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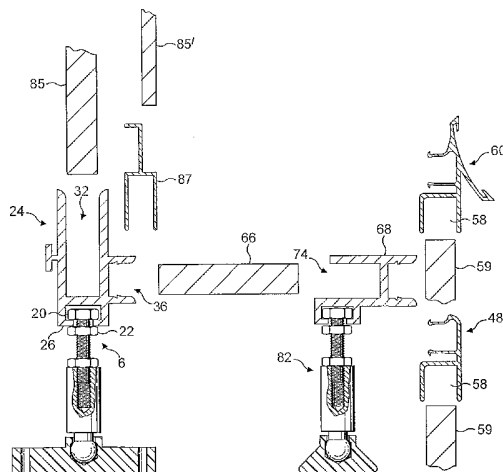
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(54) Title: AUXILIARY WALL STRUCTURES



(57) Abstract: An auxiliary wall structure to be fitted in front of an existing wall comprises a wall panel (85), a mounting bracket (24) and a floor fixing. The floor fixing comprises a foot rest (2) that can be fixed to the floor and an extendable shaft (4) coupled to the foot by a rotatable ball and socket joint, which allows the floor fixing to adopt any angle within a limited range relative to the plane of the floor. The wall panel mounting bracket (24) may be bolted to the head (6) of the shaft (4) at any point along the length of the bracket. The T-section bar (46) serves to attach the bracket (24) to a wall fixing bracket (68). A shelf (66) is inserted into the channel (36) of the bracket, its front end being held up by a support bracket (68) and front foot (82). Plinth clips (48), (60) may be attached to the bracket to hold a plinth panel (59) and may include an integral ticket strip (62).

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### Auxiliary Wall Structures

This invention relates to auxiliary wall structures more particularly, although not exclusively, structures which may be fitted in front of existing permanent walls.

There are many circumstances in which it might be desirable to fit an auxiliary wall structure in front of an existing wall. For example, in a shop, museum or other public building, such an auxiliary wall structure may support shelves or other means to display objects without having to fix these to the existing wall. Furthermore,

A commonly used form of auxiliary wall structure comprises Medium Density Fibre Board (MDF) panels fixed to batons attached to a permanent wall to form a stud wall. Such structures can give some increased flexibility in decorative finish and are easier to dismantle than a permanent wall would be, but they are relatively laborious to construct.

It is an object of the invention to provide an alternative to stud walls which can offer greater flexibility and when viewed from a first aspect the invention provides an auxiliary wall structure comprising a wall panel, means for attaching said wall panel to an existing wall and a floor fixing wherein the floor fixing comprises a foot portion for attachment to a floor, a wall panel attachment portion and an extendable shaft portion wherein said shaft portion is coupled to said foot portion by means of a rotatable joint.

Thus it will be seen by those skilled in the art that in accordance with the present invention, an auxiliary wall structure is provided in which a wall panel may be attached to the floor by a floor fixing and

may therefore require only very minimal attachment to the existing wall. Furthermore, this permits the spacing between the wall panel and the existing wall to be more freely chosen than would be the case e.g. for a stud wall.

The rotatable joint of the floor fixing allows a simple construction since it permits tilting of the wall panel prior to fixing to the existing wall. This is beneficial in allowing access to install fixings or the like. It also facilitates ensuring that the auxiliary wall is vertical even if the existing wall supporting it is not. Of course it also opens up the possibility of a non-vertical auxiliary wall structure.

The extendability of the shaft portion of the floor fixing can allow the height of the wall panel to be precisely adjusted. This could, for example, take account of sloping or uneven floors.

It will be appreciated that the floor fixing of the present invention is novel and advantageous in its own right and therefore when viewed from a second aspect, the invention provides a floor fixing for an auxiliary wall structure comprising a foot portion for attachment to a floor and an extendable shaft portion comprising means for attaching the floor fixing to a wall panel or a bracket for a wall panel wherein said shaft portion is coupled to said foot portion by means of a rotatable joint.

As foreshadowed above, the shaft portion of the floor fitting may itself comprise suitable means for receiving a wall panel, or alternatively a separate bracket may be provided which attaches to the floor fixing and receives the wall panel.

In one set of preferred embodiments therefore, the auxiliary wall system comprises a bracket for attaching a wall panel to a floor fixing. Said bracket preferably comprises an upwardly open channel for receiving said wall panel and a downwardly open longitudinal channel

for receiving a floor fixing at any point along the length of said bracket. For example, the downwardly open channel may be partially closed by a pair of flanges which are gripped in use between a head provided on the shaft portion of the floor fixing and a nut or other releasable tensioning means on the shaft which may be tightened to grip said flanges once the floor fixing is at the desired point along the channel. However many alternative ways of attaching the floor fixing to the wall panel mounting bracket may be envisaged and the precise form is not essential.

The invention also extends to a combination of the floor fixing and the bracket and thus when viewed from a further aspect, the invention provides a floor fixing assembly for an auxiliary wall panel, said assembly including a floor fixing comprising a foot portion for fixing to a floor and an extendable shaft portion which is rotatable with respect to the foot portion; said assembly further comprising a bracket for receiving an auxiliary wall member said bracket comprising an upwardly open channel for receiving the bottom edge of a wall panel; wherein said bracket and said floor fixing comprise mutually co-operating means for fixing them together.

In one preferred embodiment said mutually co-operating means comprise a downwardly open channel on said bracket, said channel receiving a head portion of said floor fixing shaft portion, the channel further comprising a pair of flanges gripped between said head portion and an abutment provided on the floor fixing shaft portion.

The invention also extends to a bracket *per se* and thus when viewed from yet a further aspect the invention provides a bracket for mounting an auxiliary wall panel said bracket comprising an upwardly open channel for receiving said wall panel and a downwardly open channel for receiving a head portion of a floor fixing at any

point along the length of the channel, the downwardly open channel being partially closed by a pair of flanges for being gripped in use by an attachment portion of a floor fixing.

The wall panel bracket described above may just be used to mount a wall panel of an auxiliary wall structure substantially vertically. In preferred embodiments, however, the bracket further comprises means for mounting a shelf extending substantially horizontally from the bracket. This is beneficial since it provides greater flexibility in the display space which the auxiliary wall structure of the invention may provide. Where such means are provided on the wall panel mounting brackets, preferably the system further comprises a similar bracket for supporting the front end of a shelf, but without the upwardly open channel for receiving a wall panel. Such a bracket would, however, preferably have a similar configuration for receiving a floor fixing to enable the same or similar floor fixings to be used.

It will be appreciated that although the term "floor fixing" is used herein this should not be understood as limiting the use of such a fixing to attachment to a permanent floor. For example, it may be attached to a temporary floor, platform or the like.

Indeed from a broader viewpoint although the floor fixings of the invention are suitable for fixing to a floor it may not always be essential to fix them directly to a floor. For example it is envisaged that a floor fixing, whilst in full contact with the floor, may not actually be fixed directly to it if the floor fixing, or a bracket to which it is attached, is attached to an existing wall. In such an example the floor fixing would effectively be held down onto the floor and so substantially unable to move without actually being mechanically connected to the floor. References herein to fixing to a floor are therefore

intended to encompass this and similar arrangements.

In another envisaged application, the floor fixing may instead be used in an opposite orientation to attach to a ceiling or roof. Indeed extending this idea, if an auxiliary wall structure is fixed to the floor using a fixing as described, and also fixed to a ceiling, joist, strut or other existing structure, fixing to an existing wall may not be necessary. Thus when viewed from a further aspect the invention provides an auxiliary wall structure comprising a wall panel, means for attaching said wall panel to an existing structure and a floor fixing wherein the floor fixing comprises a foot portion for attachment to a floor, a wall panel attachment portion and an extendable shaft portion wherein said shaft portion is coupled to said foot portion by means of a rotatable joint.

As well as being mounted to a floor by means of the floor fixings described hereinabove, the auxiliary wall structure is also intended to be fixed in use to an existing wall. An integrated wall bracket for mounting to a wall panel and for fixing to the existing wall could be provided. For example, the wall panel bracket described above could comprise an integral bracket for fixing to an existing wall. Preferably, however, a separate bracket is provided for fixing a wall panel to an existing wall, said bracket being removably attached to a mounting member for a wall panel. This has the advantage that suitable discrete attachment points or a continuous attachment portion may be formed on each panel mounting member, but brackets for fixing to an existing wall need only be used where required. This minimises the weight of the panel mounting member and allows it easily to be cut to size.

The bracket for fixing to an existing wall is preferably attached to the wall panel mounting member by means of a protrusion on one of the components, slidably received in a corresponding channel on the

other component. For example and preferably, the protrusion is provided on the panel mounting member and the channel is provided on the bracket. The protrusion could comprise a discrete lug so that e.g. wall panel mounting brackets have one or more such lugs disposed thereon at a suitable point or plurality of points. More preferably however the protrusion comprises a prismatic bar. The channel on the other bracket would then comprise a corresponding shaped channel to receive the bar. This is beneficial as it allows easy fabrication of the bracket by extrusion. It also means that a bracket for fixing to an existing wall may be connected to the wall panel mounting bracket at any desired position therealong simply by sliding it the required location. Preferably the protrusion has an approximately T-shaped cross-section.

The advantage in providing a separate bracket for fixing to an existing wall is that it may be fixed to the existing wall without the panel mounting member or panel itself obstructing access to the wall to facilitate such fixing. The auxiliary wall structure may then be constructed simply by fixing said bracket to the existing wall and then fixing the bracket to the panel - e.g. by means of co-operating formations on the bracket and a wall panel mounting member.

More preferably however, the bracket for fixing to an existing wall is separable into two or more parts. The two parts may then be respectively fixed to the existing wall and attached to the wall panel mounting member separately from one another and before the auxiliary wall structure is constructed. This is particularly beneficial where, as is preferred, the connection between the bracket for fixing to an existing wall and the wall panel mounting member comprises a protrusion slidably received in a corresponding channel. The reason for this is that the appropriate bracket part may then be slid along the protrusion from

an end thereof, which in the preferred embodiment will be at the end of the wall panel mounting member, to the required position along the length.

Construction of the auxiliary wall structure is then simply achieved by coupling said bracket part to the other bracket part fixed to the existing wall. The two bracket parts may be coupled directly to one another - e.g. by, a hook, catch, clip or the like or preferably mutually contacting mating flanges held together by a nut and bolt, screw, stud, rivet or the like. More preferably however an intermediate connector is provided. Preferably such an intermediate connector is arranged to permit a variable spacing between the bracket parts and thus a variable spacing between the existing wall and the auxiliary wall structure. In a particularly convenient embodiment the intermediate connector comprises a threaded bolt and a set of nuts which allow the two wall fixing bracket parts to be fixed together at a spacing set by the user.

In the foregoing the wall panel mounting member referred to may be the wall panel mounting bracket described previously or may equally be any other member which is for mounting or being mounted to a wall panel - e.g. an edge bracket, corner bracket, adaptor bracket etc.

The provision of a two-part wall fixing bracket in such a floor-mounted wall structure is considered to be novel and inventive in its own right and thus when viewed from a yet further aspect the invention provides an auxiliary wall structure comprising means for mounting said structure to a floor and at least one bracket for fixing said structure to an existing wall, said bracket comprising first and second detachable parts, said first bracket part being suitable for fixing to an existing wall and said second bracket part being fixed to or suitable for fixing to a part of said wall structure wherein said auxiliary wall structure may be

mounted to said existing wall by attaching said first and second bracket parts together.

It will be appreciated that whilst it is anticipated that the auxiliary wall structure system described above will be fixed to an existing wall this may not be necessary in all circumstances, and certain of the described components may be used in a 'back to back' configuration in which two or more wall panels are provided parallel to one another and connected together by a suitable connector.

Preferably said wall panels each comprise a wall panel mounting member comprising a protrusion to which a bracket for fixing to an existing wall may be attached, in accordance with the preferred embodiments set out above. In accordance with the present feature however it is preferred that the connector comprises at either end a channel for receiving the aforementioned protrusion, thereby allowing it to connect together the two wall panel mounting members and therefore the two wall panels. This allows the wall panel mounting members to be used to form an auxiliary wall structure in either configuration - i.e. fixed to an existing wall, or with two auxiliary walls 'back to back'.

Of course, as explained above the channels could instead be provided on the wall panel mounting members and the protrusions on the connector.

It will be appreciated that the arrangements envisaged above are novel and inventive in their own right and thus when viewed from a further aspect the invention provides an auxiliary wall structure comprising at least two wall panels connected together and parallel to one another, wherein both of said panels are mounted or are adapted to be mounted to a floor.

So far, several components for mounting wall panels to form an auxiliary wall structure have been described.

The wall panels upon which the auxiliary wall structure are preferably simple planar panels which could be made

of wood, metal, plastics, glass, etc. or any desired combinations of these. Indeed, it will be seen as a particularly advantageous feature of the present invention that customised panels having a wide variety of designs and finishes may be used to give a greater potential for variety of visual effects than would normally be possible with a permanent e.g. brick wall.

In one set of preferred embodiments, at least a portion of the panel area comprises a plurality of slots for receiving standard fittings such as shelf brackets, hooks and the like. Such an arrangement is commonly known as a "slat-wall" panel and is commonly found in shops etc. Clearly, the advantage of this feature is that it allows readily available standard equipment to be fitted to the auxiliary wall structure of the present invention. The slots could simply be open apertures through the panel, but preferably they open into a recess behind the panel which is at least partially closed. This enhances the structural strength of such a panel.

The maximum thickness of panel which may be used whilst still accommodating such standard shop fittings is relatively limited and would normally be less than the thickness of other, structural panels used in the wall structure. In some preferred embodiments, therefore, the structure comprises an adaptor bracket for fitting to an edge of a wall panel, the adaptor bracket being adapted to accept or connect to a thinner panel to enable said thinner panel to be mounted to said wall panel. The thinner panel may be of any form e.g. smooth, but preferably it comprises an array of slots for receiving standard fittings as set out above.

The thinner panel may be essentially planar as is preferred of the thicker panels. In a preferred embodiment however the panel comprises integrally formed attachment means for attaching it to an adaptor bracket of the type described above.

Preferred embodiments of the invention will now be described, by way of example only, with reference to the accompanying drawings in which:

Fig. 1 is a partially sectional view of a floor fixing in accordance with the invention;

Fig. 2 is an end elevation of the floor fixing of Fig. 1;

Fig. 3 is a sectional view of a wall panel mounting bracket in accordance with the invention;

Fig. 4 is a sectional view of a plinth clip to be associated with bracket of Fig. 3;

Fig. 5 is a sectional view of a ticket strip to be associated with the bracket of Fig. 3;

Fig. 6 is a sectional view of a foot connector attachment to the front of a base shelf;

Fig. 7 shows an exploded view of the lower part of an auxiliary wall structure in accordance with the invention;

Fig. 8 shows a wall panel end bracket;

Fig. 9 shows a wall panel joining connector bracket;

Fig. 10 shows an external corner bracket;

Fig. 11 shows an internal corner bracket;

Figs. 12a and 12b are plan and end elevations of a wall fixing bracket part;

Figs. 13a and 13b are plan and end elevations of another part of the wall fixing system;

Fig. 14 is sectional view from above showing how a wall panel is fixed to an existing wall;

Fig. 15 is a plan elevation of a wall mounting joining connector;

Fig. 16 is a sectional view of part of an adaptor for mounting a thinner wall section;

Fig. 17 shows a thinner wall section for mounting to the bracket to Fig. 16;

Fig. 18 shows another variation of the thinner wall

section which may be mounted to the bracket of Fig. 16;

Fig. 19 shows a reverse adaptor for mounting a thicker wall panel to a thinner wall panel;

Fig. 20 is a cross-section through a slat wall panel with a cantilever shelf bracket secured thereon;

Fig. 21 is a sectional view showing the construction of part of an auxiliary wall structure using the components of Figs. 16 to 19;

Fig. 22 is a sectional view of a further embodiment of a joining clip;

Fig. 23 is a sectional view of another embodiment of a wall panel mounting bracket and plinth;

Fig. 24 is a view similar to Fig. 23 showing a ticket strip plinth attached to the bracket;

Fig. 25 is a sectional view of another embodiment of a shelf clip;

Fig. 26 is a sectional view of another embodiment of a bottom shelf front bracket; and

Fig. 27 is a sectional view of a shelf side bracket.

Turning to Fig. 1, there may be seen a partially sectional view of a floor fixing in accordance with the present invention.

The floor fixing generally comprises a foot portion 2, a shaft portion 4 and a head portion 6. The foot portion 2 is moulded from a durable plastics material such as nylon, but could equally be formed of metal. The foot portion 2 has a flat underside 2a which is adapted to rest on a floor. The foot portion 2 comprises a pair of bore holes 8 at opposed ends thereof for receiving a screw, bolt or other fixing means to enable the foot portion 2 to be fixed securely to the floor. The shaft portion 4 comprises a lower shaft member 10 and an upper shaft member 12. The lower shaft member 10 has a spherical termination 14 at its lower end which is seated in a socket 16 in the foot portion 2 so as to form a ball and socket joint. This therefore

allows the shaft and head portions 4, 6 of the floor fixing to adopt any angle within a limited range relative to the plane of the floor.

The upper shaft portion 12 is in the form of a bolt with a thread 14 which is shown only schematically in the Figures. The bolt 12 is received in a blind threaded bore 17 in the lower shaft member 10. This threaded arrangement allows a degree of adjustment of the amount by which the upper shaft member 12 protrudes from the lower shaft member 10. A lock nut 18 is provided to lock the bolt 12 once it has been screwed into the hole 17 by the desired amount. At the opposite, upper end of the bolt 12 is a bolt head 20 and a second lock nut 22. The head 20 of the bolt is disposed within a channel formed within an extruded wall panel mounting bracket 24 which is shown more clearly in Fig. 2.

The bracket 24 is formed with a pair of laterally extending flanges 26 which pass under the head 20 of the bolt so as to retain it in the channel whilst permitting the bolt 12 to slide along the channel brackets, i.e. perpendicular to the plane of the section of Fig. 1. The second lock nut 22 and a washer 28 are disposed on the other side of the flanges 26 to the bolt head 20 and may be used to secure the bolt 12 at the desired position along the channel.

Turning now to Fig. 2, a cross section through the extruded wall panel mounting bracket 24 may be seen. Thus, the lower portion of the bracket 24 defines a downwardly open channel 30 for receiving the head 20 of the floor fixing of Fig. 1, the channel 30 being partially closed by the laterally extending flanges 26.

The main part of the bracket 24 comprises a relatively deep elongate channel 32 for receiving the edge of a wall panel which could, for example, be a plain MDF board. It will be seen that the upper edges of the walls 34 which form the mouth of the channel 32 are

rounded to facilitate insertion of the wall panel therein and to prevent damage to the panel.

A third, laterally open channel 36 is formed by a pair of walls 38, 40 which extend from one of the side walls 34 of the upwardly open channel 32. The inner face of each of the two walls 38, 40 comprises a notch 42 and barb-like protrusion 44. The notches 42 may be used to secure a clip as will be described with reference to Figures 3 and 4. The barb-like protrusions 44 assist in gripping a shelf which may be inserted into the channel 36. It should be understood however that such barbs are not essential and that alternatively the inner surfaces of the channel 36 may be left smooth. If necessary other means for aiding gripping of the shelf could be provided such as grub screws.

Extending from the rearmost vertical wall 34 of the bracket is a T-section bar 46 which may serve to attach the bracket 24 to an existing-wall fixing bracket. Such fixing may obviate the need to connect the fixing directly to a floor.

Turning to Fig. 3, the wall panel mounting bracket 24 of Fig. 2 is shown again, together with a plinth clip 48. The plinth clip 48 has a pair of rearwardly extending resiliently flexible flanges 50, 52 with respective hook formations 54, 56 at the distal edges thereof. The outer surfaces of the flanges 54, 52 are shaped to conform to the inner surfaces of the walls 38, 40 of the wall panel mounting bracket 24. The hook formations 54, 56 are designed, when the clip 48 is inserted into the channel 36, to engage behind the barb-like protrusions 44 into the notches 42, thereby securing the clip 48 into place.

The plinth clip 48 further comprises a rectangular downwardly open channel 58 to receive and support a plinth panel (see panel 59 in Fig. 7) extending between the channel 58 and the floor upon which the auxiliary wall structure rests. The adjustable floor fixing shown

in Fig. 1 is therefore adjusted so that the channel 58 is disposed at the correct height above the floor to receive the intended plinth panel. It will be seen that the arrangement in Fig. 3 allows a decorative plinth to be attached to the front of the wall panel mounting bracket 24 thereby hiding the floor fixing of Fig. 1.

Fig. 4 shows an alternative form of plinth clip 60.

This clip is the same as the plinth clip 48 of Fig. 3 except that it additionally comprises an integral ticket strip 62. The ticket strip 62 has a slightly concave output facing with lips 64 along its upper and lower edges to allow it securely to retain a flexible product/price information strip as is well-known in the field of retail display equipment.

Rather than fitting a plinth directly to the base of the auxiliary wall structure as is described above, the wall panel mounting bracket 24 also permits a base shelf 66 to be installed (see Fig. 5). If such a shelf is to be installed, the shelf is slotted edgewise into the laterally open channel 36 of the wall panel mounting bracket 24. The distal edge of the shelf 66 is then received in a shelf front support bracket 68 shown in Fig. 5. A pair of horizontally extending walls 70, 72 form the forwardly open channel in which the edge of the shelf 66 is received. The shelf edge bracket 68 also comprises a forwardly open channel 74 which is identical to the forwardly open channel 36 of the wall panel mounting bracket 24 (see Fig. 2). Thus, a plinth clip as shown in Fig. 3 of Fig. 4 may be attached to the front of the bracket 68.

A further, downwardly open channel 76 depends from the lower horizontally extending wall 72 of the bracket.

This channel 76 is similar to the downwardly open channel 30 of the wall panel mounting bracket 24 (see Fig. 2) and thus comprises a pair of laterally extending flanges 78 extending partially across its mouth. The function of this channel 76 is similar to the function

of the downwardly open channel 30 of Fig. 2 in that it receives the head 80 of a shelf support 82 (see Fig. 6).

The shelf support 82 is similar in construction, albeit smaller in size, to the floor fixing shown in Fig. 1 - except that the foot portion 84 is round rather than rectangular and is intended simply to rest on the floor rather than being secured to it. It will be appreciated that the support 82 shown in Fig. 6 is required only to support the weight of the shelf rather than to provide structural support for the auxiliary wall structure, it may be smaller in size and does not need to be secured to the floor.

Turning to Fig. 7 a partially exploded view of the lower part of a wall structure is shown incorporating some possible variants. Thus the wall panel mounting bracket 24 is attached to the top of the floor fixing 6 by virtue of the flanges 26 of the bracket being gripped between the head 20 and nut 22 of the fixing. An 18 mm thickness wall panel 85 is shown ready to be slotted into the upper channel 32 of the bracket. As an alternative however, a reducer member 87 may be slotted into the channel 32 so as to enable a thinner panel 85', e.g. 6 mm in thickness, to be accepted.

As described above a shelf 66, also 18 mm thick, may be slotted into the side channel 36 of the bracket 24. The front edge of the shelf 66 is slotted into the shelf front edge support bracket 68. This is attached to the front foot 82 in a similar manner to the attachment between the floor fixing 6 and the wall panel mounting bracket 24. Two alternative forms of plinth clip 48;60 may be clipped into the front 74 of the shelf edge support bracket 68. Each plinth clip 48;60 has a downward channel allowing it to receive the top edge of a plinth panel 59.

Figs. 8 to 11 show various forms of extruded brackets which are intended to fit over the edge of a wall panel forming part of the auxiliary wall structure

described herein. Fig. 8 shows a plain edge bracket 86 for fitting to the appropriate edge of a wall panel which is intended to define the side or top edge of the auxiliary wall structure. Thus, the bracket 86 comprises a simple channel 88 the walls, 90, 92 of which are each provided with a slight ridge 94, 96 respectively to assist in gripping the edge of the panel. A T-bar extrusion 46 is also provided for attaching the bracket 86 to an existing wall as will be described in greater detail herein below.

Fig. 9 shows a connector bracket 100 for joining two adjacent wall panels together. It will be seen that it effectively comprises an integral, back to back arrangement of two of the simple edge brackets 86 shown in Fig. 8.

Fig. 10 shows an external corner bracket 102 which may be used to connect to wall panels together at 90° to form an external corner. It will be seen that the outer surface 104 of the bracket is smoothly rounded to provide a decorative finish to the corner of the assembled structure. Again, a protruding T-bar 46 is provided for fixing to an existing wall.

Finally, Fig. 11 shows an internal corner bracket 108 which allows two adjacent wall panels to be connected together at 90° to form an internal corner. A multi-part fixing system allowing the wall structure to be secured to an existing permanent wall is shown in Figs. 12a, 12b, 13a, 13b and 14. Figs. 12a and 12b show the part of the fixing system which is fixed directly onto the existing permanent wall. It will be seen from Fig. 12b, that the bracket part 110 comprises a pair of vertical flanges 112 and 114 which are joined by a perpendicular web 116. Each of the flanges, 112, 114 defines a centrally located hole 118, 120 respectively.

The other part of the bracket 122 is shown in Figs. 13a and 13b. This also comprises two parallel flanges

124, 126 which are slightly laterally offset from one another. The uppermost flange 124 (as viewed from Fig. 13b) also defines a centrally located hole 128 there through. However, the lower most flange 126 has no hole, but rather depending therefrom is a downwardly open channel 130. Laterally extending flanges 132 partially close the channel 130 so as to define a T-shaped space therewithin. The space defined within the channel 130 corresponds in size and shape to the profile of the T-bar protrusion 46 on the components in Figs. 2 to 11.

The construction of an exemplary auxiliary wall structure in accordance with the invention will now be described with reference to Figs. 1 to 14. Firstly the outline of the desired wall structure is marked on the floor. The locations for a series of floor fixings as shown in Fig. 1 are then marked along the outline, with two fixings for every two metres to give two fixings per wall panel. The foot portions 2 of the floor fixings are bolted to the floor parallel to the outline of the wall using the bolt holes 8.

A wall panel mounting bracket 24 is then fixed to each pair of floor fixings by passing the heads 20 thereof into end of the lower channel 30 of the bracket 24 so that the channel flanges 26 pass between the heads 20 and the washers 28. The shafts 12 of the fixings may be screwed into or out of the respective threaded bores 17 of the fixings to ensure that the bracket is horizontal at the required height from the floor. The lock nuts 18, 22 are then tightened to secure the shaft 12 at the chosen height and the head 20 at the chosen position along the channel.

A 2m x 3m 18mm MDF wall panel 85 is then slotted into the upper channel 32 of the mounting bracket. It is tilted back using the ball and socket joint 14, 16 to rest on the existing wall. An edge bracket 86, 100, 102 or 108 is fitted onto each side edge of the wall

panel 85. The wall panel 85 may then be tilted forward using the ball and socket joint 14, 16 to allow easy access to the existing wall behind for securing a wall fixing bracket part 110 to it

With reference to Fig. 14, the wall fixing part of the bracket 110 is fixed to the existing wall 133 or by means of a bolt 111 or other suitable fixing means which passes through the hole 118 in the wall contacting flange 112. A threaded bar 113 is then passed through the hole 120 in the other flange 114 and secured in place with a pair of nuts 115 and washers (not shown).

A wall fixing bracket part 122 is then engaged with the wall panel bracket 86 by sliding the T-shaped channel 130 thereof over the T-shaped bar 46 on the bracket 86 (although these are shown separated in Fig. 14 for clarity).

Thereafter the wall panel 85 and thus its bracket 86 may be tilted vertically again by once more using the ball and socket joint 14, 16 on the floor fixing. The wall fixing bracket part 122 is moved along the T-bar 46 to the correct point so that the threaded bar 113 may be passed through the hole 128 in the facing flange 124 and secured by another pair of nuts 115 and washers (not shown). If required it may be held in the correct position by a grub screw (not shown) It will be appreciated that the separation between the wall panel 85 and the existing wall 133 may be determined and adjusted simply by judicious positioning of the four nuts 115.

It will further be appreciated that the components shown in Fig. 14 may be assembled in any order. Also in practice it may be necessary to attach the two bracket parts 110, 112 together temporarily at first in order to mark the correct position for e.g. drilling a hole into the existing wall 133, but once the correct position for the wall fixing part 110 has been marked, the bracket parts 110, 122 may be detached from one another and the

wall connector part 110 affixed to the existing wall 133 without encumbrance from the wall panels 85 of the auxiliary wall structure.

The wall panel mounting bracket may be fixed to the wall 133 in a similar way. The detachability of the fixing bracket parts 110,122 means that all of the wall brackets 24, 86 etc. may potentially be fixed to the existing wall 133 and whilst still allowing the panel 85 to be tilted away from the wall during securement of the bracket parts 110. Once all have been properly secured, the wall panel 85 may be secured by simply securing a nut 115 onto the threaded bar 113 of each fixing bracket.

The wall structure may be extended sideways using a T-adaptor bracket 100. If the structure is to be more than one panel high, such a bracket 100 may be used horizontally to accommodate a second vertically adjacent wall panel, although it will be appreciated that this will not be able to be tilted forward during construction. Alternatively it may be finished off with an edge bracket 86 used horizontally as a top edge bracket.

Once the wall panels are fixed, a base shelf 66 and/or plinth may be fitted to the front of the wall panel mounting bracket 24 as described above with reference to Fig. 7.

Fig. 15 shows a connector piece which may be used to construct an auxiliary wall structure in an alternative, 'back to back' configuration. It has two channels 134 defining T-shaped spaces therewithin which are connected together by an elongate bar 136. As with the channels 130 of Fig. 12, the channels 134 are so sized and shaped to form a tight sliding fit over the T-bar 46 on the wall panel brackets although additionally or alternatively grub screws may be used. The connector of Fig. 15 therefore allows back to back wall panel assemblies to be attached to one another to give them

greater stability. In such a configuration floor fixings similar to those shown in Fig. 1 but without the ball joint 14, 16 could be used.

It may be desired to provide base shelves on one or both of the wall panel assemblies to enhance their stability. It may be seen in this latter example, that it is not therefore essential in all aspects of the invention for the auxiliary wall structure to be attached to a more permanent building structure such as a wall or ceiling.

It will be appreciated that, thus far, the described components of the auxiliary wall structure system have all been shown to be suitable for use with a standard-thickness wall panel board such as 18mm MDF board, or thinner boards through use of a reducer strip such as that shown in Fig. 7. Of course, the components could be re-sized appropriately to be used with alternative board thicknesses.

However, it may be desirable in some circumstances to incorporate more than one panel thickness and type within a given auxiliary wall structure. An example of such an arrangement is shown in Figs. 16 to 21. Fig. 16 shows a cross section through a thinner wall panel 138 which may be incorporated within an auxiliary wall structure of the kind previously described. It will be seen from Fig. 16 that rather than a plain panel which is received in one or more brackets, the thinner panel 138 has integrally formed fixing portions 140, 142 along its bottom and top edges respectively. It also comprises an integral T-bar 46 to allow it to be attached e.g. to an existing wall as described above.

The lower fixing portion 140 is generally in the form of a foot with a protruding heel portion 144 and a tapering toe portion 146. The toe portion 146 stops short of the base of the planar portion of the panel 148 so as to form a recess 150. It will be seen that the uppermost fixing portion 142 has an identical but

inverted structure except that a hook portion 152 extends from its heel portion.

An adaptor 154 for connecting the thinner panel 138 to a thicker wall panel is shown in Fig. 17. It will be seen that the adaptor bracket 154 has all of the features common to the previously described wall panel brackets and is essentially just a modification of the edge bracket 86 shown in Fig. 8. Thus, the adaptor bracket 154 comprises gripping ridges 94, 96 and a T-bar protrusion 46. However, it also comprises a fixing formation 156 along its upper edge which is identical to the upper fixing formation 142 on the panel 138 of Fig. 16. Also shown in Fig. 17 is a cross section through a clip strip 158 for clipping the thinner wall panel 138 to the adaptor bracket 154 as will be described below with reference to Fig. 21.

The panel 138 may be interfaced with another thicker wall panel above it by means of the adaptor bracket 172 of Fig. 18. It will be seen that the adaptor bracket 172 is similar to the adaptor 154 which fits to the bottom of the panel 138, except that the fixing portion 174 of the adaptor 172 mimics the shape of the fixing portion 140 at the lower edge of the panel 138. This enables an identical clip strip 158 to be used to fix the adaptor 172 to the top fixing formation 142 of the thinner panel. Thus, it will be seen that thinner panels may be inserted at any point and in any number in an auxiliary wall structure otherwise comprised of the thicker wall panels.

An alternative thinner wall panel 176 is shown in Fig. 19. It will be seen that this panel is identical to that shown in Fig. 16 except that instead of an entirely planar central portion, an aperture 177 is formed therein opening into a recess 178 behind the plane of the panel. This is so sized and shaped to accept a standard cantilever hook bracket 180 as shown in Fig. 20. The system shown in Figs. 19 and 20 is

commonly known in the field of retail display equipment and is commonly referred to as a "slat wall" system. Although Fig. 19 is only a cross section and therefore only one recess 178 may be seen, it may be appreciated that in practice a plurality of horizontally adjacent recesses 178 will be provided. A two-dimensional array of recesses 178 may be achieved by mounting a plurality of the panels 176 on top of one another. Turning to Fig. 20, the hook bracket 180 may be used to provide cantilever support to a shelf 66. As may also be seen, the front edge of the shelf 66 may be finished by a standard ticket strip 182 or an illuminated ticket strip 184.

Fig. 21 shows one possible construction of part of an auxiliary wall structure incorporating the components of Figs. 16 to 19. As may be seen, the lower fixing portion 140 of the slat wall panel 176 is engaged with the fixing formation 156 of the adaptor bracket 154 by hooking the heel portion 144 underneath the hook portion 160 of the adaptor fixing formation 156. This results in the symmetrical alignment of the toe portions 146, 162 and the recesses 150, 164 of the two fixing formations 140, 156. The two components are fastened together by pushing the clip strip 158 so that the hook-like ribs 166, 168, thereof pass over the two respective tapered heel portions 146, 162 to clip securely into the respective recesses 150, 164. The front facing surface 170 of the clip strip 158 provides a decorative finish and hides the connection between the two components.

A second, vertically adjacent, thinner panel 138 is similarly attached at the upper fixing formation 146 of the panel 176. Above this, the same fixing method secures a further adaptor bracket 172 to allow the structure to continue upwardly with another planar wall panel 85.

Turning to Fig. 22 there may be seen an alternative design of a clip strip for securing together two Slat

Wall panels 176, or indeed any pair of panels having connection portions 140, 142 similar to those shown.

As in the previous embodiment, the clip strip 186 in Fig. 22 also comprises a front face 188 and two rearwardly extending arms 190, but in this embodiment the arms 190 are angled inwardly. Furthermore, the two arms 190 are joined to the front face 188 by thinner portions to promote flexing in this region. The rear side of the front face 188 bears a pair of horizontal ridges 192 which help to locate the forward ends of the panel connection portions 140, 142.

It may be seen from Fig. 22 that the clip 186 secures the two panels 176 together in the same way as the clip 158 in Fig. 21 by locating over the lower and upper connection portions respectively of the two vertically adjacent panels 176.

Fig. 23 shows another embodiment of a wall panel bracket 194. In this embodiment, the connection between the bracket 194 and plinth 196 is different to that shown in Fig. 3. In this embodiment the connection is in fact of the 'Slat Wall' type as was described with reference to the shelf bracket 180 in Fig. 20. The plinth 196 is therefore provided with a vertically extending hook 198.

If required a rectangular-section bar 200 may be provided inside the recess at the front of the bracket 194 to lock the hook 198 and therefore the plinth 196 in place to prevent accidental dislodgement or removal.

Fig. 24 shows a similar arrangement to that in Fig. 23 but with a ticket strip plinth 202. The locking bar has been omitted for clarity.

Fig. 25 is a sectional view of a further embodiment of a shelf bracket 204 for coupling to the wall panel bracket 194 shown in Figs. 23 and 24. It therefore comprises a vertically extending hook 206 and a horizontally open channel 208 to receive the shelf (not shown). The bracket 204 may clearly therefore be

substituted for the plinth 196,202 in either of the arrangements of Fig. 23 or 24 where a base shelf is desired.

Fig. 26 shows the base shelf front bracket 210 corresponding to the bracket 204 in Fig. 25. At its rear the bracket has a horizontally open channel to receive the front edge of the shelf. At the front of the bracket is a partially open recess 214 to identical to that on the wall panel mounting bracket 194 in Fig. 23, to accommodate a plinth 196, 202. Underneath the bracket has a downwardly open channel 216 to receive the base shelf front foot 82 as in Fig. 7.

Finally, Fig. 27 shows a shelf side bracket 218. This is identical to the front bracket 210 except that it does not have the downwardly open channel 216 to accommodate the front foot 82. The side bracket 218 may be used to add a plinth easily to the side of a shelf (which need not necessarily be the base shelf).

It will be appreciated by those skilled in the art that only specific embodiments of the invention have been described herein above and that many variations are possible within the scope of the invention. For example it is not essential to fix a wall structure in accordance to the invention to an existing wall or even an existing vertical structure. It could, instead be fixed to a ceiling, beam, joist or the like or could be self-supporting in a 'back to back' configuration.

Furthermore physical connection e.g. using a bolt is not essential. The floor fixing may be held against the floor by indirect fixing via being attached to a bracket in turn attached to an existing wall.

Claims

1. An auxiliary wall structure comprising  
a wall panel,  
means for attaching said wall panel to an existing  
wall, and  
a floor fixing  
wherein said floor fixing comprises  
a foot portion for attachment to a floor,  
a wall panel attachment portion, and  
an extendable shaft portion  
wherein said shaft portion is coupled to said foot  
portion by means of a rotatable joint.
2. An auxiliary wall structure as claimed in claim 1,  
wherein said wall panel attachment portion comprises a  
bracket for attaching said wall panel to said floor  
fixing.
3. An auxiliary wall structure as claimed in claim 2  
wherein said bracket comprises an upwardly open channel  
for receiving said wall panel and a downwardly open  
longitudinal channel for receiving said floor fixing at  
any point along the length of said bracket.
4. An auxiliary wall structure as claimed in claim 2  
or 3 wherein said bracket further comprises means for  
mounting a shelf extending substantially horizontally  
from the bracket.
5. An auxiliary wall structure as claimed in any  
preceding claim comprising a bracket for supporting the  
front end of a shelf.
6. An auxiliary wall structure as claimed in claim 5,

wherein said bracket comprises a downwardly open longitudinal channel for receiving a floor fixing at any point along the length of said bracket.

7. An auxiliary wall structure as claimed in any preceding claim wherein said means for attaching said wall panel to an existing wall comprises a wall panel mounting member.

8. An auxiliary wall structure as claimed in claim 7 wherein said wall panel mounting member comprises a removably attached bracket.

9. An auxiliary wall structure as claimed in claim 7 or 8 wherein the connection between said bracket and said wall panel mounting member comprises a protrusion slidingly received in a corresponding channel.

10. An auxiliary wall structure as claimed in claim 9 wherein said protrusion comprises a prismatic bar and said channel is shaped correspondingly to receive said bar.

11. An auxiliary wall structure as claimed in claim 9 or 10 wherein said protrusion has an approximately T-shaped cross-section.

12. An auxiliary wall structure as claimed in any of claims 7 to 11 wherein said means for attaching said wall panel to an existing wall is separable into two or more parts.

13. An auxiliary wall structure comprising means for mounting said structure to a floor and at least one bracket for fixing said structure to an existing wall, said bracket comprising first and second detachable parts, said first bracket part being suitable for fixing

to an existing wall and said second bracket part being fixed to or suitable for fixing to a part of said wall structure wherein said auxiliary wall structure may be mounted to said existing wall by attaching said first and second bracket parts together.

14. An auxiliary wall structure as claimed in claim 12 or 13 wherein the bracket parts are coupled directly to one another by mutually contacting mating flanges held together.

15. An auxiliary wall structure as claimed in claim 12 or 13 wherein the bracket parts are coupled to one another by an intermediate connector.

16. An auxiliary wall structure as claimed in claim 15 wherein said intermediate connector is arranged to permit a variable spacing between the bracket parts.

17. An auxiliary wall structure as claimed in claim 14, 15 or 16 wherein said intermediate connector comprises a threaded bolt and a set of nuts which allow the two wall fixing bracket parts to be fixed together at a spacing set by the user.

18. An auxiliary wall structure as claimed in any of claims 15 to 17 wherein said intermediate connector comprises at either end a channel for slidably receiving respective protrusions from respective wall panel mounting members, thereby allowing said intermediate connector to connect together two or more wall panel mounting members.

19. An auxiliary wall structure comprising at least two wall panels connected together and substantially parallel to one another, wherein both of said panels are mounted or are adapted to be mounted to a floor.

20. An auxiliary wall structure as claimed in any preceding claim wherein said wall panels are substantially planar.
21. An auxiliary wall structure as claimed in any preceding claim further comprising an adaptor bracket for fitting to an edge of a wall panel, the adaptor bracket being adapted to accept or connect to a thinner panel to enable said thinner panel to be mounted to said wall panel.
22. An auxiliary wall structure as claimed in claim 21 wherein said wall panel comprises integrally formed attachment means for attaching it to said adaptor bracket.
23. An auxiliary wall structure as claimed in any preceding claim wherein at least a portion of the panel area comprises a plurality of apertures for receiving standard fittings such as shelf brackets, hooks and the like.
24. An auxiliary wall structure as claimed in claim 23 wherein said apertures open into a recess behind the panel which is at least partially closed.
25. A floor fixing assembly for an auxiliary wall structure comprising a foot portion for attachment to a floor and an extendable shaft portion which is rotatable with respect to the foot portion.
26. A floor fixing assembly as claimed in claim 25 wherein said shaft portion is coupled to said foot portion by means of a rotatable joint.
27. A floor fixing assembly as claimed in claim 25 or

26 wherein said extendable shaft portion comprises means for attaching the floor fixing to a wall panel or to a bracket for a wall panel.

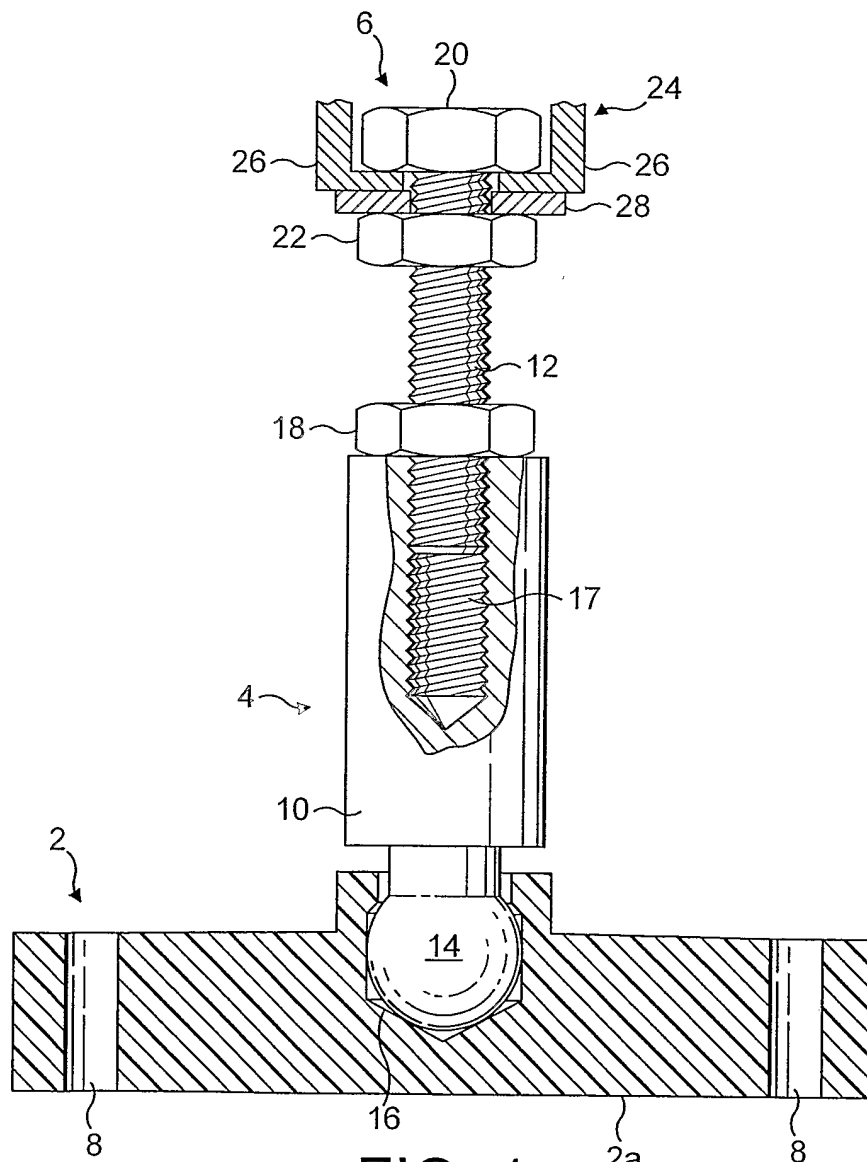
28. A floor fixing assembly as claimed in any of claims 25 to 27 further comprising a bracket for receiving an auxiliary wall panel, wherein said bracket and said floor fixing comprise mutually co-operating means for fixing them together.

29. A floor fixing assembly as claimed in claim 28 wherein said mutually co-operating means comprise an upwardly open channel on said bracket for receiving the bottom edge of a wall panel.

30. A floor fixing assembly as claimed in claim 28 or 29 wherein said mutually co-operating means comprise a downwardly open channel on said bracket for receiving a head portion of said floor fixing shaft portion.

31. A floor fixing assembly as claimed in claim 30 wherein said downwardly open channel further comprises a pair of flanges gripped between said head portion and an abutment provided on the floor fixing shaft portion.

32. A bracket for mounting an auxiliary wall panel comprising an upwardly open channel for receiving said wall panel and a downwardly open channel for receiving a head portion of a floor fixing at any point along the length of the channel, the downwardly open channel being partially closed by a pair of flanges for being gripped in use by an attachment portion of a floor fixing.



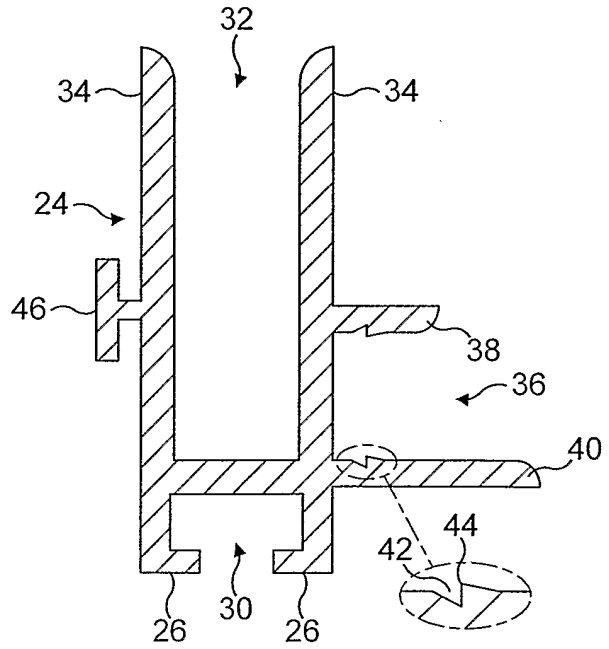


FIG. 2

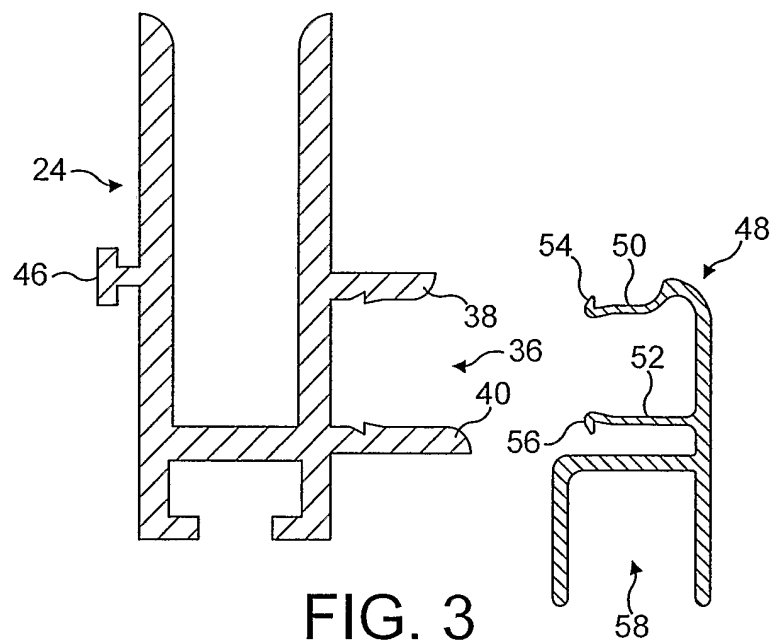
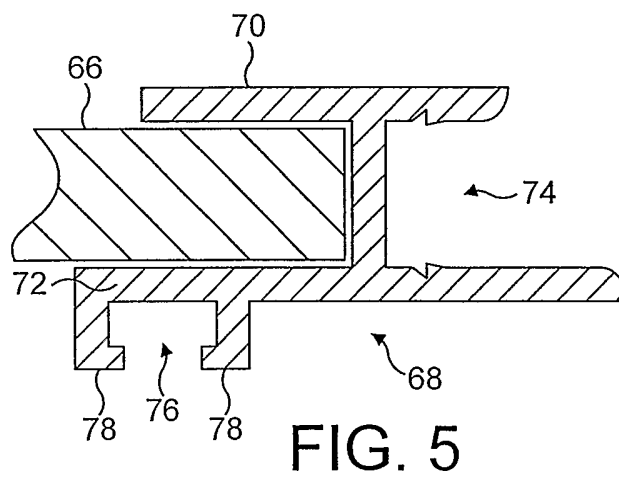
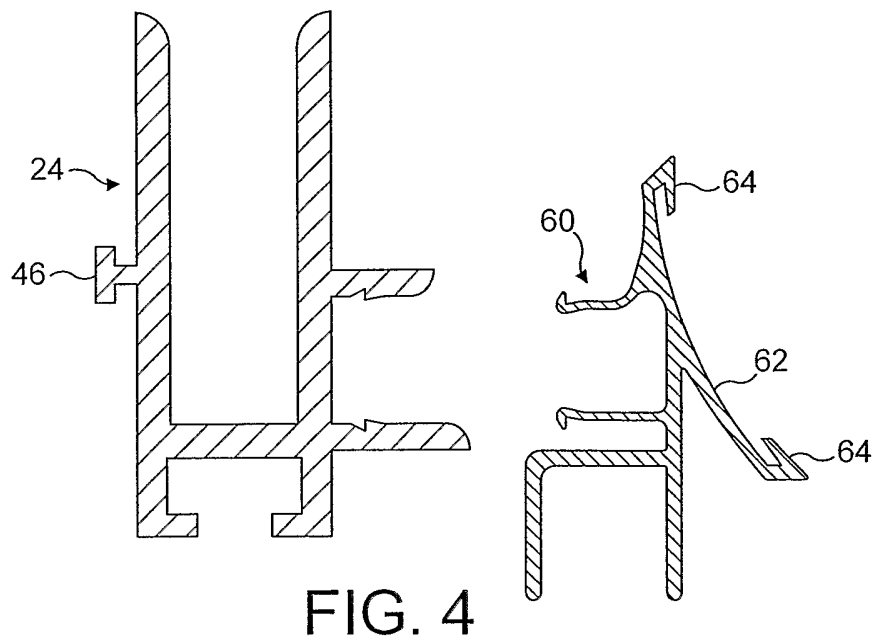


FIG. 3



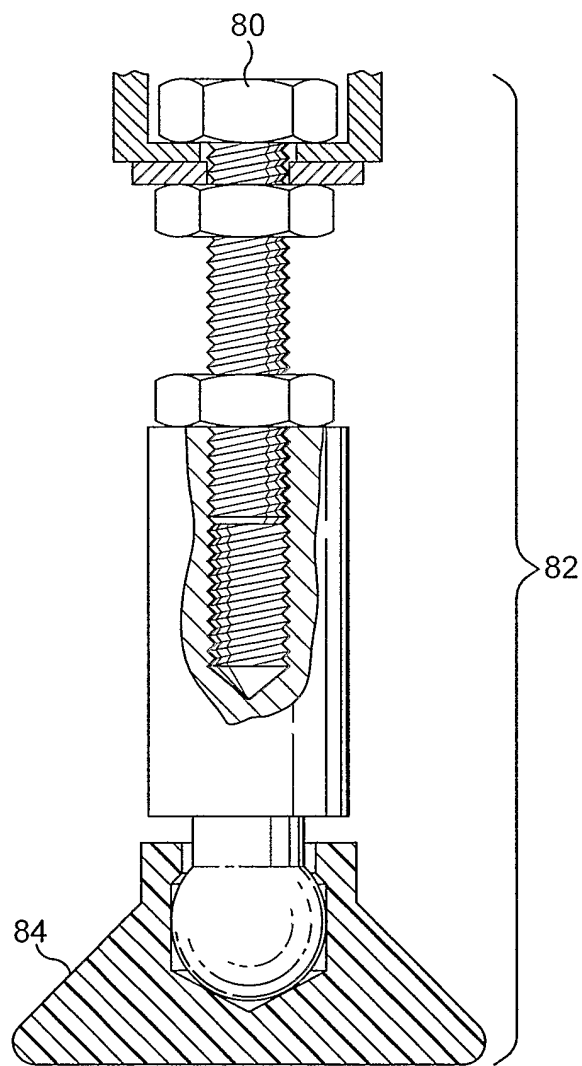


FIG. 6

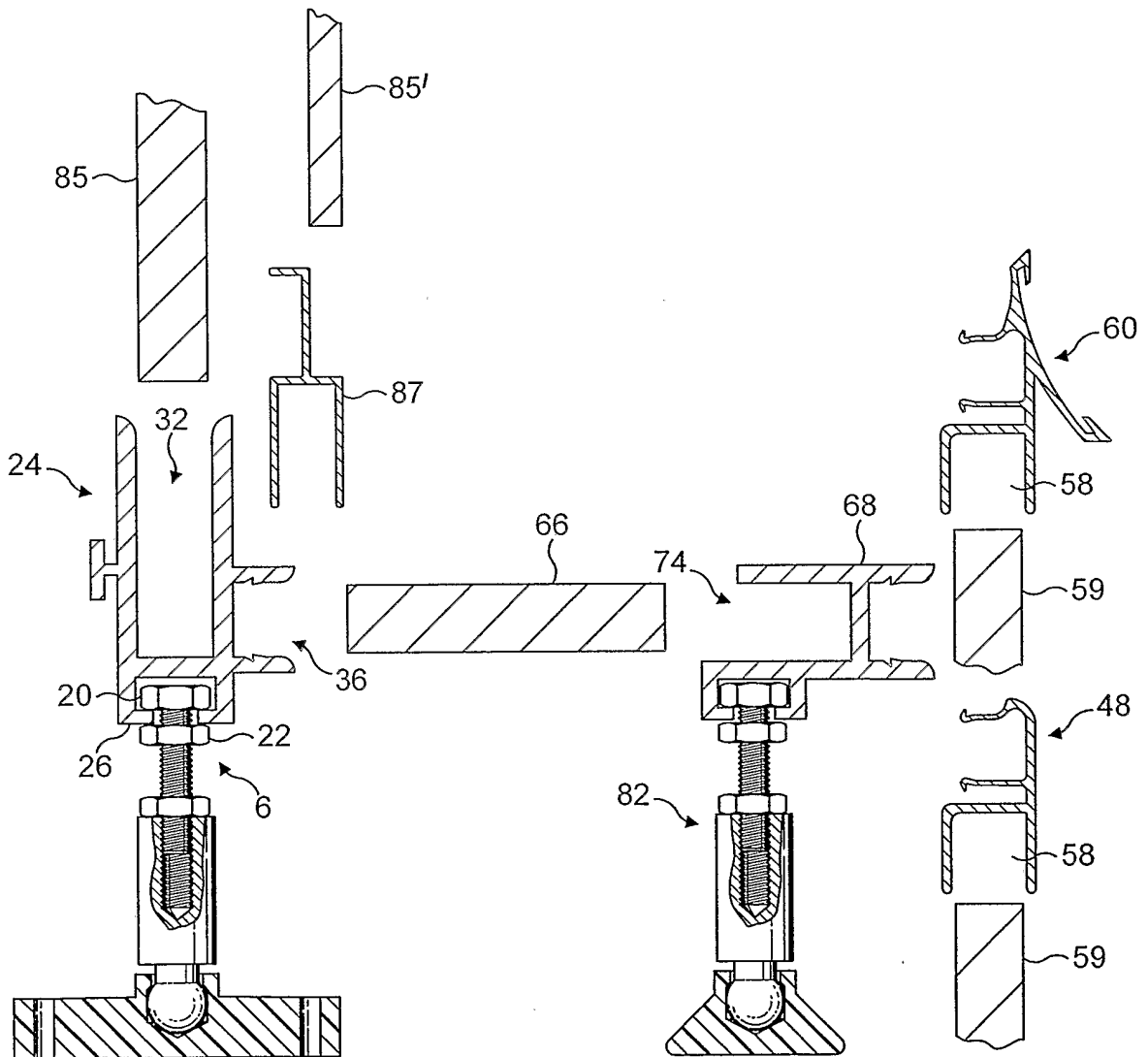


FIG. 7

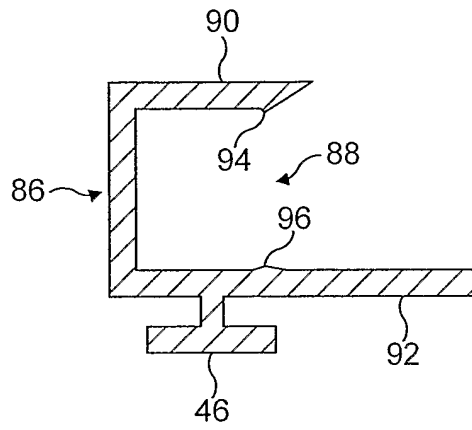
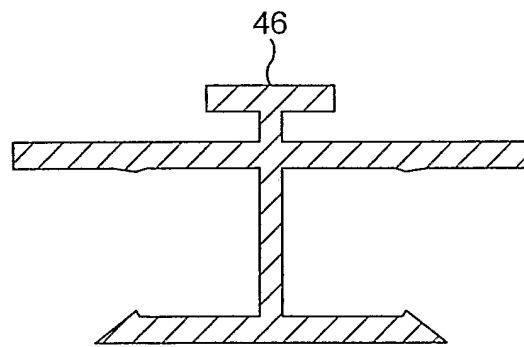
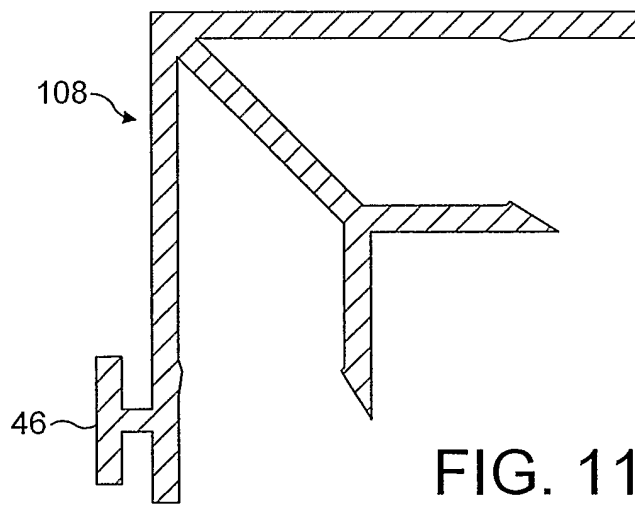
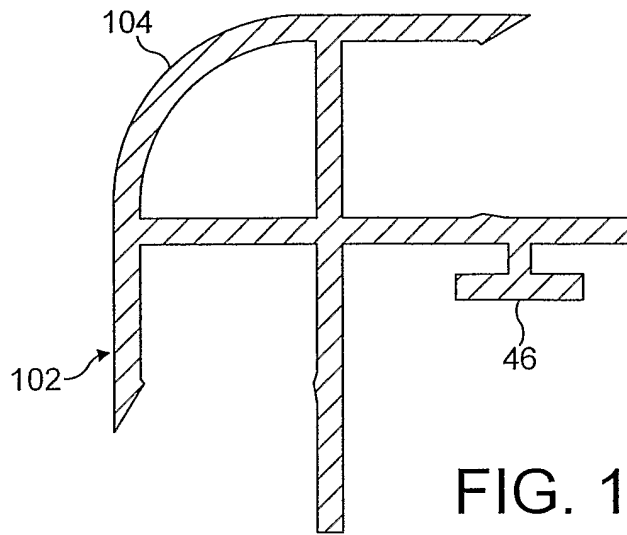


FIG. 8



100 FIG. 9



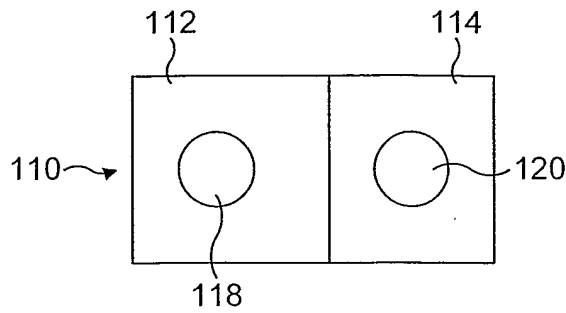


FIG. 12a

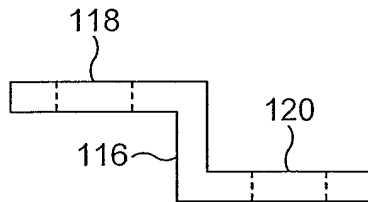


FIG. 12b

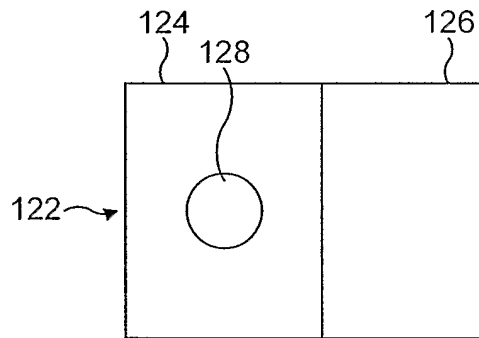


FIG. 13a

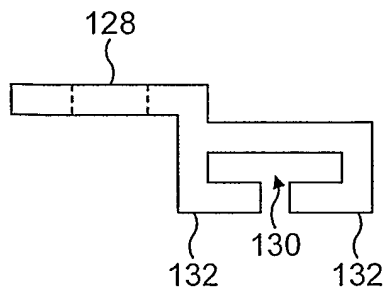


FIG. 13b

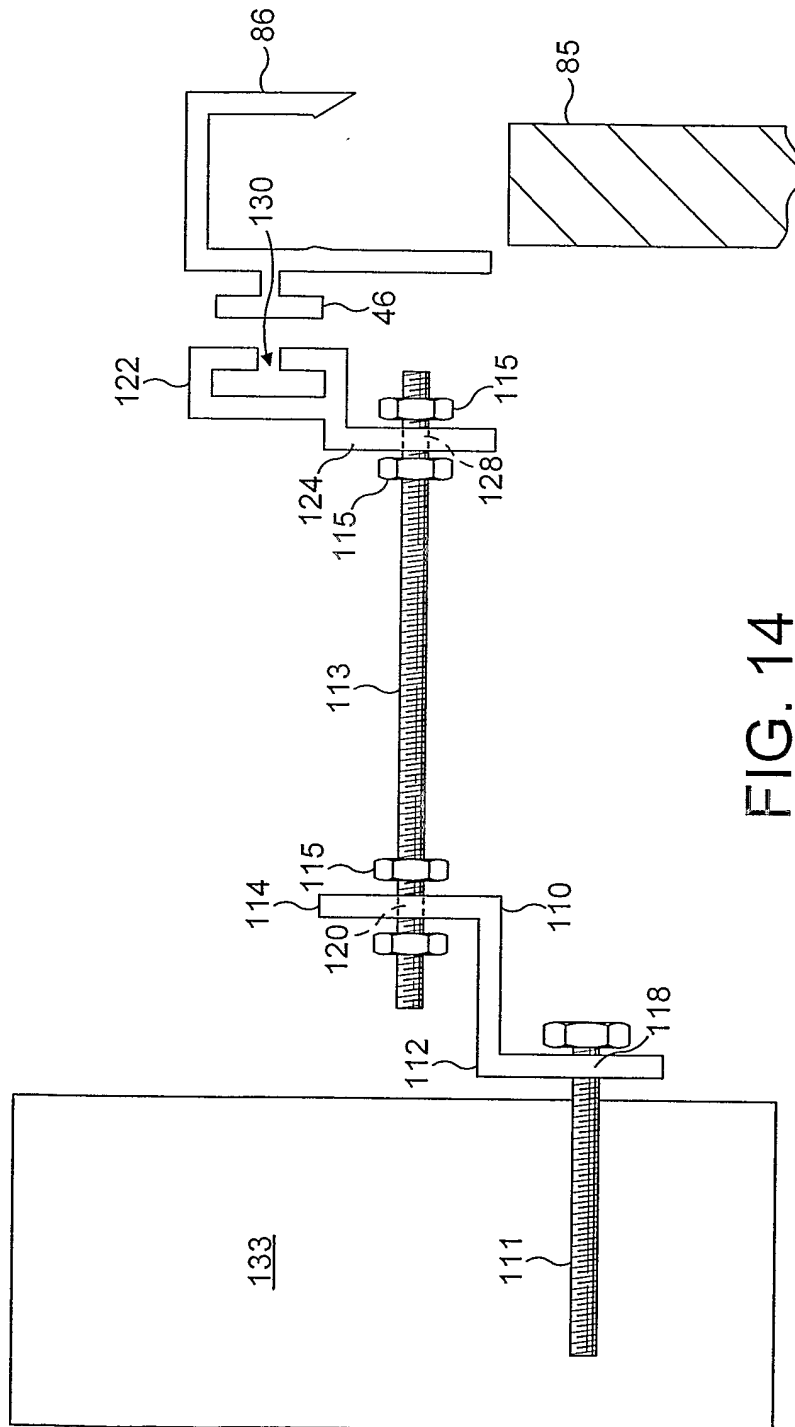


FIG. 14

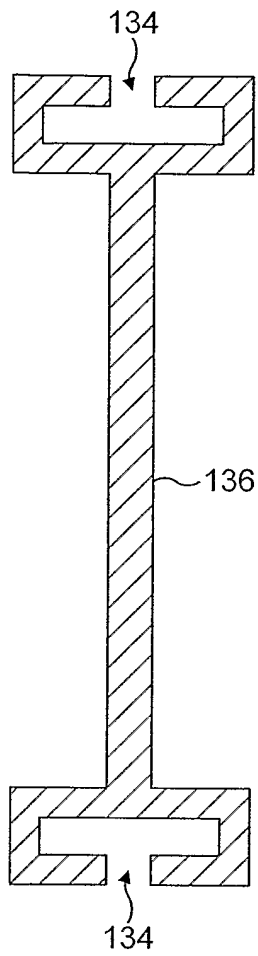


FIG. 15

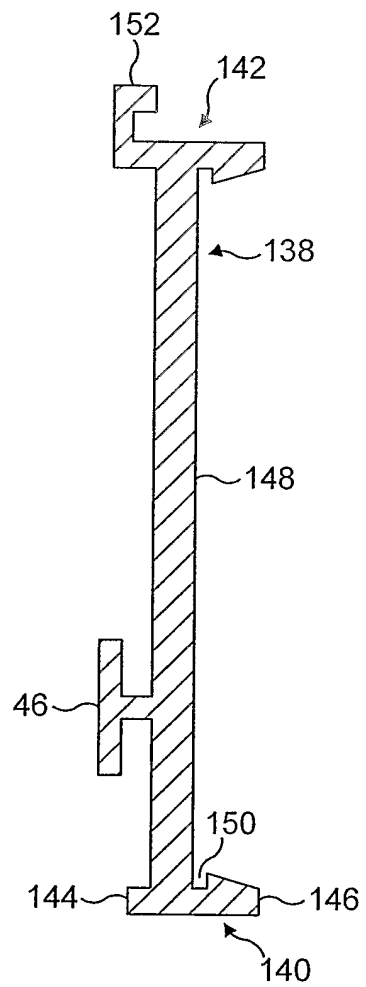


FIG. 16

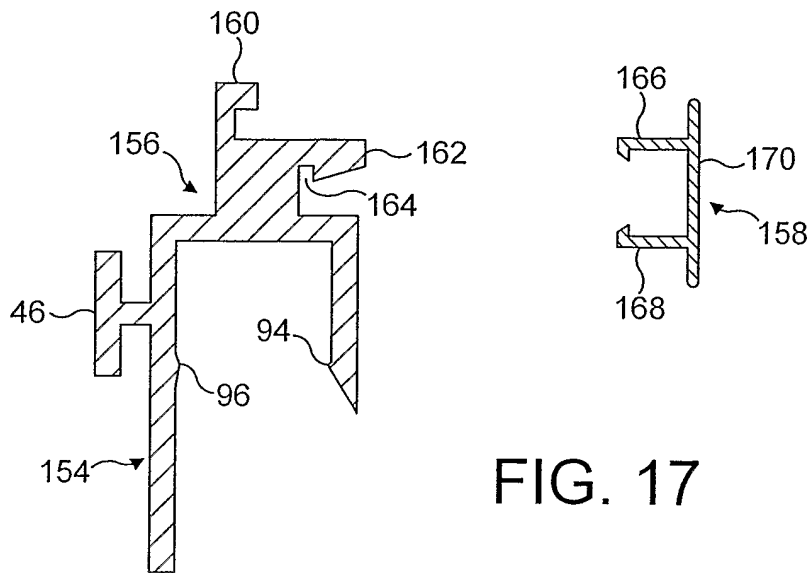


FIG. 17

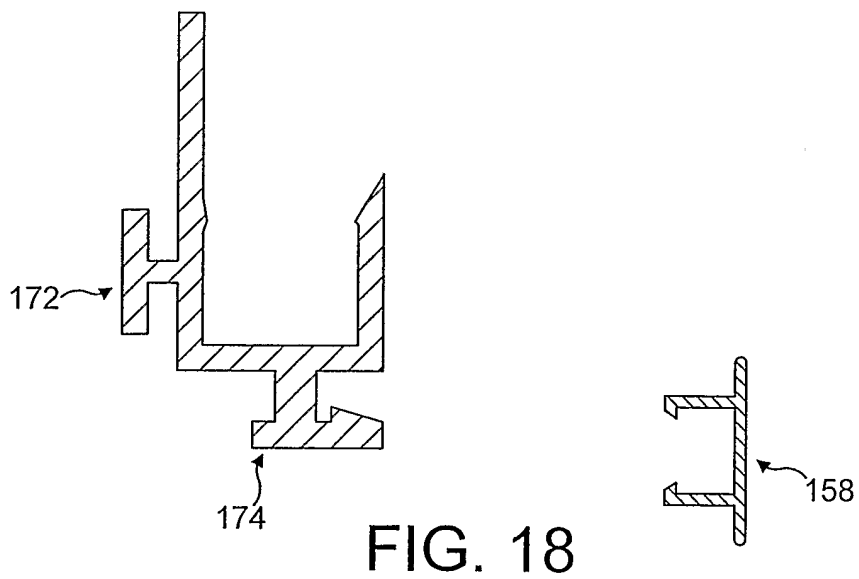


FIG. 18

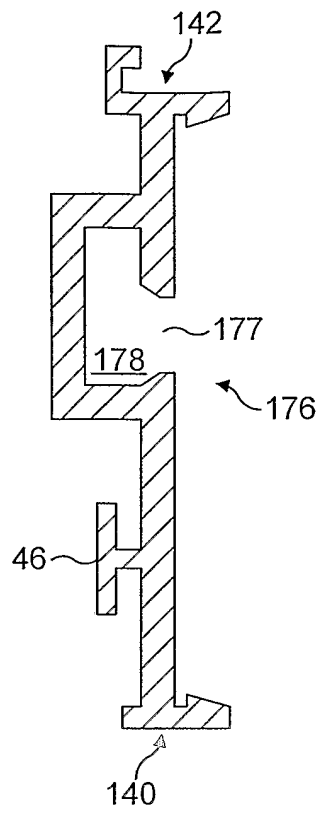


FIG. 19

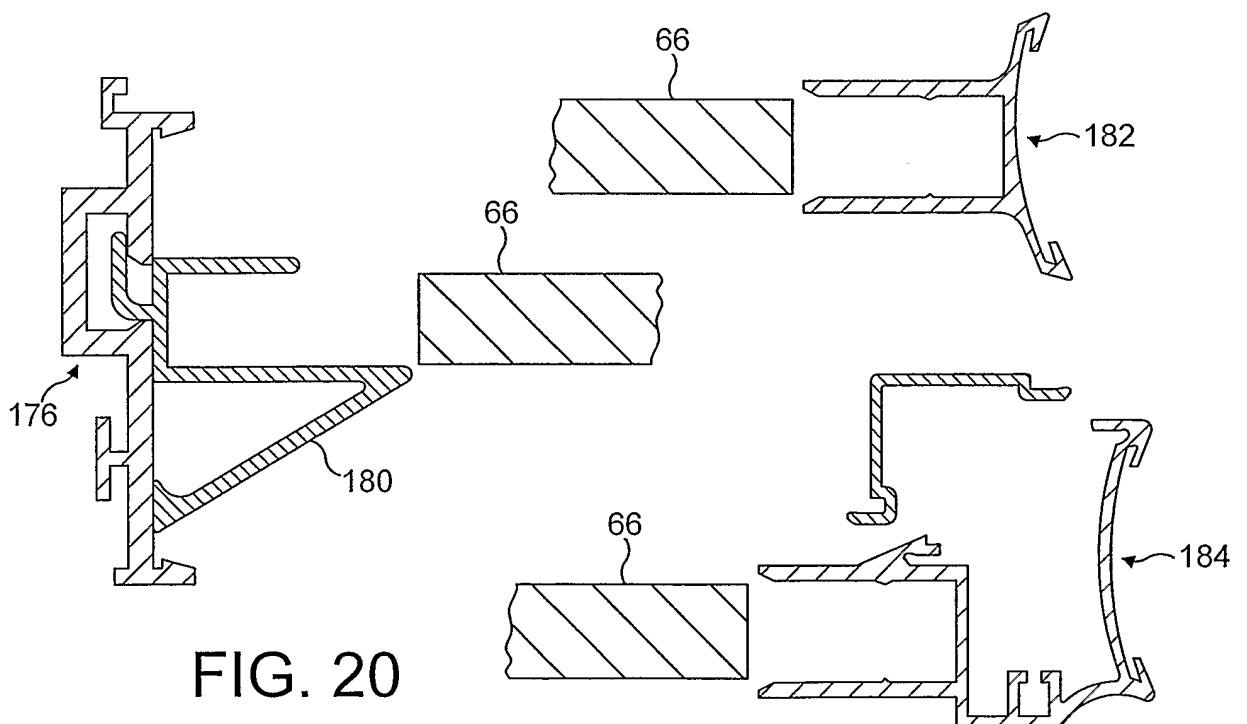


FIG. 20

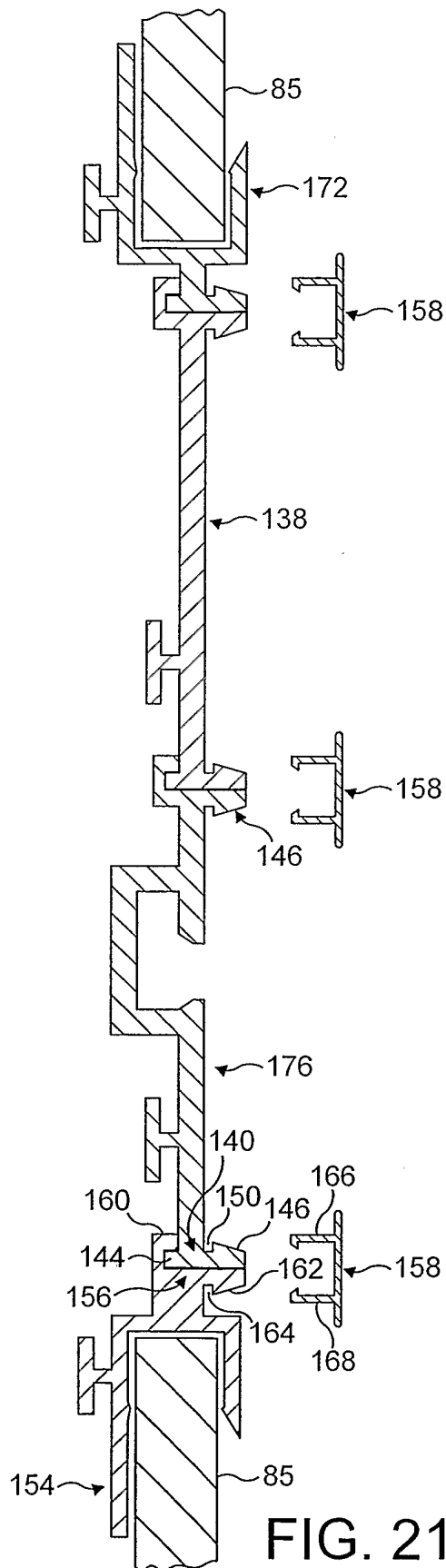


FIG. 21

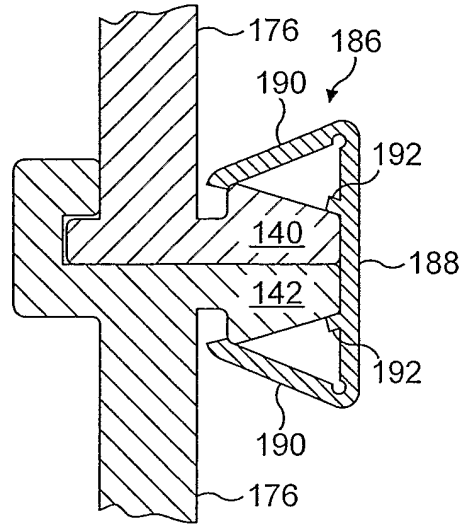


FIG. 22

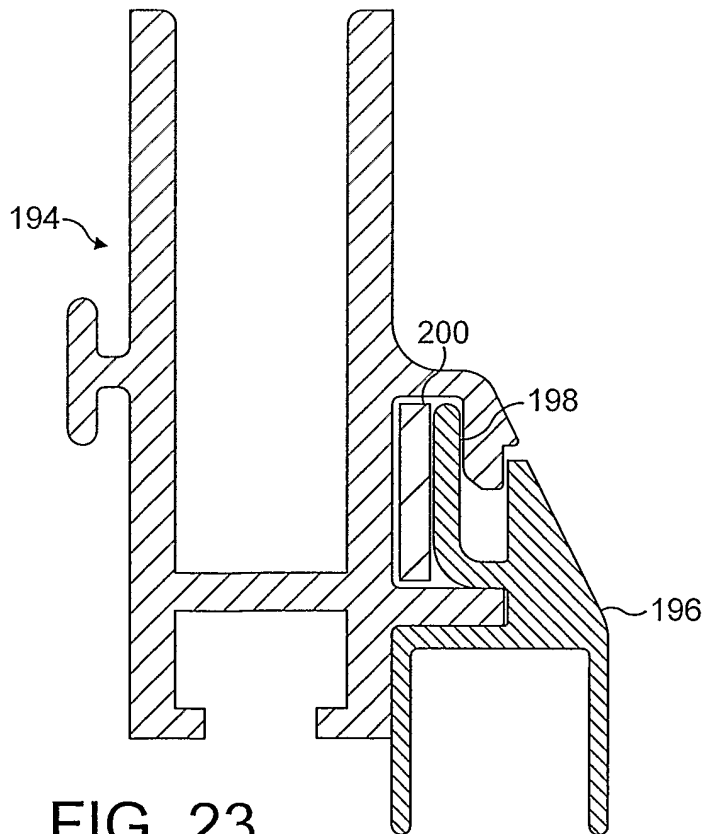


FIG. 23

