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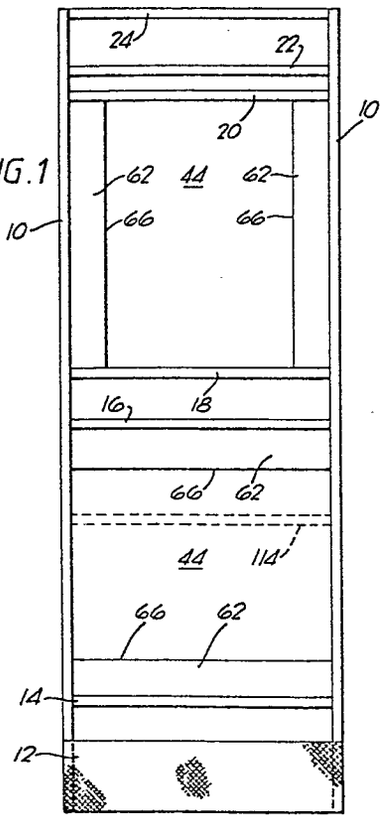
(54) A display system.

(57) A display incorporating a frame adapted to retain removably a square mounting panel of stiff material, which in turn provides mounting means for mounting a rectangular display card or sheet, with its edges parallel with the edges of the mounting panel, the mounting card being retainable in said frame with the longer edges of such a rectangular display card or sheet extending parallel with one pair of parallel sides of the panel-receiving space defined by said frame or parallel with the other pair of such parallel sides. The invention also relates to means for use in providing right-angle joints between elongate members used in displays.

FIG.1



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"A Display System"

THIS INVENTION relates to a display, for exhibition or advertising purposes, which comprises a frame in which advertising or the like material is displayed.

It is, of course, well known to display pictures, posters and the like in rectangular frames and it is likewise known to provide such frames as self-supporting or free-standing structures affording a plurality of rectangular display areas and in which the user may select or replace the material to be displayed at will. However, one difficulty which arises in connection with such displays is that whilst it is generally accepted that, for aesthetic reasons, a picture, poster or the like has greater eye appeal if it is rectangular rather than completely square, if such a display is configured so as to provide, for example, support and framing for a rectangular poster which has its longer edges extending horizontally, it cannot readily be used to display a rectangular poster with its longer edges vertical and vice versa. It is an object of the present invention to provide a simple and economical display which may readily be adapted for displaying rectangular posters or other display sheets, cards and the like, with their longer edges either horizontal or vertical, at choice.

According to this aspect of the invention there is provided a display incorporating a frame adapted to retain removably a square mounting panel of stiff material, which in turn provides mounting means for mounting a rectangular display card or sheet, with its edges parallel with the edges of the mounting panel, the mounting card being retainable in said frame with the longer edges of such a rectangular display card or sheet extending parallel with one pair of parallel sides of the panel-receiving space defined by said frame or parallel with the other pair of such parallel sides.

It is another object of the invention to provide a neat and unobtrusive means of mounting a rectangular display card or sheet, such as a poster or the like, and which is very simple to use.

According to this aspect of the invention there is provided a display incorporating a mounting panel of stiff material, and means on said mounting panel for mounting a rectangular display card or sheet, said mounting means comprising two parallel strips of thin stiff sheet material secured, in spaced-apart relation to one face of said mounting panel, with the interposition of thin spacing members which stop short of the adjoining edges of said strips whereby narrow grooves or recesses are defined between said strips and said face of the panel in the regions between the adjoining edges of said strips and the adjacent parts of the spacing members, to receive border regions of such a display card or sheet.

It is known to provide frames of displays of the character to which the invention relates by interconnection of lengths of channel or the like section. It is an object of the invention, in yet another of its aspects, to provide an improved means of interconnecting members of channel or the like section to form a substantially rectangular frame.

According to this aspect of the invention there is provided means for use in providing right-angle joints between elongate members providing longitudinal channels having restricted mouths defined between flanges extending from the side walls thereof, said means comprising an angle member having two arms extending at right angles with respect to one another from a common junction therebetween, each said arm being adapted for insertion within said channel of a respective said elongate member from one end thereof, said angle member supporting, in the region of said common junction, a connection member extending away from said common junction into the angle between said arms, a clamping member carried by said connection member, and means for urging said clamping member towards said common junction, whereby, with said angle member fitted with its arms within the channels of respective end portions of such elongate members, arranged at right angles to one another, with the moths of the channels opening on the inside of the right angle between said elongate members and said connection member extending from the junction of said elongate members in the region of the channel mouths, and said clamping member lying in the angle between the elongate members, the clamping members can be urged towards said common junction to engage the adjacent surfaces of the elongate members and clamp respective portions of the elongate members between the respective arms of said clamping member and the clamping member.

According to a further aspect of the invention there is provided a frame structure comprising a plurality of elongate members providing longitudinal channels having restricted mouths defined between flanges extending from the side walls thereof, said elongate members being interconnected at right angle joints by means of respective connecting means, each said connecting means comprising an angle member having two arms extending at right angles with respect to one another from a common junction therebetween, each said arm being adapted for insertion within said channel of a respective said elongate member from one end thereof, said angle member supporting, in the re-

gion of said common junction, a connection member extending away from said common junction into the angle between said arms, a clamping member carried by said connection member, and means for urging said clamping member towards said common junction, whereby, with said angle member fitted with its arms within the channels of respective end portions of such elongate members, arranged at right angles to one another, with the mouths of the channels opening on the inside of the right angle between said elongate members and said connection member extending from the junction of said elongate members in the region of the channel mouths, and said clamping member lying in the angle between the elongate members, the clamping member can be urged towards said common junction to engage the adjacent surfaces of the elongate members and clamp respective portions of the elongate members between the respective arms of said clamping member and the clamping member.

According to a yet further aspect of the invention there is provided means for coupling together two adjoining display frames of the like comprising, for each said frame, a respective corner member adapted to be secured to a corner of the respective frame, a connection tab pivotally connected with said corner member for pivoting in the major plane of frame and the connection tab of the corner member of one frame being pivotally connected with the connection tab of the corner member of the adjoining frame for pivoting about an axis perpendicular to the pivotal axes of the connection tabs with respect to their respective corner members.

According to a yet further aspect of the invention, there is provided a display frame or the like adapted to be wedged between floor and ceiling and comprising, at one upper or lower end, a respective floor or ceiling engaging member, and at the opposite end a respective ceiling or floor engaging member carried by a spigot screw-threadedly engaged with the frame whereby the spigot can be adjustably extended or retracted for engagement of the associated floor or ceiling engaging member with the floor or ceiling whereby the frame can be wedged between floor and ceiling of rooms of various heights.

Embodiments of the invention are described below by way of example and with reference to the accompanying drawings wherein:

FIGURE 1 is a front elevation view of a display embodying the invention,

FIGURE 2 is a view in cross section through a structural member of the frame of Figure 1,

FIGURE 3 is a perspective view of a detail of the display of Figure 1, in one position thereof,

FIGURE 4 is a fragmentary perspective view of the same part of the frame of Figure 1 as is shown in Figure 3, but with the parts in different position,

FIGURE 5 is a cross-sectional view of a mounting panel for a part of the display.

FIGURE 6 is a part-exploded perspective view of a wall-mounted display frame forming a variant of the frame of Figure 1,

FIGURE 7 is a view, in cross-section, of an upright of the frames of Figures 1 and 6,

FIGURE 8 is a view, in cross-section, of a cross-member of the frame of Figure 1,

FIGURE 9 is a fragmentary cross-sectional view of a joint between extruded members in the frame of Figure 1,

FIGURE 10 is a side view, to an enlarged scale, of a connecting member incorporated in the joint of Figure 9,

FIGURE 11 is an end view, looking in the direction of arrow XI in Figure 10, of the connecting member of Figure 10 with ancillary components omitted,

FIGURE 12 is a fragmentary sectional view of part of an assembled display frame,

FIGURE 13 is a perspective view illustrating several free-standing display frames similar to that of Figure 1, with two of the frames being interconnected,

FIGURES 14 and 15 are plan and side elevation views respectively of one form of connecting member for use in connecting adjacent display frames together,

FIGURES 16 and 17 are plan and side elevation views respectively of a complementary connecting member for use, with the member of Figures 14 and 15, in connecting adjacent display frames together,

FIGURE 18 is a perspective view showing the members of Figures 14 to 17 interconnected,

FIGURE 19 is a perspective view showing the connection between two adjoining display frames using the connecting members of Figures 14 to 17,

FIGURE 20 is a perspective view of the underside of the stand of Figure 1 or Figure 13 showing the manner of fastening the base,

FIGURE 21 is a fragmentary front elevation view of a further form of display frame embodying the invention, and

FIGURE 22 is a detail view, in vertical section, of the frame of Figure 2.

Referring to the drawings, a display for the use in advertising or exhibitions or the like comprises a frame formed of extruded metal members of the cross-sectional form shown in Figure 2, and including two opposed uprights 10 secured at their lower ends to a supporting base 12 which stands on a

floor surface or on the ground, the two uprights 10 being connected by a plurality of transverse members including a lower transverse member 14 fixed at either end to the respective upright 10, a second transverse member 16 movably coupled at its ends with the uprights 10 in a manner to be described, a third transverse member 18 fixed at its ends to the respective uprights 10 and a fourth transverse member 20 coupled at its ends with the uprights 10 in the same manner as the member 16. The transverse members 14 and 16 define, with the uprights 10, a lower, square display area or aperture, whilst the transverse members 18 and 20 define, with the uprights 10, an upper square display area or aperture. Further transverse members 22 and 24, fixed to the uprights 10, define with the uprights 10, at the upper end of the display, a narrow rectangular display area suitable for displaying a short text or other appropriate caption for the display.

As shown in Figure 2, each of the members 10 and 14 to 24 have a cross-section providing a base wall 30, outer side walls 32 extending perpendicularly from the base wall 30 and inner walls 34 parallel with the walls 32 and spaced inwardly from the latter, the walls 34 also extending from the base wall 30. The outer walls 32 terminate in free edges 36, whilst the inner walls 34 terminate in inwardly directed flanges 38. Consequently, each member 10 and 14 to 24 provides two spaced-apart channels indicated at 40 in Figure 2. The uprights and transverse members are so arranged that, in each square display area, the channels 40 of each of the members bounding that are face inwardly towards the centre of the area.

Each square display space or area accommodates two square mounting panels 44, one visible from the front of the unit, as shown in Figure 1 and the other visible from the rear of the unit, the edges of the display panels visible from the front of the unit being accommodated in the inwardly directed channels 40 of the uprights 10 and the transverse members 14, 16 or 18, 22 which are nearer to the front of the unit and the edges of the square display panels visible from the rear of the unit being accommodated in the inwardly directed channels 40 of the uprights 10 and respective pair of transverse members which are nearer to the rear of the unit. In order to allow the square display panels to be removed from the frame, the transverse members 16 and 20 are so connected with the uprights 10 that each can be swiftly slid upwardly from the position illustrated in Figure 1 then pivoted to the front or the rear of the frame, depending whether the display panel at the rear or the front is to be removed. This allows the display panel to be removed to be slid upwardly until its lower edge clears the upper edge of the lower transverse member 14 or 18 respectively, whereupon the panel, which is made of stiff but resiliently flexible material, can be flexed so as to be curved about a vertical axis, allowing the two vertical edges of the panel to be removed from the channels 40 of the uprights 10 receiving the same. The reverse procedure is adopted for re-fitting these square display panels.

Figures 3 and 4 show, in slightly greater detail, the manner of mounting the transverse members 16 and 20 between the uprights 10. Thus, for each transverse member 16 or 20, each upright 10 has a block 50, for example of plastics, mounted in the channel defined between the two walls 34 and which receives a cranked pin 52 extending from a block 54 mounted at the respective end of the member 16 or 20, between the side walls 34 of the member 16 or 20. Each block 50 has a lower portion which projects inwardly, beyond the flanges 38 of the walls 34 between which it is located, i.e., towards the middle of the display, and an upper portion which is set back to substantially the plane of the flanges 38. A vertical groove is formed in the upper portion and the major part of the lower portion of the block50, the bottom of the groove being substantially parallel with the base wall 30 of the upright so that the depth of the groove is greater in the lower portion of the block than in the recessed upper portion. The pin 52 extending from the member 16 includes a longer straight portion which, in the fully assembled display, lies within the outer portion of the part of the groove formed in the lower part of the block 50 and a shorter straight end portion, extending at right angles to the longer straight portion, outwardly therefrom, i.e. towards the bottom of the vertical groove and the base wall 30. Thus, in the normal position of the transverse member 16 or 20, the longer, straight portion of the pin 52 is located between the side walls of the groove in block 50 so that pivotal movement of the member 16 is prevented, but when the member 16 is raised sufficiently to bring the shorter end portion of the pin 52 into the recessed upper region of the block, so that the longer straight portion of the pin 52 is out of the confines of the vertical groove, the bar 15 or 20 may be pivoted forwardly or rearwardly about the pivotal axis defined by the shorter cranked end portions of the pins 52. The bottom end of the groove in bloc 50 is preferably so configured that the outwardly cranked shorter portion of the pin 52 is releasably retained by snap engagement in the lower end of the groove when the member 16 or 20 is fully lowered.

Referring to Figures 1 and 5, each display panel 44 comprises, as mentioned above, a stiff but resiliently flexible material such as foamed PVC, indicated at 60 in Figure 5, providing a

smooth outer surface. Along each of two opposing edges of the square sheet of foamed PVC or the like are applied mounting strips 62 of thin, stuff but resiliently flexible material, such as a material sold under the Trade Mark "Melamine", or a material of a kind known per se comprising laminated paper bonded by urea-formaldehyde resin. As shown in Figure 5, the mounting strips 62 are secured to the board 60 by means of strips 64 of flexible plastics foam, coated on both sides with an impact adhesive, adhesive strip of this type being known per se. Mounting the mounting strip 62 on the board 60 in this way ensures that, in those areas where the strips 64 are not present, there is defined, between the inner side of the respective strip 62 and the opposing face of the board 60 a narrow but accurately defined gap. Such a gap is left adjacent the inner edge 66 of each mounting strip 62, i.e. that one of the two longer edges of the respective strip 62 which is closer to the other strip 62 mounted on the same board 60, by placing the nearer foam strip 64 somewhat closer to the respective edge of the board 60 than the inner edge 66 of the mounting strip 62. It will be appreciated that, as a consequence, it is a simple matter, once the square mounting board is removed from the frame, to insert an appropriately dimensioned rectangular sheet of paper or card, indicated at 68 in Figure 5 and taking the form of a poster, picture or other display material, so that opposing edge portions thereof are received in the gaps defined between the inner edge portions of the two mounting strips 62 and the front face of the board 60, no other means of attachment being necessary. Removal of such a display sheet or poster is equally simple. Normally, for the sake of appearance, the display sheet 68 will be so dimensioned that its shorter edges coincide with the edges of the board 60 between which the mounting strips 62 extend, so that the shorter edges of the poster or the like will, in the assembled unit, be accommodated within the grooves 40 of the uprights 10.

Once the poster or the like is mounted in the display panel, the panel, with the poster or the like, can readily be fitted in the frame as described above.

Since in the frame shown in Figure 1, there are two square display regions defined by the frame, and each is capable of accommodating a forwardly facing display and a rearwardly facing display, the display as a whole is capable of presenting to view, simultaneously, four display surfaces.

It will be apreciated that, because the display panels 44 and the frame spaces which accommodate them are square, each panel 44 may be mounted in the frame either so that the mounting strips 62 run horizontally or so that the strips 62 run vertically, so that the display is equally suited to display rectangular posters, pictures or the like having their longer edges running horizontally or such posters, pictures or the like having their longer edges running vertically.

The generally rectangular frame of the display of Figure 1 is formed of extruded elongate metal members of various cross sectional forms (see Figures 7 and 8) providing rectangular channels. Thus, in the form shown in Figure 7, the channel is defined by a base wall 102 and perpendicular side walls 104 terminating, along the edges remote from the base wall, in inwardly turned flanges 106 which define between them a restricted mouth, i.e. an elongate opening of a width somewhat less than the spacing between the side walls. The extreme edge portions of the flanges 106 are bent somewhat towards the base 102. The section of Figure 7 provides, on the outer sides of the side walls 104, and parallel therewith but spaced therefrom, further side walls 108. Referring to Figure 8, in which like parts to parts in Figure 7 have like references the base 102 in this extrusion has walls 104 extending from both sides of the base wall 102 and, likewise, has further side walls 108 extending from both sides of lateral extensions of base wall 102. Thus, the section of Figure 8 resembles two sections according to Figure 7 laid back-to-back. The elongate members forming the uprights 10 of the frame (Figure 1) have the cross sectional form indicated in Figure 7 whilst the elongate members forming certain cross-members such as indicated at 14, 16, 18, 20 have the cross sectional form indicated in Figure 8. Further cross members, such as indicated in broken lines at 114 in Figure 1 have a cross-sectional form corresponding to that of Figure 8 with the outer side walls 104 and the extensions of base wall 102 beyond side walls 104 omitted.

Referring to Figure 6 there is illustrated a number of wall mounted rectangular frames each comprising uprights 110, a lower cross member 111 and an upper cross member 113. The uprights 110 and cross members 111 and 113 are all of the cross sectional form illustrated in Figure 7. A further intermediate cross member 114 identical with that of Figure 1 is again provided. The junctions between cross-members 14, 18 and uprights 10 of the frame, in the embodiment of Figure 1, and between the uprights 110 and cross members 111 and 114 in the embodiment of Figure 6 are secured by means of right-angle connecting pieces 116, illustrated in Figures 9 and 10, each having two arms 120 extending in mutually perpendicular directions from their common junction, with a respective said arm being inserted in the channel of the respective upright or cross member. The connecting members 116 are preferably formed from sections cut from an extruded length of, for exam-

ple, aluminium alloy, of a cross-sectional form corresponding to the profile of member 116 in Figure 10.

Referring to Figure 10, each member 116 has, in the region of the common junction between the two arms thereof, a through bore 122 extending along an axis which bisects the angle between the two arms 120 and which receives a screw threaded bolt 124 carrying a nut 128 which is held captive, non-rotatably, in a slot 130 provided by a formation at the junction between the arms 120, on the outer side of the angle between the arms 120. The bolt 124 extends from said common junction, within the angle defined between the two arms and terminates in a head 132 with a conventional formation, such as a slot, to receive a driving tool. Fitted loosely around the shank of the bolt 124 immediately adjacent the head 132 is a circular steel washer 134 retained in this location by a relatively tightly fitting fibre washer 136. Thus, in the position of the device shown in Figure 10, it is possible, for example, in assembly of the frame of Figure 6, to slide the lower end of an upright 110 and an adjacent end of the lower cross member 111 onto respective arms 120 of the respective member 116, the fibre washer 136 holding the steel washer 134 clear of the flanges of the respective channel. It will be noted that the lower ends of the uprights 110 and the ends of the cross members 111 and 113 are mitred. Each of the arms of the member 116, as viewed along the longitudinal axis thereof, has a rectangular profile such as to fit reasonably closely within a said channel defined by base wall 102 and adjacent side walls 104 in the space immediately below the inturned inner edges of the flanges 106. To complete the corner joint, the bolt 124 is screwed up advancing the steel washer 134 towards the outer surfaces of the flanges 106 until the edges of the washer 134 bite into the outer surfaces of the flanges 106 and the flanges of the two channel section member 110, 111 meeting at the frame corner are clamped between the washer 134 and the respective opposing surfaces of the respective arms 120. Thus, the members 110, 111 meeting in the corner are each fixedly secured to the angle member 116 and thus to one another. It will be noted from Figure 10 that the faces of the arms 120 which face into the interior of the right angle between the arms are provided with grooves 150 which serve to accommodate the edge of the steel washer 134 when the bolt is fully tightened.

It will be appreciated that the upper cross-member 113 (Figure 6) is mounted for upward and pivotal displacement between the frame uprights in the same manner as the members 16 and 20 in the embodiments described herein with reference to Figures 3 and 4.

The frames of Figure 6 are adapted to be located upon a wall surface by means of circular cams 115 mounted rotatably, but eccentrically on screws driven into the wall, these cams being located in the internal corners between the uprights and lower member 111 and between the uprights and intermediate member 114 as illustrated. Levelling and other minor positional adjustments can be made by rotational adjustments of the four cams of the frame.

The angle members may also be utilised for "T" junctions such as those between members 10 and members 14, 18 in Figure 1 and between members 110 and 114 in Figure 6. For this purpose, as shown in Figure 9, the angle member 116, in the region of the junction between the arms 120, is rebated on either side as at 140, (see Figure 11) so that in this region the spacing between the side faces of the member 116 is slightly less than the spacing between the free edges of the flanges 106 (whereas elsewhere the width of the angle member 116 is slightly less than the spacing between opposing faces of the side walls 104). Accordingly, as shown in Figure 9, with one leg of the angle member extending within the upright 110, for example, the rebated junction region 140 of the angle member can extend through the restricted mouth of the channel of upright 110 whereby the other arm 120 of the angle member 116 can extend within the channel of the cross member 112, 114 meeting the upright in a butt joint. The upright and cross member are secured together in the same way as described above, by tightening the bolt 124 to cause the steel washer 134 to clamp the adjoining flanges of the upright and cross member channels against the respective arms of the angle member.

As noted above, the sections of Figures 7 and 8 have further side walls 108, spaced outwardly from the side walls 104 of the respective channel and which are visible from the exterior of the completed frame. In use, as described in relation to Figures 1 to 5 above, and as shown in fragmentary sectional view in Figure 12, the frame of Figure 1 bounds a composite structure comprising rectangular panels 60 secured to wooden strips or blocks 141 having, in cross section, T-formations which are located within the central channels of the uprights or cross members and which blocks 141 include portions which extend over the outer sides of flanges 106 past the side walls 104 of the channels and terminate in faces to which are secured the respective panels 60. The relative dimensions are such that the edges of the panels 60 extend into the outer channels defined between the walls 104 with pre-determined gaps being defined between the outer faces of the panels 60 and the inner faces of the outer side walls 108. These gaps serve, in use, to accommodate edge portions of

posters, or the like, (where the features 62, 64 of Figure 5 are not utilised). Where there are internal cross members such as 114 in Figures 1 and 6, since these do not have the outer side walls 108, the panels 60 can extend past such cross members without obstruction and serve to conceal these cross members.

Referring to Figure 13, adjacent free standing frames, such as shown in Figure 1, provided with bases 12, may be connected, upright 10 to adjoining upright 10, to stand side by side, by connecting members 166, 168 to be described with reference to Figures 14 to 19. The connection is such to allow pivotal movement of adjoining free standing frames about a common vertical axis relative to each other and to this end the side faces 154 of the bases 12 are chamfered or bevelled so as to allow adjoining frames to be arrange at an angle to one another as illustrated. Each connecting member 166, 168 (see Figure 14 to 19) includes a body portion 170 including plug formations 172 adapted for insertion in the outer channels of the respective uprights 10, between the walls 104, 108. Each body portion 170 further has an enlarged outer portion 174 which, when the member is fitted to the end of an upright 110 by plugging the plug formations 172 into the outer channels, lies flush, as regards its side surfaces, with the outer surfaces of the uprights, (see Figure 19). Each corner member 116, 118 further comprises a pivoted tab 185, 186 which at one end is connected with the portion 170 for pivoting about an axis which, in the assembled frame, lies parallel with the base 102 of the upright channel and perpendicular to the major faces of the display frame. Each body portion 170 further includes a fixed tab 190 which, when the member is fitted, lies within a shallow channel 192 (see Figure 7) provided on the exterior of the extrusion and is thus recessed out of the way. Each tab 190 is provided with a countersunk hole for a retaining screw (see Figures 18 and 19). The tab 185 is provided at its end remote from its pivotal connection with the body 170 with an aperture 192 adapted to receive, as a close rotatable fit, a pivot pin 194 defined by a formation extending from the tab 186 and which is provided with an external peripheral rib, with the formation being split by two perpendicular slots each extending along the axis of the resulting hinge pin, the arrangement being such that the pin 194 may be snap-fitted into the aperture 192 in the tab 185 so that the peripheral bead springs out resiliently on the other side of the aperture 192 to hold the pin 194 in place. The adjoining corner members may be separated simply by pulling apart when a hinge connection is not required. When not required, the tabs 185, 186 may be pivoted out of the way to lie closely adjacent the tabs 190. The tabs 185, 186 may be pivoted upwardly from the general horizontal position shown in Figures 15 and 17 to some degree, whereby to accommodate differences in the levels of the bases 12, due to uneven flooring or ground surface. As illustrated in Figure 20, the bases 12 are hollow and open underneath. As best shown in Figure 13, each base 12 provides, on either side, a respective vertical rebate to receive the lower end of a respective upright 10 of the free-standing frame, there being provided, within such rebate, a clamp formation adapted to fit within the central channel of the respective upright 10, such formation having associated therewith a clamping knob 200, disposed on the interior of the base (see Figure 20) which can be tightened to clamp the lower end of the upright against the side of the base.

Figures 21 and 22 show another form of frame embodying the invention, which is similar to that of Figure 1, but, instead of being supported by a base 12 is adapted to be wedged between floor and ceiling. To this end the uprights 110 in the frame of Figures 21 and 22 extend upwardly beyond the uppermost cross-member and downwardly below the lowermost cross-member and bear pod arrangements which extend therefrom and engage the adjacent floor and ceiling surfaces. As illustrated in Figure 22, each pod arrangement comprises a boss member 203 which is dimensioned to fit closely within the central channel at the respective end of the respective upright 110 and is secured therein any convenient manner, for example by friction, adhesive, set screw or the like. Each boss member 203 terminates in a flange 205 which engages the respective end face of the respective upright. Each boss member 203 has a screw-threaded bore extending therethrough, along the axis of the central channel of the respective upright, which bore receives a screw-threaded portion of a respective upper spigot 204 or a respective lower spigot 206. Each upper spigot 204 carries at its upper end a respective ceiling pad 208 and each lower spigot 206 carries at its lower end a respective foot pad for engagement with the floor. Each upper spigot 204 includes a body portion which is of enlarged diameter with respect to the screw-threaded portion and terminates in a shoulder, adjacent the screw-threaded portion, the upper spigot being screwed up fully to clamp the shoulder against the upwardly presented face of the flange 205 of the upper boss member, whereby the upper spigot is fixed with respect to the frame. Each lower spigot 206, however, is screw-threaded throughout its length so that, in installing the frame, each lower member can be unscrewed from its respective spigot member until its foot pad bears firmly upon the floor, wedging the respective upright firmly between floor and ceiling. Preferably

each lower spigot carries adjacent its foot pad a respective enlarged hand grip member whereby the spigot may be set and adjusted by hand. Alternatively, an appropriate driving formation, for example afforded by opposing flats on the spigot, may be provided for engagement by an appropriate tool.

In a variant, not shown, of the display of Figures 21 and 22, metal or plastics sockets set permanently into the floor and ceiling, and flush therewith, provide recesses to receive spring biased bolts mounted for projection upwardly and downwardly from the upright central channels at the upper and lower ends thereof, allowing erection and de-mounting, at will, of the frames in predetermined locations in a building.

The features disclosed in the foregoing description, in the following claims and/or in the accompanying drawings may, both separately and in any combination thereof, be material for realising the invention in diverse forms thereof.

Claims

1. A display incorporating a frame adapted to retain removably a square mounting panel of stiff material, which in turn provides mounting means for mounting a rectangular display card or sheet, with its edges parallel with the edges of the mounting panel, the mounting card being retainable in said frame with the longer edges of such a rectangular display card or sheet extending parallel with one pair of parallel sides of the panel-receiving space defined by said frame or parallel with the other pair of such parallel sides.

2. A display incorporating a mounting panel of stiff material, and means on said mounting panel for mounting a rectangular display card or sheet, said mounting means comprising two parallel strips of thin stiff sheet material secured, in spaced-apart relation to one face of said mounting panel, with the interposition of thin spacing members which stop short of the adjoining edges of said strips whereby narrow grooves or recesses are defined between said strips and said face of the panel in the regions between the adjoining edges of said strips and the adjacent parts of the spacing members, to receive border regions of such a display card or sheet.

3. A display according to claim 1 or claim 2, wherein said frame is a free-standing frame incorporating frame members which define a square aperture, said frame members providing respective mounting means whereby two square mounting panels may be mounted, back to back with their major planes parallel with each other and having, on their major faces which are remote from each other and face in opposite directions from said frame, mounting means for supporting display sheets or cards to be exposed to view simultaneously on opposite sides of the frame.

4. Means for use in providing right-angle joints between elongate members providing longitudinal channels having restricted mouths defined between flanges extending from the side walls thereof, said means comprising an angle member having two arms extending at right angles with respect to one another from a common junction therebetween, each said arm being adapted for insertion within said channel of a respective said elongate member from one end thereof, said angle member supporting, in the region of said common junction, a connection member extending away from said common junction into the angle between said arms, a clamping member carried by said connection member, and means for urging said clamping member towards said common junction, whereby, with said angle member fitted with its arms within the channels of respective end portions of such elongate members, arranged at right angles to one another, with the mouths of the channels opening on the inside of the right angle between said elongate members and said connection member extending from the junction of said elongate members in the region of the channel mouths, and said clamping member lying in the angle between the elongate members, the clamping member can be urged towards said common junction to engage the adjacent surfaces of the elongate members and clamp respective portions of the elongate members between the respective arms of said clamping member and the clamping member.

5. A frame structure comprising a plurality of elongate members providing longitudinal channels having restricted mouths defined between flanges extending from the side walls thereof, said elongate members being interconnected at right angle joints by means of respective connecting means, each said connecting means comprising an angle member having two arms extending at right angles with respect to one another from a common junction therebetween, each said arm being adapted for insertion within said channel of a respective said elongate member from one end thereof, said angle member supporting, in the region of said common junction, a connection member extending away from said common junction into the angle between said arms, a clamping member carried by said connection member, and means for urging said clamping member towards said common junction, whereby, with said angle member fitted with its arms within the channels of respective end portions of such elongate members, arranged at right angles to one another, with the mouths of the channels opening on the inside of the right angle be-

tween said elongate members and said connection member extending from the junction of said elongate members in the region of the channel mouths, and said clamping member lying in the angle between the elongate members, the clamping member can be urged towards said common junction to engage the adjacent surfaces of the elongate members and clamp respective portions of the elongate members between the respective arms of said clamping member and the clamping member.

6. Means for coupling together two adjoining display frames or the like comprising, for each said frame, a respective corner member adapted to be secured to a corner of the respective frame, a connection tab pivotally connected with said corner member for pivoting in the major plane of frame and the connection tab of the corner member of one frame being pivotally connected with the connection tab of the corner member of the adjoining frame for pivoting about an axis perpendicular to the pivotal axes of the connection tabs with respect to their respective corner members.

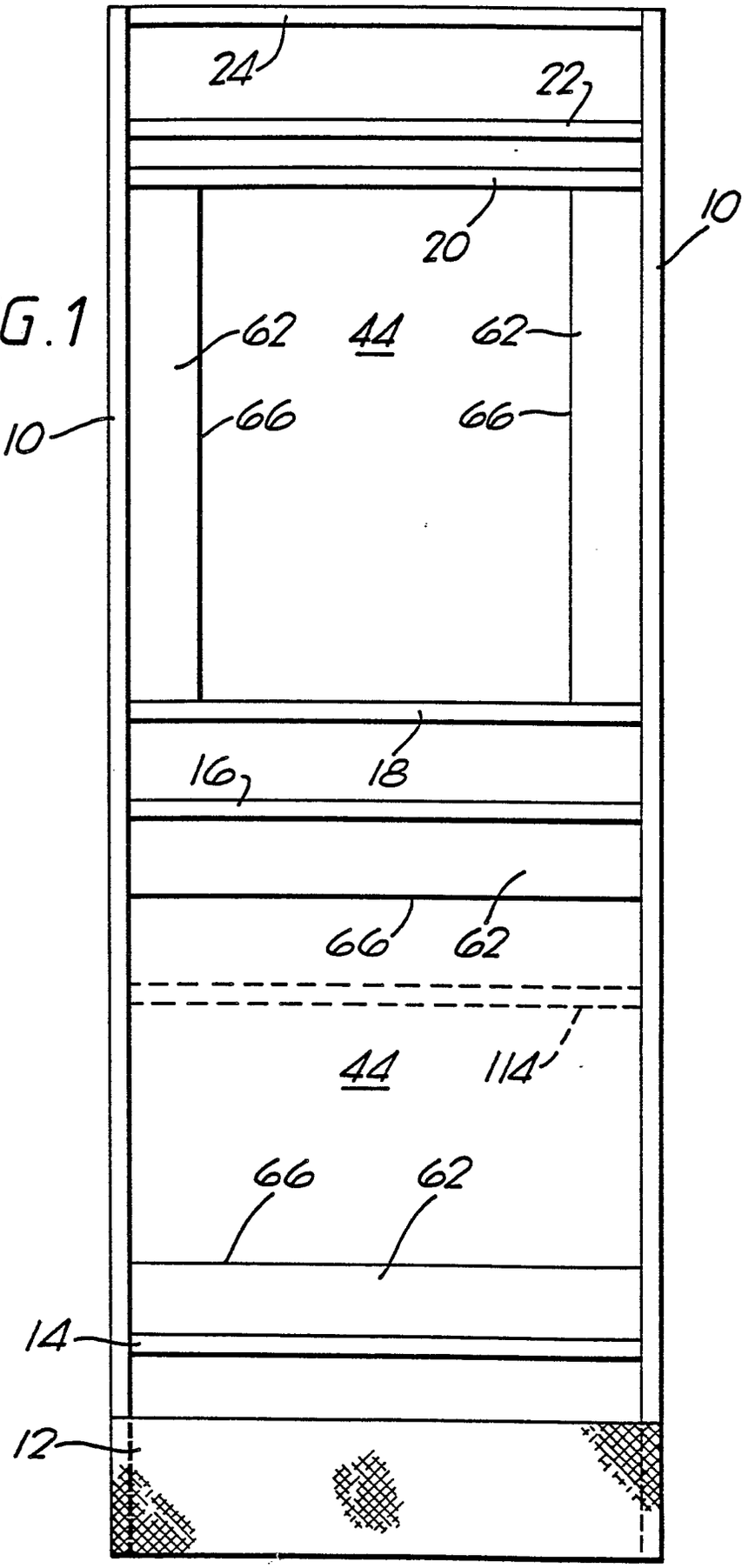
7. A display frame or the like to be wedged between floor and ceiling and comprising, at one upper or lower end, a respective floor or ceiling engaging member, and at the opposite end a respective ceiling or floor engaging member carried by a spigot screw-threadedly engaged with the frame whereby the spigot can be adjustably extended or retracted for engagement of the associated floor or ceiling engaging member with the floor or ceiling whereby the frame can be wedged between floor and ceiling of rooms of various heights.

8. Means according to claim 1 and substantially as hereinbefore described with reference to, and as shown in, the accompanying drawings.

9. A frame structure according to claim 2 and substantially as hereinbefore described with reference to, and as shown in, the accompanying drawings.

10. Means according to claim 3 and substantially as hereinbefore described with reference to, and as shown in, the accompanying drawings.

FIG. 1



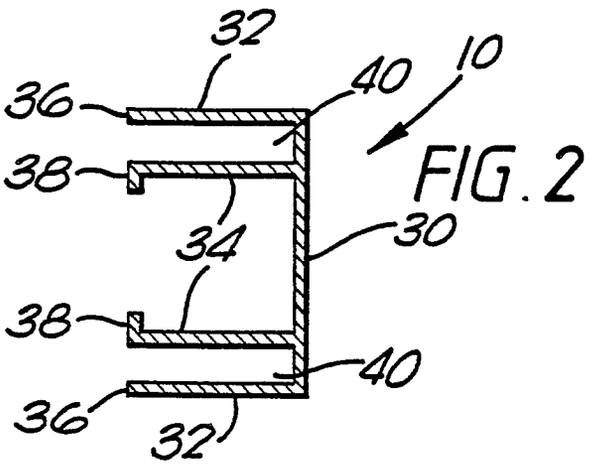


FIG. 2

FIG. 3

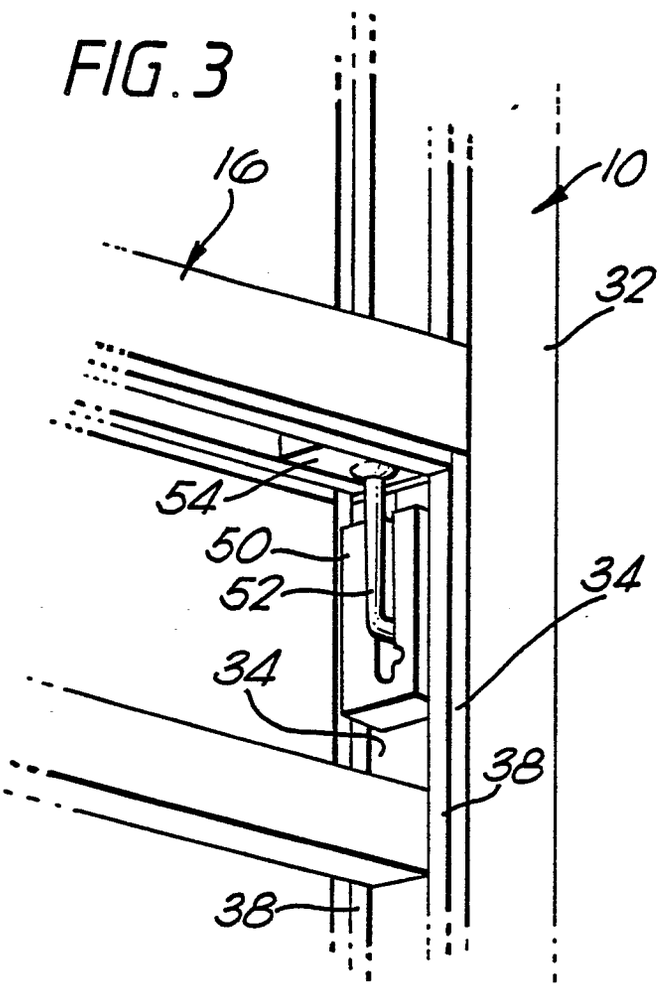
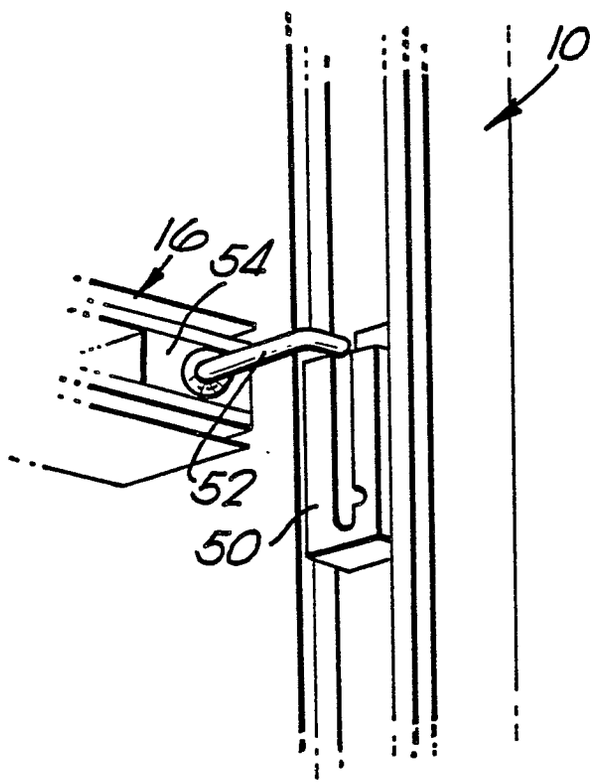


FIG. 4



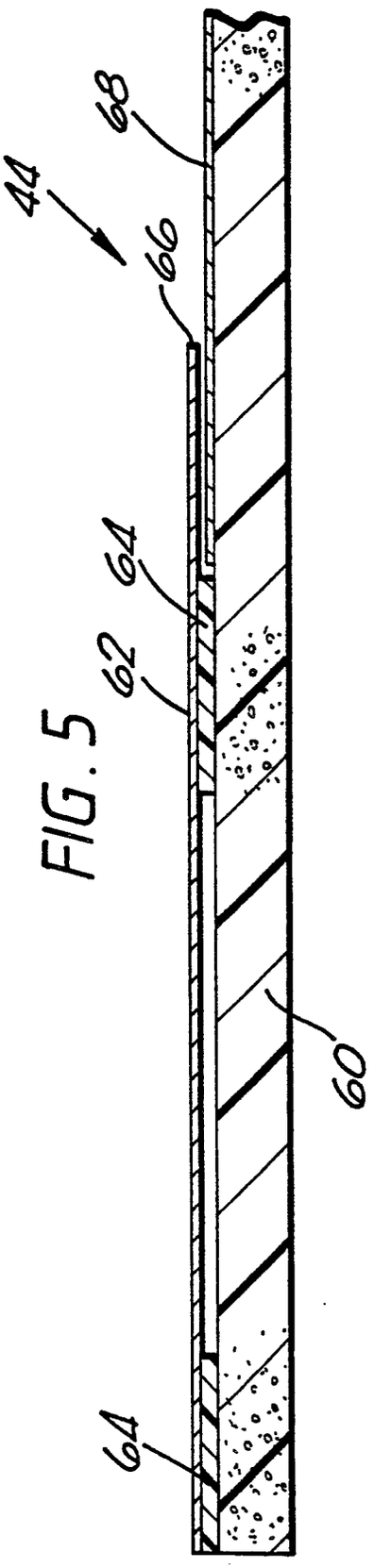


FIG. 5

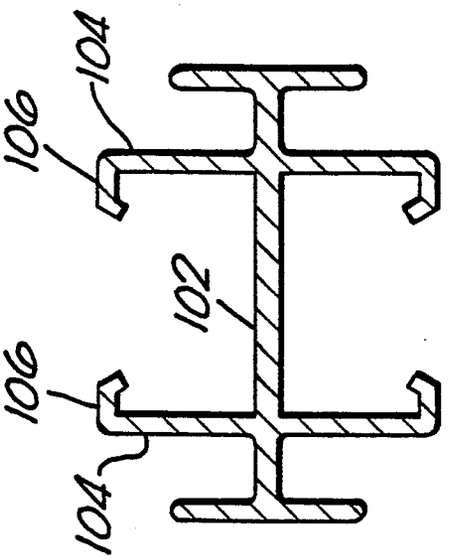


FIG. 8

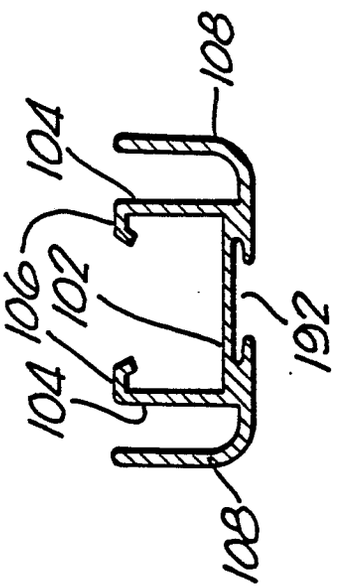
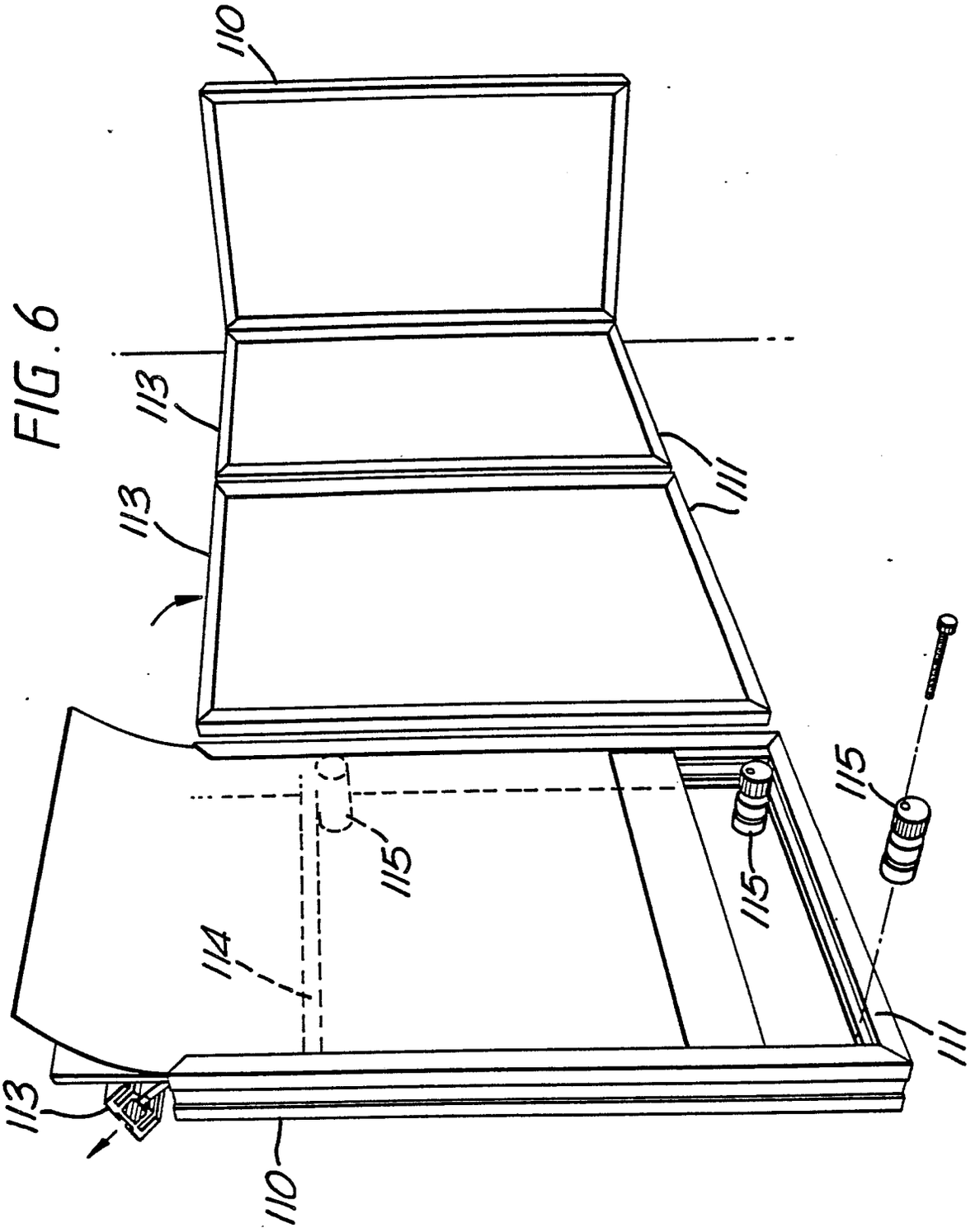


FIG. 7

FIG. 6



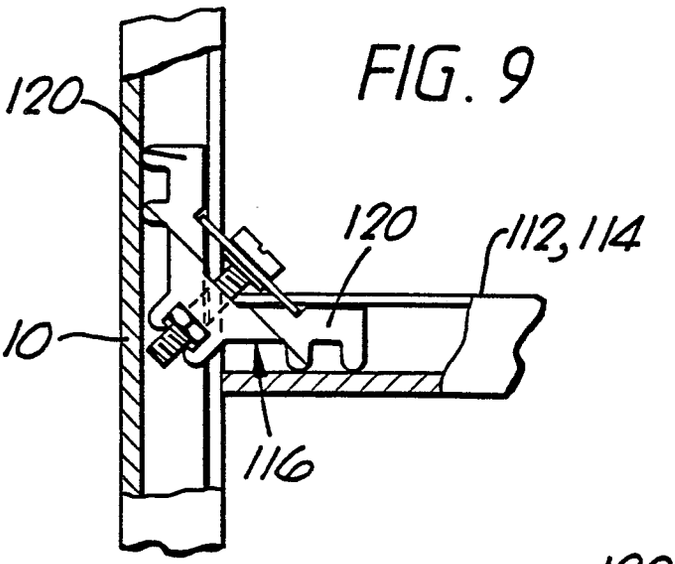


FIG. 9

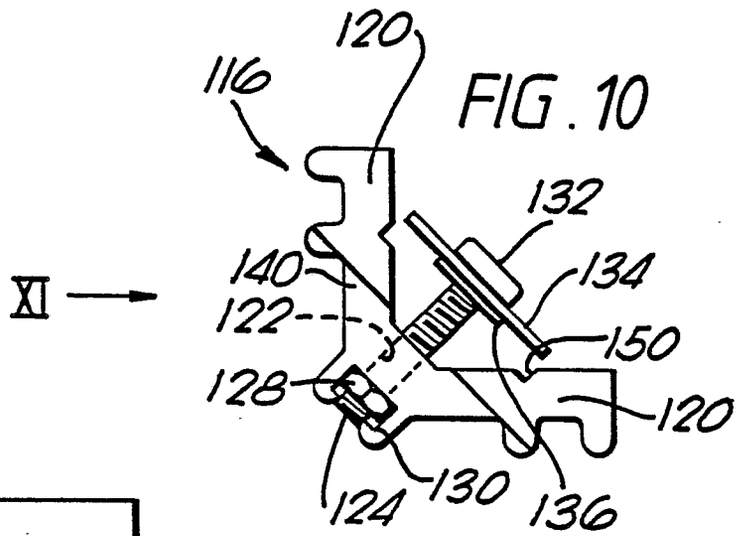


FIG. 10

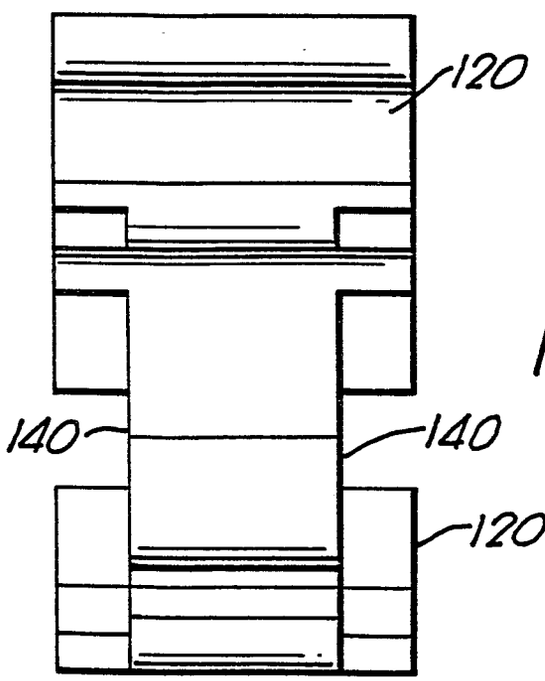


FIG. 11

FIG. 12

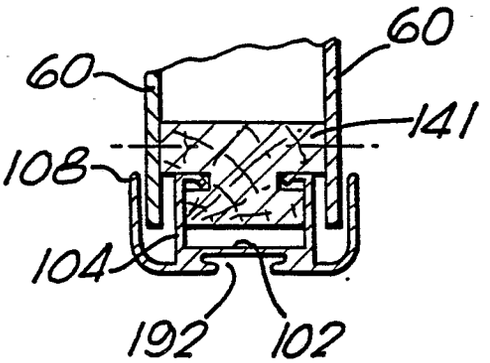
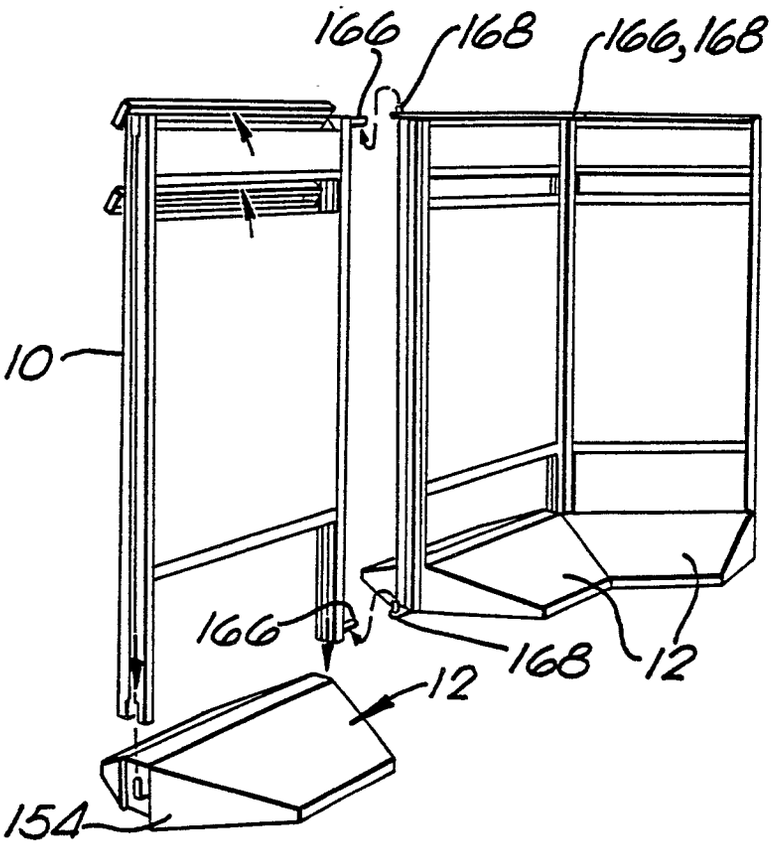


FIG. 13



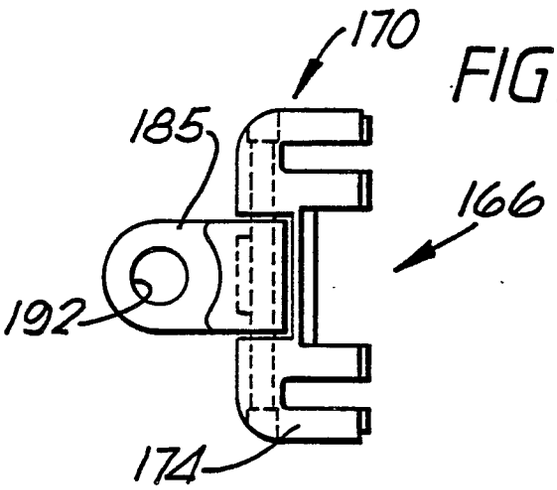
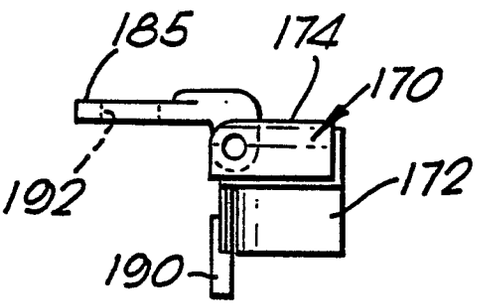


FIG. 14

FIG. 15



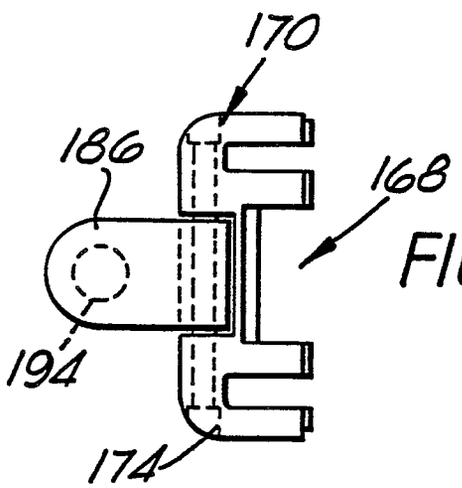


FIG. 16

FIG. 17

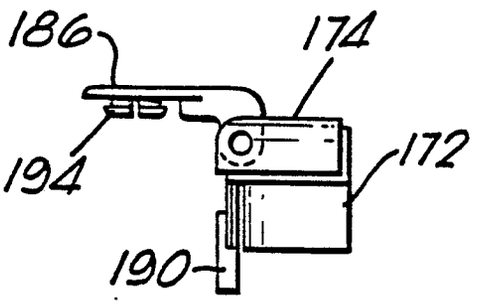
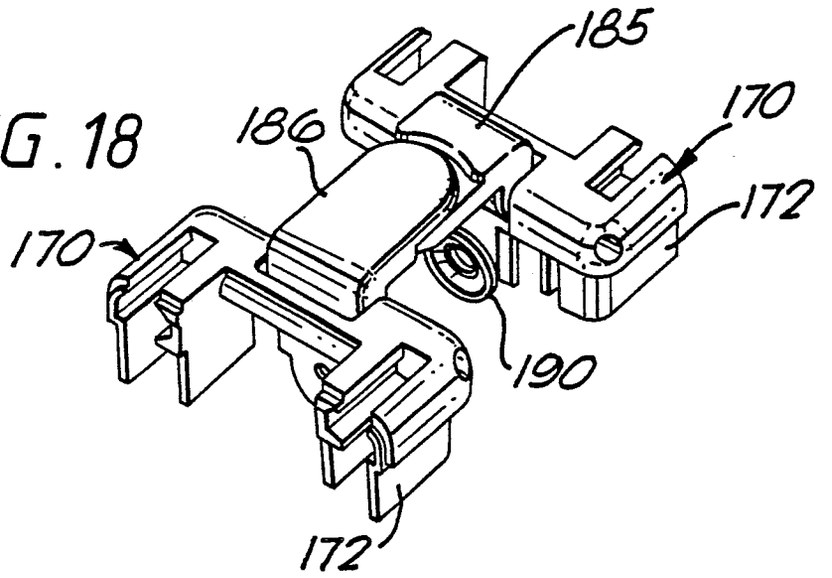


FIG. 18



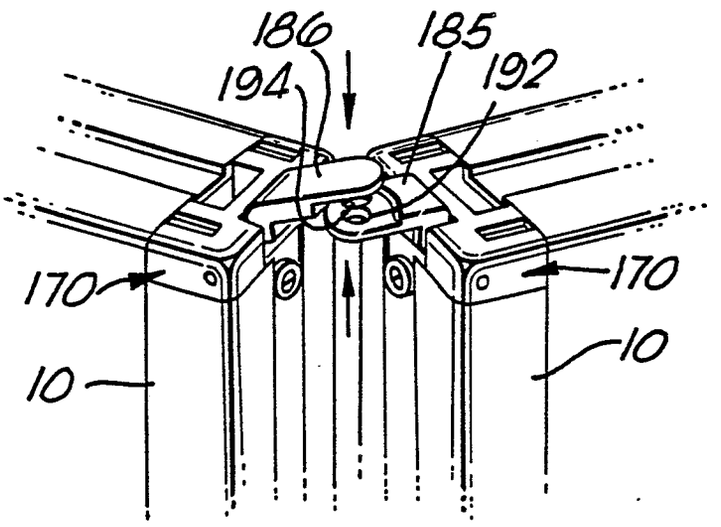


FIG. 19

FIG. 20

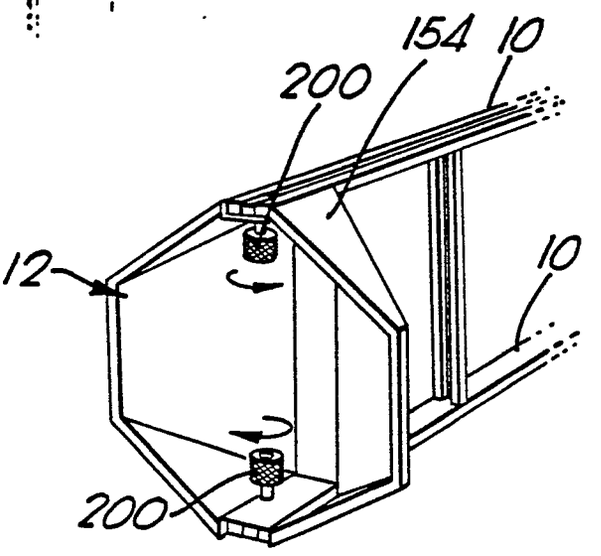
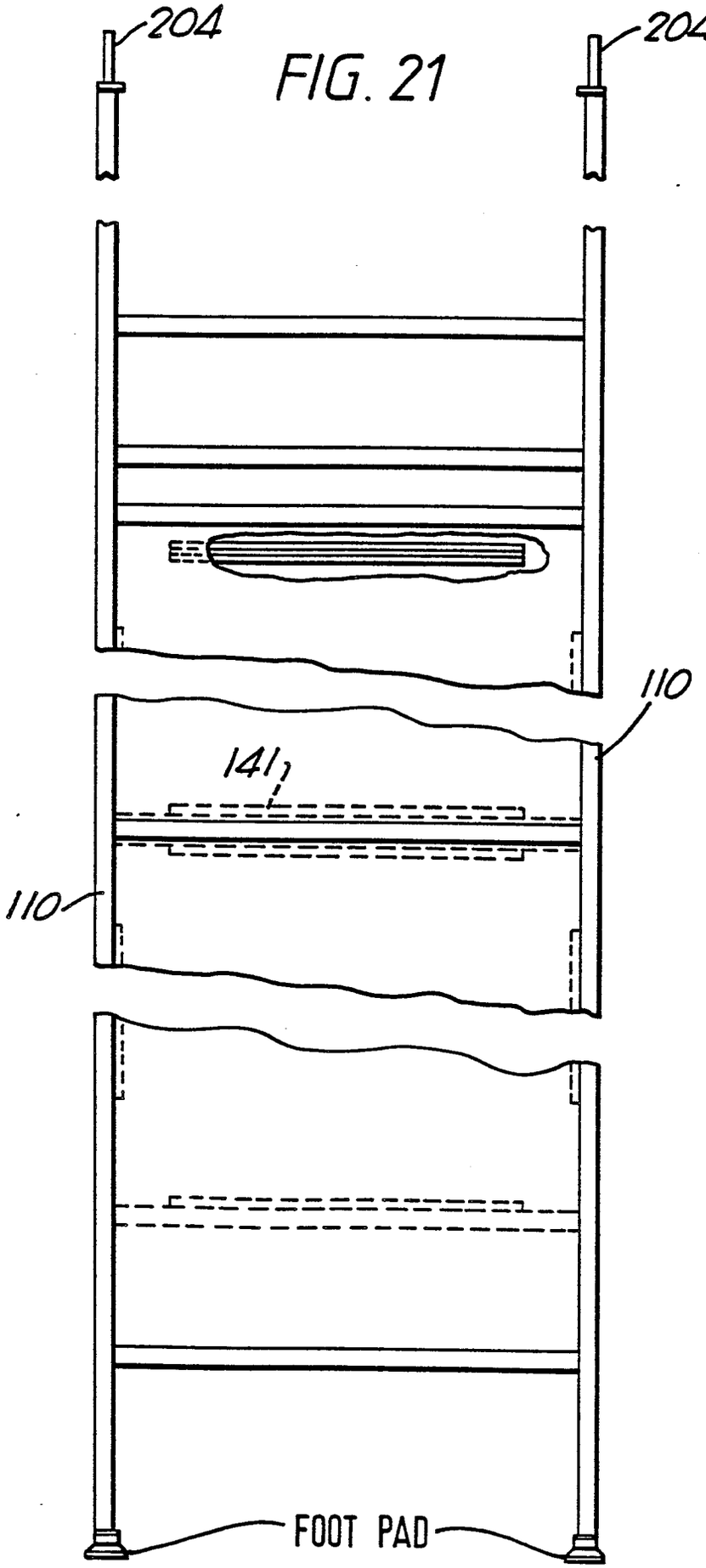


FIG. 21


204
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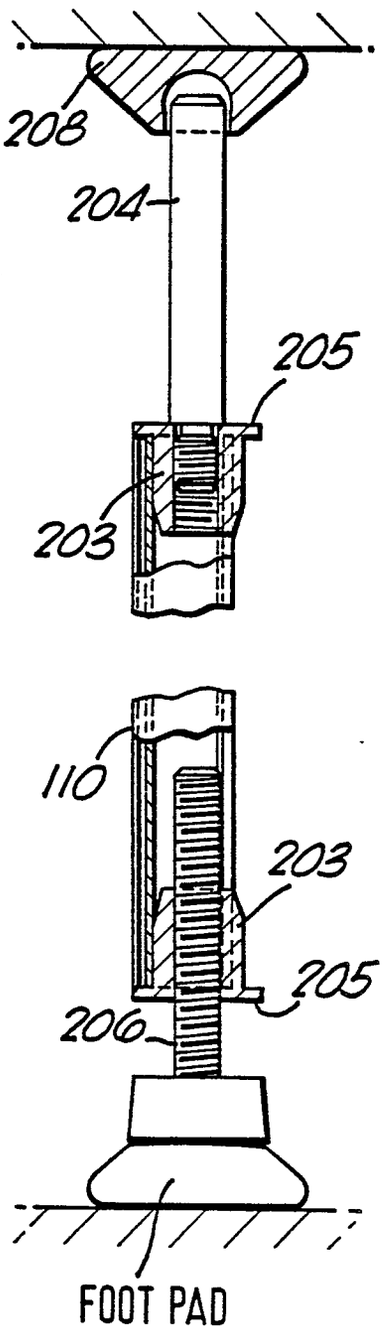
141
110
FOOT PAD

FIG. 22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