(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 3 854 977 A1

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
28.07.2021 Bulletin 2021/30

(21) Application number: **21153854.1**

(22) Date of filing: **27.01.2021**

(51) Int Cl.:
E06B 1/68 *(2006.01)* ***E06B 1/02*** *(2006.01)*
E06B 1/36 *(2006.01)* ***E06B 1/60*** *(2006.01)*
E06B 1/28 *(2006.01)* ***E06B 1/70*** *(2006.01)*
E06B 3/263 *(2006.01)*

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME
Designated Validation States:
KH MA MD TN

(30) Priority: **27.01.2020 GB 202001090**

(71) Applicant: **Garner Aluminium Extrusions Limited**
Ormonde Drive, Denby Hall Business Park
Derby
Derbyshire DE5 8LE (GB)

(72) Inventor: **PARRY, Philip Dayton**
Derby, Derbyshire DE5 8LE (GB)

(74) Representative: **Foot, Paul Matthew James**
Withers & Rogers LLP
4 More London Riverside
London
Greater London SE1 2AU (GB)

(54) AN ANCILLARY MEMBER

(57) An ancillary member (20) for a fenestration unit (10) including an elongate body (22) extending longitudinally between first and second ends thereof. The elongate body (22) defines a cross-sectional profile comprising a first region (24) intended to be externally facing, in use, a second region (26) intended to be internally facing, in use, and first and second side surfaces (28, 30) extending between the first and second regions (24, 26). The first side surface (28) includes a first seal (34) extending at least partially along the elongate length of the body (22) such that the first side surface (28) is configured for sealingly engaging a first window frame.

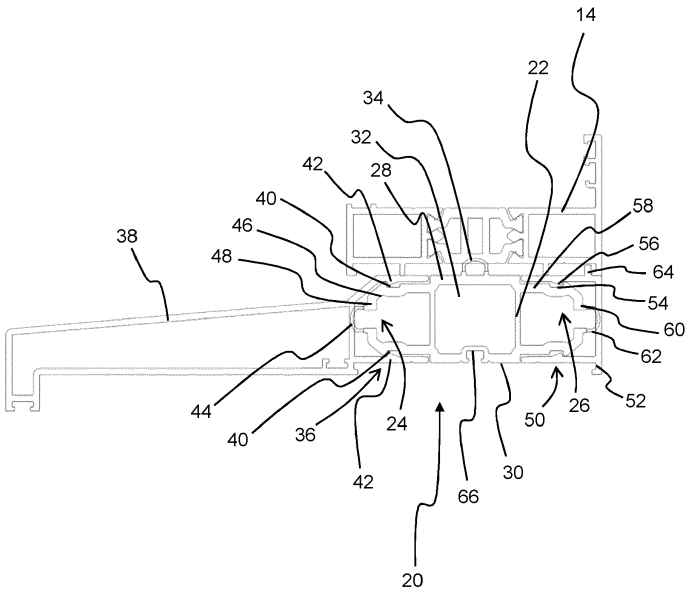

FIG. 2

EP 3 854 977 A1

Description

FIELD

[0001] The present teachings relate to an ancillary member for a fenestration unit and to a fenestration unit incorporating such an ancillary member.

BACKGROUND

[0002] Certain types of fenestration units, such as windows, doors, and vents, are positioned within openings of walls of a building using a frame. These units may also open and close by pivoting relative to the frame. The frames for these types of fenestration unit are often provided by connecting a series of frame members with a joint at each corner of the frame, e.g. connecting four frame members at four corner connectors to create a standard four-sided frame. The frame members may be installed into openings together with ancillary components such as sills under the frame or corner posts between adjacent frames of a bay window.

[0003] In such known fenestration units, the connection points between the frame and the ancillary component in the fenestration units are intended to be covered by a separate sealant (e.g. a layer of silicone mastic) to be provided by the installer during the assembly process. This known sealant arrangement is often not provided by inattentive installers, or may provide an insufficient sealant barrier. This may lead to the ingress of water and/or air into, or potentially passing through, the fenestration unit. Moreover, the current process of assembly the frame and the fenestration unit and then subsequently applying a sealant is time consuming. Moreover, the quality and effectiveness of the resultant seal may be dependent upon the skill of the installer.

[0004] The present teachings seek to overcome or at least mitigate one or more problems associated with the prior art.

SUMMARY

[0005] A first aspect provides an ancillary member for a fenestration unit, the ancillary member comprising: an elongate body extending longitudinally between first and second ends thereof, the elongate body defining a cross-sectional profile comprising a first region intended to be externally facing, in use, a second region intended to be internally facing, in use, and first and second side surfaces extending between the first and second regions, wherein the first side surface comprises a first gasket extending at least partially along the elongate length of the body such that the first side surface is configured for sealingly engaging a first window frame.

[0006] This arrangement enables an ancillary member to engage a window frame when it is placed within the assembled frame assembly. The member is able to form a seal against said frame without requiring any additional material/processes (e.g. an additional silicone seal), which simplifies the installation of the fenestration unit for an installer.

[0007] The provision of this seal on the ancillary member helps to reduce draughts flowing through the assembled fenestration unit and also help to reduce the ingress of water.

[0008] The first gasket may be integrally formed with the elongate body.

[0009] Integrally forming the sealing member with the body, e.g. via a co-extrusion process, enables the ancillary member to be provided a single unitary body.

[0010] The elongate body may be formed from a substantially rigid material, and the first gasket may be formed from a deformable, e.g. resilient, material.

[0011] Providing a body formed from a rigid material, e.g. a plastics material such as uPVC, increases the stability of the fenestration unit.

[0012] Providing the first gasket to be formed from a deformable resilient material, e.g. a thermoplastic elastomer (TPE) like EPDM, has been found to improve the quality of the seal formed against the window frame.

[0013] The body of the ancillary member may be formed from an insulating material.

[0014] This arrangement advantageously provides a thermal break.

[0015] The ancillary member may be a corner post or a cill.

[0016] The first region may comprise a first mounting arrangement for releasably mounting an external profile thereon.

[0017] Providing a body that is releasably connectable to an external profile allows the body and profile to be made from different material, e.g. to allow the body to be made from an insulating material to provide a thermal break, whilst allowing the external profile to be made from a metallic material, e.g. aluminium, to improve its appearance and match the surrounding frame components.

[0018] This arrangement also enables the external profile to be replaced, e.g. during maintenance, and may reduce wastage of materials at the assembly stage.

[0019] The first mounting arrangement may be configured for mounting the external profile to the body via a snap-fitting arrangement

[0020] The use of such a mounting arrangement has been found to simplify the installation of the fenestration unit for an operator.

[0021] The first region of the body may comprise a second gasket extending at least partially along the elongate length of the body such that the first region is configured for sealingly engaging the external profile.

[0022] This arrangement enables an ancillary member to sealingly engage an external profile without requiring any additional material/processes (e.g. an additional silicone seal), which simplifies the installation of the fenestration unit for an operator.

[0023] The provision of this seal on the ancillary member helps to reduce draughts flowing through the fenes-

tration unit and also help to reduce the ingress of water.

[0024] The elongate body may be formed from a rigid material, and the second gasket may be formed from a deformable, e.g. resilient, material.

[0025] Providing a body formed from a rigid material, e.g. a plastics material such a polyamide, increases the stability of the fenestration unit.

[0026] Providing the second gasket to be formed from a deformable resilient material, e.g. rubber, has been found to improve the quality of the seal formed against the window frame.

[0027] The second gasket may be integrally formed with the elongate body.

[0028] Integrally forming the sealing member with the body, e.g. via a co-extrusion process, enables the coupling member to be provided a single unitary body.

[0029] The second region may comprise a second mounting arrangement for releasably mounting an internal profile thereon.

[0030] Providing a body that is releasably connectable to an internal profile allows the body and profile to be made from different material, e.g. to allow the body to be made from an insulating material to provide a thermal break, whilst allowing the internal profile to be made from a metallic material, e.g. aluminium, to improve its appearance.

[0031] This arrangement also enables the internal profile to be replaced, e.g. during maintenance.

[0032] The second mounting arrangement may be configured for mounting the internal profile to the body via a snap-fitting arrangement.

[0033] The use of such a mounting arrangement has been found to simplify the installation of the fenestration unit for an operator.

[0034] The second region may comprise a third gasket extending at least partially along the elongate length of the body such that the second region is configured for sealingly engaging the internal profile.

[0035] This arrangement enables a frame member to sealingly engage an external profile without requiring any additional material/processes (e.g. an additional silicone seal), which simplifies the installation of the fenestration unit for an operator.

[0036] The provision of this seal on the frame member helps to reduce drafts flowing through the window frame member and also help to reduce the ingress of water.

[0037] The ancillary member may be positioned between two window frames, and the second region may comprise a third gasket extending at least partially along the elongate length of the body such that the second region is configured for sealingly engaging first and/or second window frames, in use.

[0038] This arrangement works to improve the seal formed between the ancillary member and a window frame, further inhibiting the ingress of air and/or moisture through the fenestration unit.

[0039] The elongate body may be formed from a rigid material, and wherein the third gasket is formed from a deformable, e.g. resilient, material.

[0040] Providing a body formed from a rigid material, e.g. a plastics material such as uPVC, increases the stability of the fenestration unit.

[0041] Providing the third gasket to be formed from a deformable resilient material, e.g. a thermoplastic elastomer (TPE) like EPDM, has been found to improve the quality of the seal formed against the window frame.

[0042] The third gasket may be integrally formed with the elongate body.

[0043] Integrally forming the sealing member with the body, e.g. via a co-extrusion process, enables the ancillary member to be provided a single unitary body.

[0044] The second side surface comprises a fourth gasket extending at least partially along the elongate length of the body such that the second side surface is configured for sealingly engaging a second window frame.

[0045] This arrangement enables the ancillary member to form seals against adjacent window frames without requiring any additional material/processes (e.g. an additional silicone seal), which simplifies the installation of the fenestration unit for an installer.

[0046] The provision of this seal on the frame member helps to reduce draughts flowing through the fenestration unit and also helps to reduce the ingress of water.

[0047] The elongate body may be formed from a rigid material, and the fourth gasket may be formed from a deformable, e.g. resilient, material.

[0048] Providing a body formed from a rigid material, e.g. a plastics material such as uPVC, increases the stability of the fenestration unit.

[0049] Providing the fourth gasket to be formed from a deformable resilient material, e.g. a thermoplastic elastomer (TPE) like EPDM, has been found to improve the quality of the seal formed against the window frame.

[0050] The fourth gasket may be integrally formed with the elongate body.

[0051] Integrally forming the sealing member with the body, e.g. via a co-extrusion process, enables the coupling member to be provided a single unitary body.

[0052] The second side surface may comprise a keying surface for adhering the ancillary member to an opening of a building.

[0053] The provision of this keying surface improves adhesion of the window frame member to the mortar of the building opening during assembly.

[0054] The keying surface may be provided in the form of a recess extending at least partially along the elongate length of the body.

[0055] The body may comprise a cavity extending at least partially along the elongate length thereof.

[0056] Provision of a cavity extending along the length of the ancillary member body has been found to improve the insulation properties of the ancillary member.

[0057] A reinforcing member may extend through the cavity.

[0058] Inclusion of a reinforcing member, e.g. a rein-

forcing post, beam or pole, extending through the body further increases the strength of the assembled frame assembly.

[0059] A second aspect provides a fenestration unit for an opening of a building, the fenestration unit comprising: a window frame assembly formed from a plurality of frame members defining an opening for receiving a glazing unit therein; and an ancillary member comprising an elongate body extending longitudinally between first and second ends thereof, the elongate body further comprising a first region intended to be externally facing, in use, a second region intended to internally facing, in use, and first and second side surfaces extending between the first and second regions, wherein the first side surface comprises a first gasket extending at least partially therealong such that the first side surface sealingly engages the window frame assembly.

BRIEF DESCRIPTION OF THE DRAWINGS

[0060] Embodiments will now be described with reference to the accompanying drawings, in which:

Figure 1 is a schematic front view of a fenestration unit;

Figure 2 is a cross-sectional side view of part of the fenestration unit of Figure 1 on the plane 2-2;

Figure 3 is a simplified cross-sectional plan view of a fenestration unit; and

Figure 4 is an enlarged cross-sectional plan view of the part 4 encircled in the fenestration unit of Figure 3.

DETAILED DESCRIPTION OF EMBODIMENT(S)

[0061] Figure 1 shows a fenestration unit generally indicated at 10. The fenestration unit 10 is intended to be mounted within an opening of a wall structure of a building (not shown). The fenestration unit 10 includes window frame assembly 12 made up of a series of frame members 14 connected at the edges thereof, e.g. via mitre joints. In the arrangement shown, the window frame assembly 12 is substantially square, but in other arrangement the window frame assembly 12 could be rectangular or any other suitable shape. An ancillary member 20 in the form of a cill is positioned underneath the window frame assembly 12.

[0062] The fenestration unit 10 of this embodiment is suitable for a window, door or other type of fenestration, such as a vent. The window frame assembly includes a glazing unit 16. The glazing unit 16 includes two panes of glass 18 spaced apart and lying parallel to each other. However, it will be appreciated that the glazing unit 16 may have one or more than two panes of glass 18. Alternatively, the glazing unit 16 could be replaced with a panel of wood, aluminium or other suitable material. It shall be appreciated that although the glazing unit 16 in this embodiment is a double glazing unit, alternative glazing units, for example opaque panels, for example for doors, may be used.

[0063] Fenestration units 10 of this type are typically used in external walls of domestic and commercial buildings. It is therefore necessary that the fenestration unit 10 meets requirements for thermal insulation, sealing against water ingress, draughts etc.

[0064] Referring now to Figure 2, the frame member 14 and the ancillary member in the form of the cill 20 of the fenestration unit 10 are illustrated in cross-section. In the arrangement shown, the frame member 14 is intended to be a bottom or lower frame member 14.

[0065] The ancillary member 20 defines an elongate body 22 configured to extend along the length of the frame member 14. The elongate body 22 defines a cross-sectional profile having a first, externally facing, region 24 and a second, internally facing, region 26. The profile of the body 15 defines first and second side surfaces 28, 30 extending between the first and second regions 24, 26.

[0066] The body 22 includes a central cavity 32. It will be appreciated that the cavity 32 may extend along the entirety of the length of the body 22, or may extend partially therealong. The cavity provides voids in the body 22 (three in this embodiment) that are delineated by vertical walls of the body. The voids work to improve the insulation properties of the ancillary member 20. Although not illustrated, in some arrangements the ancillary member 20 may include a reinforcing member (not shown) within the cavity in order to improve the structural strength thereof.

[0067] The first side surface 28 of the body 22 includes a first gasket 34 extending along the elongate length of the body 22. It will be appreciated that the first gasket 34 may extend along the entirety of the length of the first side surface 28, or may extend partially therealong. The provision of the first gasket 34 along the first side surface 28 enables the first side surface 28, and so the ancillary member 20, to sealingly engage the window frame member 14 without the use of an additional component (e.g. a line of silicone sealant covering the join between the ancillary member 20 and the window frame member 14).

[0068] In the arrangement shown, the first gasket 34 is integrally formed with the elongate body 22 such that the body 22 and the first gasket 34 are provided as a unitary body. The ancillary member 20 is formed from an insulating material so as to provide a thermal break within the ancillary member 20 (i.e. within the cill). Put another way, the elongate body 22 and the first gasket 34 are formed from an insulating material to provide a thermal break within the fenestration unit 10.

[0069] The elongate body 22 is formed from a rigid material, e.g. a rigid plastics material such as unplasticised polyvinyl chloride (uPVC), so as to be able to provide strength to the cill 20. The first gasket 34 is formed from a deformable material, e.g. an elastomeric material

such as a thermoplastic elastomer (TPE) like EPDM so as to provide an improved seal surface against the window frame member 14. In order to integrally form a rigid body 22 and a resiliently deformable first gasket 34, the body 22 and the first gasket 34 are formed through a co-extrusion process. It will be appreciated that any suitable process for integrally forming the first gasket 34 and the body 22 may be used.

[0070] In the illustrated arrangement, the first gasket 34 is provided in the form of a bubble seal. The bubble seal 34 bulges outwardly from the first side surface 28 along an arcuate path. In use, an external surface of the window frame member 14 abuts against the curved surface of the bubble seal 34 and deforms said bubble seal 34 so as to form a seal therebetween. It will be appreciated that alternative sealing arrangements, such as one or more lip seals, may be utilised.

[0071] The body 22 includes a first mounting arrangement 36 for releasably mounting an external profile 38 onto the body 22. The first mounting arrangement 36 is provided on the first region 24 of the body 22. Having an external profile 38 that is releasably connectable to the body 22 allows the body 22 and external profile 38 to be made from different materials. This arrangement enables the body 22 to be made from an insulating material to provide a thermal break, whilst allowing the external profile to be made from a metallic material, e.g. aluminium, to improve its appearance and to provide greater strength and durability. The external profile 38 substantially covers (e.g. at least partially covers) the first region 24 of the body 22 to improve the appearance of the ancillary member 20.

[0072] As discussed above, in the arrangement shown the frame member 14 is intended to be positioned at the bottom of a window frame assembly 12, and the external profile 38 connected to the body 22 is a cill. Thus, in this arrangement, the external profile 38 is a cill cover.

[0073] The first mounting arrangement 36 connects to the external profile 38 via a snap-fitting arrangement. The snap-fitting arrangement is provided in the form of a pair of recesses 40 on opposing sides of the first region 24 of the body 22. The external profile 38 has corresponding projections 42 on opposing internal surfaces thereof. The projections 42 are configured and arranged to inter-engage with the recesses 40 to attach the external profile 38 to the body 22. It will be appreciated that any suitable releasable connection arrangement between the external profile 38 and the body 22 may be used in alternative arrangements.

[0074] The body 22 includes a second gasket 44 for sealing against the external profile 38. The second gasket 44 is provided on the first region 24 of the body 22 extending along the elongate length of the body 22. It will be appreciated that the second gasket 44 may extend along the entirety of the length of the first region 24, or may extend partially therealong. The provision of the second gasket 44 along the first region 24 enables the first region 24 of the body 22 to sealingly engage the external profile 38 without the use of an additional sealing component.

[0075] In the arrangement shown, the second gasket 44 is integrally formed with the elongate body 22. Put another way, the body 22 and the second gasket 44 are provided as a unitary body.

[0076] The second gasket 44 is formed from a deformable material, e.g. an elastomeric material such as a thermoplastic elastomer (TPE) like EPDM so as to provide an improved seal surface against the window frame member 14. In order to integrally form a rigid body 22 and a resiliently deformable second gasket 44, the body 22 and the second gasket 44 are formed through a co-extrusion process. It will be appreciated that any suitable process for integrally forming the second gasket 44 and the body 22 may be used.

[0077] In the illustrated arrangement, the first region 24 of the body 22 is provided in the form of a pair of opposing arms 46. The distal ends 48 of the arms 46 are spaced apart such that arms 46 are cantilevered on the body 22. The recesses 40 are provided on the cantilevered arms 46, which enables them to easily flex together when the projections 42 are push fitted thereon.

[0078] The second gasket 44 extends between the distal ends 48 of the arms 46 such that the arms 46 are flexibly connected together. The second gasket 44 is provided in the form of a bubble seal. The bubble the seal 44 extends between two opposing and spaced apart ends of the first region 24 of the body 22.

[0079] In alternative arrangements, the first region 24 may not be provided in the form of cantilevered arms, and the body 22 may include an alternative arrangement to enable the recesses 40 to flex inwardly upon push fitting of the projections 42.

[0080] The body 22 includes a second mounting arrangement 50 for releasably mounting an internal profile 52 thereon. The second mounting arrangement 50 is provided on the second region 26. Having an internal profile 50 that is releasably connectable to the body 22 allows the body 22 and internal profile 52 to be made from different materials. This arrangement enables the body 22 to be made from an insulating material to provide a thermal break, whilst allowing the internal profile to be made from a metallic material, e.g. aluminium, to improve its appearance and to provide greater strength and durability. The internal profile 52 substantially covers (e.g. at least partially covers) the second region 26 of the body 22 to improve the appearance of the ancillary member 20.

[0081] Providing both internal and external profiles 38, 52 that are releasably connectable to the body 22 enables differently coloured or shaped profiles of the external and internal profiles 38, 52 to be selected to suit the application (i.e. to match differently coloured internal and external walls of a building). This in turn may enable window and door installers to minimise wastage of external profiles by assembling the desired combination of profile colour and/or shape at or near to the point of installation from a selection of available profiles, by cutting the pro-

files to the required length and keeping the remainder for future jobs, rather than having to pre-order the a minimum length of complete ancillary member from a supplier, much of which may ultimately go to waste.

[0082] In the arrangement shown, the second mounting arrangement 50 connects to the internal profile 52 via a snap-fitting arrangement. The snap-fitting arrangement is provided in the form of a pair of recesses 54 on opposing sides of the second region 26 of the body 22. The internal profile 52 has corresponding projections 56 on opposing internal surfaces thereof. The projections 56 are configured and arranged to inter-engage with the recesses 54 to attach the internal profile 52 to the body 22. It will be appreciated that any suitable releasable connection arrangement between the internal profile 52 and the body 22 may be used in alternative arrangements.

[0083] The body 22 includes a third gasket 62 for sealing against the internal profile 52. The third gasket 62 is provided on the second region 26 of the body 22 extending along the elongate length of the body 22. It will be appreciated that the third gasket 62 may extend along the entirety of the length of the second region 26, or may extend partially therealong. The provision of the third gasket 62 along the second region 26 enables the second region 26 of the body 22 to sealingly engage the internal profile 52 without the use of an additional sealing component.

[0084] In the arrangement shown, the third gasket 62 is integrally formed with the elongate body 22. Put another way, the body 22 and the third gasket 62 are provided as a unitary body.

[0085] The third gasket 62 is formed from a deformable material, e.g. an elastomeric material such as a thermoplastic elastomer (TPE) like EPDM so as to provide an improved seal surface against the window frame member 14. In order to integrally form a rigid body 22 and a resiliently deformable third gasket 62, the body 22 and the third gasket 62 are formed through a co-extrusion process. It will be appreciated that any suitable process for integrally forming the third gasket 62 and the body 22 may be used.

[0086] In the illustrated arrangement, the second region 26 of the body 22 is provided in the form of a pair of opposing arms 58. The distal ends 60 of the arms 58 are spaced apart such that arms 58 are cantilevered on the body 22. The recesses 54 are provided on the cantilevered arms 58, which enables them to easily flex together when the projections 56 are push fitted thereon.

[0087] The third gasket 62 extends between the distal ends 60 of the arms 58 such that the arms 58 are flexibly connected together. The third gasket 62 is provided in the form of a bubble seal. The bubble the seal 62 extends between two opposing and spaced apart ends of the second region 26 of the body 22.

[0088] In alternative arrangements, the second region 26 may not be provided in the form of cantilevered arms, and the body 22 may include an alternative arrangement to enable the recesses 54 to flex inwardly upon push fitting of the projections 56.

[0089] It will be appreciated that as well as acting as a seal, the second and third gaskets 44 and 62 inhibit the relative sliding of the external and internal profiles 38, 52 with respect to the body, which may assist with the handling of the ancillary member 20 during shipping and installation.

[0090] When the internal and external profiles 52, 38 have been assembled onto the body 22, they form a substantially flat upper surface. This substantially flat is provided so as to be able to mount the window frame assembly 12 onto the cill 20.

[0091] The ancillary member 20 includes an alignment arrangement for aligning a window frame member 14 thereon. In this arrangement, the ancillary member or cill 20 includes an upstand 64 to abut against a portion of the window frame assembly 12 for aligning the window frame 14 with the cill 20 during installation.

[0092] The second side surface 30 of the body 22 includes a keying surface 66 for improving adhesion of the ancillary member 20 to an opening of a building (e.g. to the mortar of the opening). In the arrangement shown, the keying surface 66 is provided in the form of a recess along the second side 30 of the body 22. It will be appreciated that the keying surface 66 may extend along the entirety of the length of the second side 30, or may extend partially therealong.

[0093] Referring now to Figure 3, a fenestration unit is illustrated and generally indicated at 110. The fenestration unit 110 is intended to be mounted within an opening of a wall structure of a building (not shown). The fenestration unit 110 includes a window frame assembly 112 for positioning in an opening of a building.

[0094] The window frame assembly 112 is formed from a series of window frame members 114 arranged so as to define a series of window frame openings (e.g. square or rectangular openings) within the fenestration unit 110 that forms a bay window. The window frame assembly 112 includes a glazing unit 116 positioned within each opening. The glazing unit 116 includes two panes of glass spaced apart and lying parallel to each other. However, it will be appreciated that the glazing unit 116 may have one or more than two panes of glass. Alternatively, the glazing unit 116 could be replaced with a panel of wood, aluminium or other suitable material.

[0095] Fenestration units 110 of this type are typically used in external walls of domestic and commercial buildings. It is therefore necessary that the fenestration unit meets requirements for thermal insulation, sealing against water ingress, draughts etc.

[0096] Adjacent openings within the fenestration unit 110 are arranged at an angle relative to each other (i.e. the adjacent openings are not co-planar), and are connected by an ancillary member 120. In the arrangement shown, the ancillary member 120 is provided as a corner post (i.e. a substantially upright member). The fenestration unit 110 of this embodiment is suitable for a window, door or other type of fenestration, such as a vent.

[0097] Referring now to Figure 4, the ancillary member 120 (i.e. a corner post) is illustrated interposed between frame members 114 of adjacent window frame openings.

[0098] The ancillary member 120 defines an elongate body 122 configured to extend along the length of the frame member 114. The elongate body 122 defines a cross-sectional profile having a first, externally facing, region 124 and a second, internally facing, region 126. The profile of the body 122 defines first and second side surfaces 128, 130 extending between the first and second regions 124, 126.

[0099] The body 122 includes a central cavity 132. It will be appreciated that the cavity 132 may extend along the entirety of the length of the body 122, or may extend partially therealong. The cavity 132 provides an empty region in the body 122, which works to improve the insulation properties of the corner post 120. The corner post 120 also includes a reinforcing member 168 within the cavity 132. The reinforcing member is provided in the form of a metallic tube, but it will be appreciated that any suitable shaped reinforcing member may be used. 21 in order to improve the structural strength of the ancillary member 120 and to transmit load from masonry above the fenestration unit 110 to that below. It will be appreciated that in some arrangements, the reinforcing member 168 may be omitted.

[0100] The first side surface 128 of the body 122 includes a first gasket 134 extending along the elongate length of the body 122. It will be appreciated that the first gasket 134 may extend along the entirety of the length of the first side 128, or may extend partially therealong. The provision of the first gasket 134 along the first side 128 enables the first side surface 128, and so the ancillary member 120, to sealingly engage the window frame 114 without the use of an additional component (e.g. a line of silicone sealant covering the join between the corner post 120 and the window frame member 114).

[0101] In the arrangement shown, the first gasket 134 is integrally formed with the elongate body 122 such that the body 122 and the first gasket 134 are provided as a unitary body. The body 122 is formed from an insulating material so as to provide a thermal break within the ancillary member 20 (i.e. within the cill). Put another way, the elongate body 122 and the first gasket 134 are formed from an insulating material to provide a thermal break within the fenestration unit 110.

[0102] The elongate body 122 is formed from a rigid material, e.g. a rigid plastics material such as unplasticised polyvinyl chloride (uPVC), so as to be able to provide strength to the corner post 120. The first gasket 134 is formed from a deformable material, e.g. an elastomeric material such as a thermoplastic elastomer (TPE) like EPDM so as to provide an improved seal surface against the window frame member 114. In order to integrally form a rigid body 122 and a resiliently deformable first gasket 134, the body 122 and the first gasket 134 are formed through a co-extrusion process. It will be appreciated that any suitable process for integrally forming the first gasket 134 and the body 122 may be used.

[0103] In the illustrated arrangement, the first gasket 134 is provided in the form of a bubble seal. The bubble seal 134 bulges outwardly from the first side surface 128 along an arcuate path. In use, external surface of the window frame member 114 abuts against the curved surface of the bubble seal 134 and deforms said bubble seal 134 so as to form a seal therebetween. It will be appreciated that alternative sealing arrangements, such as one or more lip seals, may be utilised.

[0104] The second side surface 130 of the body 122 includes a second gasket 172 extending along the elongate length of the body 122. It will be appreciated that the second gasket 172 may extend along the entirety of the length of the second side surface 130, or may extend partially therealong. The provision of the second gasket 172 along the second side surface 130 enables the second side surface 130, and so the ancillary member 120, to sealingly engage the second window frame 114 without the use of an additional component (e.g. a line of silicone sealant covering the join between the ancillary member or corner post 120 and the window frame member 114).

[0105] In the arrangement shown, the second gasket 172 is integrally formed with the elongate body 122. Put another way, the body 122 and the second gasket 172 are provided as a unitary body.

[0106] The second gasket 172 is formed from a deformable material, e.g. an elastomeric material such as a thermoplastic elastomer (TPE) like EPDM so as to provide an improved seal surface against the window frame member 114. In order to integrally form a rigid body 122 and a resiliently deformable fourth gasket 172, the body 122 and the fourth gasket 172 are formed through a co-extrusion process. It will be appreciated that any suitable process for integrally forming the fourth gasket 172 and the body 122 may be used.

[0107] The first region 124 is provided with a first mounting arrangement 136 for releasably mounting an external profile 138 thereon. Having an external profile 138 that is releasably connectable to the body 122 allows the body 122 and external profile 138 to be made from different materials. This arrangement enables the body 122 to be made from an insulating material to provide a thermal break, whilst allowing the external profile 138 to be made from a metallic material, e.g. aluminium, to improve the appearance of the fenestration unit 110 and to match the appearance of the adjoining frame members 114. The external profile 138 substantially covers (e.g. at least partially covers) the first region 124 of the body 122 to improve the appearance of the fenestration unit 110. The external profile 138 may also be arranged so as to cover the outer interface between the corner post 120 and the first and/or second frame member 114.

[0108] In the arrangement shown, the first mounting arrangement 136 connects to the external profile 138 via a snap-fitting arrangement. The snap-fitting arrangement is provided in the form of a pair of recesses 140 on op-

posing sides of a channel 170 on the first region 124 of the body 122. The external profile 138 has corresponding projections 142 on opposing internal surfaces thereof, where the projections are configured and arranged to inter-engage with the recesses 140 to attach the external profile 138 to the body 122. It will be appreciated that any suitable releasable connection arrangement between the external profile 138 and the body 122 may be used in alternative arrangements.

[0109] As is illustrated, the ancillary member or corner post 120 is positioned between frame member 114 arranged at an angle to each other. The body includes a third gasket 162 for sealing against the window frame members 114. The third gasket 162 is provided on the second region 126 of the body 122 and extends along the elongate length of the body 122. It will be appreciated that the third gasket 162 may extend along the entirety of the length of the second region 126, or may extend partially therealong. The provision of the third gasket 162 along the second region 126 enables the second region 126 of the body 122 to sealingly engage the first and second window frame members 114. The combination of the first, second and third gaskets 134, 162 provides inner and outer seals between the frame members 114 and the corner post 120, which further helps to inhibit the ingress of air and/or moisture between the frame member 114 and the corner post 120.

[0110] In the arrangement shown, the third gasket 162 is integrally formed with the elongate body 122. Put another way, the body 122 and the third gasket 162 are provided as a unitary body.

[0111] The third gasket 162 is formed from a deformable material, e.g. an elastomeric material such as a thermoplastic elastomer (TPE) like EPDM so as to provide an improved seal surface against the window frame member 114. In order to integrally form a rigid body 122 and a resiliently deformable third gasket 162, the body 122 and the third gasket 162 are formed through a co-extrusion process. It will be appreciated that any suitable process for integrally forming the third gasket 162 and the body 122 may be used.

[0112] The ancillary member 120 includes a first alignment arrangement for aligning a first frame member 114 thereon. In this arrangement, the ancillary member or corner post 120 includes a projection 174 extending from the first side surface 128. This projection 174 provides a surface for a corresponding surface of a frame member 114 to abut against during installation to aid alignment. The first alignment arrangement includes a recessed portion 176 on the first side surface 128. The recessed portion 176 is arranged so as to abut against a corresponding projection 178 of the frame member 114 during installation to aid alignment therebetween.

[0113] The ancillary member 120 includes a second alignment arrangement for aligning a second frame member 114 thereon. In this arrangement, the ancillary member or corner post 120 includes a projection 174 extending from the first side surface 128. This projection 180 provides a surface for a corresponding surface of a frame member 114 to abut against during installation to aid alignment. The first alignment arrangement includes a recessed portion 182 on the first side surface 128. The recessed portion 182 is arranged so as to abut against a corresponding projection 184 of the frame member 114 during installation to aid alignment therebetween.

[0114] Although the invention has been described above with reference to one or more preferred embodiments, it will be appreciated that various changes or modifications may be made without departing from the scope of the invention as defined in the appended claims.

Claims

1. An ancillary member for a fenestration unit, the ancillary member comprising:

   a body defining an elongate length extending longitudinally between first and second ends thereof, the body defining a cross-sectional profile comprising a first region intended to be externally facing, in use, a second region intended to be internally facing, in use, and first and second side surfaces extending between the first and second regions,
   wherein the first side surface comprises a first gasket extending at least partially along the elongate length of the body such that the first side surface is configured for sealingly engaging a first window frame.

2. An ancillary member according to claim 1, wherein the first gasket is integrally formed with the body.

3. An ancillary member according to claim 1 or claim 2, wherein the body is formed from a substantially rigid material, and wherein the first gasket is formed from a deformable, e.g. resilient, material.

4. An ancillary member according to any preceding claim, wherein the body of the *ancillary* member is formed from an insulating material.

5. An ancillary member according to any preceding claim, wherein the ancillary member is a corner post or a cill.

6. An ancillary member according to any preceding claim, wherein the first region comprises a first mounting arrangement for releasably mounting an external profile thereon, optionally wherein the first mounting arrangement is configured for mounting the external profile to the body via a snap-fitting arrangement.

7. An ancillary member according to claim 6, wherein

the first region of the body comprises a second gasket extending at least partially along the elongate length of the body such that the first region is configured for sealingly engaging the external profile; optionally wherein the body is formed from a rigid material, and wherein the second gasket is formed from a deformable, e.g. resilient, material.

8. An ancillary member according to claim 7, wherein the second gasket is integrally formed with the body.

9. An ancillary member according to any preceding claim, wherein the second region comprises a second mounting arrangement for releasably mounting an internal profile thereon, optionally wherein the second mounting arrangement is configured for mounting the internal profile to the body via a snap-fitting arrangement, optionally wherein the second region comprises a third gasket extending at least partially along the elongate length of the body such that the second region is configured for sealingly engaging the internal profile.

10. An ancillary member according to any one of claims 1 to 8, wherein, in use, the ancillary member is positioned between two window frames, and wherein the second region comprises a third gasket extending at least partially along the elongate length of the body such that the second region is configured for sealingly engaging first and/or second window frames, in use.

11. An ancillary member according to claim 9 or claim 10, wherein the body is formed from a rigid material, and wherein the third gasket is formed from a deformable, e.g. resilient, material, optionally wherein the third gasket is integrally formed with the body.

12. An ancillary member according to any preceding claim, wherein the second side surface comprises a fourth gasket extending at least partially along the elongate length of the body such that the second side surface is configured for sealingly engaging a second window frame, optionally wherein the body is formed from a rigid material, and wherein the fourth gasket is formed from a deformable, e.g. resilient, material, optionally wherein the fourth gasket is integrally formed with the body.

13. An ancillary member according to any one of claims 1 to 11, wherein the second side surface comprises a keying surface for adhering the ancillary member to an opening of a building, optionally wherein the keying surface is provided in the form of a recess extending at least partially along the elongate length of the body.

14. An ancillary member according to any preceding claim, wherein the body comprises a cavity extending at least partially along the elongate length thereof, optionally wherein a reinforcing member extends through the cavity.

15. A fenestration unit for an opening of a building, the fenestration unit comprising:

a window frame assembly formed from a plurality of frame members defining an opening for receiving a glazing unit therein; and
an ancillary member comprising a body defining an elongate length extending longitudinally between first and second ends thereof, the body further comprising a first region intended to be externally facing, in use, a second region intended to internally facing, in use, and first and second side surfaces extending between the first and second regions,
wherein the first side surface comprises a first gasket extending at least partially therealong such that the first side surface sealingly engages the window frame assembly.

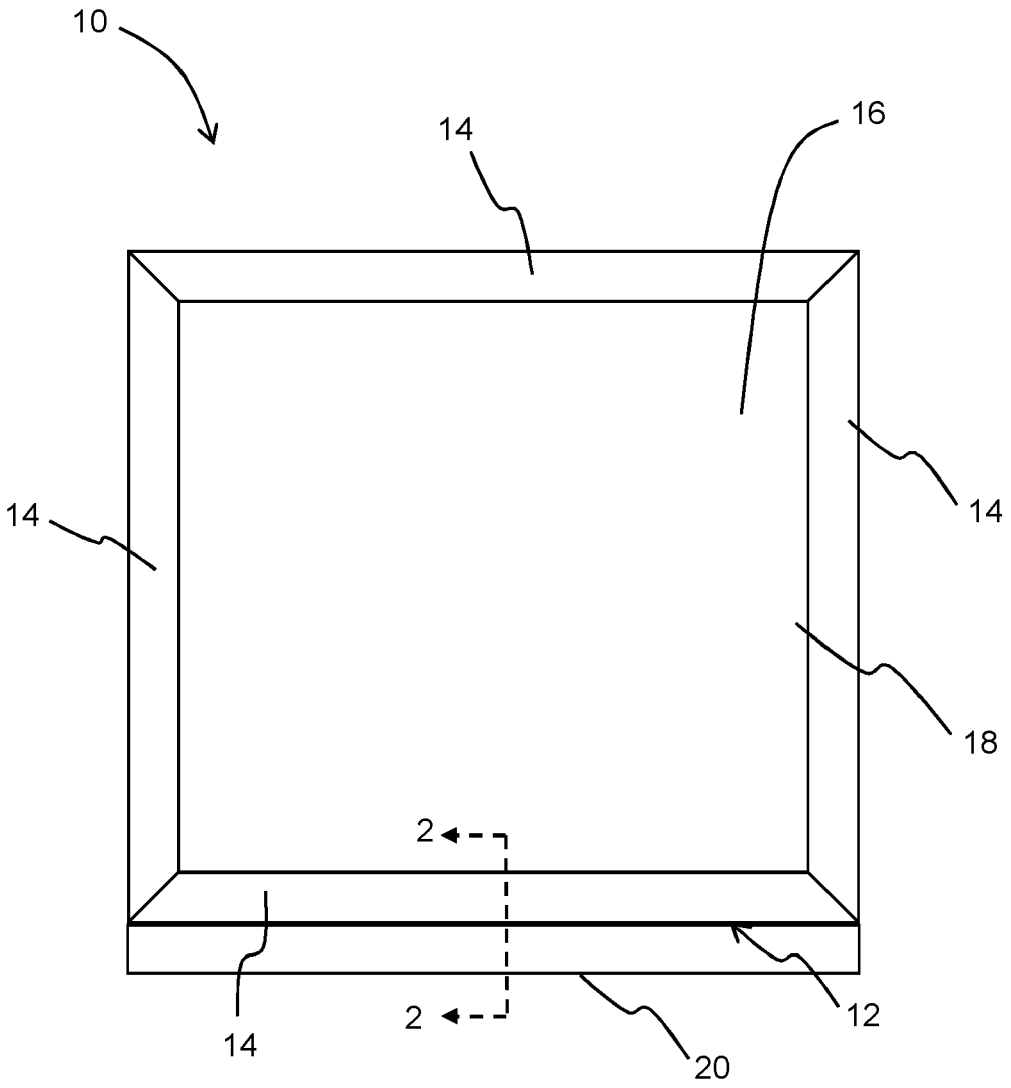

FIG. 1

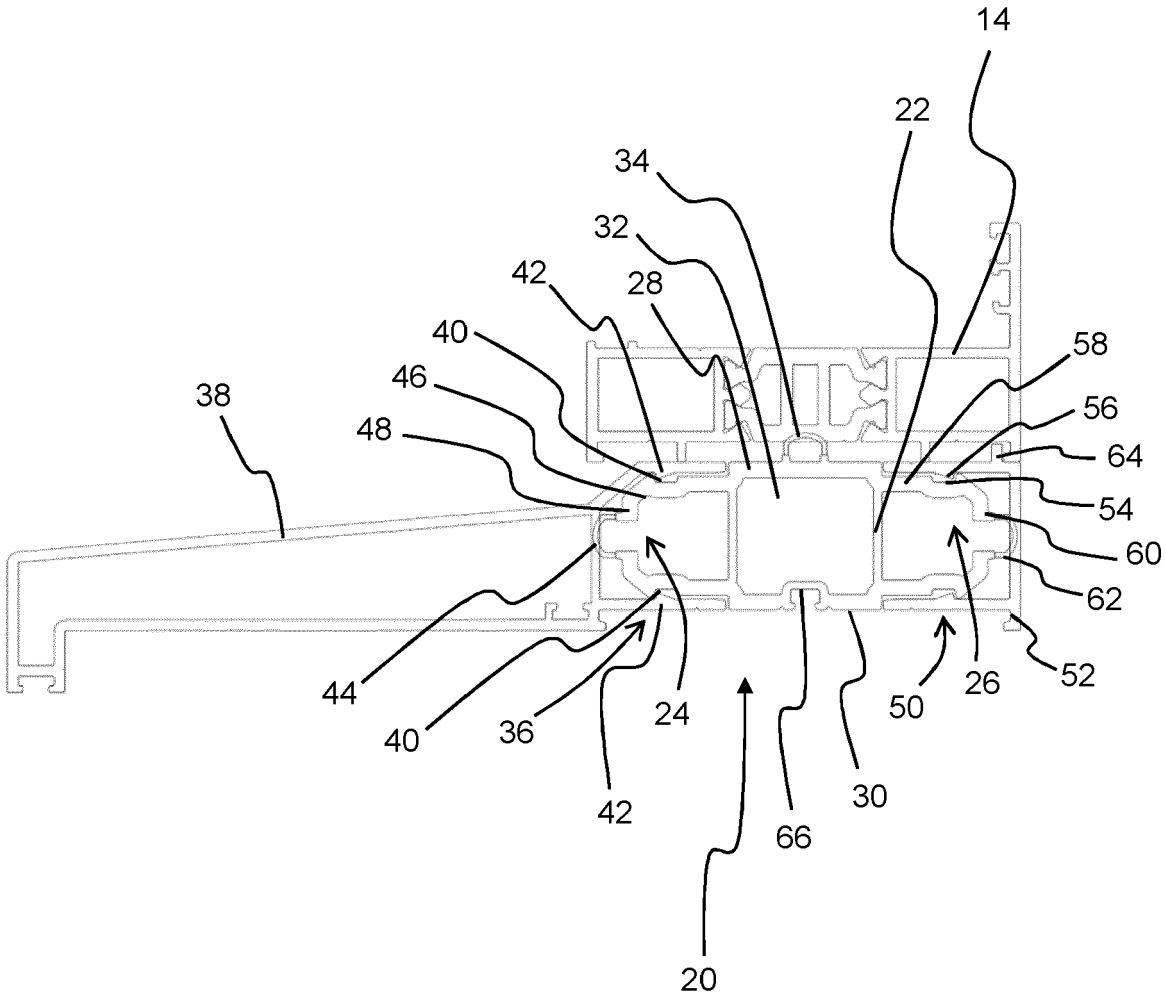
14
22
34
32
42
28
40
58
46
56
38
48
64
54
60
62
44
40
36
24
42
66
30
50
26
52
20

FIG. 2

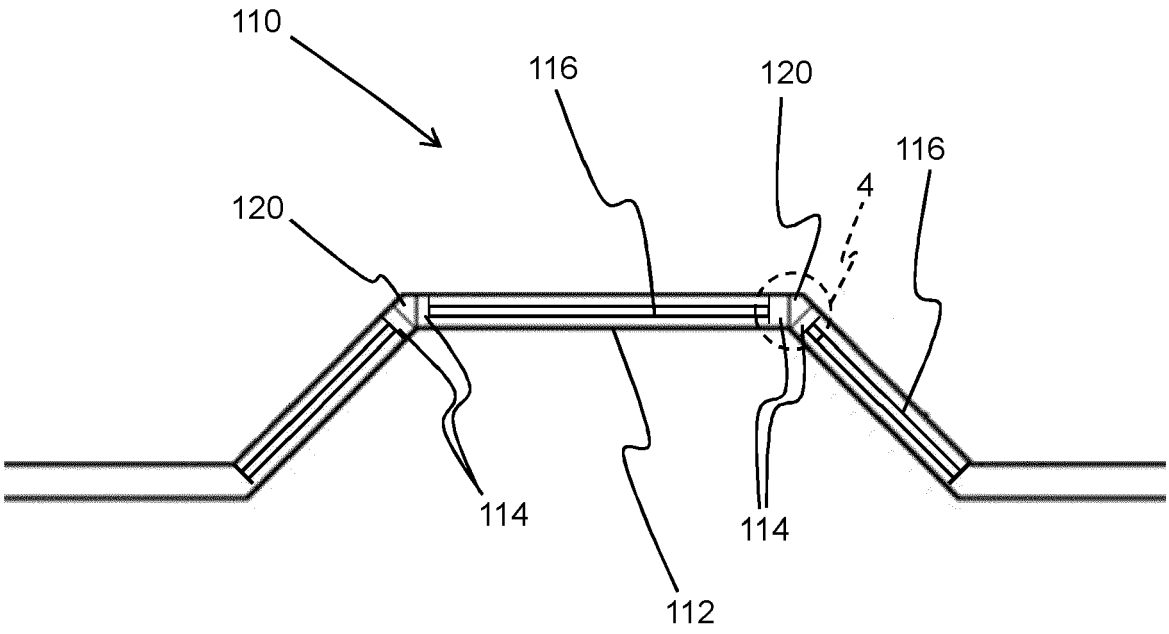

FIG. 3

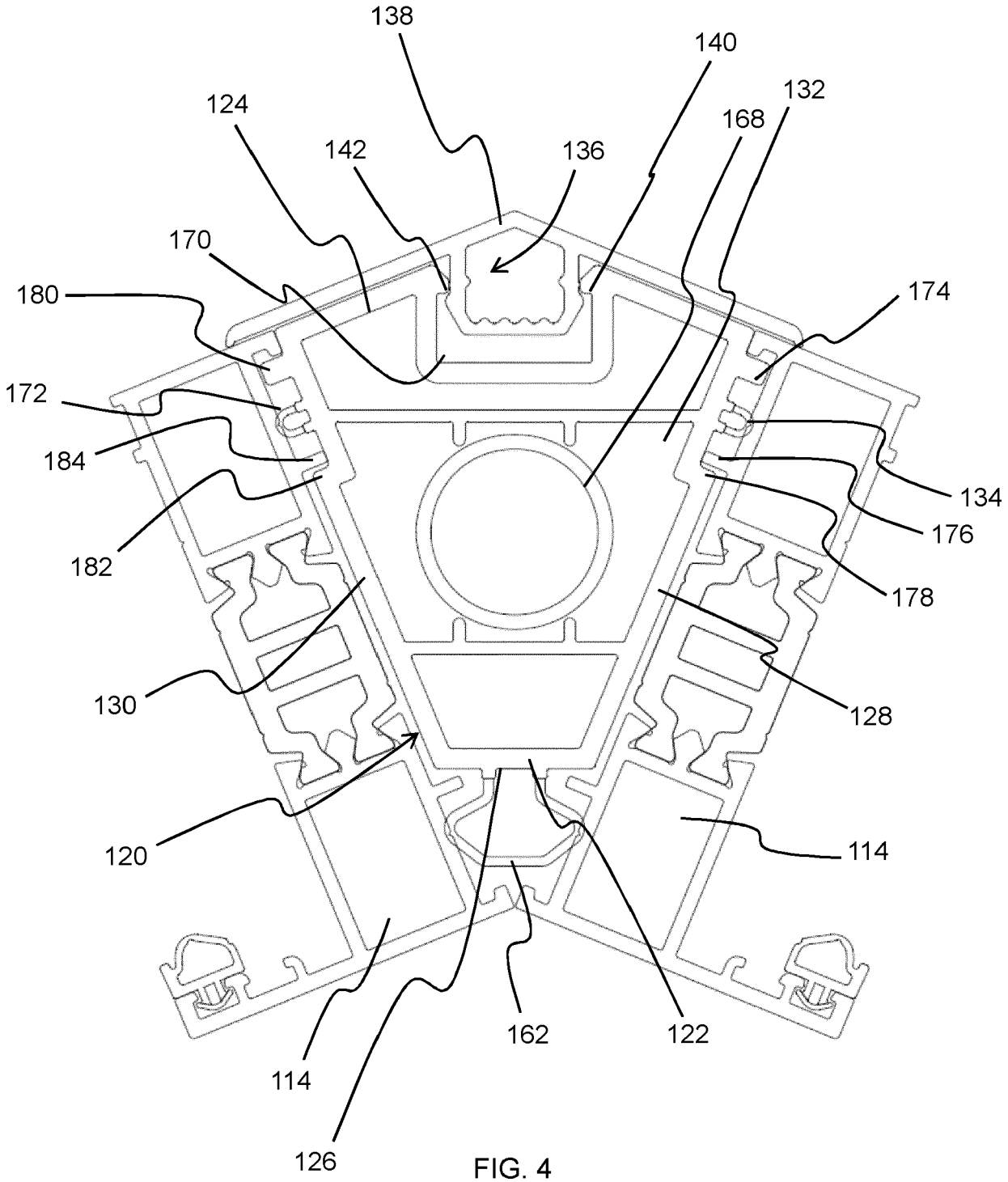
138
140
124
132
168
142
136
170
180
174
172
184
134
176
182
178
130
128
120
114
114
162
122
126

FIG. 4

Europäisches Patentamt
European Patent Office
Office européen des brevets

EUROPEAN SEARCH REPORT

Application Number
EP 21 15 3854

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 2019/093416 A1 (LUVISON MICHAEL [US]) 28 March 2019 (2019-03-28) * column 6, lines 62-64; figures * * column 8, lines 57-62 * -----	1-15	INV. E06B1/68 E06B1/02 E06B1/36 E06B1/60
X	EP 0 722 033 A1 (SCHUECO INT KG [DE]) 17 July 1996 (1996-07-17) * paragraphs [0015] - [0019]; figures * -----	1,3,5-7, 9-12,14, 15	E06B1/28 E06B1/70 E06B3/263

TECHNICAL FIELDS SEARCHED (IPC)

E06B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	17 February 2021	Kis, Pál

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 21 15 3854

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

17-02-2021

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2019093416 A1	28-03-2019	CA 3018238 A1	25-03-2019
		US 2019093416 A1	28-03-2019
		US 2019226268 A1	25-07-2019
EP 0722033 A1	17-07-1996	AT 196181 T	15-09-2000
		DE 19501088 A1	18-07-1996
		DK 0722033 T3	06-11-2000
		EP 0722033 A1	17-07-1996

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82