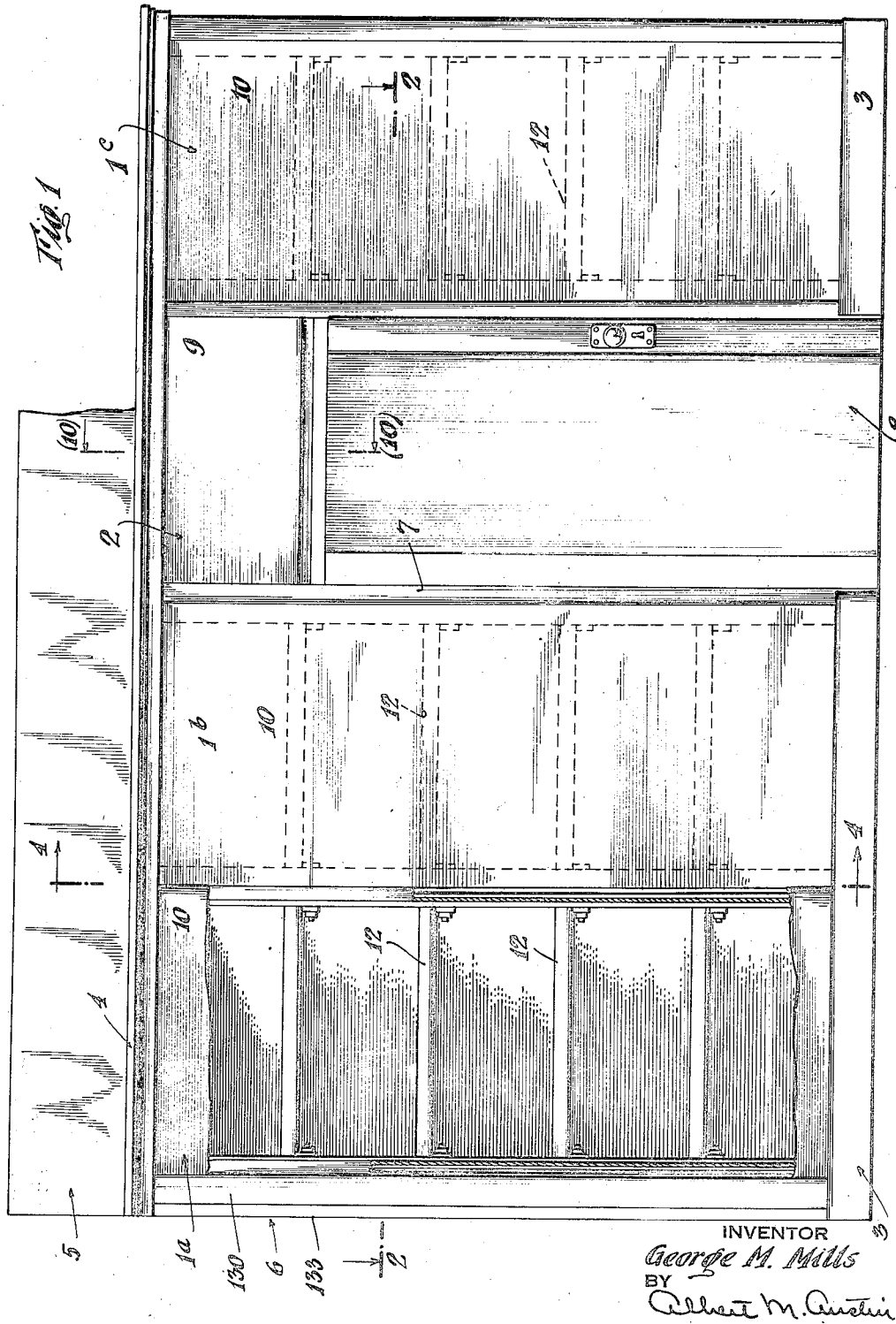
June 4, 1940. G. M. MILLS 2,202,862

PARTITION STRUCTURE

Filed Jan. 11, 1937 4 Sheets-Sheet 1



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PARTITION STRUCTURE

Filed Jan. 11, 1937 4 Sheets-Sheet 2

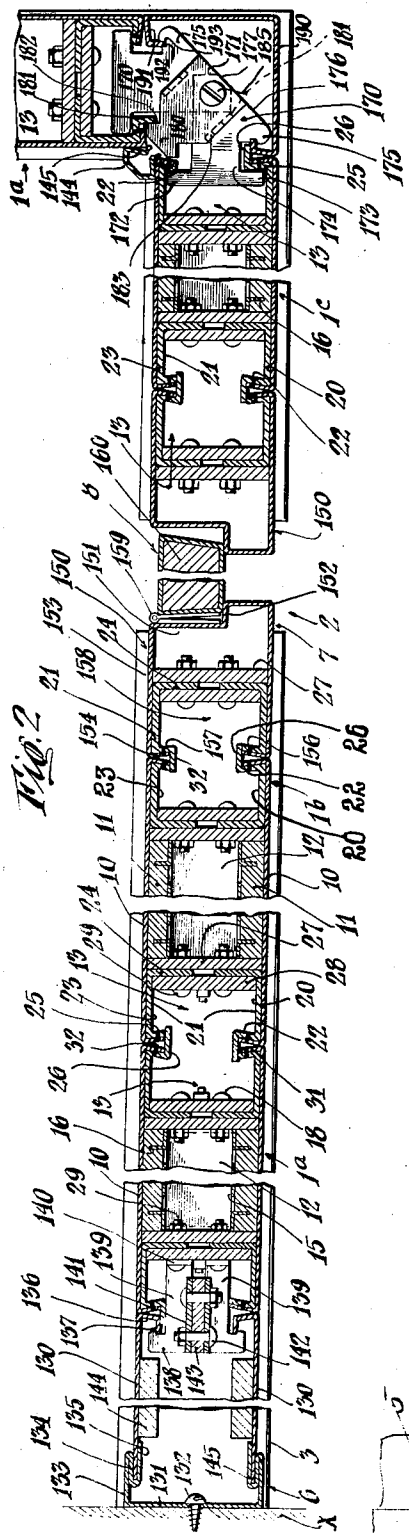


Fig. 2

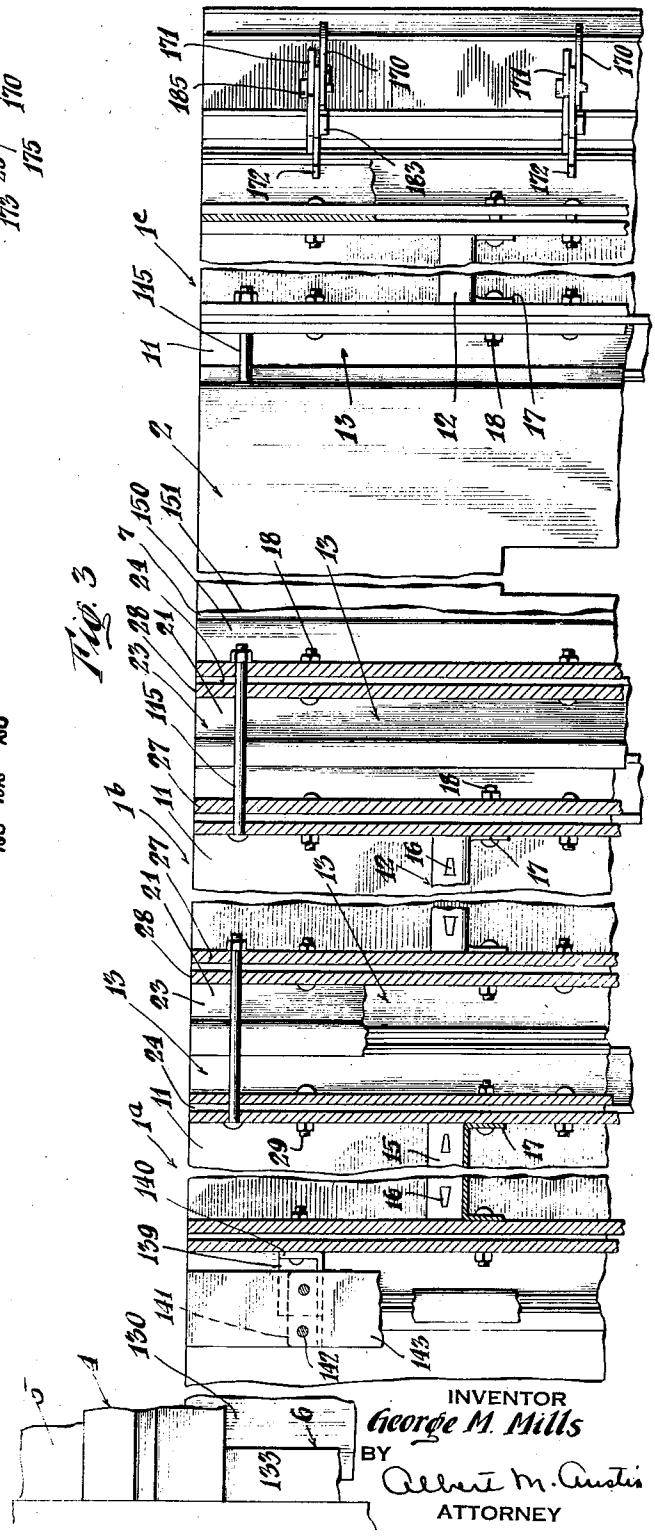


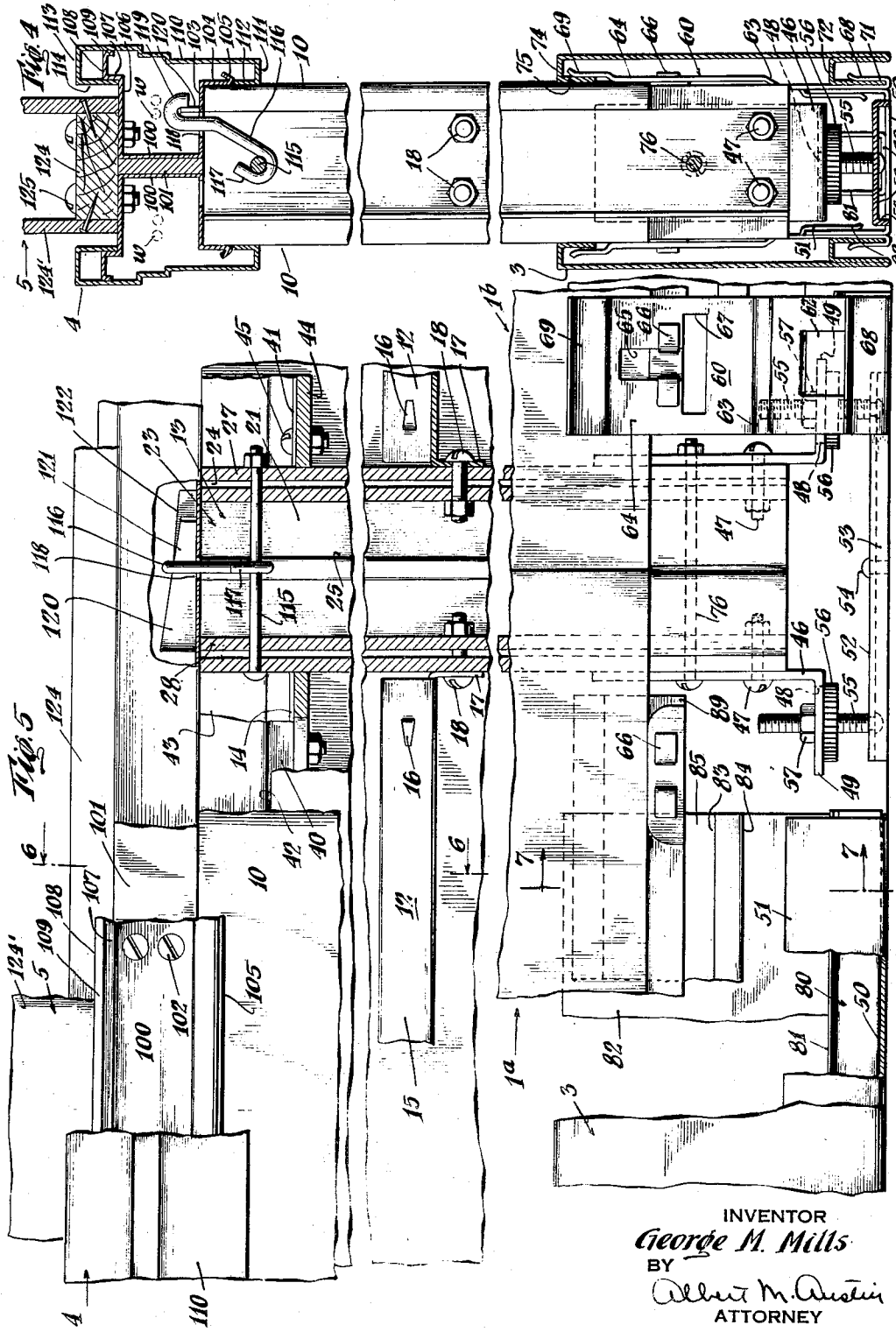
Fig. 3

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PARTITION STRUCTURE

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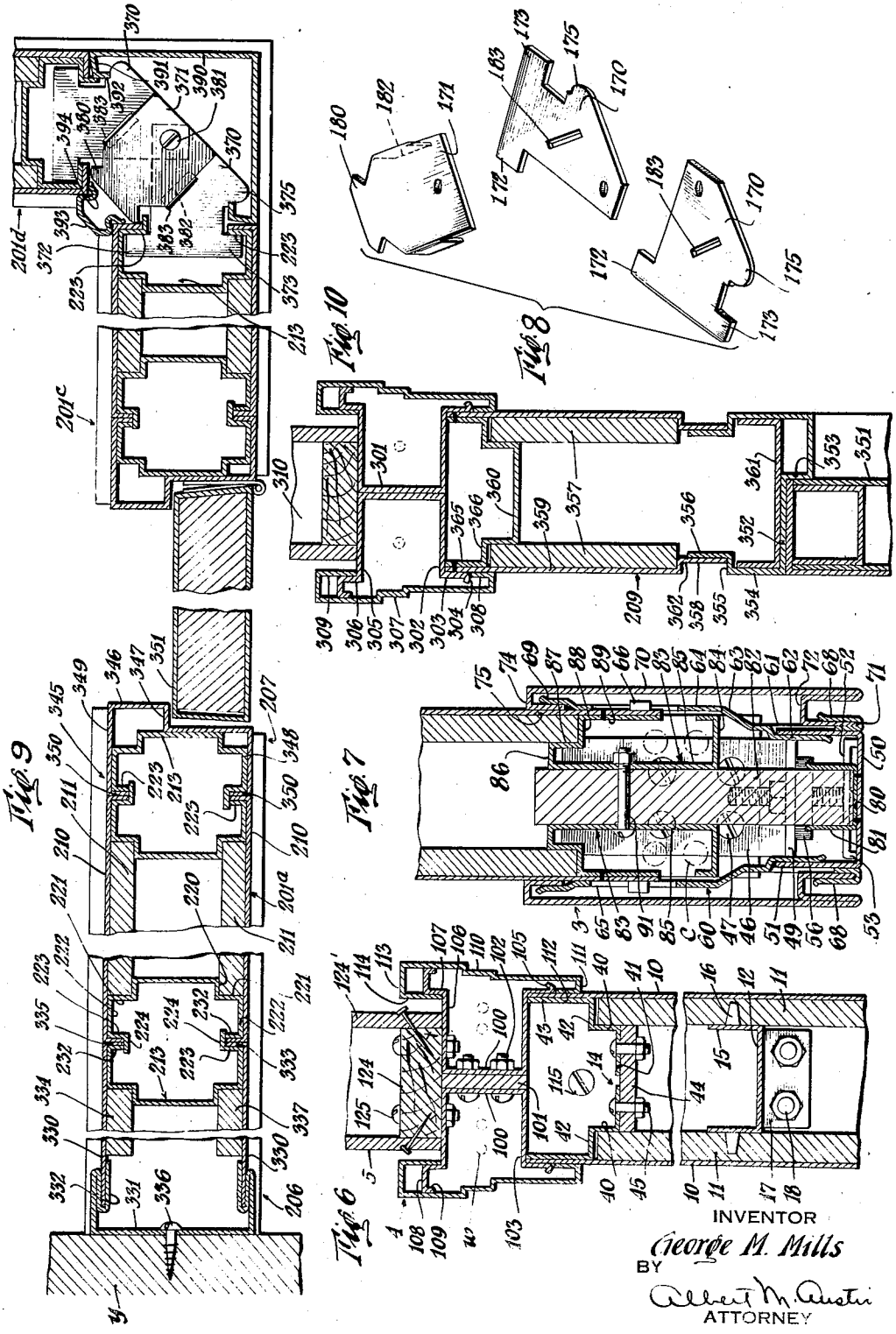


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PARTITION STRUCTURE

Filed Jan. 11, 1937 4 Sheets-Sheet 4



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2,202,862

PARTITION STRUCTURE

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Application January 11, 1937, Serial No. 119,899

18 Claims. (Cl. 189—34)

This invention relates to partition structures and more particularly to a partition of the type built up from preformed, readily removable and interchangeable sections.

In a partition of the type to which the present invention relates, it is desirable that the several sections or panel units be formed so that they can be quickly and easily removed and replaced, but at the same time, are rigidly and securely held in position when erected and prevented from displacement or rattling. The partition should be formed from a relatively small number of separate parts in order that it may be readily erected in the field. It is desirable that the partition be constructed so as to be substantially as soundproof as a partition of the permanent lath and plaster type. The partition should also be constructed to permit the quick and easy introduction of service lines such as water and gas pipes, electric light and power conduits, telephone, buzzer signal wires and the like, and also permit ready access to such lines.

According to the present invention, a partition structure is provided which is built up from a plurality of preformed metallic panel units which may be interchangeably connected. The panel units are constructed of spaced metal sheets supported by structural frame members. The panel units, and particularly the end edges thereof, are formed in a complementary manner so that the units are rigidly held in position when assembled in erected condition, but are capable of being removed by a simple manipulation thereof.

Certain of the panel sheets and structural members may be insulated from each other by interposed insulation so that there is no complete metallic contact from one face of the partition to the other. Thus the present construction prevents rattling and greatly reduces or substantially prevents the transmission of sound and heat through the panel unit. Base covers or mop boards extend along the lower edges of the panel units and span the space between the panel units and the floor.

The lower portion of the partition is so formed that a suitable and accessible conduit race is provided adjacent the base of the partition for the reception of service lines. The edges of the panel units are recessed to provide a space for vertically extending service lines when the units are in partition-forming position. A decorative cornice may extend along and cover the upper edges of the panel units and space may be provided within the cornice for additional service lines. The several spaces for service lines may be made to communicate with one another, thus permitting the lines to be run continuously throughout the partition.

An object of the invention is the provision of a preformed partition structure constructed of relatively simple and easily formed interchangeable units which are adapted to be assembled quickly and easily to form a sturdy attractive partition capable of being easily readjusted, modified or replaced without damage to the partition or the building in which it is installed.

Another object of the invention is the provision of a partition formed from a plurality of interchangeable panel units which are rigidly and firmly held in position and which can be quickly and easily removed individually from the erected partition.

Another object of the invention is the provision of a substantially soundproof metallic partition structure.

Another object of the invention is the provision of a partition of the type described having convenient accommodation for service lines in one or more readily accessible portions of the partition.

Another object of the invention is the provision of a partition structure formed from prefabricated panel units which are securely and evenly maintained in wall-forming position when the partition is erected and which units can quickly and easily be removed for repair or replacement without disassembling the entire partition.

Another object of the invention is the provision of a partition structure which is admirably adapted for the reception of air conditioning conduits and apparatus.

Various other features and advantages of the invention will be apparent from the following particular description and from an inspection of the accompanying drawings.

Although the novel features which are believed to be characteristic of this invention will be particularly pointed out in the claims appended hereto, the invention itself, as to its objects and advantages, 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 thereof, in which:

Fig. 1 is an elevational view of one form of partition constructed in accordance with the invention, certain portions of the structure being broken away to expose the interior details;

Fig. 2 is an enlarged horizontal cross-sectional

view showing the interior construction of the partition, this view being taken along line 2—2 of Fig. 1;

Fig. 3 is a fragmentary front elevational view of the structure shown in Fig. 1, certain portions of the structure being broken away to expose certain interior details;

Fig. 4 is an enlarged vertical cross-sectional view of the partition taken along line 4—4 of Fig. 1;

Fig. 5 is an enlarged fragmentary front elevational view of the structure shown in Fig. 1 and illustrating particularly the construction at a joint between two adjacent panel units;

Fig. 6 is an enlarged vertical cross-sectional view of the partition showing the internal structure of a panel unit intermediate the upright edges, together with the corresponding portions of the cornice, this view being taken along line 6—6 of Fig. 5;

Fig. 7 is an enlarged fragmentary vertical cross-sectional view of the partition showing the internal structure of a panel unit intermediate the upright edges, together with the corresponding portions of the base, this view being taken along line 7—7 of Fig. 5;

Fig. 8 is an exploded perspective view of the clips for holding together two panel units at a corner or angle condition;

Fig. 9 is a horizontal cross-sectional view of a partition of somewhat modified form, this form of partition being generally similar to the form shown in Figs. 1 to 6, except as to the interior construction, particularly the structural members; and

Fig. 10 is an enlarged fragmentary vertical cross-sectional view taken transversely through the door frame unit of the modified partition, this view being taken along a line on the modified partition corresponding to the line 10—10 indicated on Fig. 1.

In the following description and in the claims, various details will be identified by specific names for convenience, but they are intended to be as generic in their application as the art will permit. Like reference characters denote like parts in the several figures of the drawings.

In the drawings accompanying and forming part of this specification, certain specific disclosure of the invention is made for purposes of explanation, but it will be understood that the details may be modified in various respects without departure from the broad aspect of the invention.

Referring now particularly to Figs. 1 and 2, my partition structure may comprise a plurality of preformed interchangeable panel units *1a*, *1b*, *1c*, *1d* and, if desired, a door frame unit 2. The several panel units may be suitably supported on the floor of a building and connected together in alignment, in a manner which will be pointed out more fully hereinafter, to form a substantially continuous, erect partition or wall. A base cover 3 and a cornice 4 may extend continuously along the bottom and top respectively of a plurality of panel units. The space between the cornice and ceiling may be filled by a ceiling filler 5 and the space between the endmost panel and the building wall may be filled by a wall filler 6. The door unit 2 includes a door frame 7 and a door 8 of suitable construction is mounted therein.

Referring now particularly to Figs. 2, 5, 6 and 7, each panel unit may be constituted by a pair of spaced parallel panel sheets 10 preferably formed from sheet or plate metal which are faced interiorly thereof with insulating board 11. The panel sheets 10 may be secured together by horizontal struts 12, vertical end members or uprights 13 and a top strut 14.

Each horizontal strut 12 (as shown in Fig. 6) preferably takes the form of a channel having flanges 15 adapted to abut sound and heat insulating sheets 11. The flanges 15 may be provided with a plurality of prongs 16 inserted in the sheets 11 and secured thereto by bending or upsetting the ends of the prongs. The struts 12 are provided with flanges 17 at their ends which are secured to the adjacent end members 13, by bolts 18 or other suitable securing means.

Each end member or upright 13 (Fig. 2) includes a pair of spaced upright angle shaped metal members 20 and 23 comprising a face portion 21, and inturned flange portion 24. The member 20 is provided with a short inturned flange 22 and member 23 is provided with a short inturned flange 25. The end edge of the flange 22 is formed as an extension 26 bent into parallelism with the face portion 21 of the member 23 to form an abutment.

A strip of insulating material 27 abuts against the flanges 24 and extends between and abuts the panel sheets 10. A second strip 28 of insulating material is seated against the face portion 21 of the members 20 and 23 and against the internal faces of the flanges 24 thereof. The insulating strips 27 and 28 are secured together and to the angle members 20 and 23 by one or more bolts 29 or other suitable fastening means. Thus, it will be seen that, each end member 13 is in effect a channel-like member which is split and has insulation interposed between its two halves. In this construction there is no metal to metal contact between the angle-shaped uprights 20 and 23 or between the metal panel sheets 10.

Each panel sheet 10 has its upright edges turned in to form flanges 32. The flanges 32 at one side of each panel unit 10 lie against the flanges 22 of the members 20 and the flanges 32 at the other side of the panel unit lie against the flanges 25 of the members 23. For purposes which will appear hereinafter, the members 20 at each end of a panel unit are both adjacent one face of the unit and the members 23 are both adjacent the other face. When the panel units are assembled, the members 20 and 23 engage the members 23 and 20 respectively of the adjacent panel units.

The top horizontal struts 14 (Fig. 6) are of metal and interposed insulation form broadly analogous to the members 13. Each strut 14 includes a pair of separate angle shaped metal bars 40, each having an inturned flange 41, a horizontal shoulder portion 42 and an upwardly extending flange 43. The bars 40 are spaced apart and are connected by bolts 45 or other suitable fastening means to a strip of insulation 44 so that there is no metal to metal contact between the bars 40. The upper portion of each panel sheet 10 may extend above the top edge of the insulating sheet 11 and may seat against the flange 43 of the corresponding bar 40 to which it is secured as by welding. The insulating sheet 11 is seated in the recess adjacent the shoulder portion 42 and may be secured to the panel sheet 10 either at certain points or continuously by a suitable adhesive.

Referring to Fig. 5, each panel unit is supported by a foot 46 secured to each end member

as by a bolt 47 passing through the foot and the end member. The feet 46 of adjacent panel units 1a, 1b are suitably supported and secured in predetermined position by a suitable device connected to a floor channel 50, which preferably is immovably secured to the floor of the building. The floor channel 50 has upstanding side flanges 51 and receives a shoe 52 having depending flanges 53. A floor bolt or screw 54 secures the shoe 52 immovably to the floor. Studs 55 are secured to and extend upwardly from the shoe 52 through slots 48 formed in horizontal flanges 49 of the feet 46. A leveling wheel 56 is threaded on to the stud 55 and supports the foot 46 in predetermined position. A lock nut 57 may be provided for maintaining the foot 49 tightly against the leveling wheel 56, preventing loosening of the latter.

A plurality of base clips 60 (Figs. 4, 5 and 7) are associated with the panel units. Each clip is formed with a punched out finger 62 adapted to engage over the flange 51 of the base channel 50. The clip 60 has a vertical portion adapted to extend along the flange 51, an upwardly inclined portion 63 and a second vertical portion 64. A slot 65 is provided in the portion 64 for cooperation with clip fingers 66 hereinafter more fully described. The slot has a widened portion 67 for permitting insertion of the fingers 66 through the clip 60. The clip 60 is formed with a lower seat 68 and an upper seat 69 for cooperation with a base cover 70. The base cover 70 has a flange 71 adapted to engage in the seat 68, and a flange 75 adapted to engage in the seat 79. The flanges 71 and 75 may be connected to the body of the base 70 by spacer portions 72 and 74 respectively, of suitable length to hold the cover substantially vertical.

The base cover 70 may be formed to extend along the bottom portion of one or more panel units to provide a closure for the space between the panel units and the floor and to enhance the appearance of the partition. Preferably, the base cover extends continuously along the entire partition without interruption, except at door frames or other openings in the partition.

Referring to Figs. 5 and 7, panel sheets 10 may carry a pair of troughs or receptacles 83 each adapted to receive service lines, as hereinafter described. Each trough 83 has a lateral flange forming a floor portion 84, an upstanding side wall portion 85 and a top wall portion 86 formed with a step 87 and a depending side wall 89. The depending side wall 89 may carry the clips 66 which engage the base clip 60. Disposed between the troughs 83 is a slab 82 of insulating material which may be inserted at its lower edge in the jaws 81 of one or more clips 80. The clip 80 is secured, as by welding, to the base channel 50. The troughs 83 are secured to opposite faces of the insulating slab 82 by a suitable number of bolts 91 or other fastening means.

The troughs 83 are supported in position to receive in their recessed shoulder portions the lower edges of the insulating sheets 11. The lower edges 33 of the panel sheets 10 extend along the side wall portions 89 respectively and are welded thereto to assist in maintaining the relative positions of the several parts of the partition.

A cornice frame (Figs. 4 and 6) is formed by two metal channels 100 extending along the top of the partition and arranged in back to back relation. A strip 101 of insulation is interposed between the webs of the channels 100 and the latter are secured together and the insulation 101 by bolts 102 or other suitable fastening means. Each channel 100 has a lower flange 103 adapted to rest on the top edge of the adjacent panel unit and a flange extension having a rolled edge 105 depends from the flange 103. The channel 100 has an upper flange 106 formed with a step 107, a horizontal extension 108 and a turned over edge 109.

A cornice cover 110, which may be attractively formed to improve the appearance of the partition, is adapted to be snapped on the channel 100. The cover 100 has a spacer portion 111 and an upstanding flange 112 adapted to engage the edge 105. The cover 110 has a spacer portion 113 on its top edge and a depending flange 114 adapted to fit against the step 106.

Adjacent panel units may be secured together at their top ends by a bolt 115 (Figs. 4 and 5) or other fastening member extending through the adjacent end members 13 of the abutting panel units. The bolt 115 may also serve as an anchor for connecting the cornice to the panel unit. A hook 116 has a hooked end 117 engaging the bolt 115, and a second hooked end 119 extending through an opening 118 in the lower flange 103 of the cornice channel 100. The end 119 may be secured by a tapered split wedge 120 driven in the hook 119 and bearing against the surface of the flange 103. The wedge 120 preferably is formed with arms 121 and 122 which may be separated after insertion in the hook 119, to lock the wedge 120 in position.

A suitable ceiling filler 5 may extend from the top flanges 106 of the cornice channels 100 to the ceiling (not shown). This may be of any desired construction as for example plasterboard or metal, and may include a horizontal beam 124, wall members 124' and fastening members 125 extending through the horizontal beam 123 and the cornice channels 100.

Where the partition extends from a building wall, as is usually the case, a wall filler 6 is provided for bridging the gap between the upright edge of the adjacent panel unit 1a and the wall X. The side filler (Fig. 2) includes a pair of spaced parallel sheets 130 disposed in alignment with the panel sheets 10 of the panel units and suitably secured in position. An upright channel 131, suitably secured to the wall X as by one or more screws 132, is formed with side flanges 133 each having a grooved seat 134. The other upright edge of each sheet 130 is formed with an inturned flange 136 and a reversely turned flange 137.

A hook 139, formed with a flange 140, is secured to the adjacent end member by the bolts 29. The hook 139 is formed with a lug or nose 138 adapted to engage the edge of the flange 137 and retain the sheet 130. A similar hook 139 is provided for similar engagement with the second sheet 130. The hooks 139 are formed with upstanding flanges 141 which are secured together by bolts 142, an insulating member 143 being interposed between the flanges 141. Further insulation of the side filler may be provided by disposing an upright strip 145 between the flanges 135 and by securing an insulating strip 144 to the sheets 130.

Where a door is to be installed, a door frame 7 may be provided. The frame 7 (Fig. 2) may include a channel 151 having a web 150 formed with a step 152 providing a door buck, and side flanges 153 forming wall surfaces of the frame. The free ends of the flanges 153 are formed with inturned edges 154 adapted to fit against the

flanges 156, 157 of a member 158 formed similarly to the end member 13. A door 8 of any suitable construction may be supported on a hinge 159 on one of the channels 150 in the usual manner.

Where a corner or angular condition is to be met, suitable means are provided for interconnecting the angularly meeting panel units. It will be noted that the floor channel and associated structure may be formed with a suitable bend (not shown) in order to provide for the angular arrangement of adjacent panel units.

Referring to Figs. 2 and 3, the adjacent panel units 1c, 1d at the corner are secured together by a pair of tension members or hooks 170 and a spacer 171 which latter also serves to maintain the desired angular relation of the tension hooks 170. The hooks 170 and spacer 171 are shown more in detail in Fig. 8. The hook 170 is formed with a lug or ear 172 adapted to engage the flange 22 of the adjacent end member 13. Substantially opposite the ear 172 is an ear 173 adapted to engage the flange 25 of the end member 13. The hook 170 is formed with a notch 174 adapted to receive the flange 26 of the end member 13, and an ear 175 is provided for a purpose which will hereinafter appear.

The second hook 170 is formed similarly and is maintained in angular relation with the first hook 170. The spacer 171 is formed with depending lugs 183 adapted to extend through correspondingly shaped slots 184 in the hooks 170 to prevent relative angular motion of the hooks 170. The hooks 170 and spacer 171 are disposed in a compact stack and may be secured together by a bolt 185 or other suitable fastening means. If desired, the hooks 170 may be formed with inclined edges 176 adapted to lie substantially in alignment with the edge 177 of the spacer 171, when the several members are in normal operative position.

The spacer 171 is formed with a head 180 having inclined edges 181 on opposite sides thereof and a second pair of edges 182 inclined away from the edges 181 whereby to form a pair of pointed ears adapted to engage the end members 13 of the adjacent panel units 1c, 1d. The edges 181 are adapted to bear against the inturned flanges 31 and 32 of the adjacent panel units 1c and 1d and one of the edges 182 is adapted to bear against the flange 26 of the end member 13. The spacer 171 maintains the end members 13 in spaced relation and thus assists in providing a rigid structure at the corner of the partition.

An outer corner cover 190 may be provided for covering the space between the outer faces of the adjacent panel units 1c, 1d at the corner and is formed with inturned flanges 191 having reversely turned edge portions 192. The ear 175 is formed with a notch 193 adapted to receive the reversely turned edge 192, whereby the cover 190 can be sprung over the ears 175 into position wherein it is held firmly and securely. An inner cover 194 may be provided and have spring flanges 195 adapted to spring in between and engage over the inner corner edges of the panel units 1c and 1d.

The partition thus far described may be assembled as follows:

Each panel unit 1 is formed by constructing a frame from one or more horizontal struts 12, a plurality of insulating sheets 11 and a pair of end members 13. The insulating sheets 11 are secured as by adhesive to the panel sheets and the panel sheet flanges 31, 32 are engaged over the corresponding flanges 22, 25 of the end members 13. The panel sheets 10 may be secured to the frame by welding the flanges 31 and 32 to the end members. The feet 46 are secured to their respective end members as shown in Fig. 5, thus forming a completely assembled panel unit which may be of any desired length or width. The desired number of panel units are provided to form a partition.

The base channel 50 and shoes 52 are secured to the floor of the building. The lugs 46 of the first panel unit 1a are engaged with the corresponding leveling studs 55 and the panel unit 1a is brought to approximate position by actuation of the leveling wheels 56. The next panel unit 1b is mounted in a similar manner and is secured to the first panel unit 1a by lower bolt 76 and cornice bolt 115. When these bolts are tightened the slots 48 permit the feet 46 to move relatively to the studs 55 until the upright corner edges of the panel sheets 10 of the adjacent panel units 1a, 1b are brought into abutment. The remaining panel units are assembled in an analogous manner.

When all of the panel units have been connected together, the several leveling wheels 55 may be suitably actuated to bring all of the connected panel units to the desired level. The cornice channels 100 are then assembled on the panel units and connected thereto by the hook members 116. Each cornice cover 110 may be applied by engaging the flange 114 against the seat 106 and swinging the cover 110 down until the flange 112 snaps over the spring flange 105.

After the panel units have been mounted, the base clips 60 are assembled by engaging the clip portion 62 of each clip 60 over the side flange 51 of the base channel 50 and inserting the clip fingers 66 through the seat 67 and engaging them against the upper portion of the clip 60. The base cover may be assembled by inserting the flange 71 in the corresponding seat 68 and engaging the flange 75 in the seat 69. Prior to applying the base cover 70, any desired service lines, such as water, gas or electricity conduits may be disposed in the troughs 83. The service conduits C are indicated in their positions within the conduits 83. Sufficient space may be provided between the feet 46 and the base covers 70 to permit the service lines to pass therebetween.

It will be noted that it is not necessary to thread the service conduits in the troughs 83, but they may be merely inserted through the opening between the upper and lower ends of side wall portions 89 of troughs 83. As seen in Fig. 2, the space between the end members 13 and adjacent panel units is open and relatively unobstructed and the service line conduits may be readily inserted therethrough. If desired, the flange 103 of the cornice channel 100 may be perforated (not shown) to permit the service line conduits to pass up into the space defined by the channel 100 and the cornice cover 110.

Where it is necessary or desirable to remove one of the panel units for the purpose of repairing or replacing the same, it is not necessary to disassemble the entire partition. In order to remove the panel unit, the cornice cover 110 and the base cover 70 are removed as well as the base clip or clips 60. Referring now to Fig. 7, the bolt 91 is removed and the insulating slab 82 is moved up into the interior of the partition above the troughs 83, thus permitting the panel unit to be

removed without interference from the slab 82. The lock nut 57 is removed and the leveling wheels 56 are screwed downwardly against the shoe 52. The bolts 47 and 76 are removed and the feet 46 can then be entirely removed from the leveling studs 55. When the leveling wheels 56 are lowered the panel unit drops down sufficiently so that the upper edge is below the flange 104 of the cornice channel 100.

Referring now to Fig. 2, it will be seen that the panel unit can be pushed outwardly in one direction, owing to the construction of the edges 25 and 26 of the adjacent interfitting end members 13. The panel unit is pushed out slightly and then swung in order to clear the flanges of the end members 13 and thereafter the panel unit can be removed by transverse movement, as will be apparent from the drawings.

Where the panel unit nearest the wall is to be removed, the filler sheets 130 are removed prior to removing the panel unit. Where the panel unit adjacent the corner is to be removed, the clips 170 and compression member 171 are disassembled prior to removing the panel unit.

It will here be noted that one or more layers of insulation lie between all parts of the exposed metal faces of the partition.

Various modifications may be made in the various portions of the partition without departing from the invention, and an illustrative partition is disclosed herein showing several modified features. It is to be understood that certain of the features of the partition thus far described may be modified without necessarily modifying the remaining features.

There is shown in Figs. 9 and 10 a partition of somewhat modified construction which includes a plurality of panel units 201*a*, 201*c* and 201*d*. Each panel unit may be formed by a pair of spaced parallel panel sheets 210 suitably secured to end members 213, a top strut 360 and a bottom strut (not shown). If desired, additional strut members (not shown) similar to the strut members 12 shown in Fig. 6 may be provided and may be secured to insulating sheets 211 in a manner similar to that above described. The top strut 360 (similar to the horizontal strut 360 of Fig. 10) is formed with flanges having shoulder portions 366 and flange extensions 365. The panel sheet 210 lies against the flange extension 365 and may be secured thereto as by welding and the insulating sheet 211 is fitted in the seat provided between the panel sheet 210 and the flange and against the shoulder portion 366 in a manner similar to that illustrated in Fig. 10.

Each end member 213 may be formed as a channel and may have flanges 222 formed with shoulder portions 220 and 221, and an inturned lip 223 extending in from the flange 222. The space between the panel sheet 210 and the shoulders 220 provides a seat for the upright edge of the insulating sheet 211, which bears against the shoulder portion 221.

The panel sheet is formed with inturned lips or flanges 232 at its edges adapted to lie against the inturned lips 223 of the end members 213 at the upright end edges of the panel unit. The lips 232 may be secured to the end members as by welding. One lip 223 of each end member is formed with a lip extension 224, parallel to the flange 222 and spaced inwardly therefrom thereby to form an abutment for the end of the adjacent inturned lips 223 and 232.

Referring to Fig. 10, the cornice construction may be formed in a manner somewhat similar to that previously described and the cornice may include a pair of reinforcing channels 301 arranged back to back and suitably secured together by suitable members (not shown). Each cornice channel 301 may be formed with a flange 302, a lip 303 and a rolled edge 304. The other flange 305 may be formed with a shoulder portion 306 adapted to cooperate with the flange 309 of the cornice cover 307. The lower end of the cornice cover 307 may have a flange 308 adapted to frictionally engage the rolled edge 304 of the flange 302.

The cornice channels 301 may be secured to the panel units in a manner similar to that above described, and not necessarily shown in connectio with this embodiment of the invention. A suitable ceiling filler 310 constructed in any desirable manner may be provided.

A side filler 206 may be constituted by spaced, parallel filler sheets 330 having their edges received in grooved portions 332 of a channel 331 secured to the wall surface in a suitable manner as by one or more screws 336. Each sheet 330 has an inturned lip 333 adapted to fit against and be secured to the inturned lip of a member 213 which may be similar to the end members previously described. Suitably insulated sheets 334 and 337 may be secured in position against the sheets 330 and the channel 331, as indicated in Fig. 9.

A door frame 207 may be provided and it may include a member 213 and a channel 345 having a web 346 formed with a shoulder portion 347 and side flanges 348 and 349. Each side flange is formed with an inturned lip 350 adapted to fit against the corresponding inturned lip 223 of the member 213. The inset portion of the web 346 may bear against the web of the member 213 and thus provide a self-reinforcing construction.

A door 351 of suitable construction may be hingedly mounted in the frame 207 in the usual manner.

Referring to Fig. 10, a door filler 209 may be provided for filling the space between the upper end of the door frame and the cornice. The door filler includes a horizontal channel 352 having its web formed with a shoulder 353 providing a door stop. The channel 352 has upstanding flanges 354 terminating in inturned lips 355 and having lip extensions 356 extending therefrom. A reinforcing channel 361 may be disposed within the channel 352 and in abutment with the web thereof and the flanges 354.

A pair of filler sheets 359 are formed with offset flanges 358 adapted to fit against the lips 355 and bear against the lip extensions 356. The sheets 359 may be connected at their upper ends by a horizontal strut 360 having flanges formed with flange extensions 365 secured as by welding to the top edges of the sheets 359 and formed with shoulders 366 adapted to form seats for insulating sheets 359. Shoulders 362 of the sheets 359 form lower abutments for insulating sheets 357. The insulating sheets 357 may be adhesively secured to the filler sheets 359.

The inset groove provided by the lip 355 and the shoulder 362 forms a decorative groove for relieving the plainness of the door filler 209, in addition to providing a convenient and sturdy structure.

A corner condition may be formed with structural members assembled in a manner generally similar to that described in connection with the structure shown in Figs. 2 and 3. The pair of hooks 370 (Fig. 9) cooperating with a spacer 371

may be provided and secured together by a bolt 381 or other suitable securing member. The hook 370 is formed with ears 372 and 373 adapted to engage the corresponding inturned lips 223 of the adjacent end member 213. The other hook 170 cooperates with the adjacent panel unit 201*d* in a similar manner. The spacer 371 is formed with pointed lugs or extensions 382 adapted to bear against the adjacent panel units 201*c* and 201*d* to maintain them in the desired position. The spacer 371 also is formed with depending lugs 382 adapted to enter slots 383 in the hooks 370 to maintain the hooks 370 in the desired relative angular position.

A corner cover 390 may be provided and may be formed with inturned flanges 391 having lips 392 adapted to engage notches in noses 375 of the hooks 370 respectively. An internal corner cover 393 having flanges 394 may be sprung into the space between the inner ends of the panel units 201*c* and 201*d*.

The base construction for this form of partition may be generally similar to the base disclosed in connection with the form of partition shown in Figs. 1 to 8. However, in the second form of partition the troughs, the insulating slab and the clip therefor preferably will be omitted and a bottom strut (not shown), similar to the top strut 350, but inverted, will be provided at the bottom edge of the panel unit.

The insulating sheets may comprise any suitable insulating material, such as fiberboard, cork board, asbestos board or other known insulating material suitable for cushioning the metal elements of the partition and preventing rattling or sound transmission. The insulation also may serve as heat insulation. The several insulating members which also serve as structural or connecting members, are formed of material having suitable hardness and strength to perform the intended mechanical functions. Where the members serve only to insulate, they may be formed of relatively soft, weak material.

The partition also may serve as a conduit for conducting conditioned air which has been suitably cooled or heated and humidified or dried. This air may be conducted through the space between the base covers, the space between the adjacent end members and the space between the cornice covers. Suitable outlets and inlets for circulating the air through the room may be provided.

The present invention provides a partition structure which can be quickly and easily assembled from pre-fabricated units which can be produced by quantity methods. The panel units may be quickly erected to form a partition. Each panel unit can be removed, for the purpose of adjusting, repairing or replacing the same with a door frame or another panel unit without necessitating the removal of the other panel units.

While certain novel features of the invention have been disclosed and are pointed out in the annexed 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 the invention.

This case is a continuation in part of application No. 7,648, filed February 21, 1935, and of application No. 77,268, filed April 30, 1936, now Patent No. 2,169,273.

What is claimed is:

1. In a partition structure, a panel unit including a plurality of wall-forming panel sheets, spaced upright end members secured to said panel sheets respectively adjacent an edge of said panel unit, paired insulating members extending between and spacing said end members, means securing said insulating members together to clamp said end members therebetween, and spaced insulating members extending along said panel sheets.

2. In a partition structure, in combination, a plurality of panel units, and means securing the panel units together to form a partition, each of said panel units including a pair of spaced parallel panel sheets, a metal upright member secured to each of said panel sheets in adjacent relation at one upright edge of the panel unit, each of said upright members having a first portion extending along one of said panel sheets and formed with an inbent end portion cooperating with the inbent end portion of an adjacent panel unit, and a second portion extending inwardly from said panel sheets opposite said inbent end portion, an insulating strip extending along said second portions and abutting said first portions respectively, and means securing said insulating strip to said metal upright members for maintaining the latter in spaced, insulated relation.

3. In a partition structure, in combination, a plurality of panel units, and means securing said panel units together to form a partition, each of said panel units including a pair of spaced parallel panel sheets, a metal upright member of angular cross section secured to each of said panel sheets, each of said upright members having a first flange extending along its panel sheet and a second flange extending inwardly from said panel sheet, a first upright member of insulating material extending along the second flanges of said metal upright members and abutting said first flanges respectively, a second upright member of insulating material extending along said second flanges respectively and abutting said panel sheets respectively, and means securing said insulating members to said upright members for maintaining the latter in spaced, insulated relation.

4. A partition structure comprising in combination, a plurality of panel units, and means securing said panel units together to form a partition, each of said panel units including a pair of spaced parallel panel sheets, end upright members secured to said panel sheets adjacent the upright end edges thereof and serving to maintain said panel sheets in spaced parallel relation, insulating members extending along said panel sheets between said end upright members, rigid strut members extending between and secured to said insulating members and serving to reinforce said panel units intermediate said end upright members, and insulating means interposed between said strut members and said end upright members.

5. A partition structure comprising in combination, a plurality of panel units, and means securing said panel units together to form a partition, each of said panel units including a pair of spaced parallel panel sheets, end uprights including spaced, upright members and interposed insulation secured to said panel sheets adjacent the upright end edges thereof, said end uprights serving to maintain said panel sheets in spaced parallel and insulated relation, insulating members extending along said panel sheets respectively between said end upright members, and rigid strut members extending between and secured to said insulating members and said interposed insulation of the end up-

rights and serving to space and reinforce said panel units intermediate said end uprights.

6. A partition structure comprising, a plurality of panel units, means for connecting said panel units together to form a partition, each of said panel units comprising face-forming panel sheets, a supporting foot for said panel unit, and means including interposed insulation for securing said foot to said panel sheets whereby said foot is insulated from said panel sheets.

7. A partition structure comprising, a plurality of panel units, means for connecting said panel units together to form a partition, each of said panel units comprising face-forming panel sheets, an end upright adjacent the end edges of said panel sheets, said upright including an insulating member mutually insulating said panel sheets, a supporting foot for said panel unit, and means securing said foot to said insulating member whereby said foot is insulated from said panel sheets.

8. A partition structure comprising in combination, a plurality of panel units, means securing said panel units in position to form a partition, a base member adapted to be mounted on a floor on which the partition structure is erected, base covers extending along a plurality of said panel units on opposite faces thereof respectively, clip members engageable with said base member and said panel units on each side thereof for retaining said base covers respectively, a trough disposed between said clip members for receiving service lines, and means securing said trough in position.

9. A partition structure comprising a plurality of panel units, each including spaced parallel panel sheets, insulating sheets on the inner faces of said panel sheets, means for securing said panel sheets in spaced parallel relation adjacent their bottom edges and mutually insulating said panel sheets, said means including a trough member secured to each panel sheet for receiving service lines, each trough having a portion forming a seat for said insulating sheet, an insulating member interposed between and spacing said troughs, and means securing said trough members and insulation together, a floor member extending along said partition, means secured to said floor member for positioning said insulating member, means securing said panel units in alignment to form a partition, and base covers extending along said panel units and enclosing said trough members.

10. In a partition structure, in combination, a plurality of panel units, means mounting said panel units in position to form a wall having an angular bend therein, means for connecting at least certain of said panel units in angular relation, said means including a pair of plate-like tension members engaging said last named panel units respectively, means for securing said tension members together, and a substantially plate-like spacer member having tongues bent therefrom and entering openings in said tension members for maintaining the latter in predetermined angular relation.

11. In a partition structure, in combination, a plurality of panel units, each having end members formed with inturned flanges, and means for securing certain of said panel units in angular relation, said means including a pair of tension members each having a head adapted for hooking engagement with the end members of said last named panel units, means securing said tension members together, and a spacer member interposed between said last named panel units, said spacer member and said tension members being formed with cooperating tongues and openings for connecting said members in fixed angular relation.

12. A partition structure, in combination, a panel unit having an end upright formed with inturned flanges, a wall filler including spaced sheets extending between said panel unit and a wall and having inturned flanges on their outer upright edges abutting the inturned flanges of said panel unit, and means secured to the end edge of said panel unit and projecting beyond the flanges of said end upright for hooking engagement with said inturned flanges of said wall filler sheets.

13. In a partition structure, in combination, a panel unit including a plurality of panel sheets, an end upright for maintaining said panel sheets in spaced relation and mutually insulating said panel sheets, a plurality of hook members extending from said end upright within the planes of said panel sheets, insulating means interposed between and insulating said hook members from each other, means securing said hook members together and to said end upright, and a pair of wall filler sheets having inturned flanges engaging said hook members respectively.

14. A partition structure comprising a plurality of panel units, each of said panel units comprising spaced parallel panel sheets, and vertical and horizontal frame members extending along the edges of said panel unit for securing said panel sheets in spaced parallel relation, said frame members comprising paired rigid members adjacent and secured to said panel sheets respectively, and insulating means secured to and insulating the members of said pairs, means securing said panel units in alignment to form a partition, spaced cornice members extending along the tops of said panel units at each side of said partition, insulation interposed between and spacing said cornice members, and means securing said cornice members and interposed insulation together.

15. A partition structure comprising a plurality of panel units, each of said panel units comprising spaced parallel panel sheets, and vertical and horizontal frame members extending along the edges of said panel unit for securing said panel sheets in spaced parallel relation, said frame members comprising paired, rigid members adjacent and secured to said panel sheets respectively, and insulating means secured to and insulating the members of said pairs, supporting feet extending from said panel units, and insulating means interposed between each foot and the panel sheets of the corresponding panel unit, and means securing said panel units in alignment to form a partition.

16. A partition structure comprising a plurality of vertically disposed panel units, each of said panel units comprising spaced parallel panel sheets, and vertical and horizontal frame members extending along the edges of said panel unit for securing said panel sheets in spaced parallel relation, said frame members comprising paired rigid members adjacent and secured to said panel sheets respectively, and insulating means secured to and insulating the members of said pairs, strut members extending between at least certain of said frame members and reinforcing said panel unit intermediate the edges, means insulating said strut members from said panel sheets and from said paired rigid members, and means

securing said panel units together to form a partition.

17. A partition structure comprising, a plurality of panel units, each including spaced wall-forming panel sheets and means insulating said panel sheets from each other, means connecting said panel units to form a partition, and a detachable cornice structure adapted to extend along the tops of a plurality of said panel units, said cornice structure comprising a pair of horizontally extending structural members engageable with and receiving the tops of said panel units, a horizontally extending insulating member interposed between said structural members and insulating them from each other, means securing said structural members and insulation together, and detachable cornice covers engageable with said structural members.

18. A partition structure comprising, a plurality of panel units, each including spaced wall-forming panel sheets and means insulating said panel sheets from each other, means connecting said panel units to form a partition, and a detachable cornice structure adapted to extend along the tops of a plurality of said panel units, said cornice structure comprising a pair of oppositely facing horizontally extending channel-shaped members having their webs substantially in back to back relation and depending flange portions adapted to receive panel units, a horizontally extending insulating member interposed between said webs and insulating said channel-shaped members from each other, and means securing said channel-shaped members together.

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