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## (54) Cladding buildings.

(57) A building having two cladding panels connected to a support member wherein each panel comprises a web part, to provide a generally outwardly facing surface of the panel, having at one edge thereof a first edge portion and at an opposite edge thereof a second edge portion:

the first and second edge portions having a configuration whereby the first edge portion of a first panel is resiliently interengaged with the second edge portion of the second panel as a result of resilient deformation of at least one of said portions to retain the adjacent edges of the panels from displacement in directions normal to the edges, and wherein the first edge portion of the first panel is connected to the support member by a fastener means and the second edge portion of the second panel is connected to the support member by means of the first edge portion of the first panel.

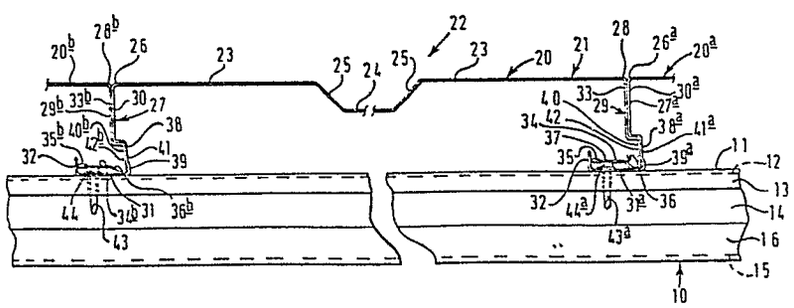

FIG 1

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Title: "Cladding Buildings"

This invention relates to a method of securing, to a support member, cladding panels; a building having cladding panels; and a cladding panel for a building.

Objects of the invention are to provide a new and improved method of securing, to a support member, cladding panels and to provide a new and improved cladding panel in or for a building.

According to one aspect of the invention, we provide a method of securing, to a support member, first and second cladding panels, each panel having a web part, to provide a generally outwardly facing surface of the panel, having at one edge thereof a first edge portion and at the opposite edge thereof a second edge portion; the first and second edge portions having a configuration whereby the first edge portion of a panel can resiliently interengage the second edge portion of an adjacent similar panel as a result of resilient deformation of at least one of said portions to retain the adjacent edges of the adjacent panels from displacement in directions normal to the edges, the method comprising the steps of connecting the first edge portion of the first panel to a support member by a fastener means, resiliently interengaging the second edge portion of the second panel and the first edge portion of the first panel so as to retain the adjacent edges of the panel from displacement in said directions normal to the edges and thereby connect the second edge portion to the support member, and thereafter connecting the first edge portion of the second panel to the support member by a fastener means.

The first edge portion may be connected to the support member before interengaging the first and second edge portions.

Alternatively, the first edge portion may be connected to the support member after interengaging the first and second edge portions.

In each case the first edge portion may be connected to the support member by applying the fastener means from the side of the panel having said outwardly facing surface.

Alternatively, in each case the first edge portion may be connected to the support member by applying the fastener means from the side of the panel opposite to that having said outwardly facing surface.

The method may include the step of causing the fastener means to extend through an opening in the first edge portion.

After causing the fastener means to extend through the opening in the first edge portion, there may be performed the step of interengagement of the first and second edge portions so as to dispose a part of the fastener means therebetween.

The fastener means may be caused to be in clamping engagement with the first edge portion.

After causing the fastener means to be in said clamping engagement, there may be performed the step of interengaging the first and second edge portions.

Alternatively, after the step of interengaging the first and second edge portions, there may be performed the step of causing the fastener means to be in said clamping engagement.

The second edge portion of the second panel and the first edge portion of the first panel may be resiliently inter-engaged by moving the second panel relative to the support member and to the first panel whilst the second panel is orientated so that the first edge portion is not closer to the support than is the second edge portion.

The step of resiliently inter-engaging the second edge portion of the second panel and the first edge portion of the first panel may be performed whilst the second panel is orientated so that the web part thereof is parallel or substantially parallel to the web part of the first panel.

The first edge portion of each panel may comprise a main flange extending generally perpendicular to said web part, a second flange extending generally perpendicularly away from the main flange on the opposite side and at the opposite end thereof to the web part, the second flange having at the opposite end thereof to the main flange a lip which extends from the second flange on the same side thereof as, and generally parallel to, the main flange, and the second edge portion of each panel comprising a main flange extending generally perpendicular to said web part on the same side thereof as the main flange of the first edge portion, a second flange extending generally perpendicularly away from the main flange on the same side thereof as, but at the opposite end thereof to, the web part, and wherein the step of

resiliently interengaging the second and first edge portions may be performed so that the second flange of the second edge portion of the second panel lies between the main flange and lip of the first edge portion of the first panel and between the second flange of the first edge portion of the first panel and the web part of the second panel.

The main flanges of the edge portions of each panel may be provided with interengageable male and female parts and wherein said step of interengagement may be performed so as to interengage said male and female parts to restrain movement of said adjacent panels in a direction perpendicular to said web part with the male and female parts being maintained in engagement in a direction parallel to said web parts by virtue of engagement between the second flange of the second edge part of the second panel and the lip of the first edge part of the first panel.

In each panel, the distance, in a direction parallel to the second flange, between the main flange and the closest part of the portion of the lip of the second flange which is engaged, in use, by the free end of the second flange of the second edge portion, to the main flange, of the first edge portion, is not less than the distance between the surface of the main flange facing away from the second flange and the part of the second flange furthest from the main flange, of the second edge portion and wherein said step of resiliently inter-engaging the second and first edge portions may be performed by moving the second panel relative to the first panel and to the support whilst the second panel is orientated so that the first edge portion is not closer to the support than is the second edge portion.

The step of resiliently inter-engaging the second and first edge portions may be performed whilst the second panel is orientated so that the web part thereof is parallel or substantially parallel to the web part of the first panel.

According to a second aspect of the invention, we provide a building having two cladding panels connected to a support member wherein each panel comprises a web part, to provide a generally outwardly facing surface of the panel, having at one edge thereof a first edge portion and at an opposite edge thereof a second edge portion, the first and second edge portions having a configuration whereby the first edge portion of a first panel is resiliently interengaged with the second edge portion of the second panel as a result of resilient deformation of at least one of said portions to retain the adjacent edges of the panels from displacement in directions normal to the edges, and wherein the first edge portion of the first panel is connected

to the support member by a fastener means and the second edge portion of the second panel is connected to the support member by means of the first edge portion of the first panel.

The fastener means may extend through an opening in the first edge portion and a portion of the fastener is disposed between the first and second edge portions.

The fastener may be a clamping means in engagement with the first edge portion and a part of the clamping means may be disposed between the first and second edge portions.

Each first edge portion may comprise a main flange extending generally perpendicular to said web part, a second flange extending generally perpendicularly away from the main flange on the opposite side and at the opposite end thereof to the web part,

the second flange having at the opposite end thereof to the main flange a lip which extends from the second flange on the same side thereof as, and generally parallel to, the main flange, and each second edge portion may comprise;

a main flange extending generally perpendicular to said web part on the same side thereof as the main flange of the first edge portion,

a second flange extending generally perpendicularly away from the main flange on the same side thereof as, but at the opposite end thereof to, the web part, and the first and second edge portions being interengaged so that the two panels are disposed in side-by-side relationship with the second flange of the second edge portion of the second of said panels lying between the main flange and lip of the first edge portion of the first of said panels and between the second flange of the first edge portion of said first panel and the web part of said second panel, the second flange of the first edge portion of said first panel being connected to the support member by said fastener means.

The distance, in a direction parallel to the second flange, between the main flange and the closest part of the portion of the lip of the second flange which is engaged, in use, by the free end of the second flange of the second edge portion, to the main flange, of the first edge portion, is not less than the distance between the surface of the main flange facing away from the second flange and the part of the second flange furthest from the main flange, of the second edge portion.

The main flanges of said edge portions may have interengaged male and female parts to restrain movement of said adjacent panels in a direction perpendicular to said web part and the male and female parts are maintained in engagement in a direction parallel to said web parts by virtue of engagement between the second flange of the second edge part of the second panel and the lip of the first edge part of the first panel.

The main flange of the first edge portion may be provided with a generally channel-shaped recess which receives a projection of cooperating configuration provided on the main flange of the second edge portion to provide the interengageable male and female parts.

The interengaged male and female parts may be provided with a sub-recess therebetween to accommodate a sealant.

The sub-recess may be provided by a portion of the channel-shape recess of the first edge portion of greater depth than the remainder and adjacent the second flange thereof.

The second flange of the second edge portion of the second panel may be disposed closer to the web part of the second panel over at least a portion of its length than it is disposed at the position at which it is connected to the main flange, thereby providing a space between the second flange parts of the interengaged first and second edge portions to accommodate a fastener means engaged with the second flange part of the first edge portion of the first panel.

The fastener means may comprise an elongate fastener extending through the second flange of the first edge portion and has been applied to the second flange from the exterior of the building prior to interengagement of the second edge portion of the second panel with the first edge portion.

The distance between the end of the second flange of the second edge portion of the second panel adjacent the lip of the second flange of the first edge portion of the first panel and the surface of the main part of the second edge portion of the second panel facing the main flange of the first edge portion of the first panel may be less than the distance between the lip and main flange of the first edge portion of the first panel to provide a space between the lip and the free end of the second flange of the second edge portion of the second panel to accommodate the fastener means which comprises a clamp means.

The clamp means may be connected to the support member and a first part of the clip means engaged with the lip of the first edge portion of the

first panel with a part disposed between the lip and the second flange of the second edge portion of the second panel.

Alternatively, the fastener may comprise a first clip part engaged with the lip of the second flange part and in clamping engagement with an abutment provided by said recess in the main flange of the first edge portion.

The support member of the building may comprise a member having a lip portion to engage the second flange of the first edge portion of the first panel and a second clip part engaged with the lip of the support member, means to secure the first and second clip parts together and thereby secure the first edge portion of the first panel to the support member.

The clamp means may have been applied to the first edge portion of the first panel from the interior of the building before or after interengagement of the second edge portion of the second panel with said first edge portion of said first panel.

According to a third aspect of the invention, we provide a cladding panel for a building comprising a web part, to provide a generally outwardly facing surface of the panel, having at one end thereof a first edge portion and at the opposite edge thereof a second edge portion:

the first and second edge portions being provided with a configuration whereby the first edge portion of a panel can resiliently interengage with the second edge portion of an adjacent similar panel as a result of resilient deformation of at least one of said portions to retain the adjacent edges of the adjacent panels from displacement in directions normal to the edges, the first and second edge portions having means whereby a fastening means is receivable by the first edge portion to connect, in use, the first edge portion to the building, and the second edge portion is connected to the building by means of the first edge portion.

The first edge portion may be provided with an opening to receive a shank of a fastener means and the first and second edge portions are configured to accommodate a head of the fastener therebetween.

The first edge portion may be provided with a part for engagement with a first part of a clamp means which comprises said fastener means.

The first edge portion may comprise;

a main flange extending generally perpendicular to said web part,

a second flange extending generally perpendicularly away from the main flange on the opposite side and at the opposite end thereof to the web part, the second flange having at the opposite end thereof to the main flange

a lip which extends from the second flange on the same side thereof as, and generally parallel to, the main flange, and

the second edge portion may comprise;

a main flange extending generally perpendicular to said web part on the same side thereof as the main flange of the first edge portion, a second flange extending generally perpendicularly away from the main flange on the same side thereof as, but at the opposite end thereof to, the web part,

the first and second edge portions being interengageable, in use, so that when two similar panels are disposed in side-by-side relationship, the second flange of the second edge portion of one of said panels lies between the main flange and lip of the first edge portion of the other of said panels and between the second flange of the first edge portion of said other panel and the web part of said one panel.

The distance, in a direction parallel to the second flange, between the main flange and the closest part of the portion of the lip of the second flange which is engaged, in use, by the free end of the second flange of second edge portion, to the main flange, of the first edge portion, is not less than the distance between the surface of the main flange facing away from the second flange and the part of the second flange furthest from the main flange, of the second edge portion.

The main flanges of said edge portions may be provided with interengageable male and female parts to restrain movement of said adjacent panels in a direction perpendicular to said web part and the male and female parts being maintained in engagement in a direction parallel to said web parts by virtue of engagement between the second flange of the second edge portion of said one panel and the lip of the first edge portion of the other panel.

The main flange of the first edge portion may be provided with a generally channel-shaped recess adapted to receive a projection of cooperating configuration provided on the main flange of the second edge portion to provide the interengageable male and female parts.

The interengageable male and female parts may be provided with a sub-recess therebetween to accommodate a sealant.

The sub-recesses provided by a portion of the channel-shape recess in the first edge portion may be of greater depth than the remainder and adjacent the second flange thereof.

The second flange of the second edge portion may be disposed closer to the web part over at least a portion of its length than it is disposed at the position at which it is connected to the main flange, thereby providing a space, in use, between the second flange parts of the first and second edge portions to accommodate a head part of a fastener, the shank of which passes through an opening in the second flange part of the first edge portion.

The distance between the free end of the second flange of the second edge portion and the surface of the main part of the second edge portion facing away therefrom may be less than the distance between the lip and main flange of the first edge portion, thereby to provide, in use, a space between the lip and the free end of the second flange of the second edge portion to accommodate therebetween a first part of a clamp means which comprises said fastener means.

It will be seen, therefore, that the current invention provides a cladding panel which can be secured in position by a fastener applied either from the exterior of the building or from the interior of the building.

The invention will now be described in more detail by way of example with reference to the accompanying drawings wherein:-

FIGURE 1 is a broken away horizontal cross-section through a wall of a building structure embodying the invention;

FIGURES 2a to 2f show diagrammatically a sequence of assembly of cladding panels in the building shown in Figure 1;

FIGURES 3a to 3e show diagrammatically an alternative sequence of assembly to that shown in Figures 2a to 2f;

FIGURE 4 shows an alternative fixing between a structural member of a building and a panel embodying the invention to that illustrated in Figures 1 to 3e;

FIGURE 5 shows a further alternative fixing between a structural member of a building and a panel embodying the invention to that illustrated in Figures 1 to 3e or Figure 4; and

FIGURE 6 shows an alternative configuration of panel.

Referring now to Figure 1, there is illustrated part of a building structure comprising a structural member in the form of a horizontally extending rail 10 having a vertical outwardly facing surface 11 on a flange 12 which has at the upper end an inwardly directed lip 13. The flange 12 at its other end is connected to a web part 14 having a lower flange 15 and inwardly directed lip 16. The support member 10 is secured in position in the building

by any suitable means, such as by means of vertical columns not shown and preferably a plurality of support members 10 are disposed in spaced parallel relationship throughout the height of the wall of the building.

In order to clad the building externally of the support members 10 are provided a plurality of cladding panels, three of which are indicated at 20, 20a and 20b in Figure 1.

Each cladding panel comprises a web part 21 providing an outwardly facing cladding surface 22 for the building. In the example illustrated each web part 21 has two planar edge surface portions 23 and a central planar portion 24 disposed inwardly of the plane in which the portions 23 lie and connected thereto by inclined planar portions 25. However, the web part 21 may be of any other desired configuration.

The web part 21 has at one side edge 26 a first edge portion 27 and at the opposite edge 28 a second edge portion 29.

The first edge portion 27 comprises a main flange 30 which extends at right angles to the web part 21 inwardly towards the structural member 10 and has at the end thereof distant from the web part 21 a second flange 31 which extends perpendicular to the first flange 30 and has, at the end thereof distant from the first flange 30, a lip 32 which extends at right angles to the second flange 31 away from the structural member 10.

The second edge portion 29 comprises a main flange 33 extending at right angles to the web part 21 towards the structural member 10 and having at the end thereof distant from the web part 21 a second flange 34 which at its free end has a bent over part 35 for strength. The second flange 34 is stepped as indicated at 36 so that an end part 37 is spaced above the second flange shown at 31a of the first edge portion 27a of a panel 20a identical and adjacent to the panel 20.

The main flange 30 of the first edge portion 27 has a longitudinally extending, generally channel-shaped, recess 38 adjacent the second flange 31 which has a sub-recess 39 formed therein. The main flange 33 of the second edge portion 29 is similarly formed with a recess 40 having an external consideration so as to interfit with the internal configuration of the recess 38 formed in the first edge portion of an adjacent panel, as indicated at 38a in Figure 1.

The inter-engagement between the portions 38 and 40 of adjacent panels prevents relative movement between adjacent panels in a direction away from the structural member 10. Moreover, the small clearance shown

in Figure 1 between the end of the second flange part 34 of each second edge portion and the lip 32 of the first edge portion of an adjacent panel together with cooperation between the face parts 41, 42 respectively of the recesses in the first and second edge portions prevents at least any significant movement between adjacent panels in a direction parallel to the structural member 10.

As shown in Figure 1, the second flange of each first edge portion is secured to the flange 12 of the support member by means of a self-drilling/tapping screw 43, the head 44 of which is accommodated in the space hereinbefore mentioned, provided by the stepped part 36, between the end part 37 of the second flange 34 of the second edge portion 29 and the second flange 31 of the adjacent first edge portion. Alternatively, an opening comprising an aperture or slot may be provided in the second flange of the second edge portion to provide a clearance opening for the head 44.

Where the cladding panels are thus secured to the support member 10, the sequence of fixing operation may be as illustrated in Figures 2a to 2f from which it will be seen that in Figure 2a a self-drilling/tapping screw 43 is aligned with a dimple 45 formed in the second flange part 31 of the first edge portion 27 of a panel 20 from the exterior of the building and taps its own hole so that it passes through an opening thus formed in the second flange part 31 and the flange 12 of the support member 10 until it occupies the position shown in Figure 2b. A second panel 20b is then positioned as shown in Figure 2b and moved to the position shown in Figure 2c. It is then manipulated to the position shown in Figure 2d resiliently to distort the second edge portion 29 to inter-engage the recess portions 38 of the first edge portion 27 of the already fixed in position panel 20 with recess portion 40b of the second edge portion 29b of the further panel 20b until they occupy the inter-engaged position shown in Figure 2f, identical to the position illustrated in Figure 1.

It will be noted that the web part of the second panel 20b is maintained parallel or substantially parallel to the web part of the first panel 20 during inter-engagement of the first and second edge portions.

In an alternative mode of assembly shown in Figures 3a to 3e a first panel 20 is secured to a support member 10 as shown in Figures 3a and 3b in a manner identical to that described above in connection with the embodiment shown in Figures 2a to 2f. A second identical panel 20b is then positioned as shown in Figure 3b and manipulated through the positions shown in Figures 3c

and 3d to the position shown in Figure 3e which is identical to that shown in Figure 1.

In this case, it will be noted that during said inter-engagement of the first and second edge portions, the second panel is orientated so that the first edge portion is spaced either the same distance away from the support as is the second edge portion, i.e. the orientation shown in Figure 3b, or the first edge portion is spaced further away from the support than is the second edge portion, i.e. the orientation shown in Figure 3c. Thus throughout this mode of assembly, the panel is orientated so that the first edge portion is not closer to the support than is the second edge portion.

It will be seen, therefore, from Figures 2a-2f and 3a-3f that once a panel has been fixed in position by means of a fastener applied from the exterior of the building, further panels can be applied either by an initial movement perpendicular to the support member or by an initial lateral movement generally parallel to the support member.

The stepped portions also facilitates inter-engagement of the first and second edge formations as it reduces the amount of deformation which would otherwise be required and so reduces the load it is necessary to apply to the second panel to effect the inter-engagement.

Referring now to Figure 4, in this embodiment a panel 120 is identical to the panel 20 of the previously described embodiment and is secured to a support member 110 identical to the support member 10 previously described. The panel 120 has a first and second edge portion identical to that described hereinbefore and the second flange 131 of the first edge portion 127 is secured to the flange 112 of the support member 110 by means of a two-part clip member 50, one part, 50a, of which is provided with a U-shaped clip portion 51 which engages the lip 113 of the support member 110, and has a laterally extending flange 52 provided with a clearance opening 53 for a screw 54 which is threadedly engaged with a threaded opening 55 in a flange part 56 of a second clip portion 50b having a U-shaped part 57 to engage the lip 132 of the first edge portion 127, and having a further flange 58 to lie within the second flange 131.

Thus, in this embodiment a panel 120 is secured to the support member 110 by means of the two-part clip 50a, 50b which can be applied from the interior of the building. When a second identical panel is disposed adjacent the first panel with the first and second edge portions inter-engaged as described previously with reference to Figures 1 to 3e, the clip 50 is hidden from view from the exterior of the building.

Referring now to Figure 5, in this embodiment a panel 220 is identical to the panel 20 of the first embodiment described with reference to Figures 1-3e and is secured to a support member 210 identical to the support member 10 of the first embodiment. The panel 220 has first and second edge portions identical to that of the first embodiment described hereinbefore and the second flange 231 of the first edge portion 227 is secured to the flange 212 of the support member 210 by means of a two-part clip member 250, one part, 250a, of which is provided with a U-shaped clip portion 251 which engages the lip 213 of the support member 210 and has a laterally extending flange 252 provided with a clearance opening 253 for a screw threaded shank 254 with which a nut 255 is engageable and which is welded to a web part 256 of a second clip portion 250b which is of generally channel shape to engage around the lip 232, second flange 231 and recess 238 of the first edge portion 227. The second clip portion has a lip 257 which engages around a shoulder 258 between the recess 238 and the remainder of the main flange 230.

Thus, in this embodiment, the panel 220 is secured to the support member 210 by means of the two-part clip 250 which can again be applied if desired from the interior of the building. When the second identical panel is disposed adjacent the first panel with the first and second portions inter-engaged as described previously with reference to Figures 1 to 3e, the clip 250 does not interfere with the inter-engagement and is hidden from view from the exterior of the building.

The above described clip configuration provides a secure fixing and avoids any risk of the clip becoming disengaged, for example, in the event of reverse wind loading. Thus the form of clip described with reference to and as shown in Figure 6 is preferred compared with that described with reference to and as shown in Figure 4.

Figure 6 illustrates a modified channel-shaped recess. In Figure 5 the same reference numerals are used as have been used in the preceding drawings but with the addition of a prime sign. By providing the limbs 60', 61' of the channel-shaped recesses 38', 40' so that they are inclined as illustrated, it will be appreciated that an improved inter-engagement is achieved because of the hooking action of the part 62' within the corresponding recess 63' of an adjacent panel. The base limb 64' of the recess 40' is inclined so as to be parallel to the limb 61' to facilitate "snap" inter-engagement of the part 40' within the recess 38'. It is also to be noted that in this embodiment, instead of rolling over the end of the limb 34', the

end is merely turned up to provide a lip 35'. The lip 32' of the flange 31' is of stepped configuration.

The recess 65' provided by the angled limb 60' facilitates retention of the panel to the building by clip means received within the recess 65'. In this embodiment there is a positive retention of the clip within the recess 65' whereas in the embodiment described with reference to Figures 1 to 4 any such attachment clip is maintained in engagement with the panel only as a result of frictional engagement because the limb in these embodiments extends parallel to the flange 31'.

In all the embodiments, it will be noted that the shortest distance, d1, parallel to the second flange, d1', between the main flange and the closest part (of the portion of the lip of the second flange which is engaged, in use, by the free end of the second flange of the second edge portion), to the main flange, of the first edge portion, is not less than the greatest distance between the surface of the main flange facing away from the second flange and the part of the second flange furthest from the main flange, of the second portion, i.e. the distance d2, d2'.

This relationship ensures that the first and second panels can be inter-engaged whilst the second panel is orientated as set out above.

The panel of the present invention can, therefore, be secured in position in a building by applying a fastener either from the exterior of the building or from the interior of the building as desired. It will also be noted that the first and second edge portions because of the presence of the secondary recess 39 breaks any capillary action which may exist between the adjacent edge portions and, if desired, a sealing strip, not shown, can be provided in the space thus provided.

Although a self-drilling/self-tapping fastener has been described above in the embodiment of Figures 1 to 3e, if desired the fastener may be a self-tapping screw or a nut and bolt connection, or any other fixing means may be desired. Similarly, although clips have been described with reference to Figures 4 and 5, if desired some other form of internal fixing means may be provided.

The panels described hereinbefore may be used as a liner system in either "over-rail" or "under-rail" methods as desired. Furthermore, access to fit the panels to the building is required from one side only, i.e. the side used for insertion of the fasteners according to the procedure chosen.

The configuration of the inter-engageable male and female parts described above provide, in all the embodiments, a "snap" inter-engagement as a result of resilient deformation of at least one of the parts on inter-engagement. The resultant inter-engagement retains the adjacent edges of the adjacent panels from displacement in directions normal to the edges. In addition, assembly is facilitated since it is merely necessary to perform the above described "snap" inter-engagement operation in order to connect a new panel to an already positioned panel without requiring the use of any fasteners or the like.

In all embodiments, by providing the inter-engageable male and female parts of generally channel configuration, stiffness is imparted to the panel and the achieving of accurate dimensional tolerances is facilitated.

The features disclosed in the foregoing description or the accompanying drawings expressed in their specific forms or in terms of a means for performing the disclosed function, or a method or process for attaining the disclosed result, or a class or group of substances or compositions, as appropriate, may, separately or any combination of such features, be utilised for realising the invention in diverse forms thereof.

CLAIMS:

1. A method of securing, to a support member, first and second cladding panels, each panel having a web part, to provide a generally outwardly facing surface of the panel, having at one edge thereof a first edge portion and at the opposite edge thereof a second edge portion; the first and second edge portions having a configuration whereby the first edge portion of a panel can resiliently interengage the second edge portion of an adjacent similar panel as a result of resilient deformation of at least one of said portions to retain the adjacent edges of the adjacent panels from displacement in directions normal to the edges, the method comprising the steps of connecting the first edge portion of the first panel to a support member by a fastener means, resiliently interengaging the second edge portion of the second panel and the first edge portion of the first panel so as to retain the adjacent edges of the panel from displacement in said directions normal to the edges and thereby connect the second edge portion to the support member, and thereafter connecting the first edge portion of the second panel to the support member by a fastener means.

2. A method according to Claim 1 wherein the first edge portion is connected to the support member before interengaging the first and second edge portions.

3. A method according to Claim 1 wherein the first edge portion is connected to the support member after interengaging the first and second edge portions.

4. A method according to Claim 1 or Claim 2 wherein the first edge portion is connected to the support member by applying the fastener means from the side of the panel having said outwardly facing surface.

5. A method according to any one of Claims 1 to 3 wherein the first edge portion is connected to the support member by applying the fastener means from the side of the panel opposite to that having said outwardly facing surface.

6. A method according to any one of the preceding Claims including the step of causing the fastener means to extend through an opening in the first edge portion.

7. A method according to any one of Claims 1 to 5 including the step of causing the fastener means to be in clamping engagement with the first edge portion.

8. A method according to any one of the preceding Claims wherein the second edge portion of the second panel and the first edge portion of the first panel are resiliently inter-engaged by moving the second panel relative to the support member and to the first panel whilst the second panel is orientated so that the first edge portion is not closer to the support than is the second edge portion.

9. A method according to any one of Claims 1 to 7 wherein the first edge portion of each panel comprises:-

a main flange extending generally perpendicular to said web part, a second flange extending generally perpendicularly away from the main flange on the opposite side and at the opposite end thereof to the web part,

the second flange having at the opposite end thereof to the main flange a lip which extends from the second flange on the same side thereof as, and generally parallel to, the main flange,

and the second edge portion of each panel comprising;

a main flange extending generally perpendicular to said web part on the same side thereof as the main flange of the first edge portion, a second flange extending generally perpendicularly away from the main flange on the same side thereof as, but at the opposite end thereof to, the web part, and wherein the step of resiliently interengaging the second and first edge portions is performed so that the second flange of the second edge portion of the second panel lies between the main flange and lip of the first edge portion of the first panel and between the second flange of the first edge portion of the first panel and the web part of the second panel.

10. A method according to Claim 9 wherein, in each panel, the distance, in a direction parallel to the second flange, between the main flange and the closest part of the portion of the lip of the second flange which is engaged, in

use, by the free end of the second flange of the second edge portion, to the main flange, of the first edge portion, is not less than the distance between the surface of the main flange facing away from the second flange, and the part of the second flange furthest from the main flange, of the second edge portion and wherein said step of resiliently inter-engaging the second and first edge portions is performed by moving the second panel relative to the first panel and to the support whilst the second panel is orientated so that the first edge portion is not closer to the support than is the second edge portion.

11. A building having two cladding panels connected to a support member wherein each panel comprises a web part, to provide a generally outwardly facing surface of the panel, having at one edge thereof a first edge portion and at an opposite edge thereof a second edge portion:

the first and second edge portions having a configuration whereby the first edge portion of a first panel is resiliently interengaged with the second edge portion of the second panel as a result of resilient deformation of at least one of said portions to retain the adjacent edges of the panels from displacement in directions normal to the edges, and wherein the first edge portion of the first panel is connected to the support member by a fastener means and the second edge portion of the second panel is connected to the support member by means of the first edge portion of the first panel.

12. A building according to Claim 11 wherein the fastener means extends through an opening in the first edge portion and a portion of the fastener is disposed between the first and second edge portions.

13. A building according to Claim 11 wherein the fastener is a clamping means in engagement with the first edge portion and a part of the clamping means is disposed between the first and second edge portions.

14. A building according to any one of Claims 11 to 13 wherein each first edge portion comprises;

a main flange extending generally perpendicular to said web part, a second flange extending generally perpendicularly away from the main flange on the opposite side and at the opposite end thereof to the web part,

the second flange having at the opposite end thereof to the main flange a lip which extends from the second flange on the same side thereof as, and generally parallel to, the main flange, each second edge portion comprising;

a main flange extending generally perpendicular to said web part on the same side thereof as the main flange of the first edge portion,

a second flange extending generally perpendicularly away from the main flange on the same side thereof as, but at the opposite end thereof to, the web part, and the first and second edge portions being interengaged so that the two panels are disposed in side-by-side relationship with the second flange of the second edge portion of the second of said panels lying between the main flange and lip of the first edge portion of the first of said panels and between the second flange of the first edge portion of said first panel and the web part of said second panel, the second flange of the first edge portion of said first panel being connected to the support member by said fastener means.

15. A building according to Claim 14 wherein the main flanges of said edge portions have interengaged male and female parts to restrain movement of said adjacent panels in a direction perpendicular to said web part and the male and female parts are maintained in engagement in a direction parallel to said web parts by virtue of engagement between the second flange of the second edge part of the second panel and the lip of the first edge part of the first panel.

16. A building according to Claim 15 wherein the main flange of the first edge portion is provided with a generally channel-shaped recess which receives a projection of cooperating configuration provided on the main flange of the second edge portion to provide the interengageable male and female parts.

17. A building according to any one of Claims 14 to 16 wherein the second flange of the second edge portion of the second panel is disposed closer to the web part of the second panel over at least a portion of its length than it is disposed at the position at which it is connected to the main flange, thereby providing a space between the second flange parts of the interengaged first and second edge portions to accommodate a fastener means engaged with the second flange part of the first edge portion of the first panel.

18. A building according to Claim 16 or Claim 17 when dependant on Claim 16 wherein the fastener comprises a first clip part engaged with the lip of the

second flange part and in clamping engagement with an abutment provided by said recess in the main flange of the first edge portion.

19. A building according to Claim 18 wherein the support member of the building comprises a member having a lip portion to engage the second flange of the first edge portion of the first panel and a second clip part engaged with the lip of the support member, means to secure the first and second clip parts together and thereby secure the first edge portion of the first panel to the support member.

20. A cladding panel for a building comprising a web part, to provide a generally outwardly facing surface of the panel, having at one end thereof a first edge portion and at the opposite edge thereof a second edge portion:

the first and second edge portions being provided with a configuration whereby the first edge portion of a panel can resiliently interengage with the second edge portion of an adjacent similar panel as a result of resilient deformation of at least one of said portions to retain the adjacent edges of the adjacent panels from displacement in directions normal to the edges, the first and second edge portions having means whereby a fastening means is receivable by the first edge portion to connect, in use, the first edge portion to the building, and the second edge portion is connected to the building by means of the first edge portion.

21. A cladding panel according to Claim 20 wherein the first edge portion comprises;

a main flange extending generally perpendicular to said web part,

a second flange extending generally perpendicularly away from the main flange on the opposite side and at the opposite end thereof to the web part, the second flange having at the opposite end thereof to the main flange a lip which extends from the second flange on the same side thereof as, and generally parallel to, the main flange, and

the second edge portion comprises;

a main flange extending generally perpendicular to said web part on the same side thereof as the main flange of the first edge portion, a second flange extending generally perpendicularly away from the main flange on the same side thereof as, but at the opposite end thereof to, the web part,

the first and second edge portions being interengageable, in use, so that when two similar panels are disposed in side-by-side relationship, the second flange of the second edge portion of one of said panels lies between the main flange and lip of the first edge portion of the other of said panels and between the second flange of the first edge portion of said other panel and the web part of said one panel.

22. A cladding panel according to Claim 21 wherein the distance, in a direction parallel to the second flange, between the main flange and the closest part of the portion of the lip of the second flange which is engaged, in use, by the free end of the second flange of the second edge portion, to the main flange, of the first edge portion, is not less than the distance between the surface of the main flange facing away from the second flange and the part of the second flange furthest from the main flange, of the second edge portion.

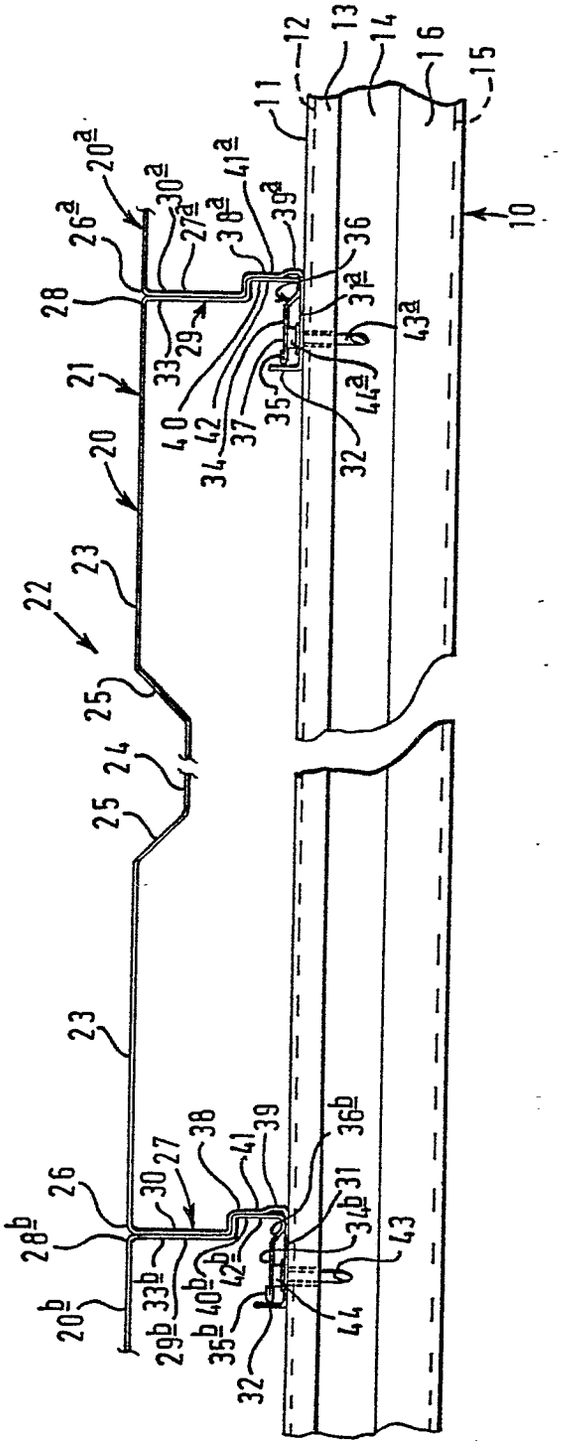
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FIG 1

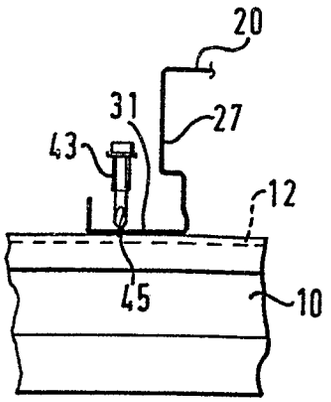



FIG 2a

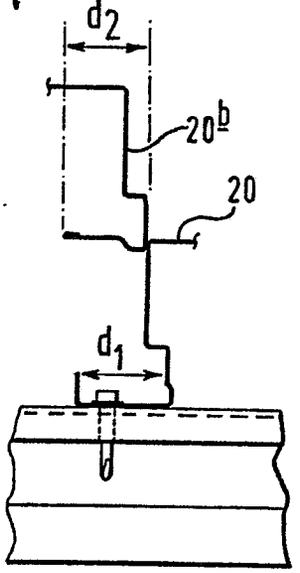



FIG 2b

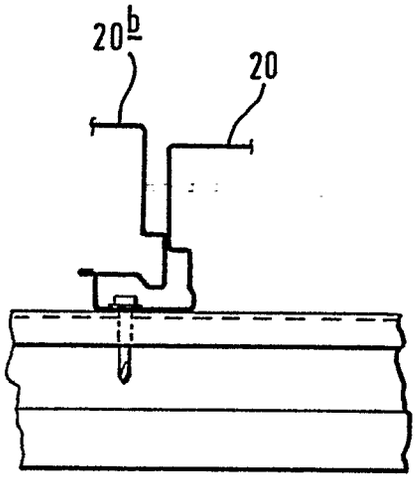



FIG 2c

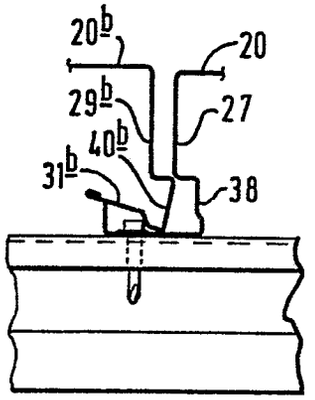



FIG 2d

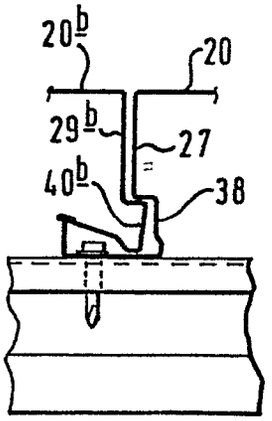



FIG 2e

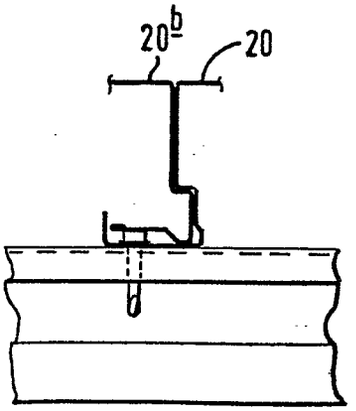



FIG 2f

FIG 3a

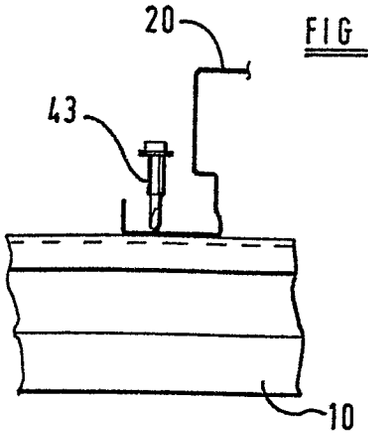



FIG 3b

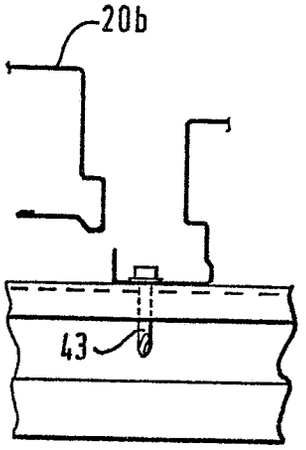
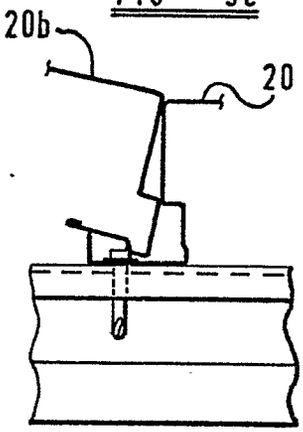



FIG 3c



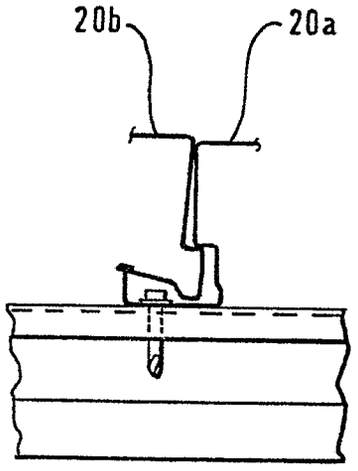




FIG 3d

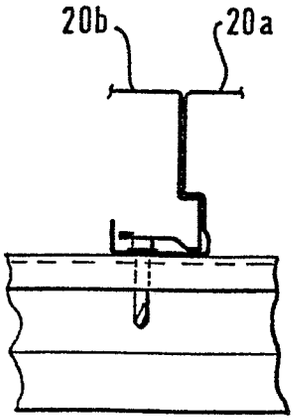



FIG 3e

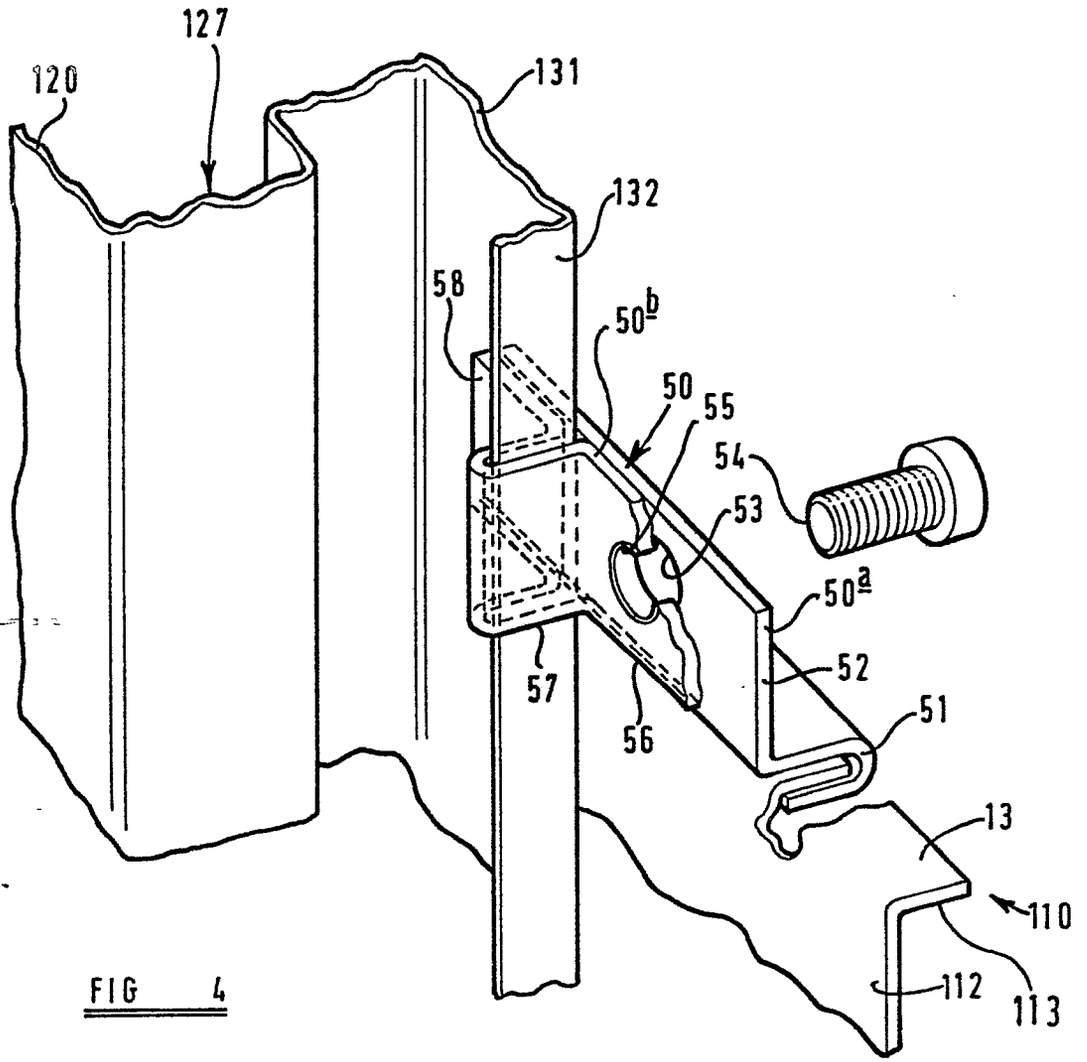



FIG 4

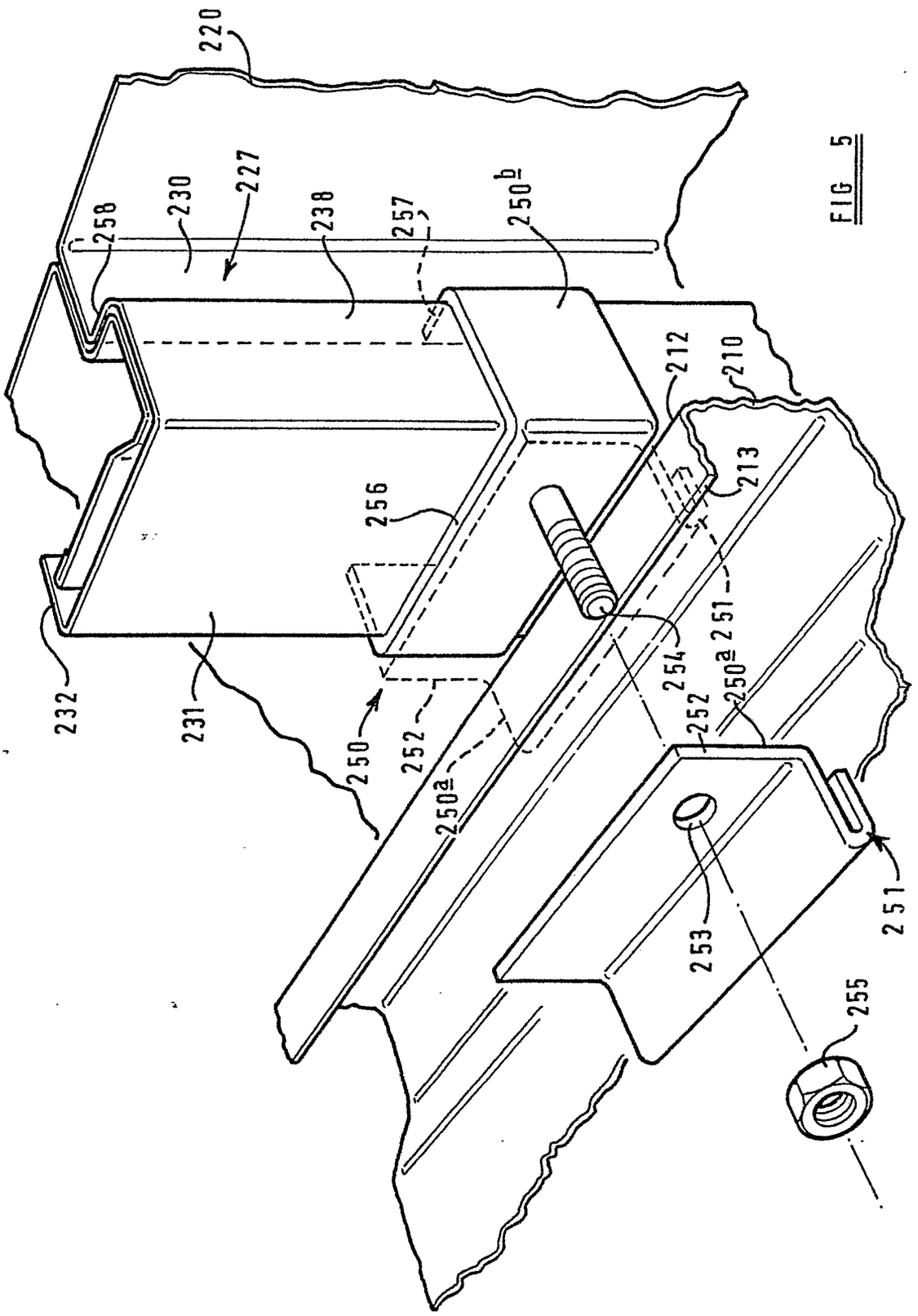

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FIG 5

FIG 6