

Aug. 16, 1966

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3,266,207

EXTERIOR PANEL WALL ASSEMBLY

Filed June 15, 1962

6 Sheets-Sheet 1

FIG. 1

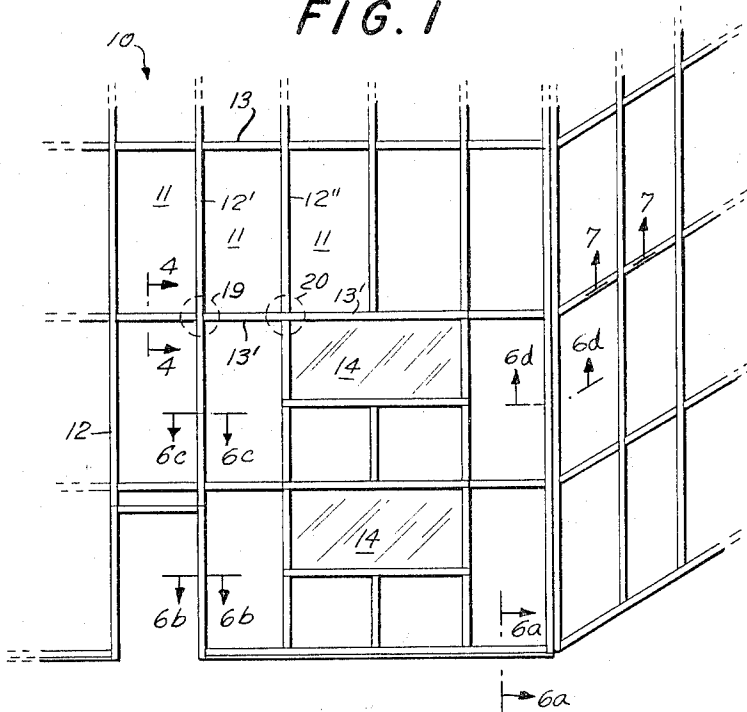


FIG. 2

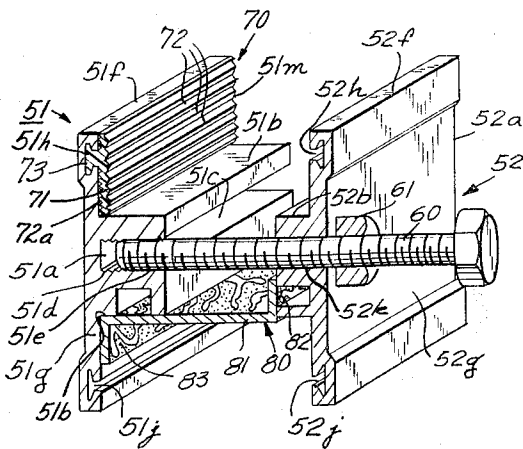


FIG. 2b

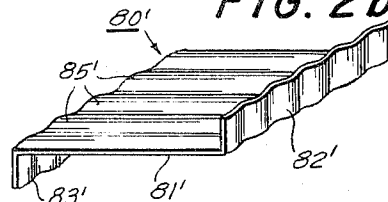
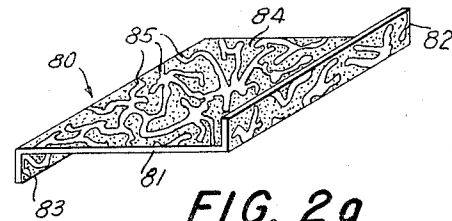


FIG. 2c



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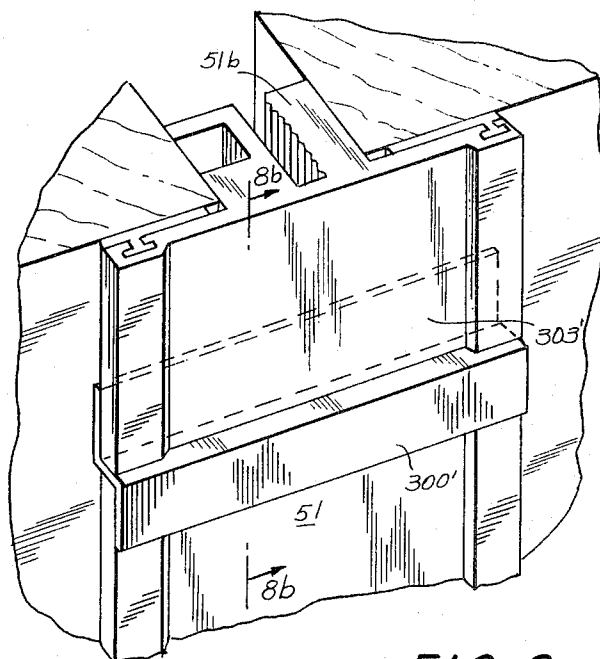


FIG. 8a

FIG. 8b

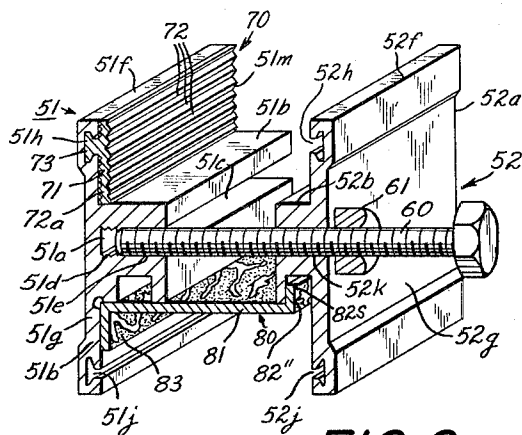
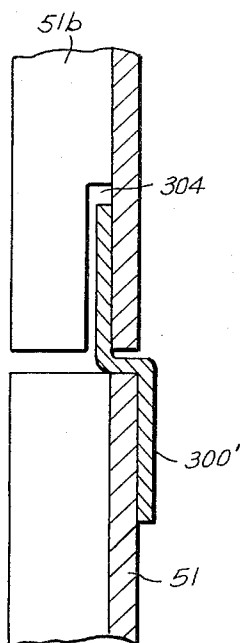


FIG. 2c

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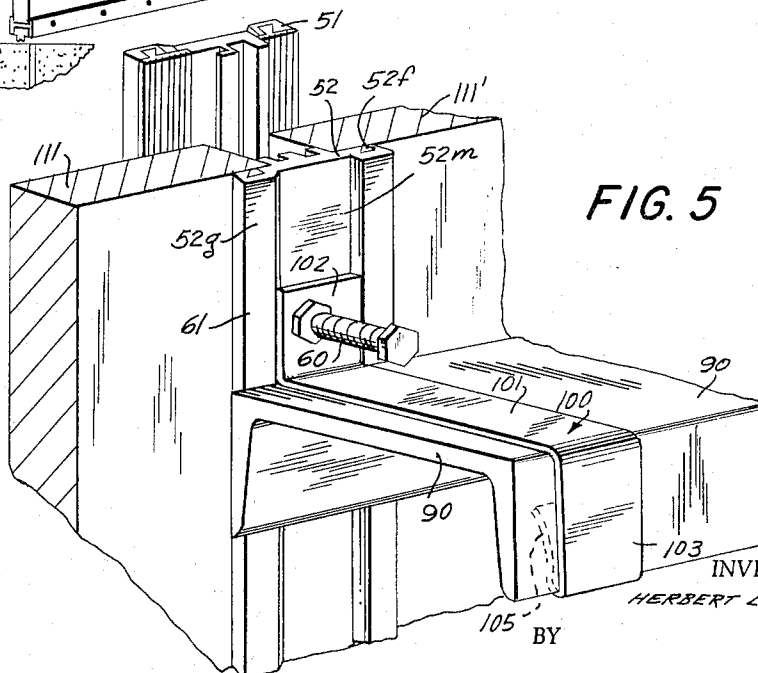
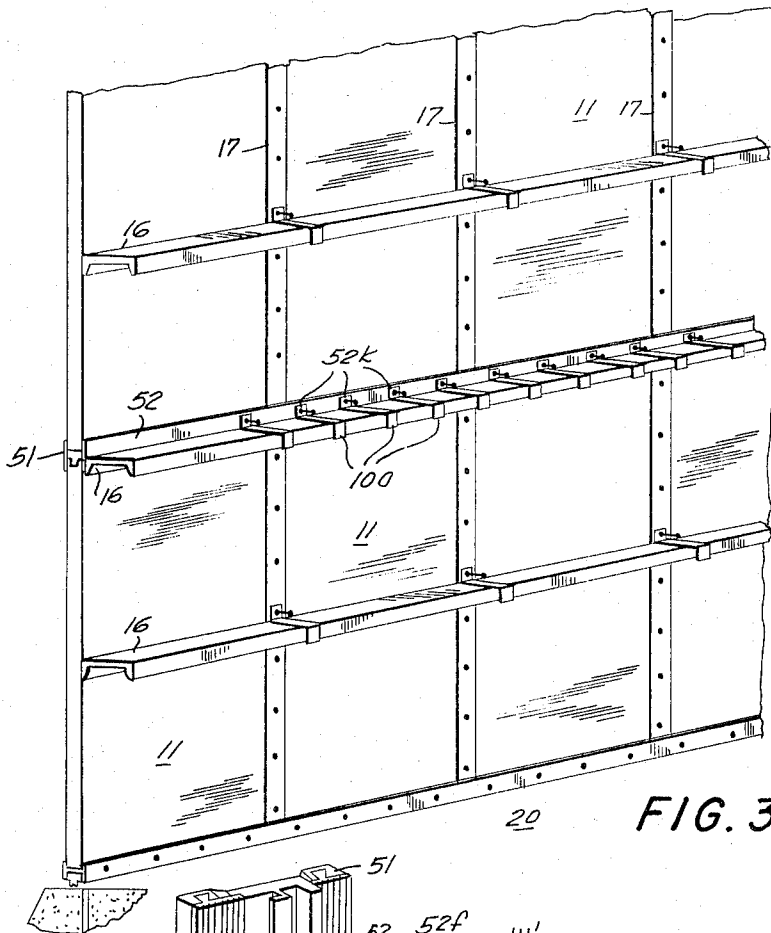
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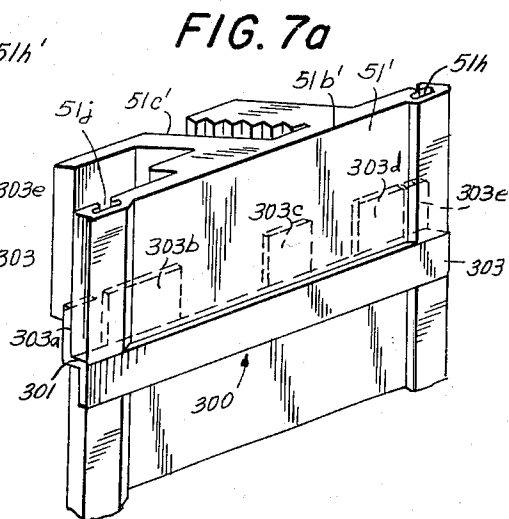
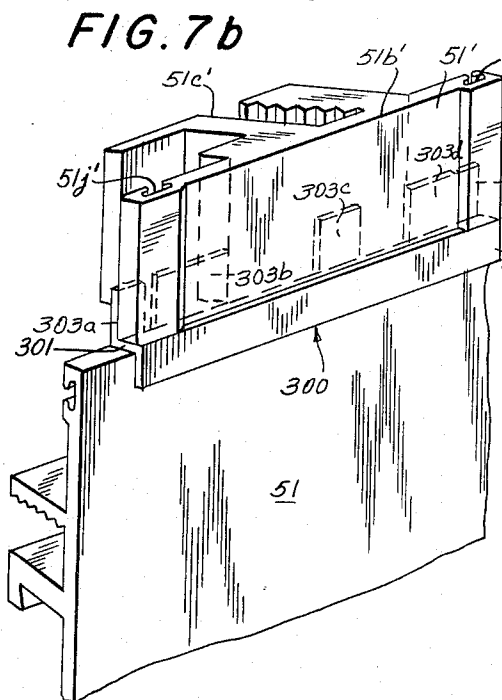
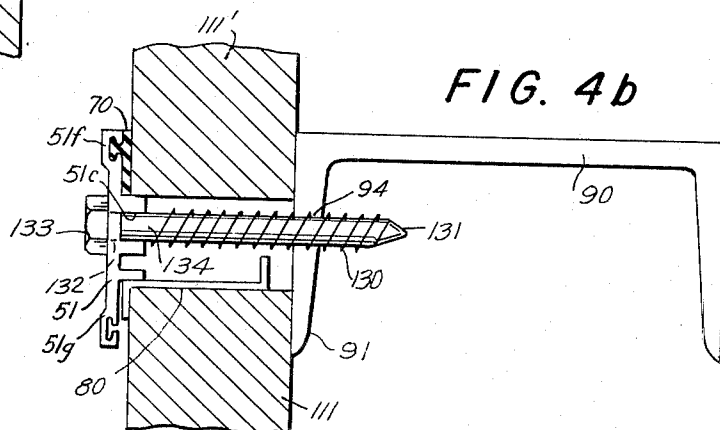
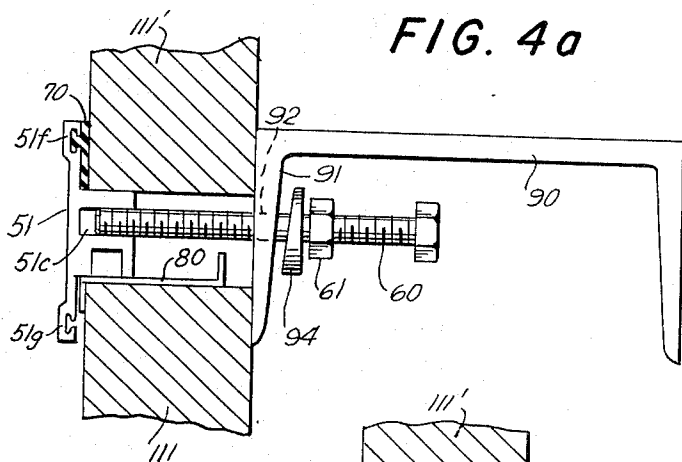
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EXTERIOR PANEL WALL ASSEMBLY

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EXTERIOR PANEL WALL ASSEMBLY

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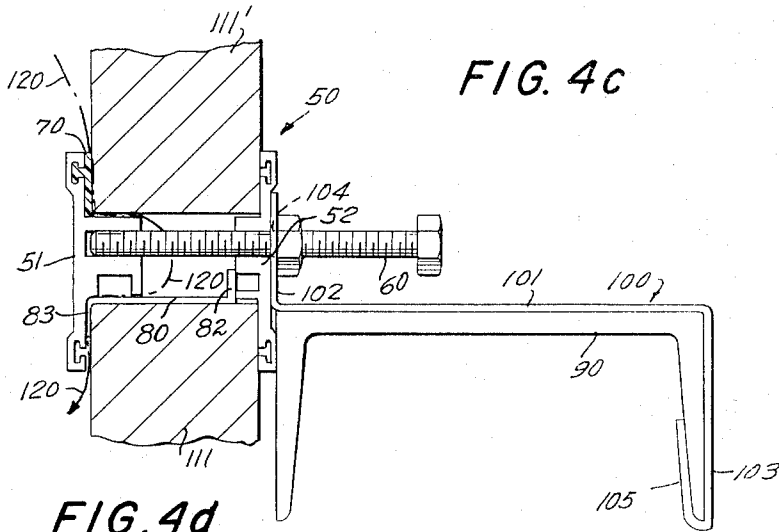


FIG. 4d

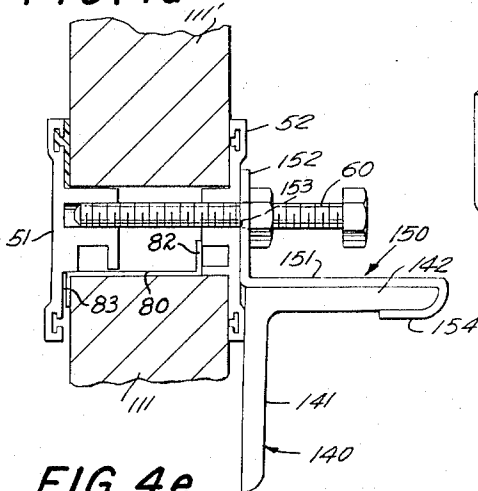


FIG. 4e

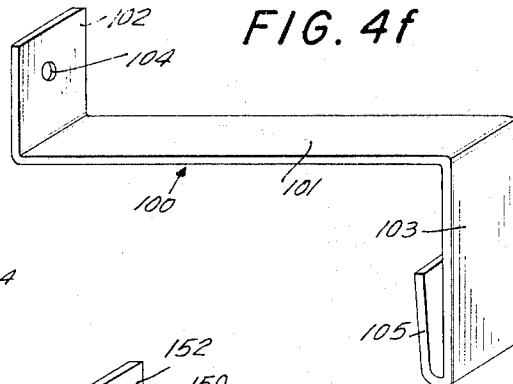
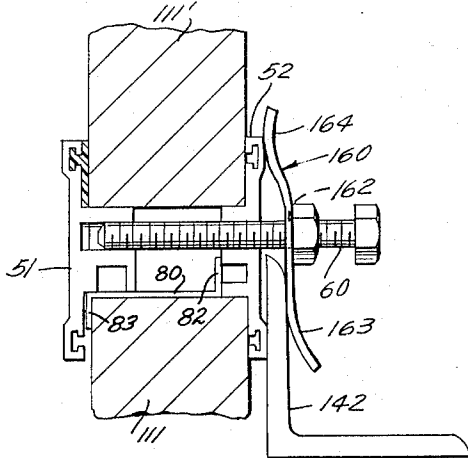


FIG. 4f

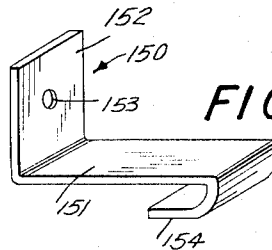


FIG. 4g

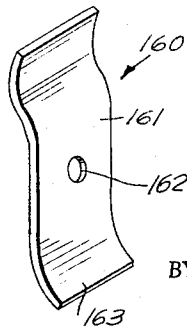


FIG. 4h

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EXTERIOR PANEL WALL ASSEMBLY

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FIG. 6b

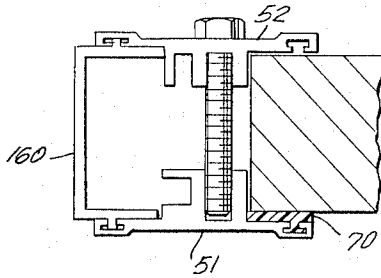


FIG. 6c

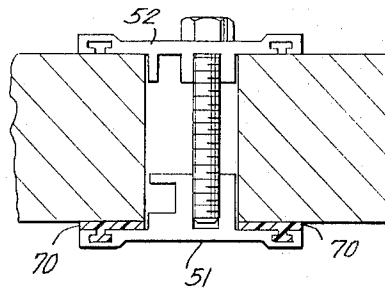


FIG. 6d

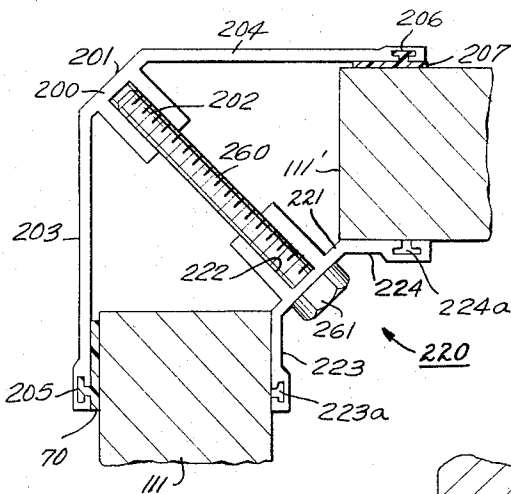


FIG. 6e

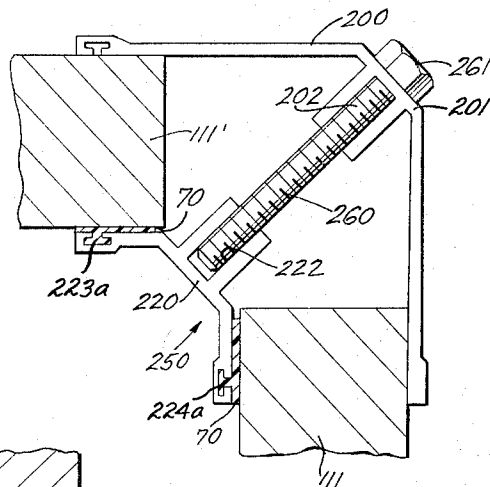
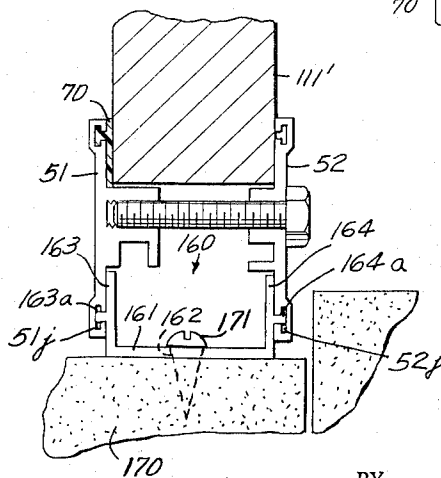


FIG. 6a



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EXTERIOR PANEL WALL ASSEMBLY

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16 Claims. (Cl. 52-459)

This invention relates to building materials and more particularly to exterior panel walls for buildings, factories, homes and the like, which is so designed as to provide completely water-tight protection.

Exterior panel wall employed for the purpose of finishing buildings, factories, homes and the like, is finding wide-spread use in industry today due to its simplicity of installation, its durability and its over-all aesthetic appearance. Although all these advantages may be found in some of the present day exterior panel wall assemblies, none of the prior art panel wall assemblies act to provide, in addition to all the features previously mentioned, panel wall assemblies which are completely water-tight, so as to protect building interiors from rust, water damage and other harmful influences.

The assembly of the instant invention, in addition to providing all of the other advantages, is so constructed as to prevent the entrance of water to the building interior and even assuming that any such water could possibly enter or pass through the exterior panel wall, is further provided with a novel gutter arrangement which absolutely prevents water seepage through exterior panel wall to the building interior.

The assembly of the instant invention is provided with panel mounting means adapted to clamp exterior panel members to the building super-structure, in such a manner as to facilitate the installation thereof; first means to substantially prevent the passage of any moisture or water through the exterior panel wall and is further provided with second means for the removal of any possible water or moisture which does enter to the exterior before any such moisture or water may enter completely through the exterior panel wall assembly.

The device of the instant invention is comprised of first and second batten means, constructed to be positioned on the exterior and interior surfaces of the exterior panels employed for the purpose of securing end to end aligned wall panels to one another and to the building super-structure. The exterior batten means is provided with ceiling means mounted to prevent the introduction of moisture or water between the batten means and the wall panels. A gutter means is further provided between the first and second batten means and is so constructed as to remove any and all water which may pass through the ceiling means on the area between the batten means to the exterior surface of the exterior panel walls. This arrangement insures that the building interior will be completely water-tight. The batten means are further so constructed as to be readily mountable in a variety of different ways to the building structure, depending solely upon the needs of the user.

It is therefore one object of this invention to provide exterior panel wall assemblies, which are so constructed as to be readily mountable to building super-structure so as to render the building interior completely water-tight.

Another object of this invention is to provide exterior panel wall assembly, which is so constructed as to be readily adaptable for mounting in a variety of different mounting positions.

Still another object of this invention is to provide exterior panel wall assemblies for mounting to building super-structures, which include novel gutter means for removing any water or seepage from the mounting assemblies to the exterior of the panel walls.

Still another object of this invention is to provide exterior panel wall assemblies which are so constructed as

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to be mountable in a variety of different ways to building super-structures and which are finished in an aesthetically appealing manner to provide an aesthetically pleasing appearance.

Another object of this invention is to provide exterior panel wall assemblies which are mountable to building super-structures in a variety of different ways and which are strong, durable and in addition, to providing an aesthetically appealing outward appearance.

These and other objects will become apparent when considering the accompanying description and drawings in which:

FIGURE 1 is a perspective view of a building exterior, showing the exterior wall panel assemblies of the instant invention.

FIG. 2 is a perspective view of the batten assembly of the instant invention employed for the purpose of securing the exterior wall panels shown in FIGURE 1.

FIGURES 2a and 2b are perspective views of gutter means which may be employed in the mounting assembly of FIGURE 2.

FIGURE 2c is a perspective view showing an alternative in embodiment of the assembly of FIGURE 2.

FIGURE 3 is a perspective view of a portion of the wall of the building, shown in FIGURE 1, showing the interior wall thereof.

FIGURES 4a-4e show cross-sectional views of the batten assemblies of FIGURE 2 and taken along line 4-4 of FIGURE 1 mounted in a variety of different ways and employed together with novel mounting members to facilitate the mountings thereof.

FIGURES 4f-4h show the clips employed in the mountings of FIGURES 4c-4e respectively.

FIGURE 5 is a perspective view of a vertically aligned mounting of the type shown in FIGURE 4c.

FIGURES 6a-6e show the mounting assembly of FIGURE 2 employed in a variety of different applications. FIGURE 6b is a cross-sectional view taken along line 6b-6b of FIGURE 1. FIGURE 6c is a cross-sectional view taken along line 6c-6c of FIGURE 1. FIGURE 6a is a cross-sectional view taken along line 6a-6a of FIGURE 1. FIGURE 6d is a cross-sectional view taken along line 6d-6d of FIGURE 1.

FIGURES 6d and 6e show an alternative embodiment of the mounting assembly of FIGURE 2 which is especially adapted for corner mounting exterior panel walls at intersections thereof.

FIGURE 7a is a perspective view of a butt joint assembly employing the novel gutter means of the instant invention for the prevention of water seepage therethrough.

FIGURES 7b and 8a are perspective views of alternative butt joint arrangements.

FIGURE 8b is a cross-sectional view taken along line 8b-8b' of FIGURE 8a.

Referring now to the drawings:

FIGURE 1 shows an exterior panel wall assembly which has been affixed to a building, only a portion of which is shown for purposes of clarity. The assembly 10 is comprised of a plurality of exterior wall panels 11 which may be formed of any suitable material. The panels 11 are positioned and secured in alignment with one another and to the building super-structure (not shown) by means of a horizontal and vertical framework 13 and 12 respectively, which framework represents the exterior exposed portion of the exterior panel wall mounting assemblies, which are shown in greater detail in FIGURES 2 and 4a-4e. The panel wall mounting assemblies are so constructed as to provide adequate positioning and support for glass, as well as the panel walls 11, such as the glass plates 14 shown in FIGURE 1.

FIGURE 3 shows a section of the exterior panel wall assembly 10 of FIGURE 1, looking from the building in-

interior. The assembly 20 of FIGURE 3 is comprised of a plurality of panels 11, which are held in their appropriate position by means of the batten assemblies, to be more fully described, and, further, held to the horizontal beams 16 which comprise the building super-structure. The framework 17, which is shown in vertical alignment, is the surface of the batten assemblies, to be more fully described, as they appear from the building interior.

FIGURE 2 shows a perspective view of one such batten assembly 50, which is comprised of an exterior batten 51 and an interior batten member 52. The exterior batten member 51 has a central portion 51a provided with an inwardly facing projection 51b, having an elongated channel 51c. The upper interior surface of channel 51c is provided with a plurality of spaced parallel grooves 51d. The material which forms the lower surface of channel 51c is of a composition such that it may be scored by the threads of fastening means 60 as fastening means 60 is threaded into channel 51c.

The exterior batten member 51 is further provided with extending arms 51f and 51g which project upwardly and downwardly respectively from central portion 51a. Arms 51f and 51g are provided with notches 51h and 51j respectively along their inner walls for the purpose of receiving resilient sealing means, as will be more fully described. Notch 51h is shown provided with a sealing means 70, which is comprised of a substantially flat body 71, having a plurality of spaced parallel grooves 72, along its first surface and having a plurality of spaced parallel grooves 72a as well as a substantially T-shaped projection 73, along its opposing surface, wherein the T-shaped projection is adaptable for insertion into the T-shaped notch 51h provided in the upper arm 51f. When properly mounted and fastened, sealing means 70 provides a water-tight seal between batten member 51 and the adjoining exterior panel wall (not shown), in a manner to be more fully described. It has been found that providing grooves 72 and 72a on both sides of the sealing member 70 provides a far superior water-tight seal between the batten member 51 and the associated panel member.

The interior batten member 52 has a central portion 52a having an inwardly projection portion 52b which is provided for reinforcing the central portion thereof, and for receipt of fastening means 60, in a manner to be more fully described. The central portion 52a has extending, upwardly and downwardly therefrom, arms 52f and 52g respectively, each being provided with notches 52h and 52j respectively, for purposes of receiving sealing means, such as for example, the sealing means 70 of FIGURE 2. A plurality of apertures such as the aperture 52k (the only one shown in FIGURE 2), are provided for the receipt of fastening means 60. The aperture 52k is in alignment with channel 52b so that it passes through the central portion thereof and is further aligned with the channel 51c of batten member 51 so as to be threadedly engaged therewith. The fastening operation is performed by placing a nut 61 upon fastening member 60 so that it is threadedly engaged thereby. The fastening means 60 is then inserted through the aperture 52k, which, it should be noted, is designed so as to permit slidable passage therethrough (i.e. it does not threadedly engage aperture 52k), so that fastening means 60 threadedly engages the grooves of walls forming channel 51c in member 51. The first lower groove 51e "starts" the threading operation and the material of which batten member 51 is formed is of such a character that it may be readily scored by fastening member 60, so that the fastening member 60 effectively generates its own threads with which to mesh upon the lower wall of the channel 51c. When fastening member 60 is sufficiently threadedly engaged by the channel 51c of member 51, the nut 61 is then tightened against the outer surface of batten member 52 so as to urge members 51 and 52 towards one another. This serves to clamp the panel walls (not

shown) therebetween, in a manner to be more fully described.

The gutter means 80 is a substantially Z-shaped plate having a central portion 81 and upwardly and downwardly extending flanges 82 and 83 respectively. The member 81 has a pattern stamped upon it so as to give the sheet metal member 80 the appearance of having an alligator type finish. Gutter member 80 is shown in greater detail in FIGURE 2a, the alligator like finish is shown in FIGURE 2a and is designated as number 84. This finish, or stamping, provides a large number of little randomly positioned, randomly connected grooves or rivulets 85, which act to collect and divert water or moisture down the gutter and through to the exterior side of the exterior panel wall assembly. This will be more fully described.

A groove 51b is provided at the knee of batten member 51 formed by projection 51b. This prevents any sealing engagement between batten member 51 and gutter means 80 as will be more fully described.

FIGURE 4c shows one application of the batten assembly 50 of FIGURE 2, wherein the assembly is applied to a beam 90 designated as 16 in the perspective view of FIGURE 3. In order to adapt the batten assembly 50 so as to be readily secured to substantially U-shaped beam 90, the assembly employs the clip 100 shown in FIGURE 4f. Clip 100 is a substantially Z-shaped member, having a body portion 101 and upwardly and downwardly extending arms 102 and 103 respectively. Arm 102 is provided with an aperture 104 receiving the fastening means 60 of FIGURE 2, as will be more fully described. The downwardly extending arm 103 is provided with an upwardly bent lip 105 which serves to further secure the clip assembly 100 to the beam 90, in a manner to be more fully described. Referring now to FIGURE 4c, the clip assembly 100 is so positioned that its body portion 101 rests on the upper surface of beam 90 and its lip 105 curves around to the interior side of beam 90. In this position, the upper arm 102, now becomes vertically aligned and its aperture 104 is so positioned as to receive the fastening means 60. The batten members 51 and 52 are aligned in FIGURE 4c in the same manner as is shown in FIGURE 2, except that the interior surface of interior batten member 52 engages the upwardly extending arm 102 of clip 100. Positioned between the upwardly and downwardly extending arms of batten members 51 and 52 are exterior panel walls 111' and 111 respectively, which correspond to the wall panels 11 of FIGURES 1 and 3. When the fastening means 60, together with nut 61, are securely fastened, this causes the upper and lower wall panels 111' and 111 to be firmly clamped between the arms 51f and 52f of batten members 51 and 52 respectively. It should further be noted that resilient member, or gasket 70 becomes firmly clamped between the upper arm 51f, of member 51 and the outer surface of vertically aligned wall panel 111', serving to substantially prevent the introduction of any moisture or water between these contacting surfaces.

The lower panel 111 has positioned immediately above its upper edge, the built in gutter member 80, which is so positioned that its downwardly extending lip, or flange, 83 is positioned between the left-hand surface of panel wall 111 and the right-hand surface of arm 51g of batten member 51. With the arrangement as shown in FIGURE 4c, as a practical matter, the gasket means 70 almost absolutely prevents the introduction of any water into the region defined by the batten members 51 and 52. However, assuming that introduction of water were at all possible, or assuming that extremely minute amounts of water were able to enter between the gasket 70 and the upper exterior panel wall 111', the water would take the path as shown by the arrow 120. Therefore, by gravity, the water would fall upon the upper surface of the building gutter member 80 and due to the rivulet pattern formed on the upper surface of the gutter member

80, this water would collect and seep out through the rivulets under inwardly extending portion 51b of arm 51 and between the left-hand surface of flange 83 of gutter member 80 and right-hand surface of arm 51g of batten member 51. It should be noted that the water will be permitted passage between these members due to the fact that with this pattern stamped upon the surface of gutter member 80, even though batten member 51 tightly engages the surface of gutter member 80, the rivulets still provide a path from the region between batten members 51 and 52 to the exterior side of the exterior panel wall assembly. Thus, it should be noted that regardless of how much the batten assembly may be tightened, this has no appreciable effect upon the water diverting function that the rivulets 85 (see FIGURE 2a of the drawings) perform.

FIGURE 4a shows the exterior panel wall assembly slightly modified so as to be mounted to a super-structure beam in a manner different from that of FIGURE 4c. In this arrangement, the mounting is designed to be made right through the left-hand arm 91 of beam 90, which is provided with an aperture 92. In this arrangement the left-hand arm 91 of beam 90 serves the dual function of being the supporting beam super-structure, while at the same time functions as an interior batten identical to that of the interior batten member 52, shown in FIGURE 4c. The assembly of FIGURE 4a uses the exterior batten member 51, which is positioned and secured in the same identical manner to that of the member 51 of FIGURE 4c. However, as a replacement for the interior batten member 52, the arm 91 of beam 90 is utilized and is provided with aperture 92 through which fastening means 60 is inserted. The left-hand end of fastening means 60 threadably engages the channel 51c provided in batten member 51 in the same manner as previously described. In order to provide the appropriate alignment and to insure that the fastening means is rigidly secured, a tapered washer member 94 is provided, having a taper so that it comes into contact with the right-hand surface of arm 91 of beam 90. Thus, when nut 61 is tightened down, the right-hand edge of washer 94 engages the left-hand surface of nut 61 and the left-hand surface of washer 94 engages the right-hand surface of arm 91, thus providing a secure fastening arrangement therebetween. The panels 111' and 111 respectively are clamped between the upper arm 51f and the left-hand edge of arm 91 of beam 90 and the lower arm 51g and the left-hand edge of arm 91 of beam 90 respectively, in much the same manner as that shown in FIGURE 4c. The gutter member 80 is positioned in the manner identical to that shown in FIGURE 4c. It should be noted that although FIGURE 2 and FIGURES 4a-4e do not show the batten members 51 and 52 as being of any specific length, that these members may be as much as 8, 10, 12 or 14 feet in length and have been shown in FIGURE 2 to have a much shorter length, merely for the purposes of clarity. Therefore, in the case of FIGURES 4c and 4a, if a mounting assembly is to be provided for a batten assembly having a length of, say ten feet for example, then the clips 100, as shown in FIGURE 3, are positioned at spaced intervals along the beam 16 so as to be in alignment with the apertures 52k positioned at spaced intervals along the interior batten member 52, as shown in FIGURE 3. It is significant to note that although interior batten member 52 is provided with apertures at spaced intervals therealong, that the channel 51c of exterior batten member 51 runs the entire length of batten member 51 as do the grooves 51d and the groove 51e provided along the upper and lower surfaces which define channel 51c. Thus, regardless of the dimensions of the spaced intervals of apertures 52k provided in batten members 52, there will always be a channel portion having the grooves 51d and the grooves 51e immediately across the apertures 52k provided in batten member 52 so that no alignment

problem therebetween ever exists. It should further be noted that once the mounting of the mounting assembly has been completed, the exterior surface of the exterior batten members 51 is finished in such a manner as to provide an aesthetically appealing appearance.

FIGURE 4b shows an installation similar to that of FIGURE 4a, except that the fastening means 60 has been replaced by a self-tapping screw member 130. The screw member 130 is inserted so that its tip 131 is first placed through an aperture 132 which may be provided in batten member 51, so that the aperture 132 provided therein is in alignment with the channel 51c of batten member 51. The self-tapping screw is then inserted and threadably engaged by the aperture 94 provided in arm 91. Since the rearward portion 134 of self-tapping screw 130 is not threaded, it will not threadably engage the channel 51c so that it will not be tightened down until the assembly reaches the state in which the panel members 111' and 111 are firmly clamped between the beam 90 and the extending arms 51f and 51g of batten member 51. The gutter member 80 is aligned in the same manner as previously described with respect to FIGURE 4c and functions likewise in the same manner.

FIGURE 4d shows another mounting assembly which may be employed with a beam, such as a beam 140, which is substantially L-shaped, so as to form the extending arms 141 and 142 respectively. In this particular arrangement, a clip 150, shown in perspective in FIGURE 4g, is provided wherein clip 150 has a central portion 151 having an upwardly extending arm 152 provided with an aperture 153. The right-hand end of clip 151 is bent so as to form curved lip 154. This clip is positioned as shown in FIGURE 4d, so that the curved lip 154 curves around the right-hand edge of arm 142 of beam 140. This firmly links clip 150 to beam 140 and places the upwardly extending arm 152 of clip 150 in a position whereby it engages the inner surface of batten member 52. The remainder of the mounting assembly, shown in FIGURE 4d, is identical to that shown in FIGURE 4c and for this reason a description thereof will be omitted for the purposes of clarity.

In order to provide and facilitate rigid fastening to a beam 140 which is aligned in the manner such as that shown in FIGURE 4e, another clip arrangement such as the clip 160 shown in FIGURE 4h is provided. Clip 160 has a central body portion 161, having an aperture 162. The downward extending portion 163 curves in a direction slightly transverse to the plane of the central portion 161. The upwardly extending portion 164 of clip 160 curves in the same direction as that of the downward extending portion, except that the curvature is more severe in this case. This clip is positioned and aligned as shown in FIGURE 4e so that the lower extending portion 163 abuts against the arm 142 of beam 140 and so that the upward extending portion 164 of clip 160 abuts the upper left-hand edge of batten member 52. In this particular arrangement the fastening means is threaded through the aperture 162 in clip 160 so as to provide fastening between the batten members 51 and 52 in the same manner as that shown in FIGURE 4c.

FIGURE 5 shows a perspective view of the batten mounting assembly when it is employed for positioning and securing vertically aligned panel members 111 and 111' wherein the batten assembly is also in vertical alignment as opposed to a horizontal orientation, such as that shown in FIGURE 2 and FIGURES 4a-4e. In FIGURE 5 the clip 100 is affixed to the beam 90 in a manner identical to that shown in FIGURE 4c. However, the upper arm 102 of clip 100 is so dimensioned that it lies in the recess 52m which is formed between the arms 52f and 52g of batten member 52 and along its outer surface so as to facilitate the positioning of and the securing of clip 100. Fastening member 60 is inserted and fastened in the manner identical to that shown in FIGURES 2 and 4c as was previously described.

Although only one vertically aligned mounting assembly has been shown, such as the assembly shown in FIGURE 5, it should be understood that other vertically aligned assemblies may be provided through the utilization of clips 150 and 160 shown in FIGURES 4g and 4h respectively, so as to provide vertically mounted batten members as shown in FIGURE 5 and as designated with numeral 17 in FIGURE 3, in the same variety of applications as shown in FIGURES 4a-4e so as to provide the same flexibility in the variety of different ways in which the vertically aligned battens 51 and 52 as shown in FIGURES 3 and 5 may be mounted.

FIGURE 6a is a cross sectional view taken along line 6a, 6a' of FIGURE 1, showing the mounting employed for securing a vertically aligned panel to a lower level foundation. The foundation 170 may, for example, be wood. A substantially U-shaped channel 160 is provided. The channel 160 comprising a yoke 161, having a plurality of spaced apertures, only one of which 162 is shown, for the receipt of fastening means 171. Yoke 161 has extending arms 163 and 164, each being provided with a projection 163a and 164a respectively, wherein said projections are positioned so as to be seated in the notches 51j and 52j provided in the batten members 51 and 52 respectively. The cooperating notch-projection arrangement acts to position and secure the channel 160 to the batten assembly, which is comprised of batten members 51 and 52. The remainder of the batten mounting assembly is identical to that shown in FIGURES 4a and 4e and no further description will be given for the purposes of clarity.

FIGURE 6b shows the mounting assembly basically as shown in FIGURE 6a, wherein this assembly is employed at an entrance way, wherein it can be seen that the FIGURE 6b shows a cross sectional view taken along the line 6b, 6b' of FIGURE 1. The assembly of FIGURE 6b is identical to that of FIGURE 6a, except that fastening means are omitted since the channel 160 need not be secured to a foundation, but it is adaptable in this particular case to receive members such as a door, for example. In this case the fastening means, although not shown, may be employed in the same way for positioning and securing door hinges to the channel member 160.

FIGURE 6c shows a cross section taken along the line 6c, 6c' of FIGURE 1, which is a vertical mounting assembly. The assembly of FIGURE 6c is identical to those shown in FIGURES 4a-4e with the exceptions being that no gutter member is necessary in this case, due to the vertical alignment of the batten assembly and secondly, that two resilient sealing members (also known as weather stripping) 70 are employed along the outer surface in order to prevent the entrance of moisture or water from the exterior of the panel wall assembly to the interior thereof.

FIGURE 6d is a cross sectional view taken along the line 6d-6d'. This arrangement differs substantially in that the exterior and interior batten members 200 and 220 respectively are bent so as to assume a corner position for the purposes of joining intersecting panel walls, such as the panel walls 111 and 111'. In this particular embodiment, exterior batten member 200 is provided with a central portion 201 wherein the interior central portion extends towards the interior batten member 220 forming a channel 202 for the receipt of fastening means 260. The central portion 201 is provided with two substantially perpendicularly aligned extending arms 203 and 204, each being provided with notches 205 and 206 respectively, for the purpose of receiving the resilient weather stripping members 70, in the same manner as was previously described with respect to FIGURES 4a and 4e.

The interior batten member 220 is likewise provided with a central portion 221, also having a channel portion 222 extending towards the exterior batten member 200 for the receipt thereof of the fastening means 260. Central portion 221 is provided with extending substantially

perpendicularly aligned arms 223 and 224, each having notches 223a and 224a for receiving weather stripping members 70, as shown in FIGURE 6e to be more fully described.

The channel 222 of interior batten member 220 of FIGURE 6d is wide enough so that fastening member 260 may be slid therethrough without making threaded engagement therewith, so that the threaded engagement is made between the upper left-hand end of fastening means 260, with the channel 202 of batten member 200. This arrangement firmly clamps the panel walls 111 and 111' between the arms 203, 223 and 204, 224 respectively.

FIGURE 6e, is a cross sectional view, showing an inside corner formation such that the portion of the batten assembly of FIGURE 6e facing the arrow 250 is exposed to form part of the building exterior. In this arrangement the batten mounting assembly is identical to that shown in FIGURE 6d except that the weather stripping resilient members 70 are positioned in the notches 223a and 224a of interior batten member 220. A further difference resides in the fact that the channel 202 provided in exterior batten member (now interior batten member) 200 is wide enough so that fastening member 260 is not threadedly engaged thereby, but is only threadedly engaged by channel 222 of batten member 220, which channel 222 is dimensioned so as to threadedly engage fastening means 260. The head 261 of fastening means 260 engages the outer surface of central portion 201 acting to firmly clamp panels of 111' and 111 between the arms 204, 224 and 203, 223 respectively.

In cases involving intersections between horizontally and vertically aligned mounting assemblies, such as, for example, the intersections 19 and 20 shown in FIGURE 1 of the drawings, a batten joint cover, such as that shown in FIGURE 7a, to be more fully described, is employed, in order to prevent the seepage of water into the interior of the building structure at these intersections. The intersections 19 and 20, differ from one another, in that, the vertically aligned batten assembly 12' divides the horizontally aligned batten assembly 13' so that assembly 12' is continuous through the intersection 19 and the horizontal batten assembly 13' has a discontinuity at intersection 19. In the case of intersection 20, the horizontal batten assembly 13' is continuous through the intersection 20, while the vertical batten 12' has a discontinuity at the intersection 20.

FIGURE 7b is an enlarged view of the upper portion of the intersection between the vertically aligned batten assembly 12' and the horizontally aligned batten assembly 13', wherein the intersection 20 is comprised of a batten member 51, only a portion of which is shown for the purposes of clarity. A second outer batten member 51' is shown, wherein the batten members 51 and 51' are identical, except that batten 51' is horizontally aligned and batten 51 is vertically aligned. Positioned between the lower edge of batten member 51' and the upper edge of batten member 51, is a batten joint cover 300, which is a substantially S-shaped member, having a central portion 301 and a downwardly extending arm 302 integral with the central portion 301. Extending upwardly from central portion 301 are a plurality of vertically aligned fingers 303a-303e, all being integral with the central portion 301, as can be seen in FIGURE 7b, arm 302 is positioned so that it abuts the outer surface of batten member 51, thereby being exposed to the weather side, or exterior of the building. The central portion 301 is positioned to rest upon the upper edge of batten member 51. The upwardly extending fingers 303a-303e are positioned so that they abut the interior surface of batten member 51'. The finger members 303a-303e are aligned so that finger members 303a and 303b provide an opening therebetween in order to permit the insertion of a resilient sealing means such as for example a resilient sealing means 70, shown in FIGURES 2 and 4c, to be inserted into the notch 51j provided in batten member 51'. Fingers 303b and 303c

provide adequate spacing therebetween so as to receive the inwardly projecting portion 51b' of batten member 51. It should be noted that finger member 303c is seated in the channel 51c' of batten member 51'. Finger 303d has one of its edges abutting the central portion 51b', while the other end of finger 303d cooperates with finger 303e to provide spacing therebetween for receipt of a resilient sealing means, such as the resilient sealing means 70, referred to previously, and shown in FIGURE 2 of the drawings. With this arrangement, the batten joint cover 300 acts as a canopy in that it prevents the entrance of water or moisture through the area of the intersection between batten members 51' and 51.

FIGURE 7a shows an arrangement identical to that of FIGURE 7b, except that the batten member 51 is vertically aligned as is the batten member 51', whereas in FIGURE 7b, batten member 51 is in horizontal alignment. The batten joint cover 300 of FIGURE 7a is identical to that of FIGURE 7b, both in configuration and function. The batten joint cover arrangements of FIGURES 7a and 7b provide at intersections between either horizontal and vertically aligned batten assemblies, or between vertically aligned assemblies, sufficient protection to prevent the entrance of water into the building interior, through the exterior panel wall assembly. Further protection is provided, as was previously described, by means of the built in gutter arrangement, which, if any water passes beyond the exterior surface of the exterior batten member, through its unique design, is able to collect this water and pass it out through the lower edges of the exterior batten members. It can therefore be seen that this arrangement provides an exterior panel wall assembly which is readily installed, extremely strong structurally and which affords absolute protection against the introduction of water or moisture into the building interior through the exterior panel wall assembly.

FIGURE 2b shows an alternative embodiment 80' which may be substituted for the gutter means 80 of FIGURE 2a. The gutter means 80' is provided with substantially parallel grooves 85' on the central portion 81' and arms 82' and 83' which function to gather and divert water or other fluids outside of the region between the batten members 51 and 52.

FIGURE 2c shows an alternative arrangement 52' for the batten member 52 which is provided with a slot 52s having a downwardly facing opening to receive the arm 82' of gutter member 80'. This arrangement provides added insurance against the entrance of water or other fluid to the right of batten member 52.

FIGURES 8a and 8b shown an alternative embodiment 300' for the batten joint cover means. Cover means 300' has an upper arm 303 which is continuous. In this arrangement grooves 304 are cut in the batten member central portion 51b for receipt of arm 303. The cover member 300' functions in the same manner as cover member 300 previously described.

Although there has been described a preferred embodiment of this novel invention, many variations and modifications will now be apparent to those skilled in the art. Therefore, this invention is to be limited, not by the specific disclosure herein, but only by the appending claims.

The embodiments of the invention in which an exclusive privilege or property is claimed are defined as follows:

1. A water-tight exterior panel wall mounting assembly for positioning and securing building panel members comprising: first and second elongated batten means, each of said first and second batten means including a central portion having first and second arms extending therefrom in opposite directions; said central portion and said first and second arms forming a first substantially flat face; said central portion having projections extending outwardly along the face of said first and second batten means opposite said first face; said projections forming a channel; said projections of first and second batten means be-

ing positioned to face one another; first and second exterior panels; fastening means cooperating with the channels of said first and second batten means rigidly clamping the horizontal marginal edges of said panels between the first arms and second arms of said first and second batten means; gutter means having a substantially flat surface being positioned in abutting relationship between said first and second batten means and being beneath the central portion of said first batten means said gutter means including means for diverting any liquid falling upon said gutter means outside of the region between said first and second batten means and to the exterior side of the wall.

2. The assembly of claim 1 wherein said gutter means is provided with randomly dispersed, randomly oriented grooves for collecting liquids falling upon said gutter means and diverting the collected liquid outside of the region between said first and second batten means.

3. The assembly of claim 1, wherein said gutter means is formed of a flat substantially rectangular plate being bent to a substantially Z-shaped profile having a central portion and upwardly and downwardly extending flanges; said plate being stamped to form a plurality of randomly displaced, randomly connected grooves on one face of said plate; said plate being positioned with said first face of said central portion abutting the central portion of said first batten means.

4. The assembly of claim 3 further comprising sealing means positioned between the first arm of said first batten means and the marginal edge of the panel member being clamped to prevent liquid from entering into the region between said first and second batten means.

5. The assembly of claim 3, wherein said first flange abuts the interior face of said first batten means second arm and said second flange abuts the second batten member central projection to divert liquid away from said second batten means and towards said first batten means for removal thereof from the region between said first and second batten means.

6. The assembly of claim 5 further comprising securing means for securing said mounting assembly to suitable supporting structure, said securing means being constructed to slidably engage said supporting means and to be secured by said fastening means.

7. The assembly of claim 5 further comprising securing means; said securing means being a self-tapping screw adapted to secure said first and second batten means to one another and to said supporting structure.

8. The assembly of claim 1, wherein said fastening means is adapted for use as securing means for securing said mounting assembly to a suitable supporting structure; said fastening means including a washer member having an aperture for receipt of said fastening means; the faces of said washer adjacent said aperture lying in planes which intersect to form an acute angle therebetween; the orientation of said washer faces being adapted to rigidly secure said first and second batten means to a support of graduated thickness.

9. For use in providing a water-tight arrangement of mounting assemblies each being of the type described in claim 1, which are vertically aligned and which are positioned so that their ends abut one another forming a butt-joint; said vertical assemblies being arranged to intersect with horizontally aligned assemblies of the type described in claim 1; batten joint cover means positioned between the abutting ends of the first and second mounting assemblies first batten means for preventing the entrance of fluid into the region between the first and second batten means of said first and second mounting assemblies.

10. The assembly of claim 9, wherein said batten joint cover means includes a member having a central portion and oppositely projecting first and second arms extending upwardly and downwardly therefrom to form a substantially S-shaped profile, said central portion being positioned between the abutting ends of said butt joint.

11. The assembly of claim 10, wherein said first arm

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is positioned along the interior face of the first batten means of the first mounting assembly, said second arm being positioned along the exterior face of the first batten means of the second mounting assembly positioned beneath said first mounting assembly.

12. The assembly of claim 11, wherein said first arm is comprised of a plurality of fingers being spaced at predetermined intervals to facilitate mounting thereof.

13. The assembly of claim 1, wherein said gutter means is an elongated member having a substantially Z-shaped cross-section.

14. The assembly of claim 6, wherein said securing means is a member having a flat central portion with upwardly and downwardly extending arms; the upwardly extending arm of said securing member having an aperture for receipt of said fastening means; the downwardly extending arm of said securing member having its end portion bent upwardly toward said central portion.

15. The assembly of claim 6 wherein said securing means is a substantially flat member being curved at its upper and lower ends; the central portion of said securing member having a centrally located aperture for receipt of said fastening means.

16. The assembly of claim 12, wherein the central projection of said first batten means is provided with a groove for receiving the upper arm of said batten joint cover means.

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