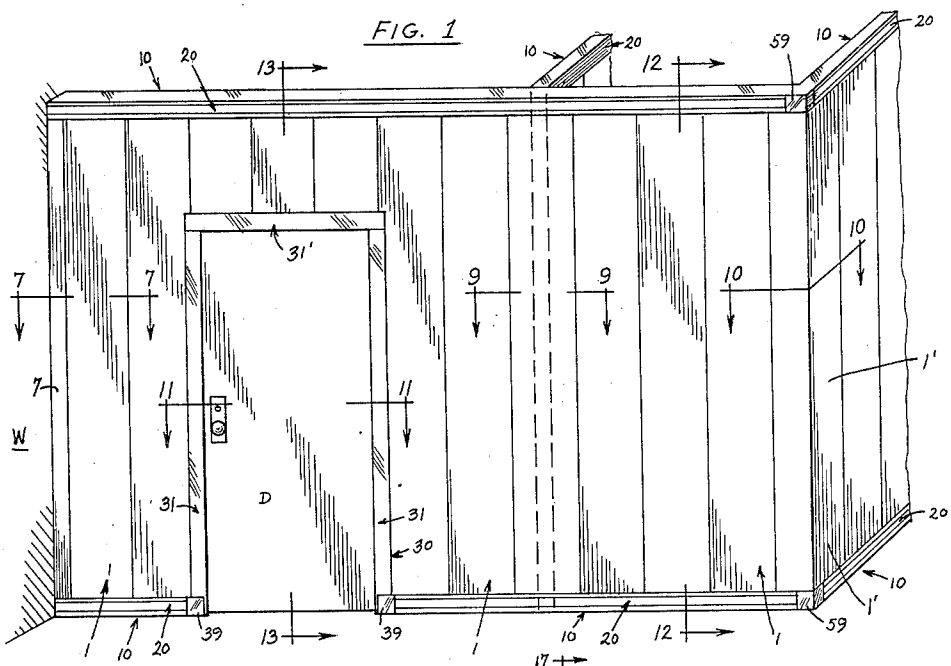
Dec. 4, 1962 R. S. MILLARD ETAL 3,066,770

DEMOUNTABLE METAL PARTITIONS

Filed Feb. 12, 1959 12 Sheets-Sheet 1

FIG. 1



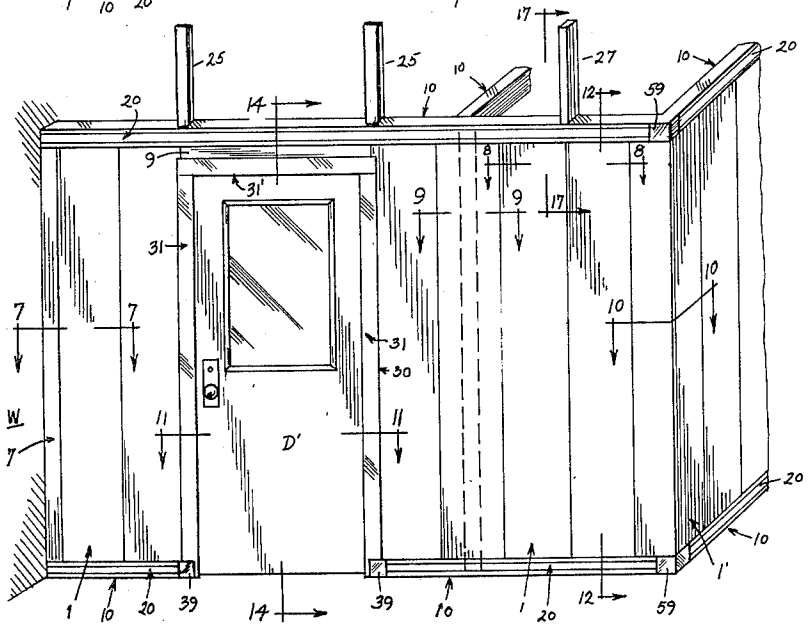


FIG. 2

INVENTORS
Ralph S. Millard
Reuben T. Carlson

BY
Reuben T. Carlson

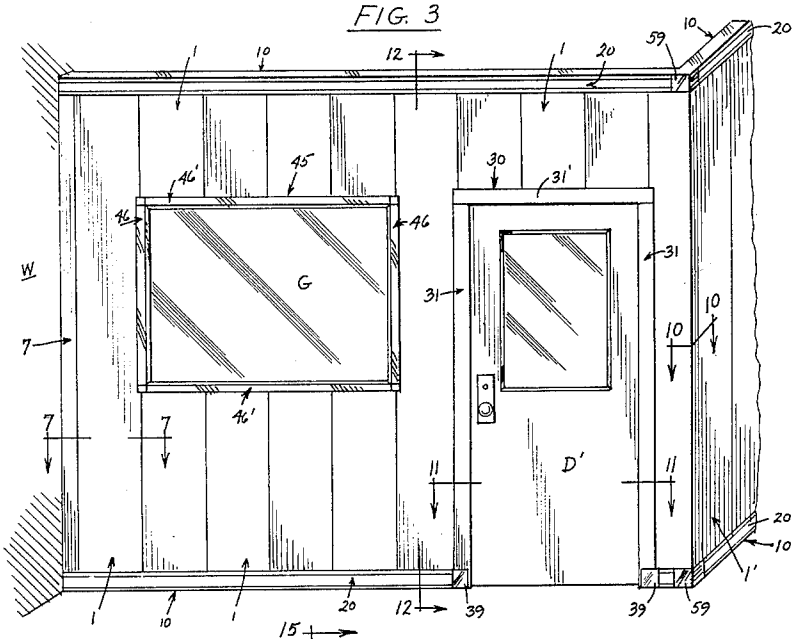
Attorney

Dec. 4, 1962 R. S. MILLARD ETAL 3,066,770

DEMOUNTABLE METAL PARTITIONS

Filed Feb. 12, 1959 12 Sheets-Sheet 2

FIG. 3



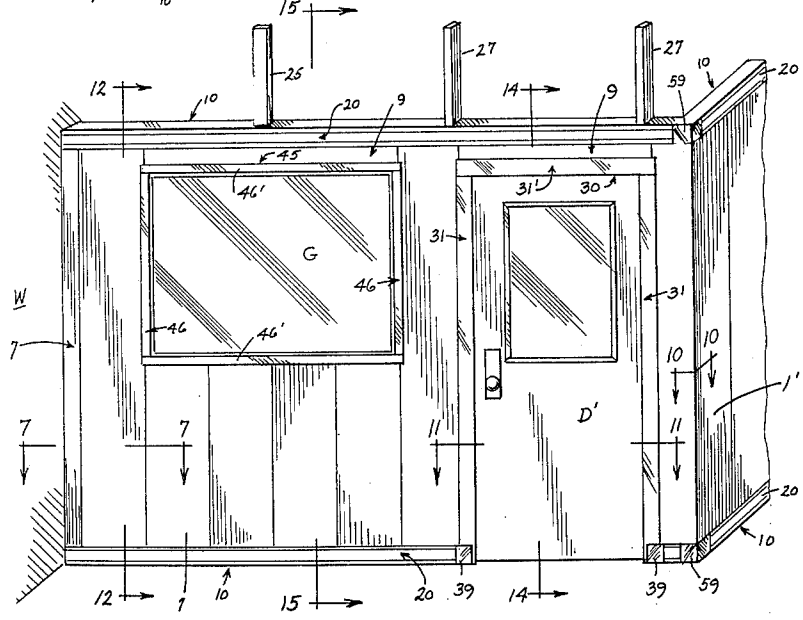


FIG. 4

INVENTORS
Ralph S. Millard
Reuben T. Carlson

BY
Reuben T. Carlson

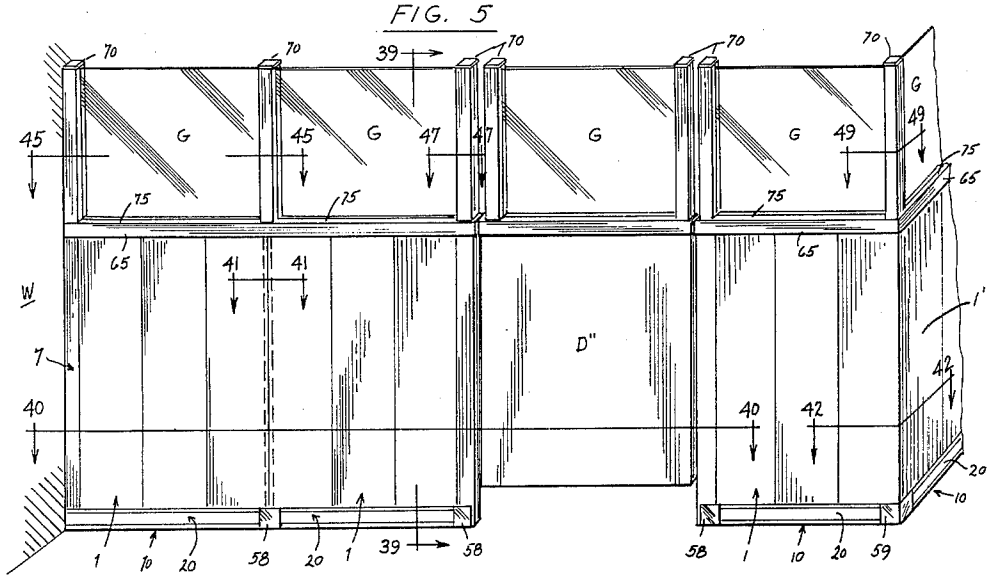
Attorney

Dec. 4, 1962 R. S. MILLARD ETAL 3,066,770

DEMOUNTABLE METAL PARTITIONS

Filed Feb. 12, 1959 12 Sheets-Sheet 3

FIG. 5



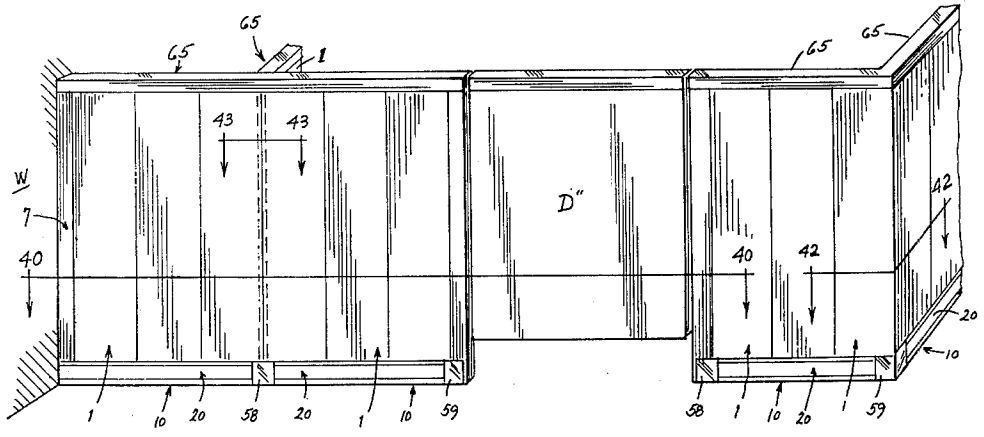


FIG. 6

INVENTORS
Ralph S. Millard
Reuben T. Carlson

BY Reuben T. Carlson

Attorney

Dec. 4, 1962 R. S. MILLARD ETAL 3,066,770

DEMOUNTABLE METAL PARTITIONS

Filed Feb. 12, 1959 12 Sheets-Sheet 4

FIG. 7

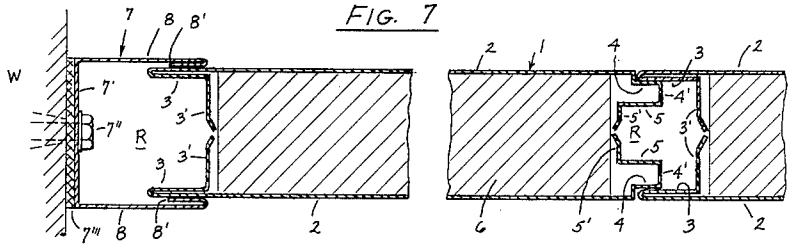


FIG. 8

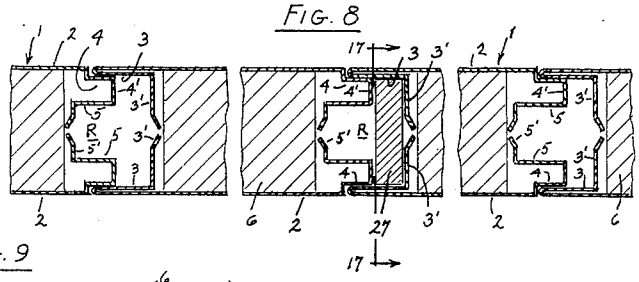


FIG. 9

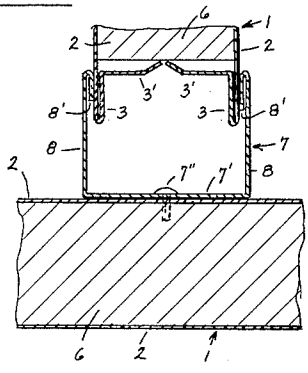


FIG. 10

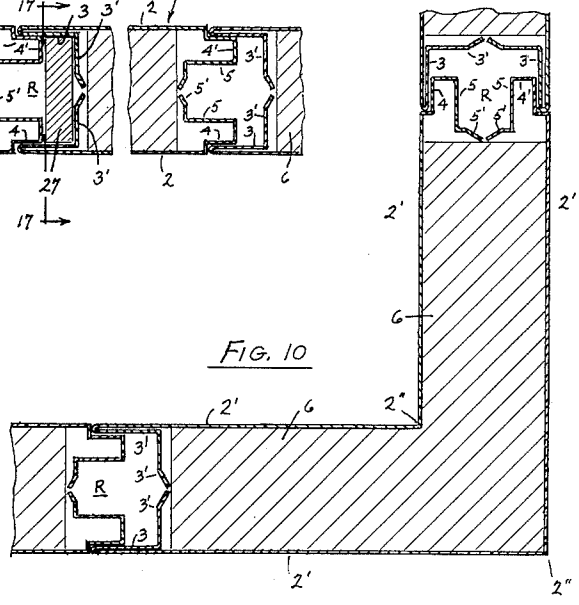
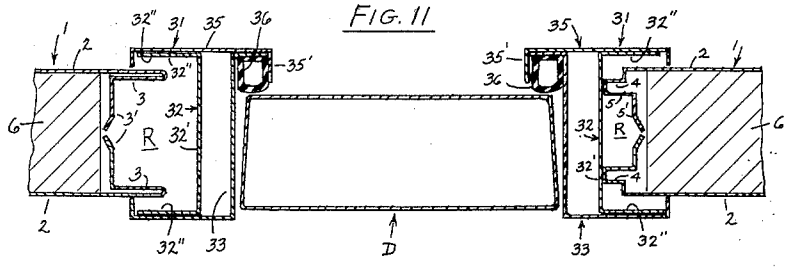


FIG. 11



INVENTORS
Ralph S. Millard
Reuben T. Carlson

BY
Reuben T. Carlson
Attorney

Dec. 4, 1962 R. S. MILLARD ETAL 3,066,770

DEMOUNTABLE METAL PARTITIONS

Filed Feb. 12, 1959 12 Sheets-Sheet 5

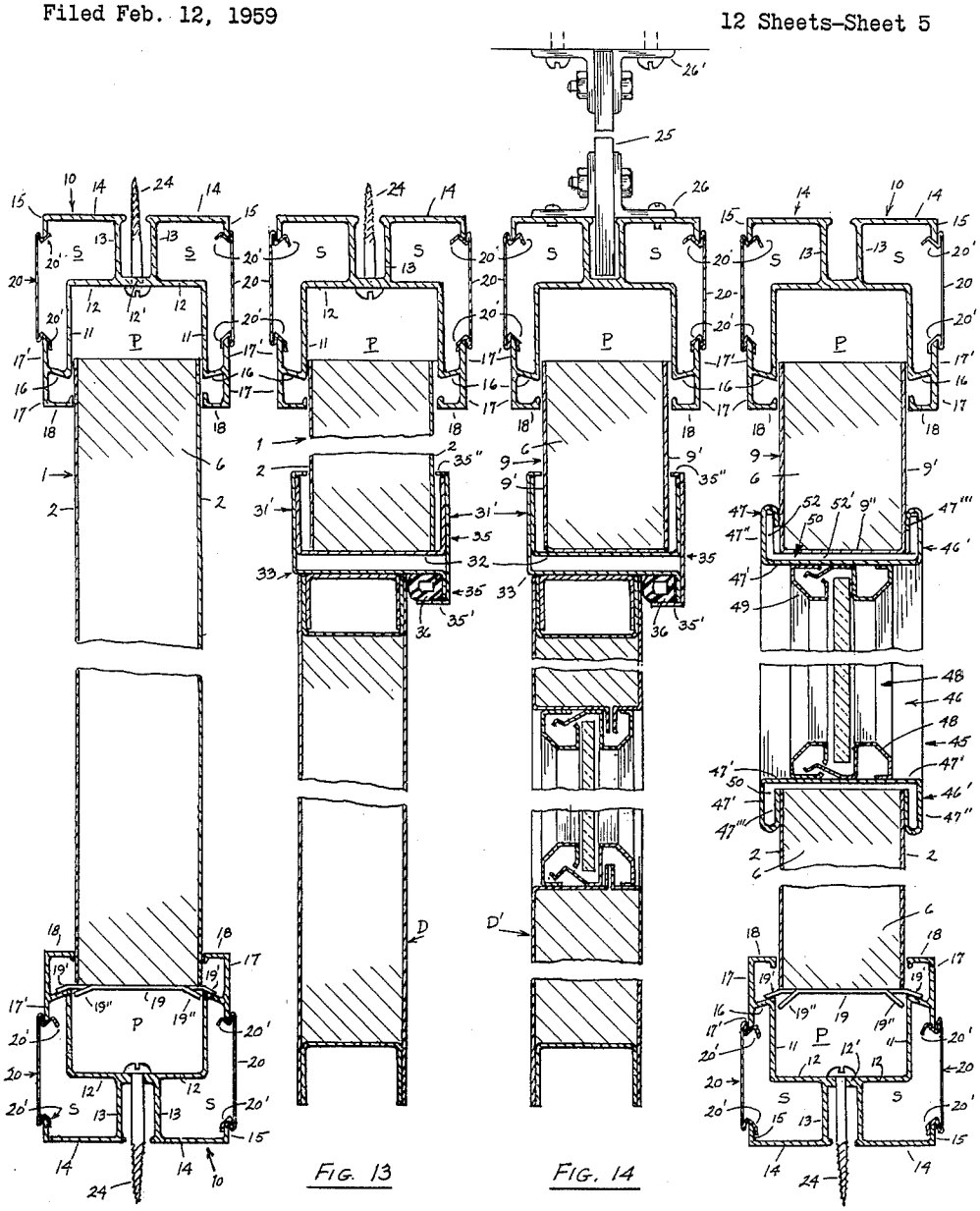


FIG. 12

FIG. 13

FIG. 14

FIG. 15

INVENTORS
Ralph S. Millard
Reuben T. Carlson

BY
Reuben T. Carlson
Attorney

Dec. 4, 1962 R. S. MILLARD ETAL 3,066,770

DEMOUNTABLE METAL PARTITIONS

Filed Feb. 12, 1959 12 Sheets-Sheet 6

FIG. 16

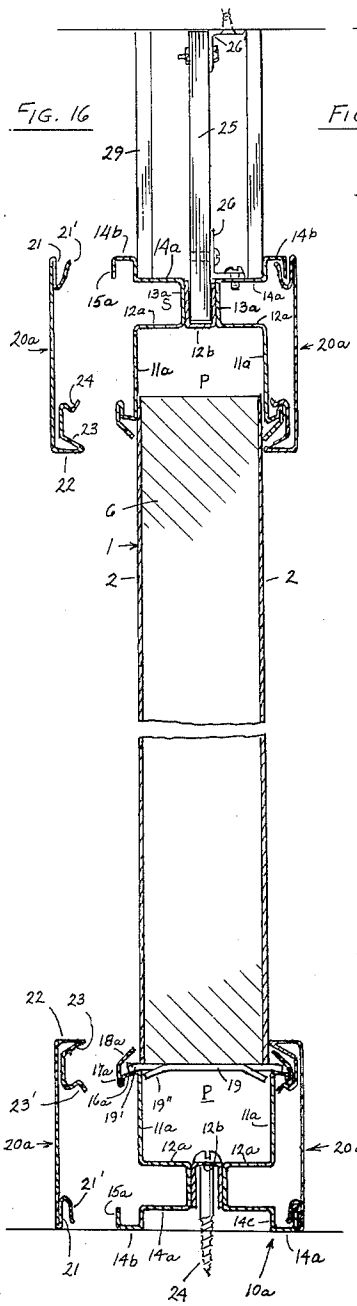


FIG. 17

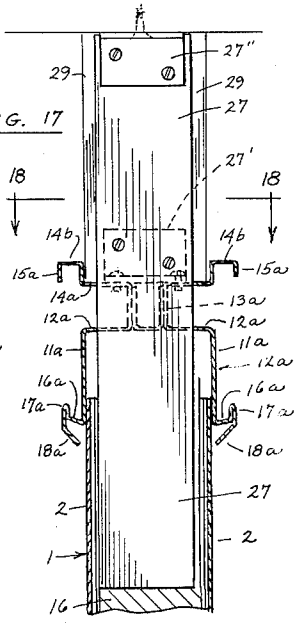


FIG. 18

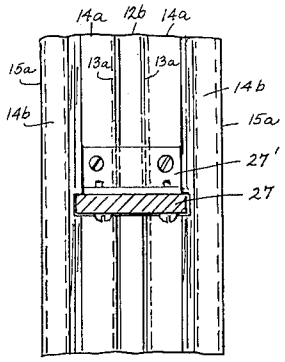


FIG. 20

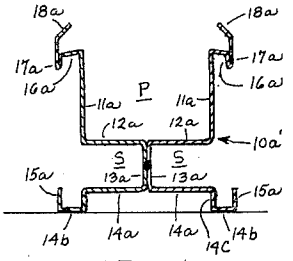


FIG. 19

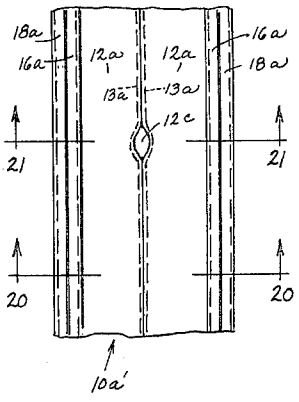
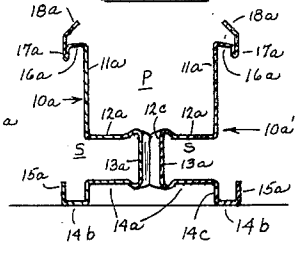


FIG. 21



INVENTORS
Ralph S. Millard
Reuben T. Carlson

BY Reuben T. Carlson

Attorney

Dec. 4, 1962 R. S. MILLARD ETAL 3,066,770

DEMOUNTABLE METAL PARTITIONS

Filed Feb. 12, 1959 12 Sheets-Sheet 7

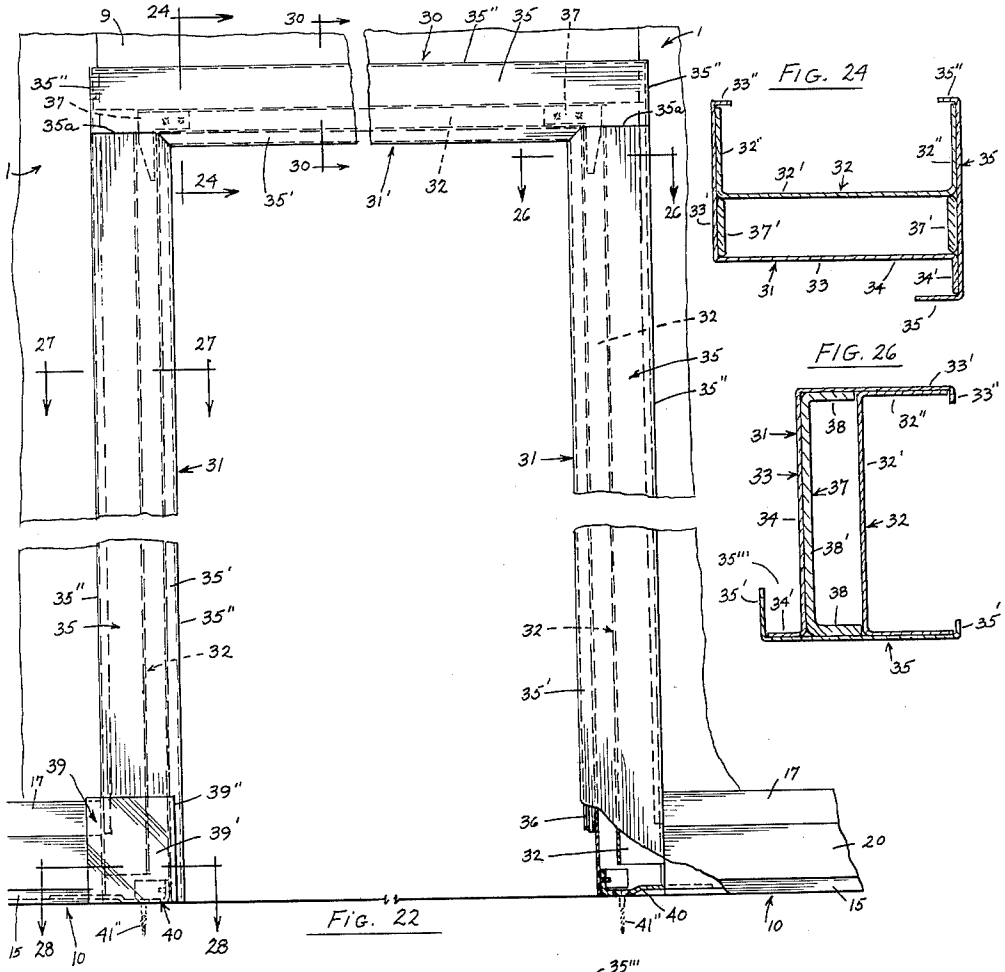


FIG. 22

FIG. 24

FIG. 26

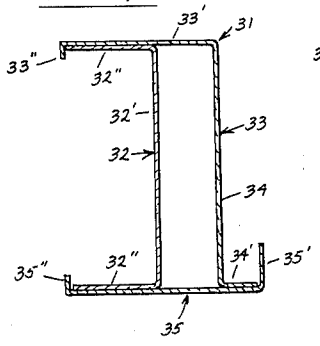


FIG. 27

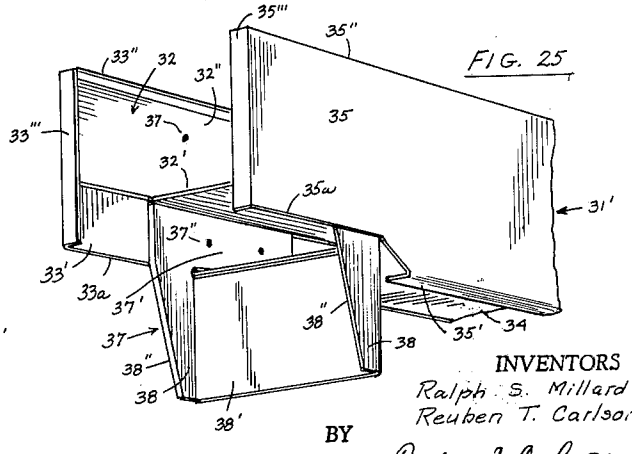


FIG. 25

INVENTORS
Ralph S. Millard
Reuben T. Carlson

BY
Reuben T. Carlson
Attorney

Dec. 4, 1962 R. S. MILLARD ETAL 3,066,770

DEMOUNTABLE METAL PARTITIONS

Filed Feb. 12, 1959 12 Sheets-Sheet 8

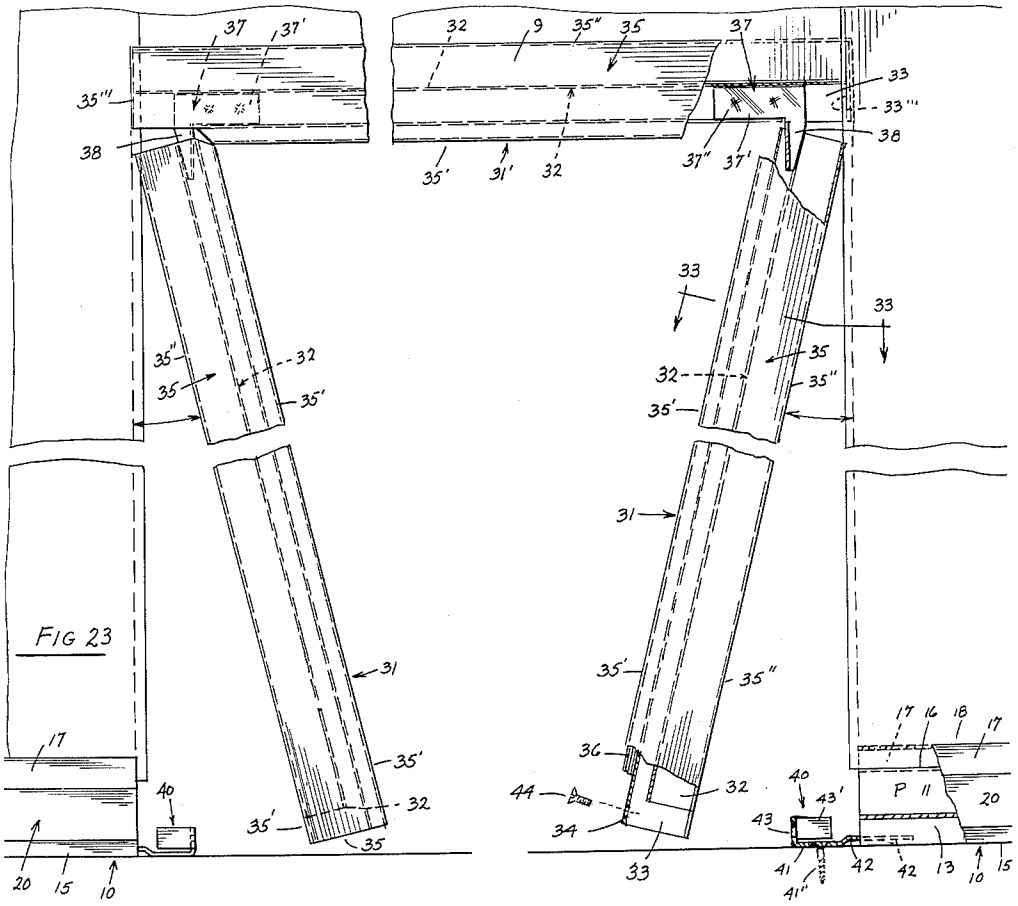


FIG 23

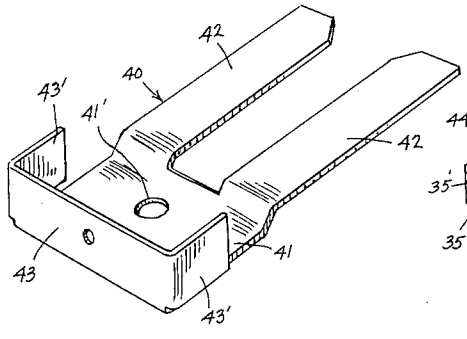


FIG. 29

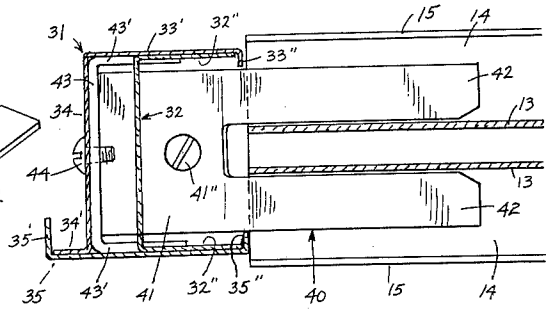


FIG. 28

INVENTORS
Ralph S. Millard
Reuben T. Carlson

BY
Reuben T. Carlson

Attorney

Dec. 4, 1962 R. S. MILLARD ETAL 3,066,770

DEMOUNTABLE METAL PARTITIONS

Filed Feb. 12, 1959 12 Sheets-Sheet 9

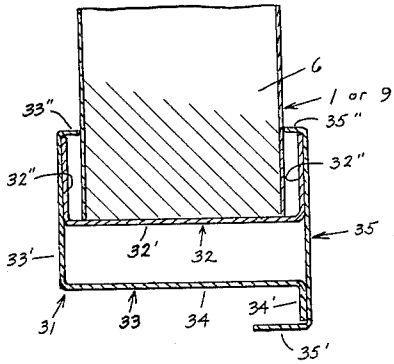


FIG. 30

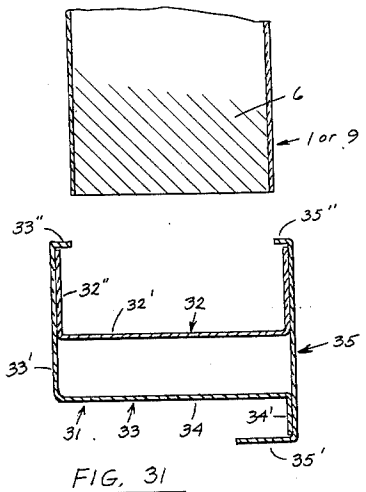


FIG. 31

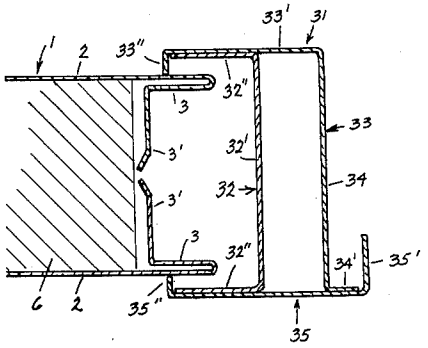


FIG. 32

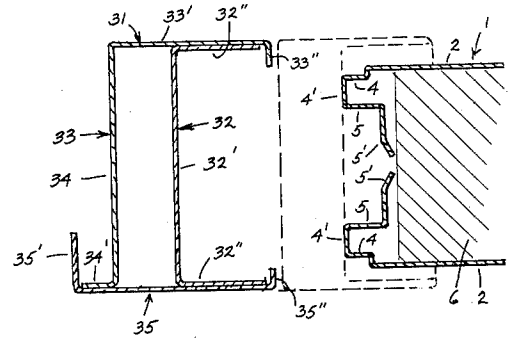


FIG. 33

INVENTORS
Ralph S. Millard
Reuben T. Carlson

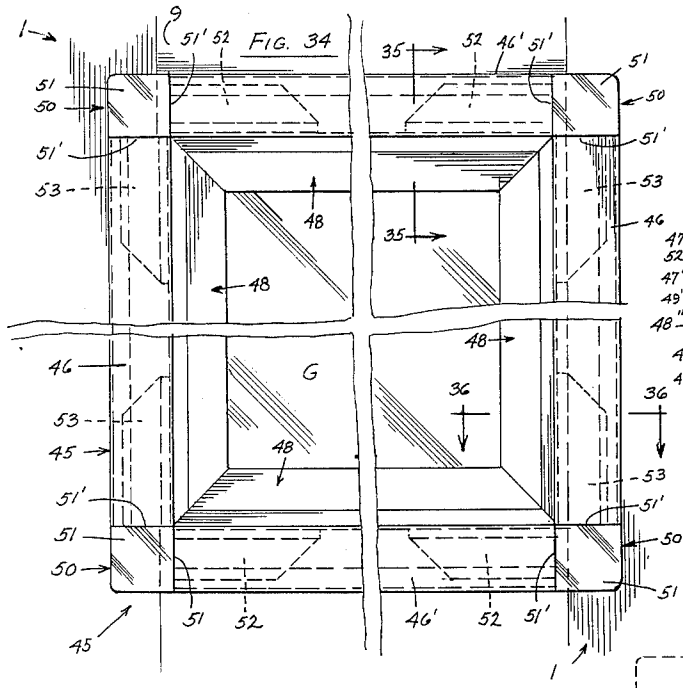
BY Reuben T. Carlson

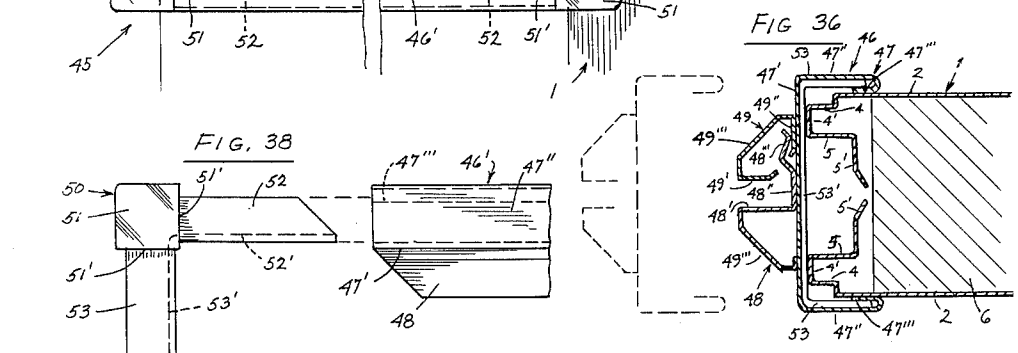
Attorney

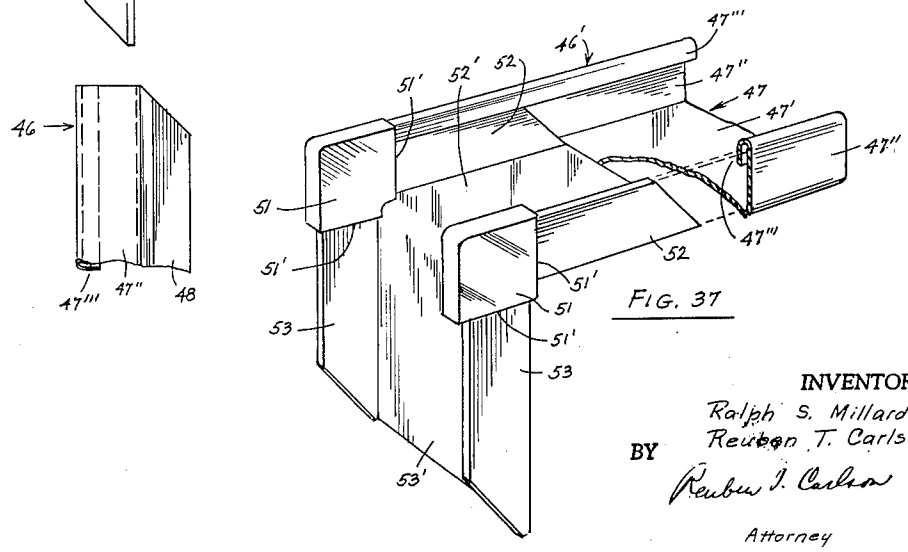
Dec. 4, 1962 R. S. MILLARD ETAL 3,066,770

DEMOUNTABLE METAL PARTITIONS

Filed Feb. 12, 1959 12 Sheets-Sheet 10







INVENTORS
Ralph S. Millard
Reuben T. Carlson
BY
Reuben T. Carlson
Attorney

Dec. 4, 1962 R. S. MILLARD ETAL 3,066,770

DEMOUNTABLE METAL PARTITIONS

Filed Feb. 12, 1959 12 Sheets-Sheet 11

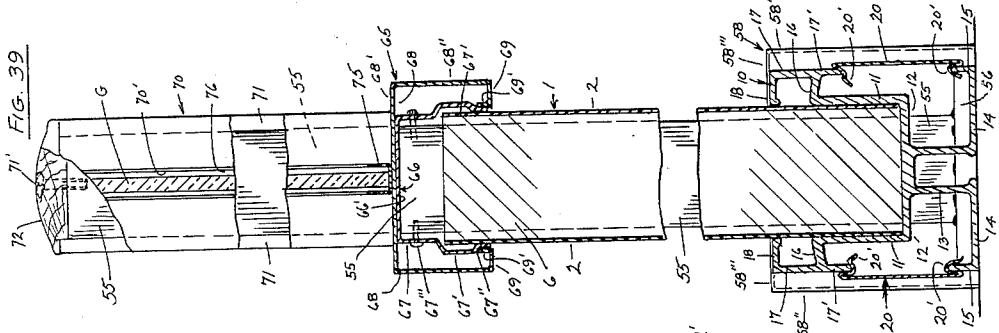


FIG. 39

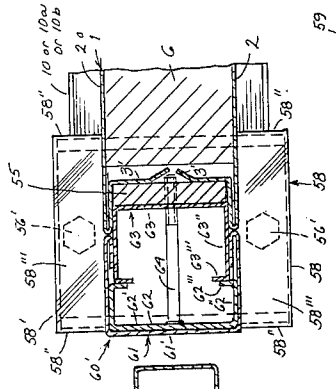


FIG. 40

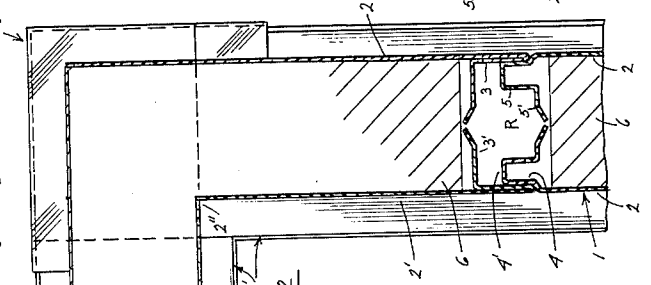


FIG. 42

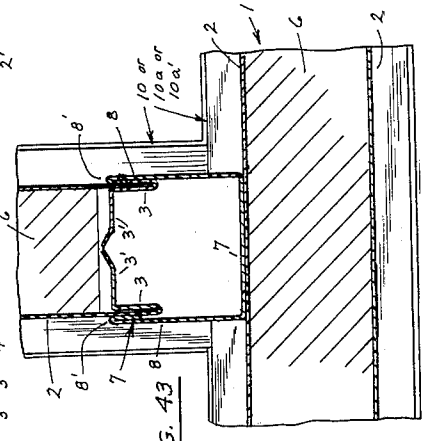


FIG. 43

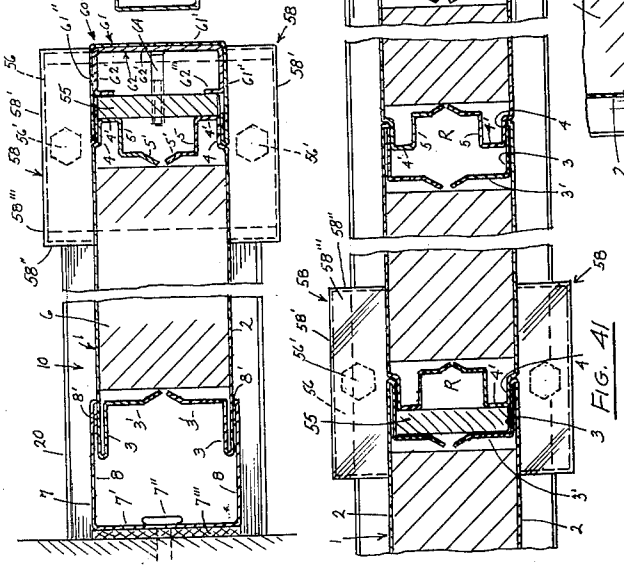


FIG. 41

INVENTORS
Ralph S. Millard
Reuben T. Carlson

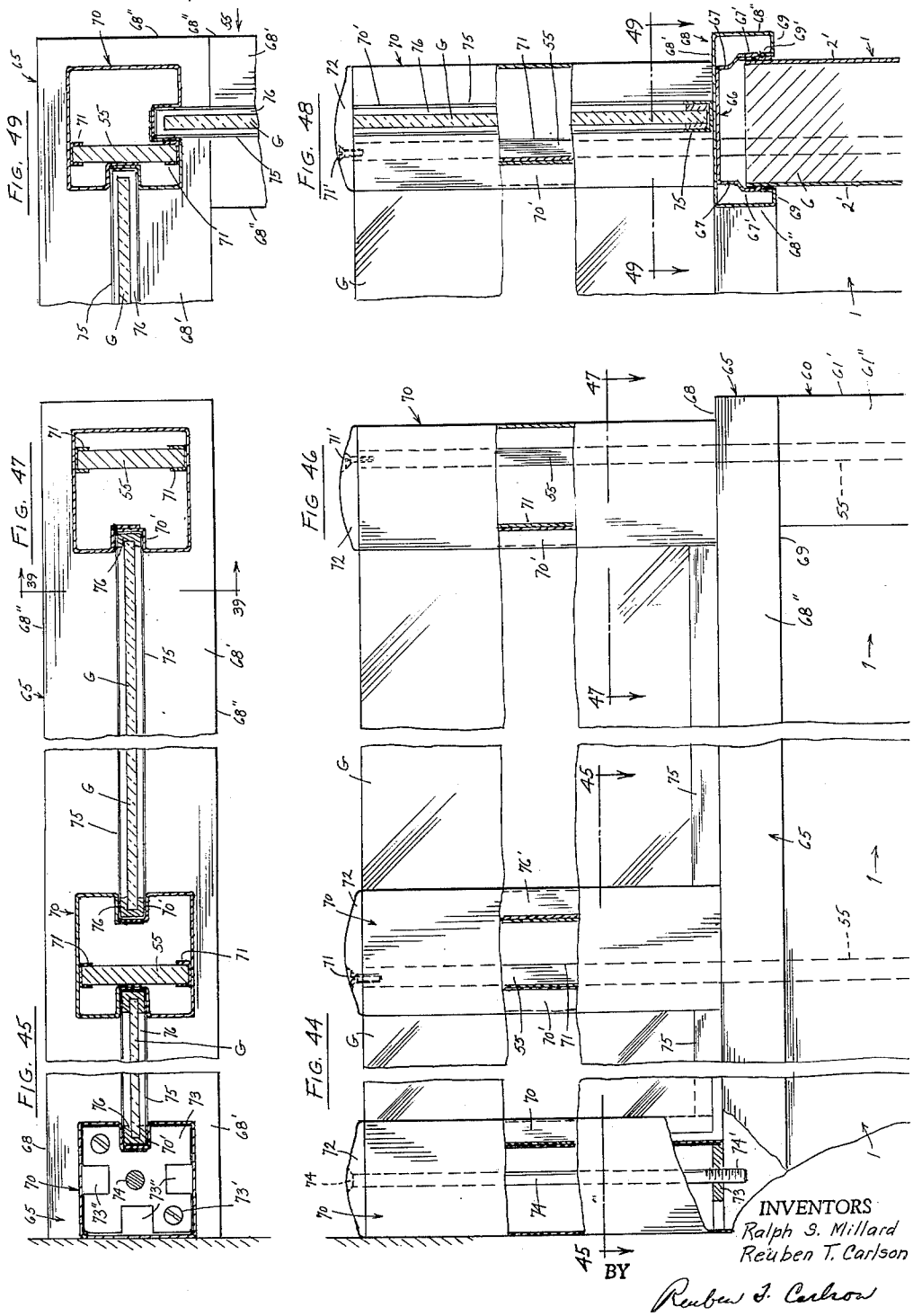
BY Reuben T. Carlson

Attorney

Dec. 4, 1962 R. S. MILLARD ETAL 3,066,770

DEMOUNTABLE METAL PARTITIONS

Filed Feb. 12, 1959 12 Sheets-Sheet 12



INVENTORS
Ralph S. Millard
Reuben T. Carlson

BY
Reuben T. Carlson

Attorney

United States Patent Office 3,066,770 Patented Dec. 4, 1962

3,066,770

DEMOUNTABLE METAL PARTITIONS

Ralph S. Millard, 34 Kelsey Place, Jamestown, N.Y., and Reuben T. Carlson, 1 Forest Lane, Scarsdale, N.Y.

Filed Feb. 12, 1959, Ser. No. 792,805
22 Claims. (Cl. 189—34)

This invention relates to demountable metal partitions designed for installation in building interiors. Partitions constructed in accordance with this invention feature interfittng panel units adjustably mounted and held in position by similar base and cornice structures, and door frames and window frames designed to interfit with the adjacent panel units, and which together provide an interior metal partition which is rugged in construction, can be manufactured from relatively few shaped parts by high speed production methods with a minimum of labor at low cost, can be quickly erected, dismantled and re-erected in the field in minimum time and with minimum labor, to provide an installed partition of attractive and pleasing appearance.

The panel units from which these partitions are formed are composed of a pair of spaced metal panel sheets having interfitting male and female formations along the vertical edges thereof. The metal facing sheets are bonded together by a relatively hard core of sound insulating material, such as foamed fibreglass, honeycomb fibreboard, foamed plastic, or other firm insulating material which reinforces the panel facing sheets without further internal bracing. Where an angular partition run is desired, an angular panel unit is provided having angular bends in the panel facing sheets thereof, and which present similar interfitting male and female formations along the vertical edges thereof, with the angular facing sheets adhesively bonded to and stiffened by an internal reinforcing core. Where a three-way run or a four-way run of partition is required, vertically extending filler channels may be welded to the facing sheet of the adjacent straight run panel unit, and into which the vertical edge of the adjacent angularly extending panel unit may be adjustably telescoped. Similar vertical filler channels may be secured to the building wall and into which the adjacent straight run panel unit may be adjustably telescoped.

Partitions made in accordance with this invention are mainly composed of straight run panel units which may vary in width from six inches or multiples thereof up to two feet in width, with the provision of an occasional angular panel unit formed as a particular corner condition of the partition run may require. When erected, the panel units can be snugly interfitted to provide vertically extending single line joints therebetween. When the panel units are of relatively narrow width, such as six to twelve inches, the erected panel units resemble the exterior appearance of vertical boards or planks.

To reduce the number of stock parts required, the base frame structure and the cornice frame structure may be identical in cross sectional configuration, and may be integrally formed as extruded sections, or assembled from two to three appropriately formed sheet metal sections which are welded together. The reversible base and cornice structures feature internal pockets of substantial depth into which the lower and upper ends of the panel units may be telescoped and held in place without further securing means. The panel units may be erected after the base frame structure has been secured to the building floor along the partition run, and the cornice frame structure has been secured to the ceiling along the partition run, or otherwise suspended by vertical struts from the ceiling along the partition run.

The panel units can be telescoped into the pockets of the base and cornice frame structures after these frame structures are placed in position, since the pockets are of such depth as to permit upward and downward movement of the panel units as the ends thereof are inserted, first into the cornice pocket and then the base pocket. The lower end of each panel unit rests on a spanner plate which seats on laterally extending ledge formations forming a part of the base frame structure, and are slidable along these ledge formations. The panel units can be erected in successive order by inserting the ends thereof into the pockets of the cornice and base structures, then seating the lower ends thereof on the spanner plates, and then laterally moving the same as sliding doors into interfitted relationship to present attractive vertically extending single line joints therebetween.

The door frame structure is composed of a pair of vertical frame members and a separable head frame member of similar cross sectional formation. The upper ends of the vertical frame members are connected to the ends of the horizontal head frame member by means of angular corner brackets. Each corner bracket presents a pair of horizontal legs which telescope into the adjacent end of the head frame member, and a pair of vertical legs of tapered contour over which the upper end of the vertical door frame member may be telescoped. The vertical door frame members are generally channel shaped in cross sectional configuration, and thus can be snugly telescoped over the adjacent vertical panel units. The head frame member of like channel shaped configuration may be telescoped over the lower end of the shorter panel units, or the lower end of a horizontal filler channel, whose upper ends are telescoped into the cornice pocket thereabove.

Each of the vertical frame members of the door frame structure rests upon and is secured to a floor bracket which is secured to the building floor, and which presents a pair of upwardly offset prongs which telescope into the terminal end of the adjacent base frame structure. Each floor bracket presents a vertical wall portion over which the lower end of the channel shaped vertical frame member is designed to laterally telescope, and is then secured hereto as by one or more metal screws. After erection, the door frame structure can be readily removed and relocated by detaching the lower ends of the vertical frame members thereof from the floor brackets, and then swinging the lower ends of the vertical frame members inwardly until the upper ends thereof can be withdrawn from the vertical bracket legs of the corner brackets which are attached to the ends of the head frame member.

The window frame structure is composed of a pair of vertical frame members and a pair of horizontal frame members of similar channel shaped cross section, and whose adjacent ends are joined by angular shaped corner brackets. Each corner bracket presents a pair of horizontal legs and a pair of vertical legs which telescope into the adjacent ends of the adjacent horizontal and vertical frame members. The window frame structure can be inserted during erection of the partition by telescoping the lower frame members thereof over the upper ends of the previously erected panel units extending therebelow. The upper panel units or horiozntal filler channel thereabove, are dropped from fully pocketed position in the cornice pocket so that the lower ends thereof are pocketed within the channel formation of the upper horizontal frame member of the window frame structure. The adjacent full length panel units may then be placed in pocketed position in the pockets of the base structure and cornice structure, and laterally telescoped into the channel formations of the vertical frame members of the window frame structure and into interfitting relation with the adjacent panel units above and below the window frame structure.

Since the wall filler channels, which are secured to the vertical building wall or to a panel unit to provide a three-run or four-run partition, are of substantial depth, lateral sliding adjustment of the adjacent erected panel unit can be readily accomplished. Since the vertical frame members of the door frame structure are also provided with channel formations of substantial depth, lateral adjustment of the adjacent full-length panel units is also readily accomplished. By reason of these adjustable features, the interfitted panel units, door frames and window frames may be readily installed in planned order, with lateral adjustment of the panel units as required so that the vertically extending male and female formations thereof will snugly interfit to provide attractive single line joints between adjacent panel units.

Where partitions of less than ceiling height are to be erected, the cornice frame structure may be rigidly suspended from the ceiling by the provision of vertical struts whose upper ends are secured to the ceiling wall and whose lower ends may be secured as by brackets to the cornice structure. Alternatively, the lower ends of the vertically extending bars or struts may be downwardly telescoped between the adjacent interfitting male and female formations of adjacent panel units without further securement. The vertical ceiling struts or bars may be laterally spaced as cornice stiffening conditions may require, and provide means for the attachment of suitable filler panels between the ceiling and cornice structure.

The interfitting male and female formations of adjacent panel units are so formed as to provide vertical raceways therebetween through which wiring conduits may be threaded. The reversible base and cornice structures are also provided with horizontally extending raceway cavities along the sides thereof in which horizontally extending wiring conduits are enclosed by removable covers which snap into interlocking engagement with aligned toe and lip portions presented by the base and cornice structures. These facing covers may be readily removed to provide convenient access to the wiring conduits extending along both sides of the reversible base and cornice structures, and may be made of any desired length to conform with the partition run. Where a switch plate is required, an appropriate hole can be cut in the panel facing sheet of the selected panel unit.

Similar straight run and angular panel units may be used to provide railing high partitions. The lower ends of the panel units are inserted in the pocket of the base frame structure which is first secured to the building floor along the partition run. Vertical filler channels as required are attached to the vertical building wall, or to one of the panel units to provide for a three-way or four-way partition run. The upper ends of the panel units are capped by an attractively shaped railing member of channel shaped formation which is telescoped over the upper ends of the panel units.

To provide adequate stiffness and rigidity, vertical reinforcing bars are telescoped between the male and female formations of adjacent panel units at such distances apart as bracing conditions require. The lower end of each vertical bar is provided with a base plate rigidly secured thereto which is bolted to the building floor. These vertical bars may also be telescoped through the vertical door frame members and secured to the building floor to provide particular rigidity for the railing height partition adjacent the railing high door.

Where glass is to be mounted above the top railing, square shaped posts may be telescoped over the upper ends of the vertical reinforcing bars which project through the partition railing. Additional hollow metal posts may be anchored to the partition railing in spaced relation as required by the use of a centering plate secured as by screws to the upper face of the top railing and over which the lower end of the hollow post is telescoped. The hollow post may be further secured by a vertical rod inserted through the post cap of the glazing post and

threaded into a tapped hole in the upper face of the railing. A U-shaped moulding channel may be secured as by welding to the upper face of the railing to receive the lower horizontal edge of the glazed panel. The hollow vertical posts may be formed of extruded metal, or assembled from shaped metal strips, which present the required vertical glazing grooves therein.

Full height, medium height partitions and railing high partitions may be constructed in accordance with this invention from a relatively few simple parts, most of which can be economically formed from sheet metal strip shaped by the roller dies of a rolling machine. Relatively few welding operations are required in assembly of its various sections. Relatively few attaching brackets are required, all of which can be made from stamped metal parts, except the corner connecting brackets for the window frames which can be economically cast by die cast moulding. Full height partitions, medium height partitions and railing height partitions constructed in accordance with this invention, can be economically produced and rapidly erected in the field in minimum time and with minimum labor.

Other objects and advantages of this invention will become apparent as the disclosure proceeds.

Although the characteristic features of this invention will be particularly pointed out in the claims, the invention itself, and the manner in which it may be carried out, may be better understood by referring to the following description taken in connection with the accompanying drawings forming a part hereof in which:

FIG. 1 is an elevational view of a metal partition constructed in accordance with this invention and composed of full length panel units and whose cornice is secured to the ceiling;

FIG. 2 is an elevational view of a partition constructed in accordance with this invention whose panel units are less than room height, and whose cornice is located in spaced relation to the ceiling;

FIG. 3 is an elevational view of the floor to ceiling partition constructed in accordance with this invention which incorporates a window frame and a door frame;

FIG. 4 is an elevational view of a partition constructed in accordance with this invention whose cornice is in spaced relation to the ceiling and which also incorporates a window frame and door frame;

FIG. 5 is a railing high partition formed from panel units similar to but shorter than the panel units which form the partitions shown in FIGS. 1–4, and which incorporate glass supporting posts extending upwardly from the top rail of the partition;

FIG. 6 is a railing high partition similar to that shown in FIG. 5, with no glass supporting posts above the top railing;

FIG. 7 is a fragmentary horizontal section showing further details of the construction of the wall forming panel units and the associated wall filler channel as the same would appear when viewed along any of the lines 7—7 of FIGS. 1, 2, 3 and 4;

FIG. 8 is another fragmentary horizontal section of the panel units as the same would appear when viewed along line 8—8 of FIG. 2, and which shows a vertical extending bracing bar positioned between adjacent panel units and whose upper end may be secured to the ceiling to provide rigid bracing for the panel units which are less than ceiling height;

FIG. 9 is a fragmentary horizontal section of one of the panel units to which a wall filler channel has been secured, and which receives a panel unit projecting at right angles to the panel unit to which the wall channel is secured, this view being taken along any of the lines 9—9 of FIGS. 1 and 2;

FIG. 10 is a fragmentary horizontal section taken through an angular panel unit of the partition as the same would appear when viewed along any one of the lines 10—10 of FIGS. 1, 2, 3 and 4.

FIG. 11 is a fragmentary horizontal section of the door

frame and adjacent panel units as the same would appear when viewed along any of the lines 11—11 of FIGS. 1, 2, 3 and 4;

FIG. 12 is a fragmentary vertical section of the partition as the same would appear when viewed along line 12—12 of FIG. 1;

FIG. 13 is a fragmentary vertical section of the partition shown in FIG. 1 as the same would appear when viewed along line 13—13 of FIG. 1 and which illustrates certain parts of the door frame structure;

FIG. 14 is a fragmentary vertical section through the medium height partition, this view showing certain parts of the door frame structure and associated glazed door as the same would appear when viewed along any of the lines 14—14 of FIGS. 2 and 4;

FIG. 15 is a fragmentary vertical section through the partition shown in FIG. 4, and which illustrates certain details of the window frame structure as the same would appear when viewed along line 15—15 of FIG. 4;

FIG. 16 is a fragmentary vertical section through a partition which incorporates a modified form of reversible base and cornice structure as the same would appear when viewed along line 12—12 of FIG. 1;

FIG. 17 is another fragmentary vertical section through a partition which incorporates a modified form of reversible base and cornice structure, this view showing a reinforcing bar secured to the ceiling and extending through the cornice structure and into the space between adjacent panel units as viewed along line 17—17 of FIG. 2;

FIG. 18 is a fragmentary horizontal section of the modified cornice structure and showing the manner in which the vertical reinforcing bar extends through the cornice structure and also secured thereto;

FIG. 19 is a top plan view of a further modified form of reversible base and cornice structure;

FIG. 20 is a transverse section of the reversible base and cornice structure shown in FIG. 19 as the same would appear when viewed along lines 20—20 of FIG. 19;

FIG. 21 is another transverse section of the reversible base and cornice structure as the same would appear along line 21—21 of FIG. 19;

FIG. 22 is a fragmentary elevational view of the door frame structure certain parts being broken away to illustrate the manner in which the vertical frame members thereof are detachably secured to the building floor;

FIG. 23 is a fragmentary elevational view of the door frame structure as it would appear when in process of removal by separation of the vertical frame members from the head frame member thereof and which removal may be desirable in event the existing door frame opening of the erected partition is to be closed by the insertion of panel units and the door frame structure then shifted to another location in the partition;

FIG. 24 is a transverse section of the head frame member of the door frame as the same would appear when viewed along line 24—24 of FIG. 22;

FIG. 25 is a fragmentary perspective view of one end of the head frame member of the door frame as it would appear when detached from the adjacent vertical frame member;

FIG. 26 is a transverse section taken through one of the vertical frame members of the door frame as the same would appear when viewed along line 26—26 of FIG. 22;

FIG. 27 is a transverse section of one of the vertical frame members of the door frame as the same would appear when viewed along line 27—27 of FIG. 22;

FIG. 28 is a fragmentary horizontal section of the lower end of one of the vertical frame members of the door frame in assembled relation to the floor bracket which secures the lower end of the vertical frame member to the building floor as the same would appear when viewed along line 28—28 of FIG. 22;

FIG. 29 is a perspective view of the floor bracket used to secure the vertical frame member to the building floor;

FIG. 30 is a fragmentary section of the head frame member of the door frame in telescoped position over the panel units extending thereabove and as the same would appear when viewed along line 30—30 of FIG. 22;

FIG. 31 is a fragmentary section of the head frame member of the door frame in exploded relation to the panel units thereabove;

FIG. 32 is a fragmentary section of one of the vertical door frame members as assembled in telescoped relation to the adjacent panel unit and as the same would appear when viewed along line 27—27 of FIG. 22;

FIG. 33 is a fragmentary section of one of the vertical door frame members as exploded from the adjacent panel unit and as the same would appear when viewed along line 33—33 of FIG. 23;

FIG. 34 is a fragmentary elevational view of the window frame structure incorporated in the partitions shown in FIGS. 3 and 4;

FIG. 35 is a fragmentary section of one of the horizontal frame members of the window frame structure as telescoped over the panel units thereabove, and as the same would appear when viewed along line 35—35 of FIG. 34;

FIG. 36 is a fragmentary section of one of the vertical frame members of the window frame as telescoped over the adjacent panel unit as the same would appear when viewed along line 36—36 of FIG. 34;

FIG. 37 is a perspective view of the corner bracket and an end portion of the horizontal frame member of the window frame and which illustrates the manner in which the adjacent ends of the horizontal and vertical window framing members are joined by the corner bracket;

FIG. 38 is a fragmentary view of the adjacent end portions of the horizontal and vertical window frame members in exploded relation to the corner connecting bracket;

FIG. 39 is a fragmentary vertical section through the railing high partition as the same would appear when viewed along line 39—39 of FIG. 5, this view showing a glazing post mounted on the horizontal railing of the partition and portions of the reinforcing bar which extends from the floor through the railing and into the upper end of the glazing post;

FIG. 40 is a fragmentary horizontal section of the railing high partitions of FIGS. 5 and 6 as viewed along any of the lines 40—40 of FIGS. 5 and 6, this view being taken transversely through the wall filler channel and vertical door frame posts and showing a transverse section of the reinforcing bars which extend vertically through the door frame posts and in phantom outline the foot plates which secure the vertical bars to the floor;

FIG. 41 is a fragmentary horizontal section of the railing high partitions as viewed along the line 41—41 of FIG. 5, this view showing the inter-fitting male and female edges of two adjacent straight run panel units and the vertical reinforcing bar extending vertically therebetween, the floor securing foot plate thereof being shown in phantom lines;

FIG. 42 is a horizontal section through the railing high partition as viewed along any one of the lines 42—42 of FIGS. 5 and 6, this view showing the angular panel unit and fragmentary parts of adjacent straight run panel units, this view also showing the base structure in phantom outline and the base covers and corner plinth cover in full lines;

FIG. 43 is a fragmentary horizontal section of one of the panel units having a vertical filler channel secured thereto, with a fragmentary portion of a second panel unit as partially telescoped into the filler channel to provide a three-way partition run, and as the same would apepar when viewed along line 43—43 of FIG. 6;

FIG. 44 is a fragmentary elevational view of the railing high partition shown in FIG. 5, this view showing the

partition railing with two glazing posts secured thereto, one of which is held in position by a tie rod and the other held in position by the vertically extending reinforcing bar which extends therethrough;

FIG. 45 is a fragmentary horizontal section taken through the part above the partition railing and cross sections of two glazing posts mounted thereon, and as the same would appear when viewed along line 45—45 of FIGS. 5 and 44;

FIG. 46 is a fragmentary elevational view of the railing high partition shown in FIG. 5, this view showing the glazing post which is positioned adjacent a door or gate post and further showing a fragmentary portion of the vertical reinforcing bar which extends therethrough;

FIG. 47 is a fragmentary horizontal section taken through the glazing post which is positioned adjacent the door post and the terminal end of the partition run, this view showing a transverse section of the vertical reinforcing bar which extends into the glazing post and a plan view of the partition railing, as the same would appear when viewed along lines 47—47 of FIGS. 5 and 46;

FIG. 48 is a fragmentary elevational view of an angular corner of the partition run and showing the glazing post mounted on the corner of the partition railing, this view also showing a fragmentary portion of the vertically extending reinforcing bar which projects upwardly through the glazing post; and

FIG. 49 is a horizontal section taken through the corner glazing post and showing a transverse section of the vertically extending reinforcing bar as contained therein and extending therethrough, this view also showing a plan view of the abutting partition railings which form a part of the angular partition run, as the same would appear when viewed along lines 49—49 of FIGS. 5 and 48.

Similar reference characters refer to similar parts throughout the several views of the drawings and specification.

In accordance with this invention, ceiling high partitions as shown in FIGS. 1 and 3, medium height partitions as shown in FIGS. 2 and 4, and railing high partitions as shown in FIGS. 5 and 6, may be manufactured and assembled substantially entirely from similar parts and sections to provide for straight partition runs, angular partition runs, three-way partition runs and four-way partition runs as desired. The ceiling height and medium height partitions as shown in FIGS. 1–4 may be provided with either full flush doors D or glazed doors D', fitted within door frame structures 30 of similar construction and formation. All the partitions as shown in FIGS. 3 and 4, are designed to receive window frame 45 dimensioned to accommodate any dimensional requirement, and all formed from similar parts.

All of the ceiling height, medium height and railing high partitions of this invention incorporate similar and reversible base and cornice frame structures which can be stocked as a single item and thereafter cut into such sectional lengths as partition run requirements indicate. The reversible base and cornice frame structure 10 as shown in FIGS. 12–15 and FIG. 39, may be integrally formed as an extruded section from easily extrudable metal such as aluminum. Alternatively, the reversible base and cornice frame structure may be made from three sheet metal sections as shown in FIGS. 16 and 17, or only two sheet metal sections as shown in FIGS. 19–21 to satisfy all partition run conditions.

Use is made of vertical filler channels 7 secured to the building wall as shown in FIGS. 1–6, and into which the adjacent panel unit 1 is designed to telescope. Similar vertical filler channels 7 attached to an adjacent panel unit, provide for a three-way or four-way partition run as indicated in FIGS. 1, 2, 6, 9 and 43, or a staggered partition run. The vertical filler channel 7 may be shaped from a continuous sheet metal strip by the roller dies of a rolling machine and stocked in suitable length for cutting into sectional lengths as partition requirements indicate to accommodate all partition runs.

All of the partitions of this invention make major use of similar straight run panel units 1, and an occasional angular panel unit 1' as corner conditions of the partition run may require. Each of the panel units 1—1' can be economically manufactured by the use of two facing sheets 2—2 for a straight run panel unit, or two angular facing sheets 2'—2' for an angular panel unit. The panel facing sheets, for both straight run panel units 1 and angular panel units 1', are bonded to and rigidly reinforced by an internal reinforcing core 6 made of suitable sound insulating material having sound deadening characteristics, and which greatly stiffens and strengthens the paired panel sheets as bonded thereto. The panel units 1—1' are provided with male and female formations along the opposite vertical edges thereof, and can be formed by making suitable bends in the vertical edge portions of the panel facing sheets 2—2 and 2'—2'. Since the male and female formations of the panel facing sheets are similar for all panel units, the panel facing sheets 2—2 and 2'—2' can be fully formed in one operation by running a continuous metal strip through the roller dies of a rolling machine. The fully formed panel facing sheets can then be cut to suitable length for storage as a stock item, for subsequent assembly into panel units of required length.

The male and female formations of the panel units 1—1' are so shaped that the vertical edges of the adjacent panel units may be snugly internested so that all the panel units as assembled along the partition run present flush wall surfaces on both sides thereof, with the individual panel units defined by single line joints therebetween which gives the erected partition an attractive and pleasing appearance.

When the partition is to be installed, a suitable length of the base frame structure 10 or 10*a* or 10*a'*, is secured to the building floor along the partition run. Suitable lengths of a similar frame structure are secured in inverted position directly to the ceiling wall, or suspended from the ceiling wall by a few spaced suspension struts to provide the companion cornice frame. The similar base and cornice frame structures 10 or 10*a* or 10*a'* present internal pockets P of substantial depth into which the lower and upper ends of the panel units 1—1' may be readily inserted by a vertical shifting of each panel unit into position.

The lower end of each panel unit 1 and 1' is supported by a spanner plate 19 which seats upon and slides along outturned ledge portions 16 or 16*a* forming a part of the base structure 10 or 10*a* or 10*a'*. Each spanner plate 19 served as a panel unit supporting trolley which permits lateral shifting of the panel units along the base and cornice frame structures. This important feature permits lateral adjustment of the straight run panel units 1, as in the case of sliding doors. Since the vertical filler channels 7, and the channel shaped vertical frame members 31 of the door structure 30, all present vertical pockets of substantial depth, the straight run panel units 1 may be laterally shifted in planned order during installation to insure snug internesting of the male and female formations of adjacent panel units.

Each door frame structure 30 is composed of a pair of channel shaped vertical frame members 31 and a head frame member 31' of similar shape, and whose adjacent ends are connected by angular corner brackets 37 which are so formed as to permit assembly erection of these parts in the field. The angular corner brackets 37 are also formed so that vertical frame members 31 may be laterally moved and withdrawn from the head frame member 31' to permit erection of the door frame structure 30 at another location as desired.

The window frame 45 is also formed from a pair of similar vertical frame members 46 and a pair of similar horizontal frame members 46' which are generally channel shaped in cross section and similar to each other.

The adjacent ends of the vertical and horizontal window frame members 46—46' are joined by angular shaped corner brackets which, as assembled, provide an attractive window frame which can be manufactured at low cost to any dimension and readily installed during erection of the partition.

The railing high partitions made in accordance with this invention present straight run panel units 1 and angular panel units 1' of suitable length and made identical in form to the panel units 1—1 which compose the ceiling high and medium height partitions shown in FIGS. 1–4. A cap railing 65 telescopes over the upper ends of the panel units 1–1' which form the walls of the railing high partition. These railing high partitions are rigidly secured and braced by spaced vertically extending reinforcing bars 55 whose base plates 56 are bolted to the building floor. The right and left hand posts 60—60' of the railing high partition, and between which a door or gate D'' is mounted, are channel shaped in cross section and telescope over the adjacent male or female formations of the adjacent panel units. These right and left hand posts 60—60' are also stiffened and reinforced by vertically extending bars 55 which are secured to the partition floor.

Where glazed panels G are to be provided above the cap railing 65, the vertically extending reinforcing bars 55 may extend upwardly through the cap railing 65, and the upper extensions thereof enclosed by tubular glazing posts 70 as shown in FIGS. 44–49. Such additional tubular glazing posts 70 as may be required to support the glazed panels G which are not held in position by the upper extensions of the reinforcing bars 55, may be secured to the cap railing 65 by tie rods 74 whose lower ends are threaded into a centering plate 73 fixed to the cap railing and which also serves to center the lower end of the post 70 on the cap railing 65.

Wall Forming Panel Units

The floor to ceiling partitions shown in FIGS. 1 and 3, the medium height partitions shown in FIGS. 2 and 4, and the railing high partitions shown in FIGS. 5 and 6, are all formed from a series of inter-fitting straight run panel units 1 and angular panel units 1' which are made of suitable length to extend between the base structure and the cornice, or above door frames, or above and below the window frames, or between the base structure and cap railing of railing high partitions. The panel units 1 and 1' may be made of any desired width ranging from six inches and multiples thereof to two feet or more. Unusually attractive partitions can be constructed from a series of panel units 1 and 1' which are in the order of twelve inches in facing width, as shown in FIGS. 1 to 6 of the drawings.

Each straight run panel unit 1 and each angular panel unit 1' is formed by a pair of spaced metal facing sheets 2 or 2' having a reinforcing core 6 sandwiched therebetween and adhesively bonded to the inside faces of the panel facing sheets 2 or 2' as shown in FIGS. 7–15. The reinforcing core 6 may be composed of foamed fibreglass, honeycombed paperboard, foamed plastic, or other core forming material which is relatively hard and provides rigid support for the panel facing sheets 2 or 2', and additionally serves to reduce the transmission of sound through the partition. Where the reinforcing core 6 is formed of a material such as foamed fibreglass, the panel units formed therefrom may be made substantially fire-proof.

Each of the straight run panel units 1 and angular panel units 1' presents male and female formations along the opposite vertical edges thereof so that the vertical edge formations of adjacent erected panel units will internest and interlock to provide a partition with flush wall surfaces, with only single line joints to define the location of the panel units, as shown in FIGS. 1–10. The male and female formations are provided by proper shaping of the opposite vertical edges of the panel facing sheets 2 or 2' on a brake press or by roller dies before the panel facing sheets are bonded to the reinforcing core.

One vertical edge of each panel facing sheet is provided with a rebent portion 3 which is formed to closely hug the inside face of the facing portion of the panel sheet, and terminates in an inturned lip portion 3' extending at right angles thereto. The other vertical edge of each panel facing sheet is provided with a depressed side face portion 4, an edge portion 4' extending at right angles thereto, an inturned flange portion 5 extending at right angles from the edge portion 4', and a lip portion 5' extending laterally from the inturned flange portion 5, as shown in FIGS. 7–10.

The rebent portion 3 of the female formation is approximately one-half to one and one-half inches in width, and is designed to overlap the depressed side face portion 4 of the male formation of the adjacent panel unit, to provide a signle seam line joint therebetween. The depressed side edge portion 4 is approximately only one-fourth to one-half inch in width, so that the inturned lip portion 3' of the female formation is spaced from one-fourth inch to one inch from the edge portion 4' of the male formation of the adjacent panel unit. The inturned flange portions 5 of the male formation defines a pocket R therebetween through which vertically extending wiring conduits may be threaded.

The panel facing sheets 2 and 2' of the panel units 1 and 1' may be spaced from two to three inches apart to provide a partition of the desired thickness. The adjacent inturned lip portions 3' of the female formation, and the adjacent inturned lip portions 5' of the male formation, need not be joined together since the reinforcing core 6 and paired panel facing sheets 2 and 2' are adhesively bonded together into panel units 1—1' to maintain the panel facing sheets in rigidly assembled relationship.

Where the partition is to extend from a vertical building wall W as shown in FIG. 7, a filler channel 7 is secured to the vertical building wall as by a wall bolt 7'' which extends through the web portion 7' of the filler channel. A suitable cushioning strip 7''' may be positioned between the web portion 7' of the filler channel and the surface of the building wall W. The filler channel 7 also includes a pair of wall facing flange portions 8 which terminate in rebent edge portions 8' as shown in FIG. 7, and between which the adjacent vertical edge of the adjacent panel unit 1 is designed to snugly telescope. A filler channel 7 of similar form to that above described, may be secured as shown in FIG. 9 to the adjacent panel facing sheet 2 of any of the panel units 1 where a three-way partition run is to be provided. The filler channel 7 for a three-way partition run may be secured to the selected panel unit by welding the web portion 7' of the filler channel to a panel facing sheet 2 in the factory, and before the filler core 6 is applied thereto. Or the web portion 7' of the filler channel 7 may be secured to the panel facing sheet 2 by screws during erection of the partition in the field. A four-way partition run may also be provided by securing two filler channels 7 to the opposite sides of a straight run panel unit.

Where a right angle or other angular partition run is to be provided, an angular panel unit 1' is formed by the use of a pair of panel facing sheets 2'—2' each of which has a vertically extending bend 2'' therein as shown in FIG. 10. The angular panel facing sheets 2'—2' are bonded together by a reinforcing core 6. The corner panel unit 1' has the same male and female formations along the opposite vertical edges thereof as previously described and shown in FIG. 10. The wall forming legs of the angular panel unit 1' may be symmetrical in width to the straight run panel units 1, to provide a partition of symmetrically balanced appearance.

Where an intermediate height partition is to be erected

which contains a door frame 30 or window frame 45 as shown in FIGS. 2 and 4, the space between the head frame member 31' of the door frame 30 and the cornice, or the head frame member of the window frame and the cornice, may be approximately only one foot or less. Under such conditions, it may be desirable to fill the space therebetween with a horizontal filler channel 9 which extends the full width of the door frame or window frame, and which presents wall facing portions 9' joined by a web portion 9'' as shown in FIGS. 14 and 15. Where a horizontal filler channel 9 is used, the wall facing portions 9' are spaced to provide the wall facings for the partition area above the door frame or window frame, and the vertical edge portions thereof are provided with male and female formations as above described which interfit with the correspondingly shaped female and male formations of the adjacent straight run panel units 1. The space between the wall facing portions 9' of the horizontal filler channel 9 desirably contains a reinforcing core 6 bonded to the inside faces thereof.

Straight run partitions, angular run partitions, three-way run partitions and four-way run partitions of ceiling height or intermediate height, may all be assembled by the use of straight run panel units 1 and angular panel units 1', with appropriate use of vertical filler channels 7 and horizontal filler channels 9 to met all partition run requirements. The reinforcing cores 6 as sandwiched between and adhesively bonded to the paired straight run panel facing sheets 2—2 and angular run panel facing sheets 2'—2', provide panel units which are rigid when erected, without the use of metal plates or ties to join the paired panel facing sheets. The interfitting male and female edge formations of the panel units permit rapid erection, and provide substanitally flush wall surfaces with only single seam line joints to attractively distinguish the panel units as erected.

Reversible Base and Cornice Structures

The straight run panel units 1 and angular panel units 1' are held in vertically erect position between a base structure and a cornice structure which are complementary in shape and form and reversible in position. Thus, the same stock part may be used to provide both the base and cornice structures. As shown in FIGS. 12–15, the reversible base and cornice structure 10 may be formed as an extruded section from aluminum metal or the like, or the same can be formed from sheet metal, such as the reversible base and cornice structures 10*a* and 10*a'* shown in FIGS. 16–21.

The reversible base and cornice structure 10 as formed from extruded aluminum and shown in FIGS. 12–15, presents a pair of spaced pocket forming side wall portions 11 joined to floor forming portions 12 joined by a connecting web 12', and which together define a receiving pocket P whose width corresponds to the thickness of the end of the panel unit to be inserted therein. A pair of spaced leg portions 13 are joined to the floor portions 12 and terminate in laterally extending foot portions 14 whose outer ends terminate in vertically extending toe portions 15. The other end of the pocket forming wall portions 11 present outwardly offset ledge portions 16 which incline at an angle, and whose outer ends terminate in vertical facing portions 17 and inwardly extending top edge portions 18. A lip portion 17' also extends from the outer end of each inclined ledge portion 16, each lip portion 17' being in vertical alignment with the adjacent vertically extending toe portion 15. Each pocket forming wall portion 11 and adjacent leg portion 13 defines a wiring raceway S on each side of the partition, which can be closed by a removable facing cover 20 having hook formations 20' designed to snap into locking engagement with the adjacent toe portion 15 and depending lip portion 17'.

Where the frame structure 10 is used as a supporting base, the same is secured to the building floor by the use of a series of spaced securing screws 24 as shown in FIGS. 12 and 15 which extend through the connecting web 12' of the frame structure and into the building floor. The base structure 10 may be made of any convenient length, but terminates at the door frame and at the corners of angular runs of the partition. The base frame structures 10 may be levelled to accommodate floor unevenness by the insertion of shims under the foot portions 14 thereof.

The same frame structure 10 which is used to provide the base, may be reversed in position to provide the cornice frame structure 10. In ceiling height partitions, the cornice frame structure 10 is secured to the ceiling wall as by lag bolts or screws 24 as shown in FIGS. 12 and 13. In the case of medium height partitions, where the cornice frame structure 10 does not abut against the ceiling wall, the cornice frame structure 10 may be suspended from the ceiling by the use of one or more cornice to ceiling bars 25 as shown in FIGS. 2, 4 and 14. The lower end of each cornice suspension bar 25 may be secured to the foot portions 14 of the cornice structure 10 as by suitable foot brackets 26, and its upper end may be secured to the ceiling wall as by suitable head brackets 26'.

After the base structure 10 has been secured to the building floor, and the cornice structure 10 has been secured to the ceiling wall as by the use of lag bolts or screws 24 or by suspension bars 25, a series of panel unit support plates 19 are positioned within the base structure 10 to provide support for the straight run panel units 1 and angular panel units 1'. It will here be noted that the straight run panel units 1 and the angular panel units 1' are of such length as to only partially telescope into the pockets P of the base structure 10 and cornice structure 10, as indicated in FIG. 12. Each support plate 19 may comprise a stamped metal plate which presents overlap end portions 19' designed to seat on the inclined ledge portions 16 of the base structure as shown in FIG. 12. Each of the support plates 19 is also provided with downwardly inclined corner lugs 19'' which substantially abut against the inside faces of the pocket forming wall portions 11 of the base structure to thereby center the support plate 19 in its spanning position between the pocket forming wall portions 11 of the base structure. Each support plate 19 need be no more than an inch or two in width, and is readily slidable along the ledge portions 16 of the base structure.

With the support plates 19 in position, the upper ends of the straight run panel units 1 and angular panel units 1' are first fully telescoped into the receiving pocket P of the cornice structure 10 so that the lower ends of the panel units will clear the top edge facing portion 18 of the base structure, and so that the lower end of the panel units can then be dropped into supported position on the adjacent support plates 19. Panel units 1—1' can be erected in successive order to provide the partition wall. The straight run panel units 1 can be laterally moved as sliding doors to telescope the male formation of each panel unit into the adjacent female formation of the adjacent panel unit.

Straight run panel units 1 and angular panel units 1' can thus be rapidly erected in successive order between the base structure and cornice structure. The two panel units initially erected may be panel unit 1, which is adjacent the vertical filler channel 7 secured to the building wall, or the initially erected panel unit may be erected adjacent a door opening or window opening as desired. Alternatively, the panel unit first erected may be an angular panel unit 1'. Since the wall filler channels 7 have substantial depth, the panel units as erected may be shifted as desired to accommodate erection conditions.

The reversible base and cornice structure may also be formed from sheet metal of suitable gauge as shown in FIGS. 16–21. The reversible base and cornice struc-

ture 10*a*, as shown in FIGS. 16, 17 and 18, is formed by a pair of similar generally S-shaped channels which may be secured in spaced relation by a connecting channel 12*b*. The paired S-shaped channels present pocket forming side wall portions 11*a* and floor portions 12*a*, which together with the web portion of the connecting channel 12*b*, define a pocket P into which the upper or lower ends of the panel units are inserted. The paired S-shaped channels together present spaced leg portions 13*a* to which the flanges of the connecting channel 12*b* are secured. Foot portions 14*a* extend laterally from the leg portion 13*a*, the foot portions 14*a* presenting offset seating portions 14*b* which terminate in vertically extending toe portions 15*a*.

The sheet metal frame structure 10*a* as formed by the paired S-shaped channels, presents offset ledge portions 16*a* extending laterally from the pocket forming wall portions 11*a*, and which provide seats for the panel unit supporting plates 19 as shown in FIG. 16. Each of the ledge portions 16*a* terminates in a folded lip portion 17*a* in vertical alignment with the adjacent toe portion 15*a*. An upwardly extending and inwardly inclined bracing portion 18*a* extends from the double folded lip portion 17*a*.

The base structure 10*a*, formed from sheet metal as above described, is secured to the building floor as by lag bolts or screws 24 which extend through the web portion of the connecting channel 12*b*, and after levelling with suitable shims to accommodate floor irregularities, the base structure 10*a* establishes the direction of the partition run. Each sheet metal base structure 10*a* extends from the vertical wall W of the building to the door frame, or to a partition corner, and can be cut to any length.

Where the frame structure 10*a* serves the purpose of a cornice frame structure, it is reversed in position as shown in FIG. 16. In ceiling height partitions, the cornice structure 10*a* may be secured directly to the ceiling wall by lag bolts or screws 24. Where the cornice structure 10*a* does not abut the ceiling, as in the case of medium height partitions, the cornice structure 10*a* may be suspended from the ceiling as by the use of vertical bars or struts 25 secured to the cornice structure by foot brackets 26, and to the ceiling wall by head brackets 26', as shown in FIGS. 4 and 16.

Where further lateral bracing of medium height partitions is required, a series of spaced bracing bars 27 may be provided as shown in FIGS. 2, 8, 17 and 18. Each bracing bar 27 may extend through a conforming hole cut through the foot portions 14*a* and portions 12*a* and 13*a* of the cornice structure 10*a*, and thence telescoped downwardly between a pair of adjacent panel units 1 or 1' as shown in FIGS. 8 and 17. Each bracing bar 27 has a width and thickness dimension to permit its snug insertion between the edge portions 4' of the male formation of one panel unit, and the inturned lip portions 3' of the female formation of the adjacent panel unit, and may extend downwardly between adjacent panel units for a distance of one or two feet. Each bracing bar 27 may also be secured to the foot portions 14*a* of the cornice structure by means of one or more angular brackets 27' and its upper end may be secured to the ceiling wall by one or more angular brackets 27'', as shown in FIGS. 17 and 18. Any desired number of vertical bracing bars 27 may be used to insure rigidity to medium height partitions constructed in accordance with this invention. Similar bracing struts 27 may also be inserted into appropriate holes cut in the cornice frame structure 10 previously described, or in appropriate holes cut in the cornice frame structure 10*a*' as shown in FIGS. 19–21.

The space as defined between each pocket forming wall portion 11*a* and adjacent leg portion 13*a*, and the adjacent toe portion 15*a* and depending lip portion 17*a*, provide a wiring raceway S in which horizontally extending wiring conduits may be located along both the base structure 10*a* and the cornice structure 10*a* on both sides of the partition. Each wiring raceway S may be enclosed by a facing cover 20*a* as shown in FIG. 16, one of whose horizontal edges presents a rebent portion 21 which terminates in a hook portion 21' designed to hook over the adjacent toe portion 15*a* of the frame structure 10*a*. The opposite horizontal edge of each facing cover 20*a* presents an edge facing portion 22 which terminates in a downwardly and outwardly inclined leg portion 23, which in turn terminates in a hook portion 23' designed to snap into engagement with the adjacent lip portion 17*a*.

The facing covers 20*a* as thus constructed completely conceal the frame structure 10*a* contained therein, and provide an attractive base and cornice trim for the partition. The facing covers 20*a* are similar in form and reversible in position, to provide either a base cover or cornice cover, and when applied in either position become firmly locked to the adjacent toe portion 15*a* and lip portion 17*a* of the base or cornice frame structure. The facing covers 20*a* may, however, be readily removed with a prying tool, such as a screw driver, to provide full access to the wire raceways S, and can be easily replaced by the application of pressure thereto.

The modified frame structure 10*a*' as shown in FIGS. 19, 20 and 21 may also be formed from sheet metal and similar in form to the frame structure 10*a*, but without the use of a connecting channel 12*b*. The modified frame structure 10*a*' is formed by two similar S shaped sections which are shaped as shown in FIGS. 20 and 21. The leg portions 13*a* thereof are placed in abutment and welded together. In this form of frame structure, the floor portions 12*a* are of sufficient width so that the pocket forming wall portions 11*a* will snugly receive the lower or upper end of the panel unit as inserted therein. To permit the application of lag bolts and screws 24, the adjacent leg portion 13*a* may be shape rolled to provide paired semicircular offsets 12*c* at spaced intervals as shown in FIGS. 19 and 21 to thereby provide a hole through which a lag bolt or screw 24 may be inserted.

The frame structures 10*a* and 10*a*' when used as a cornice frame structure, present spaced abutment walls 14*c* against which the lower ends of wall filler panels 29 may seat. The cornice frame member 10*a* as shown in FIG. 16 presents an upwardly facing groove as formed by its inverted connecting channel 12*b* into which a single filler panel may be inserted. Thus a cornice-to-ceiling filler may be provided, composed of either a single filler panel, or a pair of spaced filler panels 29 as desired.

The frame structures 10, 10*a* and 10*a*' may be used as a base frame member or cornice frame member so that only a single frame structure need be carried in stock. The frame structure 10 may be shaped as a metal extrusion, while the frame structures 10*a* and 10*a*' may be formed from three or two sheet metal strips shaped by roller dies on a rolling machine, carried in stock in any length, and then cut to the desired lengths and welded together as the partition runs may require. The facing covers 20 and 20*a* are also formed of sheet metal strip shaped to the required form by the roller dies of a rolling machine in a continuous pass therethrough, and then cut to the lengths required by the partitions to be installed.

The frame structures 10*a* and 10*a*', when located along the partition runs and secured to the building floor, and directly or indirectly to the building ceiling, present vertically aligned pockets P into which the straight run panel units 1 and angular panel units 1' may be rapidly positioned in successive order, with the lower ends of the panel units resting on the support plates 19. The male and female formations of the inserted panel units can then be telescoped together in interlocked relation without the use of securing screws.

Should it be found undesirable or unnecessary to suspend the cornice frame members 10, 10*a* or 10*a*' from

the ceiling, one end of the cornice structure which abuts the vertical building wall may be secured thereto as by means of a suitable bracket. The cornice structure may also be supported by the panel units 1 and 1' by inserting a screw through one of the pocket forming wall portions 11 or 11*a* of the cornice structure and the adjacent panel facing sheet 2 or 2' of the panel units 1 or 1'.

Door Frame Structure

The door frame structures 30 made in accordance with this invention, and as illustrated in FIGS. 22–33, are particularly designed for rapid assembly and erection to accommodate the panel units of this invention. The door frame structure 30 comprises a pair of vertical frame members 31 and a horizontal frame member 31' which are similar in form and may be separately shipped to the building location for erection assembly with the panel units. The upper ends of the vertical frame members 31 are inserted into the depending legs of corner brackets 37 fixed to the ends of the horizontal frame member 31' without further securement, and the lower ends thereof are then attached to floor brackets 40 as shown in FIGS. 23, 28 and 29, which are first secured to the building floor. Door frame structures made in accordance with this invention can be readily removed after the partition is erected, without disturbing the panel units, and the door frame then re-erected at another location in the partition run. Partitions constructed in accordance with this invention also permit the installation of panel units at the location where the door frame structure has been removed, with minimum labor in minimum time.

Each of the paired vertical frame members 31 and the horizontal head frame member 31' are formed from three similar sheet metal parts whose cross sections are generally indicated in FIGS. 24, 26 and 27. Each vertical frame member 31 and horizontal head frame member 31' are formed by an inner reinforcing channel 32 presenting a web portion 32' and flange portions 32''. The second member 33 of Z shaped cross section and formed of sheet metal, presents a wall facing portion 33' which is secured as by spot welds to the adjacent flange portion 32'' of the inner channel 32. The wall facing portion 33' presents an inturned lip portion 33'' which extends over the terminal edge of the adjacent flange portion 32'' of the inner channel to which it is secured. The Z member 33 also presents a jamb facing portion 34 in spaced relation to the web portion 32' of the inner channel 32, the jamb facing portion 34 terminating in an outturned lip portion 34' in planular alignment with the adjacent flange portion 32'' of the inner channel 32 as shown in FIG. 27. A wall facing strip 35, also formed of sheet metal, is spot welded to the adjacent outturned lip portion 34' of the Z member 33 and the adjacent flange portion 32'' of the inner channel. One vertical edge of the wall forming strip 35 presents an inturned groove forming flange 35' which defines a receiving pocket in which a door buffer or gasket strip 36 is positioned, and which may be formed of resilient rubber tubing as shown in FIG. 11. The other vertical edge of the wall facing strip 35 terminates in an inturned lip portion 35'' which extends over the vertical edge of the adjacent flange portion 32'' of the inner reinforcing channel 32.

The head frame member 31' formed as above described, is of sufficient length so that the end portions of the facing strip 35 and the end portions of the wall facing portion 33' of the Z member will telescope over the adjacent vertically extending panel unit 1, and also extend over the upper ends of the vertical frame members 31 as shown in FIG. 22. The inturned lip portions 33'' and 35'' providing horizontal edge formations designed to abut against the panel units 1 positioned above the door frame, or the filter channel 9 positioned above the door frame. The inturned lip portions 33'' and 35'' may be continued to provide vertically extending lip portions 33''' and 35''' as shown in FIG. 25, and which are designed to snugly seat against the wall forming faces of the panel units 1 which are positioned adjacent the vertical frame members 31 of the door frame.

The horizontal head frame member 31' presents an inner channel 32 whose web portion 32' terminates short of vertically extending lip portions 33''' and 35''' as shown in FIG. 25, but whose flange portions 32'' extend to the vertically extending lip portions 33''' and 35''' as shown in FIG. 25 to thereby reinforce the end extensions of the wall forming strip 35 and wall facing portion 33' of the Z member 33.

A corner bracket 37 as shown in FIGS. 22, 23, 24, 25 and 26 is provided to detachably secure each vertical frame member 31 to the horizontal head frame member 31'. Each of the corner brackets 37 presents a pair of spaced horizontal legs 37', as shown in FIGS. 22, 23 and 24, which are shaped to be snugly inserted between the web portion 32' of the inner channel 32 and the jamb facing portion 34 of the Z member, with the inserted legs 37' secured as by spot welds 37'' to the inside faces of the wall facing strip 35 and wall facing portion 33' of the Z member 33. Each of the connecting brackets 37 also presents a pair of spaced vertical legs 38 which are joined by a web section 38', the outer vertical edges 38'' of the vertical legs 38 being tapered in the form as shown in FIGS. 22, 23 and 25.

In assembling the three part door frame structure 30 in partition forming position, the head frame member 31' is first telescoped over the lower end of the panel units 1 which extend downwardly from the cornice structure and above the door opening, or by telescoping the head frame member 31' over the horizontal filler channel 9 which extends downwardly from the cornice structure. The panel units 1, or the horizontal filler channel 9, may be temporarily secured as by screws or wedges in fully pocketed position in the pocket P of the cornice frame structure if necessary, so that they will remain in suspended position. When the head frame member 31' has been telescoped over the lower ends of the panel units 1 or filler channel 9, the temporarily suspended panel units 1 or horizontal filler channel 9 may be pulled downwardly into supported position within the head frame member 31' as shown in FIGS. 30 and 31. The end extensions of the wall facing strip 35 and companion wall facing portion 33' thereof, will present lower abutment edges 33*a* and 35*a* as shown in FIG. 25, against which the upper ends of the respective vertical frame members 31 may snugly abut to provide a smooth and flush joint therebetween.

After the head frame member 31' has been placed in position as above described, the upper ends of the vertical frame members 31 may be respectively telescoped over the downwardly extending tapered legs 38 of the corner connecting brackets 37 as shown in FIG. 23. This telescoping movement is facilitated by the tapered formation of the vertical legs 38, so that the vertical legs 38 will readily telescope between the web portion 32' and the inner channel 32 and the jamb facing portion 34 of the Z member 33 of the vertical frame members 31, as indicated in FIGS. 22, 23 and 26. When fully erected, the upper ends of the wall facing portions 33' of the vertical frame members 31 form a flush joint with the lower edges 33*a* of the corresponding wall facing portions 33' of the horizontal head frame member 31', and similarly, the upper ends of the opposite wall facing strips 35 of the vertical frame members 31 will form a flush joint with the horizontal edges 35a of the wall forming strips 35 of the head frame member 31', as shown in FIG. 22. The corner brackets 35 need not be welded to the vertical frame members 31, and provide the only connection between the head frame member 31' and the vertical frame members 31. The lip portions 33'' and 35'' of the vertical frame members 31 when fully erected, will snugly telescope over the ad-

jacent vertical edge formations of the adjacent panel units 1 as shown in FIG. 11.

To secure the vertical frame members 31 of the door frame structure 30 of the building floor, a pair of floor brackets 40, shaped as shown in FIG. 29, are secured to the building floor at the proper location to provide support for the vertical frame member thereabove. Each floor bracket 40 may be formed from stamped sheet metal to present a base section 41 which flatly seats against the building floor, and which may be levelled by shims placed beneath the same. The base section 41 has a hole 41' therein through which a lag bolt or screw 41'' may be inserted into the building floor. Each floor bracket 40 also presents a pair of upwardly offset prongs 42 designed to straddle the leg portions 13 or 13*a* of the base structure 10 or 10*a* or 10*a'*. Since the base structure 10 or 10*a* or 10*a'* terminates slightly short of the door opening as shown in FIG. 23, the paired offset prongs 42 may be readily telescoped inwardly into the end of the base structure and in straddled relation to the leg portions 13 or 13*a* thereof. The floor bracket 40 also has a vertical wall portion 43 extending upwardly from the outside edge of the base section 41, with the vertical wall portion 43 terminating in inwardly extending wing portions 43'.

Before securing the lower ends of the vertical frame members 31 to the floor brackets 40, the lower ends of the inner channels 32 thereof are cut off so that they extend short of the lower end of the facing portions 33' and 35 thereof as shown in FIGS. 22 and 23. Thus the facing portions 33'—35 of the vertical frame member 31 may be laterally telescoped over the vertical wall portion 43 and wing portions 43' of the floor bracket 40, until the inside face of the jamb facing portion 34 thereof abuts against the vertical wall portion 43 of the floor bracket as shown in FIG. 28. A securing screw 44 may then be applied to secure the jamb facing portion 34 of the vertical frame member 31 to the wall portion 43 of the floor bracket 40.

Door frame structures made in accordance with this invention permit the shipment of vertical frame members 31 and head frame members 31' as separate parts to occupy minimum shipping space, and can then be easily erected at the partition location. Each of the vertical frame members 31 and head frame members 31' may be made from three sheet metal sections of similar configuration which may be shaped from strips of sheet metal by the forming dies of a rolling machine at low cost and carried as a stock item. Only a few simple spot welding operations are required for the assembly of these three sections after they are cut to appropriate length. The corner connecting brackets 37 and the floor brackets 40 may also be inexpensively formed as stamped metal parts.

The lower ends of the vertical frame members 31 may be concealed within a pair of plinth covers 39 formed of stamped sheet metal, each of which presents a facing portion 39' which extends to the building floor, a pair of inturned side flange portions 39'' whose inner edges are contoured in conformity with the outer face of the adjacent base frame structure and its snap-on cover and in conformity to the adjacent face of the upright frame member 31. The plinth cover 39 also presents an inturned top wall portion 39''' whose inner edge is shaped in conformity with the surface which it abuts.

At the outer angular corner of the partition run, the adjacent ends of the base frame structures and cornice frame structures 10 or 10*a* or 10*a'* are concealed by an outer sheet metal corner plinth cover 59 each of which presents an angular side face portion 59', inturned side flange portions 59'' and an angular inturned top wall portion 59''' whose free edges are contoured to the surfaces which they abut. At the inside corner of the partition, the adjacent ends of the base and cornice frame sections 10 or 10*a* or 10*a'*, and their associated closure covers 20 or 20*a*, are in abutment, so that no inside corner plinth cover is required.

Window Frame Structure

This invention comprehends the provision of a window frame structure 45 formed of a pair of vertical frame members 46 and a pair of horizontal frame members 46' whose adjacent ends are connected by corner brackets 50 as shown in FIGS. 3 and 4, and FIGS. 34–38. The window frame structure 45 may be of any desired size and its components, comprising the two vertical frame members 46, the two horizontal frame members 46', and the four corner connecting brackets 50 may be assembled in the factory, or if desired, may be shipped and assembled in the field to thereby save shipping space and crating.

The lower horizontal frame member 46' is designed to telescope over the upper ends of the panel units 1 positioned below the window frame as previously installed as shown in FIGS. 3, 4 and 15. The upper horizontal frame member 46' is designed to telescope over the lower ends of the previously installed panel units 1 which depend from the corner structure as shown in FIGS. 3 and 15, or over the lower end of the previously installed horizontal filler channel 9 which depends from the corner structure as shown in FIGS. 4 and 15. The vertical frame members 46 are designed to telescope over the adjacent vertical edges of the adjacent full-length panel units 1 as subsequently installed and which extend from the base structure 10 or 10*a* or 10*a'* to the cornice structure 10 or 10*a* or 10*a'*.

The vertical frame members 46 and horizontal frame members 46' are similar in form and cross section as shown in FIGS. 35 and 36, and are each composed of a framing channel 47 which presents a web portion 47' and spaced facing flange portions 47'' which terminate in rebent edge portions 47''' which define receiving grooves as shown in FIGS. 35 and 36. The rebent edge portions 47''' of each framing channel 47 are designed to snugly telescope over the wall facing sheets 2 of the adjacent panel units 1 as shown in FIGS. 11 and 36, or over the wall facing flange portions 9' of the horizontal filler channel 9 as shown in FIG. 4 and FIG. 35.

A fixed moulding strip 48 is welded to the web portion 47' of each of the framing channels 47, and the terminal ends thereof are mitre cut so that the adjacent ends of the fixed moulding strips 48 as secured to the assembled vertical and horizontal frame members 46 and 46' will provide a finished joint therebetween as shown in FIG. 34. Each fixed moulding strip 48 presents a leg portion 48' designed to provide abutting support for the glass panel G to be installed. The abutment leg portion 48' terminates in a laterally extending foot portion 48'' which is secured as by spot welds to the web portion 47' of the framing channel 47 as shown in FIGS. 35 and 36. Each foot portion 48'' terminates in a resilient toe portion 48'''.

A companion removable moulding strip 49 is applied to each fixed moulding strip 48 after the glass panel G has been installed. The ends of each removable moulding strip 49 are mitre cut to provide smooth joints between the adjacent ends of adjacent strips. Each moulding strip 49 presents an abutment leg 49' designed to brace against the installed glass panel G, and a clamp leg 49'' designed for insertion between the toe portion 48''' of the fixed moulding strip 48 and the adjacent face of the web portion 47' of the framing channel 47, as shown in FIGS. 35 and 36. The removable moulding strips 49 as well as the fixed moulding strips 48 may present attractively contoured facing portions 49'''. The fixed moulding strip 48 and removable moulding strip 49 may each be formed from a metal strip shaped to the desired moulding formation by the roller dies of a rolling machine, and then mitre cut to the desired length before they are applied to the web portion 47' of the framing channels 47.

The ends of the vertical and horizontal frame members 46—46' as above constructed are joined together by four corner brackets 50 which may be formed as metal die castings, as shown in FIGS. 34–38. Each corner bracket 50 presents a pair of generally square shaped facing sections 51, as shown in FIGS. 34, 37 and 38, having a thickness approximately corresponding to three layers of sheet metal from which the frame members 46—46' are formed. A pair of horizontal legs 52 extend from the adjacent side edge of the corner facing sections 51, and are inset from the outer face of the corner facing sections 51 for a distance approximating the thickness of the facing flange portions 47'' of the horizontal framing channel 47, so that each facing section 51 presents a vertical abutment edge 51'.

The horizontal extending legs are joined by a horizontal connecting web 52' which stiffens the horizontal legs 52. The horizontal legs 52 and their connecting web 52' are designed to snugly telescope into the end of the framing channel 47 of the horizontal frame member 46' as shown in FIGS. 37 and 38, with the outer face of the connecting web 52' snugly seating against the inside face of the web portion 47' of the framing channel 47, and with the outer faces of the horizontal legs 52 in bracing relation to the inside faces of the flange portions 47'' of the horizontal framing channel 47, and with the outer edges of the horizontal legs 52 snugly telescoped into the receiving grooves as defined by the flange portions 47'' and rebent edge portions 47''' of the horizontal framing channel. When each corner bracket 50 is fully applied to the adjacent horizontal framing channel 47, the adjacent terminal ends of the flange portions 47'' of each horizontal framing channel 47 will abut against the vertical abutment edges 51' of the facing sections 51 of the corner bracket 50 to provide a smooth and flush joint therebetween as shown in FIG. 34.

Each corner bracket 50 is also provided with a pair of vertical legs 53 which are similar to the horizontal legs 52 and are joined by a connecting web 53'. The vertical legs 53 and their connecting web 53' are designed to telescope into the adjacent end of the framing channel 47 of the adjacent vertical frame member 46, with the connecting web 53' snugly seating against the inside face of the web portion 47' of the vertical framing channel 47, and with the vertical legs 53 snugly telescoping into the groove formations formed by the flange portions 47'' and rebent edge portions 47''' of the vertical frame channel 47 as shown in FIG. 36, and with the adjacent ends of the flange portions 47'' snugly abutting against the horizontal abutment edges 51' of the facing sections 51 of the corner brackets 50 in a manner to provide a smooth and flush joint therebetween as shown in FIG. 34.

Each of the corner brackets 50 may be inexpensively formed as a die casting, and may be applied to the vertical and horizontal frame members 46—46' at the factory, or at the locality where the partition is to be erected. If the window frame 45 is assembled at the factory, the horizontal webs 52' and vertical webs 53' of the applied corner brackets 50 may be secured as by spot welding to the adjacent web portion 47' of the vertical and horizontal frame member 46—46'. Since the framing channels 47 for both the vertical and horizontal frame members 46—46' are similar in form, the framing channel 47 may be shaped from a single strip of sheet metal by roller dies of a forming machine, and then cut to suitable lengths in accordance with the dimensional requirements of the window frame to be installed.

The fixed moulding strips 48 are secured as by spot welds to the web portions 47' of the framing channels 47 after they have been cut to required length. If the window frame 45 is fully assembled at the factory, the window frame as a whole may be painted at the factory. If the window frame 45 is to be assembled in the field from the component parts above described, the component parts before assembly may be painted at the factory for subsequent assembly in the field.

When the window frame 45 is to be inserted into the partition under erection, the panel units 1 located below the window opening are first installed, as shown in FIGS. 3, 4 and 15. The short upper panel units 1 or horizontal filler channels 9 are also installed by fully telescoping the upper ends thereof into the pocket P of the cornice structure 10 or 10*a* or 10*a*' and temporarily held in this position. The assembled window frame structure 45 is then placed in position and the lower horizontal frame member 46' thereof is telescoped over the upper ends of the lower panel units 1 positioned below the window opening. The upper panel units 1 or the filler channel 9 above the door frame can then be dropped down from fully pocketed position in the pocket P of the cornice frame structure 10 or 10*a* or 10*a*', and the lower ends thereof dropped into the framing channel 47 of the upper horizontal frame member 46', and the framing channel 47 of the upper horizontal frame member 46' will then provide support for the dropped down upper panel units 1 or filler channel 9, as shown in FIGS. 3, 4 and 35.

The lower and upper ends of the adjacent full-length units 1 may then be located in the pockets P of the respective base structure and cornice structure 10 or 10*a* or 10*a*', and vertically adjusted to seat on a spanner plate 19 which is supported by the base structure. Each of the adjacent full-length panel units 1 can then be pushed into interlocking engagement into the framing channel 47 of the adjacent vertical frame member 46, and into interlocking engagement with the adjacent panel units which extend below the installed window frame, and into interlocking engagement with the adjacent upper panel units 1 or upper filler channel 9 which extend above the installed window frame 45. Successive full-length panel units 1 can then be successfully erected to extend to the wall filler channel 7, or to the adjacent vertical frame member 31 of the door frame structure 30, or to an angular corner of the partition which receives the angular panel unit 1'.

Railing High Partions

Railing high partitions constructed in accordance with this invention and shown in FIGS. 5 and 6, are assembled from interfitting straight run panel units 1, angular panel units 1', vertical filler channels 7 and a base frame section 10 or 10*a* or 10*a*' of appropriate length, all of which parts are similar to the corresponding parts which form the ceiling height and medium height partitions as shown in FIGS. 1–4 and previously described.

As further shown in FIGS. 5, 6 and 39–43, each straight run panel unit 1 and angular panel unit 1' for the railing high partitions is composed of a pair of panel facing sheets 2 or 2' which are internally braced and bonded to a reinforcing core 6 made of foamed fibreglass, honeycomb fibreboard, foamed plastic or other relatively hard and preferably light core forming material which gives stiffness and strength to the panel unit. The opposite vertical edges of the facing sheets 2 or 2' of each panel unit 1 or 1' are formed to provide inter-fitting male and female formations. The female formation of each panel facing sheet 2 or 2' is formed by a rebent edge portion 3 having a width of one-half to one and one-half inches, and which terminates in a lip portion 3 which extends inwardly and at right angles to the rebent edge portion 3. The male formation at the opposite vertical edge of each panel facing sheet 2 or 2' is formed by a depressed side edge portion 4 over which the rebent edge portion 3 of the female formation of the adjacent panel unit is designed to overlap. The depressed side edge portion 4 terminates in a transverse edge portion 4' extending inwardly at right angles thereto, the transverse edge portion 4' having an inturned flange portion 5 extending at right angles thereto and which terminates in a transversely extending lip portion 5. The angular panel units 1' are generally simi-

lar in construction to the straight run panel units 1, but the paired panel facing sheets 2' thereof have a vertically extending angular bend 2'' therein as shown in FIG. 42.

After the straight run panel units 1 and corner panel units 1' have been cut to the desired railing high length, the lower ends thereof are fully telescoped into the pocket P of a base frame structure which may be integrally formed from extruded metal corresponding to the base frame structure 10 shown in FIG. 39 and which is similar to the extruded and reversible base and cornice frame structure 10 as previously described. The base frame structure for the railing high partitions may also be formed from two or three sheet metal sections which are spot welded together and which conform to the reversible sheet metal base and cornice frame structures 10*a* or 10*a'* as shown in FIGS. 16–21, and previously described. The base frame structure 10 or 10*a* or 10*a'* is secured to the building floor of the partition run by lag bolts or screws 24, and presents a wire raceway cavity S along each side thereof which is closed by a removable snap-on base cover 20 or 20*a* as previously described.

It is desirable that the railing high partition runs be rigidly anchored to the partition floor so that the partition will stand rigidly erect. It is, therefore, important that floor anchored bracing be provided at spaced intervals along the partition run which is concealed within the partition. Rigid bracing of the partition run is accomplished in accordance with this invention by the provision of a series of spaced vertically extending reinforcing bars 55. The lower end of each vertically extending reinforcing bar 55 is rigidly connected as by welding to a floor plate 56 of substantial thickness, and which is rigidly secured to the buiding floor as by floor bolts 56' as shown in FIGS. 40 and 41.

Certain of the reinforcing bars may extend vertically between the male and female formations of adjacent panel units 1 as shown in FIG. 41. Each of the reinforcing bars 55 is of such width and thickness as to be snugly pocketed between the interfitting male and female formations of adjacent panel units, with one side of the reinforcing bar bracing against the adjacent inturned lip portions 3' of the female formation of the adjacent panel unit, with the other side face of the reinforcing bar 55 bracing against the transverse edge portions 4' of the male formation of the other adjacent panel unit. It is also desirable to provide a pair of vertically extending reinforcing bars 55 at the free standing terminal ends of the partition run, and particularly adjacent a door opening as shown in FIG. 40. The vertically extending reinforcing bars 55 at the door opening extend through the right and left hand door frame members 60—60' of the partition, which are constructed as hereinafter described.

At the locations where a vertically extending bar 55 and associated floor plate 56 is positioned, the base frame sections 10 or 10*a* or 10*a'* terminate in abutting relation to the floor plate 56. It is thus evident that one base frame section 10 or 10*a* or 10*a'* extends from the vertical building wall against which one end of the partition run abuts, to the adjacent reinforcing bar supporting floor plate 56. Separate sectional lengths of base frame structures 10 or 10*a* or 10*a'* extend between adjacent but spaced reinforcing bar supporting floor plates 56.

To cover and enclose the adjacent terminal ends of the base frame sections 10 or 10*a* or 10*a'*, and to additionally enclose the intervening bar supporting floor plate 56 along a straight partition run, a pair of opposite plinth covers 58 formed of sheet metal are applied thereover as shown in FIGS. 5, 6, 40 and 41. Each of the straight run plinth covers 58 presents a wall facing portion 58', side flange portions 58'' and a top wall portion 58'''. The terminal edges of the side flange portions 58'' are contoured to overlap and interfit with the formed contour of the base covers 20 or 20*a*, and the terminal edge of the top flange portion 58''' is contoured to abut and interfit with the panel facing sheets 2 of the adjacent panel units 1.

At the angular corner of the partition run, it is usually unnecessary to provide a vertically extending reinforcing bar 55, since the angular panel unit 1' will itself provide sufficient stiffness for the railing high partition. However, if desired, a vertical reinforcing bar 55 may be projected through the reinforcing core 6 of the angular panel unit 1' (see FIG. 48) and located between and adjacent to the angular bends 2'' of its angular panel facing sheets 2'.

At the angular corner, as shown in FIG. 42, only the inner edges of the terminal ends of the adjacent base frame sections 10 or 10*a* or 10*a'* are in abutment, and the outer ends thereof are spaced apart to leave an open gap therebetween. This open gap is closed by an outer corner plinth cover 59 as shown in FIGS. 5, 6 and 42. The corner plinth cover 59 also conceals the floor plate 56 of any vertically extending reinforcing bar 55 positioned at the corner. The corner plinth cover 59 may be formed as a sheet metal stamping to present an angular side facing portion 59', a pair of side flange portions 59'' whose free edges are contoured to abut and interfit the exterior contour of the adjacent ends of the base frame sections 10 or 10*a* or 10*a'* and their base covers 20 or 20*a* as applied thereto. The angular top wall portion 59''' of each angular plinth cover 59 presents its free edge in snugly abutting relation to the outer panel facing sheet 2' of the angular panel unit 1' as shown in FIGS. 5, 6 and 42.

Where a railing high door or gate D'' is to be provided, the terminal ends of the partition run adjacent the door or gate opening are provided with right and left hand door framing posts 60—60' as shown more particularly in FIGS. 5, 6 and 40. The door framing posts 60—60' are composed of similar facing channels 61 and similar internal reinforcing channels 62. Each facing channel 61 presents a jamb face portion 61' and paired side facing portions 61'' extending at right angles thereto as shown in FIG. 40. The paired side facing portions 61'' terminate in rebent edge portions 61''' whose rebent edges are designed to abut against the rebent edges of the female formation of the adjacent panel unit as shown at the right hand side of FIG. 40, or to abut against the depressed edges of the depressed side edge portions 4 of the male formation of the adjacent panel unit as shown at the left hand side of FIG. 40. Single seam line joints are thus provided between the terminal edges of the rebent edge portions 61''' of each post forming facing channel 61 and the adjacent rebent or depressed edges of the panel facing sheets, with the outer faces of the panel facing sheets 2 in flush alignment with the side facing portions 61'' of the post forming facing channel 61.

The similar facing channels 61 of both vertical door frame members 60—60' are reinforced by similar internal channels 62. Each internal reinforcing channel 62 presents a web portion 62' snugly abutting the inside face of the jamb face portion 61' of the facing channel 61 for the full length thereof. The internal reinforcing channel 62 also presents side flange portions 62'' which snugly abut the inside faces of the side facing portions 61'' of the surrounding facing channel 61 for the full length thereof. The flange portions 62'' of each internal reinforcing channel 62 terminate in inturned lip portions 62'''.

The internal lip portions 62''' of the internal reinforcing channel 62, contained in the facing channel 61 which provides the framing post 60 which telescopes over the male formation of a panel unit, brace directly against the adjacent face of the vertically extending reinforcing bar 55 as shown at the left hand side of FIG. 40, with the other face of the reinforcing bar bracing against the transverse edge portion 4' of the male formation of the adjacent panel unit. The door framing post 60 may be rigidly secured to the adjacent reinforcing bar 55 by applying one or more bolts 64 which extend through

the jamb face portion 61' of the facing channel 61 and the web portion 62' of the internal reinforcing channel 62, and then into a tapped hole in the reinforcing bar 55, as shown at the left hand side of FIG. 40.

The vertical door frame member 60' which is applied to the female formation of the adjacent panel unit 1, as shown at the right hand side of FIG. 40, requires the addition of a spacer channel 63 presenting a web portion 63' and flange portions 63'', which terminate in inturned lip portions 63'''. The inturned lip portions 63''' of the spacer channel 63 brace against the companion inturned lip portions 62''' of the adjacent internal reinforcing channel 62. The web portion 63' of the spacer channel 63 of the vertical door frame member 60' as applied to the female formation of the adjacent panel unit 1, is sufficiently spaced from the inturned lip portion 3' of the female formation to provide a pocket therebetween which snugly receives the vertical reinforcing bar 55 as telescoped therethrough. The vertical door frame member 60' may be secured to the reinforcing bar 55 extending vertically therethrough by one or more metal bolts 64 extending through the jamb face portion 61' of the facing channel 61, through the web portion 62' of the internal reinforcing channel 62, through the web portion 63' of the spacer channel 63, and into a tapped hole provided in the reinforcing bar 55 as shown at the right hand side of FIG. 40.

The internal reinforcing channels 62 serve to further stiffen the door supporting posts 60—60' and provide reinforcing support for the door hinges and door lock plate. If desired, the securing bolts 64 may be applied directly to the web portion 62' of each vertical reinforcing channel 62, so that the bolt heads are not exposed. The facing channels 61 can then be telescoped into position and held by friction, or otherwise held in position by the screws which secure the door hinges or door lock plate thereto.

The upper ends of the erected straight run panel units 1 and angular panel units 1' of the railing high partition are enclosed within a cap railing 65 as shown in FIGS. 5, 6, 39 and 45–48. A cap railing section 65 extends from the vertical building wall along a straight partition run until the straight partition run is interrupted by a door post or angular partition run. A cap railing section 65 also extends from the door post to the corner of an angular run, where its terminal end is in abutting relation to the cap railing section 65 extending from the corner of the partition run as shown in FIGS. 48 and 49.

Each cap railing section 65, as shown in FIGS. 39 and 48, comprises an internal reinforcing channel 66 presenting a web portion 66' and downwardly extending leg portions 67 whose lower ends present offset leg portions 67' which terminate in abutment edges 67''. The internal reinforcing channels 66 may be secured as by concealed screws 67''', as shown in FIG. 39, which extend through the leg portions 67 thereof and into tapped holes in the adjacent vertical reinforcing bar 55. The internal reinforcing channels 66 present a receiving pocket for the upper ends of the panel units 1—1' and provide stiffening reinforcement for the erected railing high partition.

Each internal reinforcing channel 66 is enclosed within a snap-on facing channel 68 which presents a top face portion 68' and downwardly extending facing legs 68'', with the downwardly extending facing legs 68'' presenting inturned flange portions 69 which terminate in upturned lip portions 69'. The terminal edges of the upturned lip portions 69' are designed to abut against and snap into interlocking engagement with the abutment edges 67'' of the inner reinforcing channel as shown in FIGS. 39 and 48. The snap-on facing channels 68 are not defaced by exposed screws and are held in rigid position, but can nevertheless be pried loose and removed when the partition is to be dismantled.

Where the railing high partition is to be provided with glazed panels G above its cap railing 65 as shown in FIG. 5, the vertically extending reinforcing bars 55 project through conforming holes provided in the cap railing 65 and the upper extensions of each reinforcing bar 55 is telescoped through a hollow glass supporting post 70 as shown in FIGS. 44–49. Each hollow glass supporting post 70 may be generally square shaped in cross section, and if desired, the corners of the post may be beveled for purpose of appearance. Each hollow glass supporting post may be integrally made as an extruded section from a metal such as aluminum, or may be assembled from one or more sheet metal strips shaped to the desired contour. The glass supporting post 70 is provided with one or more glass receiving grooves 70' in the facing walls thereof, as a straight partition run, angular partition run, three-way partition run, or four-way partition run may require.

Where the glass supporting posts 70 present only a single glass receiving groove, or two opposite glass receiving grooves, or two adjacent glass receiving grooves as shown in FIGS. 45, 47 and 49, a pair of internal guide channels 71 are welded to opposite walls of the post which provide guideways into which the upper extension of the vertical reinforcing bar 55 may telescope. The lower end of each glass supporting post 70 snugly seats directly against the top face portion 68' of the cap railing 65 as shown in FIGS. 44–48, and the upper end of each post 70 is preferably closed by a decorative crowning cap 72 which is secured to the upper end of the vertical reinforcing bar 55 by a tap screw 71' as shown in FIGS. 44 and 46.

In addition to the hollow glass supporting posts 70 which telescope over the upper extensions of the spaced reinforcing bars 55, additional hollow metal posts 70 may be required to complete the vertical framing for the glazing panels G, and these posts must be otherwise rigidly secured in erect position. As shown at the left hand side of FIGS. 44 and 45, these hollow posts 70 are held in centered position on the top face portion 68' of the cap railing 65 by means of a centering plate 73 secured as by screws 73' to the top face portion 68' of the cap railing 65. The outer margins of each centering plate 73 is contoured so that the lower end of the hollow metal post 70 will snugly telescope thereover and be centered thereby. All of the centering plates 73 may be similar in form by providing four notched cut-outs 73'' in the margins thereof, so that similar centering plates 73 will accommodate all of the four shapes of hollow posts 70 which may be used. A tie rod 74 extends through the crown cap 72 of each post as centered on a centering plate 73, and its threaded end portion 74' is inserted through a tapped hole provided in the centering plate 73.

To further support the lower horizontal edge of the glazing panels G, a metal moulding strip 75 of channel shaped cross section may be secured as by spot welds to the top face portion 68' of the cap railing 65 as shown in FIGS. 45–49. The horizontally extending glass supporting channels 75 extend between the adjacent glass supporting posts 70, and the glass receiving grooves as formed thereby also receive a rubber cushioning gasket 76 extending along the horizontal margin of the glazing panel G and upwardly along the vertical margins thereof. The vertically extending portions of the glazing gasket 76 are pocketed within the glass receiving grooves 70' of the adjacent glass supporting posts 70.

A glazing framework for railing high partitions may thus be provided which is rigid when erected, attractive in appearance, and can be made from a few simple parts manufactured at relatively low cost and quickly installed.

Manufacture, Assembly and Erection

All of the commonly used types of ceiling high partitions, medium height partitions and railing high partitions can be made and assembled in accordance with this invention in major part from similar stock parts designed

to be shaped and formed by appropriate sets of roller dies in a single pass through a rolling machine from coiled sheet metal strip. All of these partitions are particularly designed for manufacture by high-speed production methods with a minimum of labor and at low cost, to provide partitions which are highly attractive in appearance, lasting in use, rigid when erected, occupy minimum floor space, and whose separate components may be dismantled and stored in the basement of the building, and re-erected at other locations as desired.

All of the partitions of this invention are composed of panel units 1—1' whose panel facing sheets 2—2' are formed from three-coiled strips, each of which is shaped in a single pass through appropriate roller dies of a rolling machine, which shapes the male and female formations along the side edges of the strips. All of the straight run panel units are preferably of equal width, so that the same width of coil strip may be used. In forming the inner and outer wall facing panel sheets 2' for the corner panel unit, two flat coil strips of appropriate width are separately run through the same roller dies, appropriately set in laterally adjusted relation in the rolling machine, and the male and female formations shaped along the inside edges thereof. The rolling machine also carries an extra set of roller dies to form the longitudinal bends 2'' in the angular panel sheets 2'—2'. After cutting the panel facing sheets 2 and 2', as formed in the rolling machine, into convenient lengths for handling, they may be stored on roller racks for further cutting to suitable lengths as necessary.

Slabs of filler core material 6 of desired thickness can then be adhesively bonded to and sandwiched between a pair of panel facing sheets 2—2 or 2'—2' on roller assembly tables, having rubber covered compression rollers through which the completed panel units are passed to insure firm adhesive bond.

The filler channel 7 may also be formed from coiled strip in a single pass through suitable roller dies of the rolling machine, and cut to convenient lengths by flying shears. The horizontal filler channels 9 may also be formed from a coiled strip in a single pass through appropriate dies of a rolling machine and cut to convenient length for storage and use as required.

The reversible base and cornice structure 10 may be formed in a single pass through an appropriate forming die of a metal extrusion machine. The snap-on closure cover 20 therefor may be formed from coiled strip in a single pass through appropriate dies of a rolling machine and cut to convenient length for storage. Where the reversible base and cornice frame structure 10*a* or 10*a'* is to be formed from sheet metal, a single coil strip may be passed through appropriate roller dies of the rolling machine and then cut to suitable length for storage. The same stock item may be used to provide both the right and left hand S shaped channels, and when the leg portions 13*a'* thereof are welded together, pockets P are therein provided which are dimensioned to receive the adjacent ends of panel units 1 or 1' having a minimum thickness of two inches. Where a partition is desired whose panel unit thickness is two and one-half or three inches, a connecting channel 12*b* as shown in FIGS. 16, 17, and 18 may be formed from a coiled strip in a single pass through appropriate roller dies of a rolling machine and carried in stock for subsequent spot welding assembly to a pair of standard S shaped sheet metal sections.

When the reversible base and cornice frame structures 10*a* and 10*a'* are assembled from standard S shaped sheet metal sections, only a single set of roller dies is required to form both pairs of S shaped sections, and these sections may be used to provide either the base frame structure or the cornice frame structure. The snap-on facing covers 20*a* of the sheet metal framing structures 10*a* and 10*a'* may also be formed from a coiled strip in a single pass through appropriate dies of a rolling machine and cut by flying shears to suitable stock lengths for convenient handling. The same facing covers 20*a* as thus formed provide the facing covers for both sides of the base and cornice frame structures.

In addition to the simple rolling machine operations required for the formation of the principal components of these partitions, such as the sheet metal facing sheets 2 and 2', the sheet metal wall filler channels 7, the sheet metal horizontal filler channels 9, the S shaped sheet metal channels which form the reversible base and cornice structures 10*a* and 10*a'*, and the sheet metal trim covers 20 or 20*a*, other less used but essential parts of these partitions can also be shaped and formed by rolling machine operation.

For example, the sheet metal inner reinforcing channels 32, the Z shaped sheet metal facing strips 33, and the sheet metal wall facing strips 35 which compose the main parts of the door frame structure 30, are each respectively formed from coiled strip by appropriately shaped roller dies installed in the rolling machine. The framing channels 47, fixed moulding strips 48 and removable moulding strips 49 which constitute the main parts of the window frame 45, are also formed from coiled strip and shaped by appropriate roller dies installed in the rolling machine.

The posts 60—60' for the railing high partitions made in accordance with this invention, and formed from a facing channel 61, internal reinforcing channel 62 and a spacer channel 63 may each be shaped to the required contour from a coiled sheet metal strip by appropriate roller dies installed in the rolling machine. The inner reinforcing channel 66 and the snap-on facing channel 68 for the cap railing 65 for the railing high partition are also respectively formed from a coiled strip of sheet metal run through appropriate dies installed in the rolling machine. Similarly, the glazing channel 75 may also be formed from a coiled strip by appropriate roller dies run through a rolling machine. Except for the attaching devices, it will be noted that substantially all components for the various types of partitions made in accordance with this invention, are substantially entirely formed by running a coiled sheet metal strip through appropriate dies installed in one or more rolling machines, and then cut to appropriate length by flying shears for subsequent assembly into the particular partition desired.

The few attaching and securing devices required are mainly metal stampings, which are blanked-out from sheet metal in one or two hits by a metal stamping and blanking press equipped with appropriate blanking and bending dies. The stamped parts which can be inexpensively formed from metal sheet or metal plate in a single pass through the forming and cutting dies of a stamping press include, the panel supporting spanner plates 19, the door corner brackets 37, the door floor brackets 40, the door plinth covers 39, the angular corner plinth covers 59, the straight run plinth covers 58 for the railing high partition, and the centering plates 73 for the railing high partition.

Only a few additional other parts, which cannot be formed on a rolling machine or stamping press are required, which are: screws and lag bolts, the cornice to ceiling bars 27 and the similar railing high partition reinforcing bars 55 which can be inexpensive hot rolled steel bars which are unfinished and unpainted, purchased as mill stock and cut into suitable length; the window frame corner brackets 50 and the post crown caps 72 for the glazed railing high partition, which are inexpensive die cast parts which require a minimum or little finishing or burnishing; the glazing posts 70 for the railing high partitions, made in any desired length as a metal extrusion; and if a one-piece reversible base and cornice structure 10 is desired, this part can also be made as an extrusion from a readily extrudable metal such as aluminum or alloys thereof.

It is thus seen that all of the commonly used types of metal partitions can be made in accordance with this in-

vention by the use of similar and interchangeable parts and components of wide application, with the resultant production of a highly sturdy partition, which can be quickly erected in the manner heretofore described, and which presents flush wall surfaces of attractive and pleasing appearance produced at minimum cost.

While certain novel features of this invention have been disclosed herein and are pointed out in the claims, it will be understood that various omissions, substitutions, and changes may be made by those skilled in the art without departing from the spirit of this invention.

What is claimed is:

1. A partition for dividing interior building space including in combination; a panel unit supported from the building floor and including a pair of spaced panel facing sheets secured in spaced relationship and presenting depressed side edge portions which terminate in inturned end portions along the adjacent vertical edges thereof; a hollow metal post which includes a facing channel which presents a jamb face portion and side facing portions terminating in rebent edge portions which telescope over the depressed side edge portions of the adjacent panel unit to thereby provide substantially flush and single line joints therebetween, and an internal reinforcing channel fitting within said facing channel and presenting a web portion and flange portions terminating in inturned lip portions; and a vertically extending reinforcing bar pocketed between the inturned end portions of the panel unit and the lip portions of said inner reinforcing channel, an anchor plate rigidly fixed to the lower end of said reinforcing bar and adapted to be secured to the building floor, and means for securing said inner reinforcing channel to said vertical reinforcing bar.

2. A partition for dividing interior building space including in combination; a panel unit supported from the building floor and including a pair of spaced panel facing sheets secured in spaced relationship and presenting rebent edge portions which terminate in inturned lip portions along the adjacent vertical edges thereof; a hollow metal post which includes a facing channel which presents a jamb face portion and side face portions terminating in rebent edge portions which are substantially in abutting relation to the rebent edge portions of the adjacent panel unit to thereby provide substantially flush and single line joints therebetween, an internal reinforcing channel pocketed within said facing channel and presenting a web portion and flange portions in bracing relation to the web portion and flange portions of said facing channel, and a spacer channel presenting a web portion and flange portions partly fitting between the rebent edge portions of said panel unit with a part of the flange portions thereof fitting between the rebent edge portions of said facing channel; and a vertically extending reinforcing member pocketed between the inturned lip portions of the panel unit and the web portion of said spacer channel, means for rigidly securing the lower end of said reinforcing member to the building floor, and means for securing said inner reinforcing channel and spacer channel to said vertical reinforcing member.

3. A partition for dividing interior building space including in combination; a series of adjacent panel unts each presenting a male formation and a female formation along the opposite vertical edges thereof which internest and interlock with the corresponding female and male formations of the adjacent panel units to thereby provide a partition wall presenting flush wall surfaces with the individual panel units distinguishable from one another by single line joints therebetween; a cap railing telescoping over the upper ends of said panel units; a vertically extending reinforcing bar having means at the lower end thereof for rigidly securing the reinforcing bar to the building floor, said reinforcing bar projecting upwardly between adjacent male and female formations of a pair of adjacent panel units and through said cap railing; and a tubular glazing post telescoping over the upper extension of said vertical reinforcing bar and secured thereto.

4. A partition for dividing interior building space including in combination; a panel unit supported from the building floor and including a pair of spaced panel facing sheets secured in spaced relationship and presenting inturned edge portions along the adjacent vertical edges thereof; a hollow metal post which includes a facing channel which presents a jamb face portion and side facing portions terminating in rebent edge portions substantially in abutting relation to the inturned edge portions of the adjacent panel unit to thereby provide a substantially flush and single line joint therebetween, and an internal reinforcing channel fitting within said facing channel and presenting a web portion and flange portions in bracing relation to the adjacent web portion and flange portions of said facing channel; a cap railing telescoping over the upper end of said hollow metal post and the upper end of the adjacent panel unit; a vertically extending reinforcing bar enclosed within said hollow metal post and extending upwardly through said cap railing and means for securing the lower end of said reinforcing bar to the building floor; and a tubular glazing post telescoping over the upper extension of said vertical reinforcing bar and secured thereto.

5. A partition for dividing interior building space including in combination; a series of adjacent panel units each presenting a male formation and a female formation along the opposite vertical edges thereof which internest and interlock with the corresponding female and male formations of the adjacent panel units to thereby provide a partition wall presenting flush wall surfaces with the individual panel units distinguishable from one another by single line joints therebetween; a cap railing telescoping over the upper ends of said panel units, said cap railing including an inner reinforcing channel having a web portion and downwardly extending leg portions presenting free abutment edges, and a facing channel presenting a top face portion and downwardly extending facing legs which terminate in lip portions designed to snap into interlocking engagement with the abutment edges of the inner reinforcing channel; and a tubular glazing post whose lower end is seated on the top face portion of said rail facing channel, a closure cap for the upper end of said post, a centering plate telescoped within the lower end of said post and secured to the top face portion of said rail facing channel, and a tie rod extending from said closure cap to said centering plate.

6. A partition for dividing interior building space including in combination, a series of adjacent internesting and interlocking panel units together providing a partition wall presenting flush wall surfaces with the individual panel units distinguishable from one another by single line joints therebetween; each of said panel units being formed by a pair of integral panel facing sheets presenting spaced wall forming facing sections bonded together in spaced relation by a sound insulating core sandwiched therebetween, a male formation and a female formation extending along the opposite vertical edges of the wall facing sections of each panel unit which are designed to internest and interlock with corresponding female and male formations of adjacent similar panel units; each of said female formations including a pair of return-bend edge portions extending in substantially parallel relation to each other and terminating adjacent a vertical edge of the sound insulating core, each of said return-bend portions snugly overlapping the inside surface of the adjacent wall forming section with which it is associated; each of said male formations presenting a pair of depressed side edge portions extending from the wall facing sections of the panel sheets and extending beyond the other vertical edge of the sound insulating core and having a width less than the width of the return-bend portions of the female formation, the return-bend portions of the female formation of one panel unit being designed to snugly telescope over the depressed side edge portions

of the male formation of the adjacent panel unit, with the adjacent vertically extending edges of the sound insulating cores of adjacent panel units being horizontally spaced a distance which is not less than one-half the thickness of the panel units to thereby provide an unobstructed vertically extending pocket therebetween for the reception of service conduits.

7. A partition for dividing interior building space including in combination, a series of adjacent internesting and interlocking panel units together providing a partition wall presenting flush wall surface with the individual panel units distinguishable from one another by single line joints therebetween; each of said panel units being formed by a pair of integral panel facing sheets presenting spaced wall forming facing sections bonded together in spaced relation by a sound insulating core sandwiched therebetween, a male formation and a female formation extending along the opposite vertical edges of the wall facing sections of each panel unit which are designed to internest and interlock with corresponding female and male formations of adjacent similar panel units; each of said female formations including a pair of return-bend edge portions extending in substantially parallel relation to each other and terminating adjacent a vertical edge of the sound insulating core, each of said return-bend portions snugly overlapping the inside surface of the adjacent wall forming section with which it is associated; each of said male formations presenting a pair of depressed side edge portions extending from the wall facing sections of the panel sheets and having a width less than the width of the return-bend portions of the female formation, and return-bend portions extending from said depressed side edge portions and in substantially parallel relation thereto and terminating adjacent the other vertical edge of the insulating core, the return-bent portions of the female formation of one panel unit being designed to snugly telescope over the depressed side edge portions of the male formation of the adjacent panel unit, with the adjacent vertically extending edges of the sound insulating cores of adjacent panel units being horizontally spaced a distance which is not less than one-half the thickness of the panel units to thereby provide an unobstructed vertically extending pocket therebetween for the reception of service conduits.

8. A partition for dividing interior building space including in combination, a series of adjacent internesting and interlocking panel units together providing a partition will presenting flush wall surfaces with the individual panel units distinguishable from one another by single line joints therebetween; each of said panel units being formed by a pair of integral panel facing sheets presenting spaced wall forming facing sections bonded together in spaced relation by a sound insulating core sandwiched therebetween, a male formation and a female formation extending along the opposite vertical edges of the wall facing sections of each panel unit which are designed to internest and interlock with corresponding female and male formations of adjacent similar panel units; each of said female formations including a pair of return-bend edge portions extending in substantially parallel relation to each other and in overlapping relation to the inside surfaces of the adjacent wall forming sections with which they are respectively associated, said return-bend portions terminating in transversely extending lip portions which overlap the adjacent vertical edge of the sound insulating core; each of said male formations presenting a pair of depressed side edge portions extending from the wall facing sections of the panel sheets, a return-bend portion extending from each depressed side edge portion and in substantially parallel relation thereto, and a transversely extending lip portion extending from each return-bend portion and overlapping the adjacent vertical edge of the sound insulating core; the return-bend portions of the female formation of one panel unit being designed to snugly telescope over the depressed side edge portions of the male formation of the adjacent panel unit, and with the transversely extending lip portions of the male formation spaced from the transversely exending lip portions of the female formation a distance which is not less than one-half the thickness of the panel units to thereby provide an unobstructed vertically extending pocket therebetween for the reception of service conduits.

9. A partition for dividing interior building space including in combination, a series of adjacent internesting and interlocking panel units together providing a partition wall presenting flush wall surfaces with the individual panel units distinguishable from one another by single line joints therebetween; each of said panel units being formed by a pair of integral panel facing sheets presenting spaced wall forming facing sections bonded together in spaced relation by a sound insulating core sandwiched therebetween, a male formation and a female formation extending along the opposite vertical edges of the wall facing sections of each panel unit which are designed to internest and interlock with corresponding female and male formations of adjacent similar panel units; each of said female formations being formed by a pair of return-bend edge portions extending in substantially parallel relation to each other and in snugly overlapping relation to the inside surfaces of the adjacent wall forming sections with which they are respectively associated, said return-bend portions terminating in transversely extending lip portions which overlap the adjacent vertical edge of the sound insulating core; each of said male formations presenting a pair of depressed side edge portions extending from the wall facing sections of the paired panel sheets and having a width less than the width of the return-bend portions of the female formation, each of said depressed side edge portions terminating in a transversely extending edge portion, a return-bend portion extending from each transversely extending edge portion and in substantially parallel relation to the depressed side edge portions, and a transversely extending lip portion extending from each return-bend portion which overlaps the other vertical edge of the sound insulating core; the return-bend portions of the female formation of one panel unit being designed to snugly telescope over the depressed side edge portions of the male formation of the adjacent panel unit, and with the transversely extending lip portions of the male formation spaced from the transversely extending lip portions of the female formation a distance which is not less than one-half the thickness of the panel units to thereby provide an unobsructed vertically extending pocket therebetween for the recepion of service conduits.

10. A demountable partition for dividing interior building space including in combination; a base frame member designed to be secured to the building floor and a cornice frame member adapted to be secured in fixed and aligned relation above the base frame member, said base frame member and cornice frame member together presenting vertically aligned lower and upper panel unit receiving pockets; a series of wall forming panel units each presenting a male formation and a female formation along the opposite vertical edges thereof which are designed to interlock with corresponding female and male formations of adjacent similar panel units and whereby said panel units when interlocked together present substantially flush wall surfaces with the adjacent interlocking panel units defining single line joints therebetween; said panel receiving pockets in said base frame member and said cornice frame member being so spaced and of such depth with respect to the vertical length of the respective panel units that, when one end of each panel unit is fully telescoped into one of said panel receiving pockets, the opposite end of the panel unit can be placed in aligned relation with the other panel receiving pocket of the other frame member without obstruction from said other frame member; a support for the lower end of each of said panel units which is slidable within the panel receiving pocket of said base frame member and which presents a transversely extending ele-

ment positioned intermediately between the upper and lower edges of the panel receiving pockets of the base frame member and upon which the lower end of the panel unit may be seated when the upper end of the panel unit is telescoped into the panel receiving pocket of the cornice frame member; said slidable supports and the erected panel units supported thereon being laterally slidable in the panel receiving pockets of said frame members to thereby permit internesting and interlocking of the adjacent male and female formations of adjacent panel units.

11. A demountable partition for dividing interior building space including in combination; a base frame member designed to be secured to the building floor and a cornice frame member adapted to be secured in fixed and aligned relation above the base frame member, said base frame member and cornice frame member together presenting vertically aligned lower and upper panel unit receiving pockets; a series of wall forming panel units each presenting a male formation and a female formation along the opposite vertical edges thereof which are designed to interlock with corresponding female and male formations of adjacent similar panel units and whereby said panel units when interlocked together present substantially flush wall surfaces with the adjacent interlocking panel units defining single line joints therebetween, the female and male formations of adjacent interlocking panel units presenting interior portions which are so spaced relative to each other as to provide an unobstructed vertically extending passage therebetween for the reception of vertically extending service conduits; said panel receiving pockets in said base frame member and said cornice frame member being so spaced and of such depth with respect to the vertical length of the respective panel units that, when one end of each panel unit is fully telescoped into one of said panel receiving pockets, the opposite end of the panel unit can be placed in aligned relation with the other panel receiving pocket of the other frame member without obstruction from said other frame member; a support for the lower end of each of said panel units which is slidable within the panel receiving pocket of said base frame member and which presents a transversely extending element positioned intermediately between the upper and lower edges of the panel receiving pocket of the base frame member and upon which the lower end of the panel unit may be seated when the upper end of the panel unit is telescoped into the panel receiving pocket of the cornice frame member; said slidable supports and the erected panel units supported thereon being laterally slidable in the panel receiving pockets of said frame members to thereby permit internesting and interlocking of the adjacent male and female formations of adjacent panel units.

12. A demountable partition for dividing interior building space including in combination; a base frame member designed to be secured to the building floor and a cornice frame member adapted to be secured in fixed and aligned relation above the base frame member, said base frame member and cornice frame member together presenting vertically aligned lower and upper panel unit receiving pockets; a series of wall forming panel units each presenting a male formation and a female formation along the opposite vertical edges thereof which are designed to interlock with corresponding female and male formations of adjacent similar panel units and whereby said panel units when interlocked together present substantially flush wall surfaces with the adjacent interlocking panel units defining single line joints therebetween; said panel receiving pockets in said base frame member and said cornice frame member being so spaced and of such depth with respect to the vertical length of the respective panel units that, when one end of each panel unit is fully telescoped into one of said panel receiving pockets, the opposite end of the panel unit can be placed in aligned relation with the other panel receiving pockets of the other frame member without obstruction from said other frame member, the panel receiving pocket of said base frame member presenting a pair of transversely extending ledge portions positioned intermediately between the upper and lower edges of its panel receiving pocket; and a transversely extending spanner plate slidable on said paired ledge portions and upon which the lower end of the panel unit may be seated when the upper end of the panel unit is telescoped into the panel receiving pocket of the cornice frame member; said slidable spanner plates and the erected panel units supported thereon being laterally slidable in the panel receiving pockets of said frame members to thereby permit internesting and interlocking of the adjacent male and female formations of the adjacent panel units.

13. A partition for dividing interior building space including in combination; a base frame member designed to be secured to the building floor and a similar shaped cornice frame member positioned above the building floor, said base frame member and cornice frame member each presenting opposite service conduit raceways along the sides thereof and together presenting lower and upper panel receiving pockets; each of said frame members presenting a pair of spaced side wall portions and a connecting floor portion which together define a panel unit receiving pocket, an inset leg portion joining said floor portion to a pair of outwardly extending foot portions which terminate in a pair of vertically extending toe portions and which together define the opposite wiring raceways, and a pair of ledge portions flaring outwardly from the opposite ends of said vertical wall portions and terminating in a pair of lip portions extending in a direction toward the toe portions and in vertical alignment therewith; a pair of detachable facing covers for each of said frame members, each of said facing covers presenting horizontally extending hook portions along the opposite edges thereof designed to interlock with the adjacent toe portion and lip portion of the frame member to thereby enclose the adjacent wiring raceway; and a series of adjacent wall forming panel units having the lower and upper ends thereof extending into the respective pockets of said base frame member and said cornice frame member, said panel units together providing a partition wall presenting flush wall surfaces with the individual panel units distinguishable from one another by single line joints therebetween, each of said panel units being formed by a pair of spaced panel facing sheets bonded together in spaced relation by a sound insulating core sandwiched therebetween, the paired panel facing sheets of each panel unit together presenting a male formation and a female formation along the opposite vertical edges thereof which internest and interlock with the corresponding female and male formations of adjacent panel units, the female and male formations of adjacent interlocking panel units presenting interior portions which are so spaced relative to each other as to provide an unobstructed vertically extending passage therebetween for the reception of vertically extending service conduits and which communicate with the service conduit receiving raceways of said base frame member and corner frame member.

14. A partition forming panel unit comprising, a pair of integral metal panel facing sheets presenting spaced wall forming facing sections bonded together in spaced relation by a sound insulating core sandwiched therebetween, a male formation and a female formation extending along the opposite vertical edges of the wall facing sections of the panel unit which are designed to internest and interlock with corresponding female and male formations of adjacent similar panel units; said female formation including a pair of return-bend edge portions extending in substantially parallel relation to each other and in snugly overlapping relation to the inside surfaces of the adjacent wall forming sections with which they are respectively associated; said male formation presenting a pair of depressed side edge portions extending from the wall facing sections of the panel sheets and having a width less than

the width of the return-bend portions of the female formation, and return-bend portions extending from said depressed side edge portions and in substantially parallel relation thereto, the opposite vertical edges of said insulating core being inset with respect to the outer vertical edges of the panel facing sheets to thereby define opposite service conduit receiving pockets extending between the return-bend portions of said female formation and said male formation, the return-bend portions of the female formation of one panel unit being designed to snugly telescope over the depressed side edge portions of the male formation of an adjacent similar panel unit.

15. A partition forming panel unit comprising, a pair of integral metal panel facing sheets presenting spaced wall forming facing sections bonded together in spaced relation by a sound insulating core sandwiched therebetween, a male formation and a female formation extending along the opposite vertical edges of the wall facing sections of the panel unit which are designed to internest and interlock with corresponding female and male formations of adjacent similar panel units; said female formation including a pair of return-bend edge portions extending in substantially parallel relation to each other and terminating adjacent a vertical edge of the sound insulating core, each of said return-bend portions snugly overlapping the inside surface of the adjacent wall forming section with which it is associated; said male formation presenting a pair of depressed side edge portions extending from the wall facing sections of the panel sheets and extending beyond the other vertical edge of the sound insulating core and having a width less than the width of the return-bend portions of the female formation, the return-bend portions of the female formation of the panel unit being designed to snugly telescope over the depressed side edge portions of the male formation of an adjacent similar panel unit.

16. A partition forming panel unit comprising, a pair of integral metal panel facing sheets presenting spaced wall forming facing sections bonded together in spaced relation by a sound insulating core sandwiched therebetween, a male formation and a female formation extending along the opposite vertical edges of the wall facing sections of the panel unit which are designed to internest and interlock with corresponding female and male formations of adjacent similar panel units; said female formation including a pair of return-bend edge portions extending in substantially parallel relation to each other and in overlapping relation to the inside surfaces of the adjacent wall forming sections with which they are respectively associated, said return-bend portions terminating in transversely extending lip portions which overlap the adjacent vertical edge of the sound insulating core; said male formation presenting a pair of depressed side edge portions extending from the wall facing sections of the panel sheets, a return-bend portion extending from each depressed side edge portion and in substantially parallel relation thereto, and a transversely extending lip portion extending from each return-bend portion and overlapping the adjacent vertical edge of the sound insulating core.

17. A partition forming panel unit comprising, a pair of integral metal panel facing sheets presenting spaced wall forming facing sections bonded together in spaced relation by a sound insulating core sandwiched therebetween, a male formation and a female formation extending along the opposite vertical edges of the wall facing sections of the panel unit which are designed to internest and interlock with corresponding female and male formations of adjacent similar panel units; each of said female formations being formed by a pair of return-bend edge portions extending in substantially parallel relation to each other and in snugly overlapping relation to the inside surfaces of the adjacent wall forming sections with which they are respectively associated, said return-bend portions terminating in transversely extending lip portions which overlap the adjacent vertical edge of the sound insulating core; each of said male formations presenting a pair of depressed side edge portions extending from the wall facing sections of the paired panel sheets and having a width less than the width of the return-bend portions of the female formation, each of said depressed side edge portions terminating in a transversely extending edge portion, a return-bend portion extending from each transversely extending edge portion and in substantially parallel relation to the depressed side edge portions, and a transversely extending lip portion extending from said return-bend portion which overlaps the other vertical edge of the sound insulating core.

18. A partition for dividing interior building space including in combination; a series of adjacent panel units each presenting a male formation and a female formation along the opposite vertical edges thereof which internest and interlock with the corresponding female and male formations of the adjacent panel units to thereby provide a partition wall presenting flush wall surfaces with the individual panel units distinguishable from one another by single line joints therebetween; a vertically extending reinforcing member pocketed between adjacent male and female formations of a pair of adjacent panel units, and a cap railing telescoping over the upper ends of said panel units, said cap railing including an inner reinforcing channel having a web portion and downwardly extending leg portions presenting free abutment edges, means for securing said inner reinforcing channel to said vertically extending reinforcing member, and a facing channel presenting a top face portion and downwardly extending facing legs which terminate in lip portions designed to snap into interlocking engagement with the abutment edges of the inner reinforcing channel.

19. A partition for dividing interior building space including in combination; a series of adjacent panel units each presenting a male formation and a female formation along the opposite vertical edges thereof which internest and interlock with the corresponding female and male formations of the adjacent panel units to thereby provide a partition wall presenting flush wall surfaces with the individual panel units distinguishable from one another by single line joints therebetween; a plurality of spaced and vertically extending reinforcing bars respectively pocketed between a corresponding series of adjacent male and female formations of adjacent panel units and concealed therein, and a cap railing telescoping over the upper ends of said panel units, said cap railing including an inner reinforcing channel having a web portion and downwardly extending leg portions presenting free abutment edges, means for securing said inner reinforcing channel to said vertically extending reinforcing bars, and a facing channel presenting a top face portion and downwardly extending facing legs which terminate in lip portions designed to snap into interlocking engagement with the abutment edges of the inner reinforcing channel.

20. A partition for dividing interior building space including in combination; a panel unit including a pair of spaced panel facing sheets secured in spaced relationship and presenting depressed side edge portions which terminate in inturned end portions along the adjacent vertical edges thereof; a hollow metal post which includes a facing channel which presents a jamb face portion and side facing portions terminating in rebent edge portions which telescope over the depressed side edge portions of the adjacent panel unit to thereby provide substantially flush and single line joints therebetween; an internal reinforcing channel in bracing relation to said facing channel and presenting a web portion and flange portions terminating in inturned lip portions; a vertically extending reinforcing bar pocketed between the inturned end portions of the panel unit and the lip portions of said inner reinforcing channel, and means for securing said inner reinforcing channel to said vertical reinforcing bar.

21. A partition for dividing interior building space including in combination; a panel unit including a pair of spaced panel facing sheets secured in spaced rela-

tionship and presenting rebent edge portions which terminate in inturned lip portions along the adjacent vertical edges thereof; a hollow metal post which includes a facing channel which presents a jamb face portion and side face portions terminating in rebent edge portions which are substantially in abutting relation to the rebent edge portions of the adjacent panel unit to thereby provide substantially flush and single line joints therebetween, an internal reinforcing channel pocketed within said facing channel and presenting a web portion and flange portions in bracing relation to the web portion and flange portions of said facing channel, a spacer channel presenting a web portion and flange portions partly fitting between the rebent edge portions of said panel unit with a part of the flange portions thereof fitting between the rebent edge portions of said facing channel, a vertically extending reinforcing bar pocketed between the inturned lip portions of the panel unit and the web portion of said spacer channel, and means for securing said inner reinforcing channel and spacer channel to said vertical reinforcing bar.

22. A partition for dividing interior building space including in combination; a cornice frame member positioned above the building floor and presenting an upper panel receiving pocket; a series of adjacent interlocking panel units having the upper ends thereof extending into the pocket of said cornice frame member, said panel units together providing a partition wall presenting flush wall surfaces with the individual panel units distinguishable from one another by single line joints therebetween, each of said panel units being formed by a pair of spaced panel facing sheets bonded together in spaced relation by a sound insulating core sandwiched therebetween, the paired panel facing sheets of each panel unit together presenting a male formation and a female formation along the opposite vertical edges thereof which internest and interlock with the corresponding female and male formations of adjacent panel units, each of said female formations being formed by a pair of return-bend edge portions terminating in transversely extending lip portions and formed as continuations of the panel facing sheets of its panel unit, each of said male formations presenting a pair of depressed side edge portions terminating in transversely extending portions and formed as continuations of the panel facing sheets of its panel unit, the return-bend edge portions of the female formation of one panel unit snugly telescoping over the depressed side edge portions of the male formation of the adjacent panel unit; and a vertical reinforcing bar secured to and extending downwardly from the building ceiling, through the cornice frame member, and between the male and female formations of adjacent panel units, with the side faces of said bar in bracing relation to the transversely extending end portions of one panel unit and the transversely extending lip portions of the adjacent panel unit.

References Cited in the file of this patent

UNITED STATES PATENTS

835,478	Sjobring	Nov. 6, 1906
918,213	Specht	Apr. 13, 1909
981,937	Ohnstrand	Jan. 17, 1911
985,886	Dahlstrom	Mar. 7, 1911
1,223,288	Otte	Apr. 17, 1917
1,229,765	Lehman	June 12, 1917
1,783,180	Baum	Dec. 2, 1930
1,853,090	Smiley	Apr. 12, 1932
1,965,599	Koenig et al.	July 10, 1934
1,988,603	McLaren et al.	Jan. 22, 1935
2,097,697	Marks	Nov. 2, 1937
2,101,416	Venzie	Dec. 7, 1937
2,132,601	Bell	Oct. 11, 1938
2,397,940	Benham	Apr. 9, 1946
2,612,243	Campbell	Sept. 30, 1952
2,796,158	Miles et al.	June 18, 1957
2,808,136	Hammitt et al.	Oct. 1, 1957

FOREIGN PATENTS

1,142,340	France	Sept. 17, 1957