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(54) **ROOF EDGE**

(57) A roof edge which comprises a decorative panel and a bottom profiled section. The corners of the roof edge are attached to straight parts of the roof edge by means of a connecting rod which is inserted into an opening

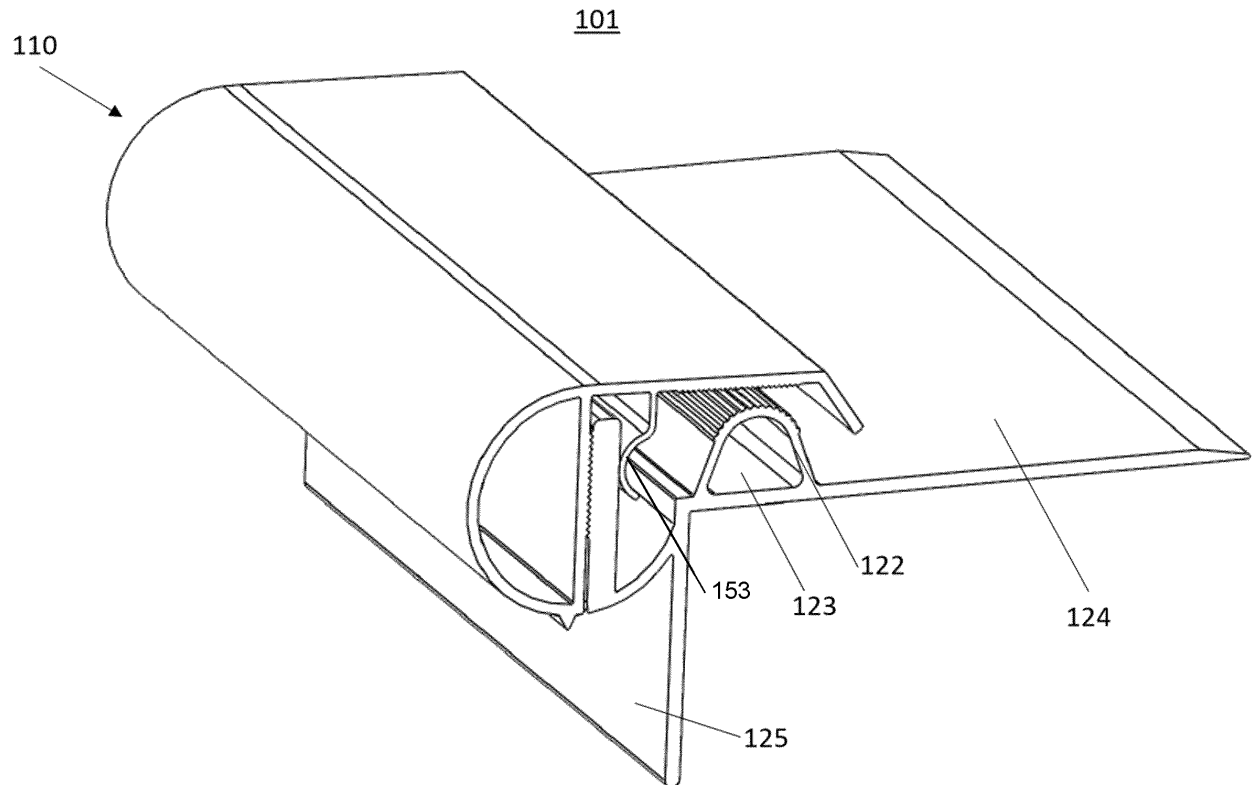


Fig. 2

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Description**TECHNICAL FIELD**

[0001] The invention relates to roof edges and a related kit comprising components.

TECHNOLOGICAL BACKGROUND OF THE INVENTION

[0002] Roof edges are a very common construction element. They are used, inter alia, to protect walls from rainwater. Some existing roof edges comprise a bottom profiled section and a decorative panel which can be fastened to each other. The bottom profiled section ensures that the decorative panel is attached to the roof and the decorative panel determines the appearance of the roof edge. Such roof edges can be produced in a simple manner.

[0003] However, with existing roof edges, the bottom profiled section and the decorative panel are not always easily connectable to each other. Also, corners are often difficult to install. There is also a trade-off between the simplicity with which the bottom profiled section and decorative panel can be connected to each other and the strength of the connection between the bottom profiled section and the decorative panel.

[0004] With existing roof edges, there is also a trade-off between the aesthetic appearance of the roof edge and the efficiency of the roof edge in keeping the walls dry.

[0005] There is thus a need for roof edges in which the bottom profiled section and the decorative panel are easily connectable to each other. There is also a need for roof edges whose corners are easily installable. There is also a need for roof edges in which the connection between the bottom profiled section and the decorative panel is very strong. Furthermore, there is a need for roof edges with a pleasing appearance from any angle. There is also a need for a roof edge in which the bottom profiled section and the decorative panel can easily be made in a different colour. There is also a need for roof edges which protect walls efficiently against precipitation. Furthermore, there is a need for roof edges which can be fitted easily, quickly and efficiently. Furthermore, there is a need for roof edges with excellent rectilinearity. Furthermore, there is a need for roof edges with excellent resistance to deformation.

SUMMARY

[0006] The invention and preferred embodiments thereof provide a solution for the abovementioned needs.

[0007] Thus, a roof edge is provided herein, comprising a straight part and an external corner; and/or an internal corner; wherein the straight part, the external corner, and the internal corner comprise the following: a decorative panel, a bottom profiled section, and a connection be-

tween the decorative panel and the bottom profiled section, wherein the connection comprises a supporting plate, a connecting plate, and a clamping element, and wherein the connecting plate is clamped between the supporting plate and the clamping element; wherein the straight part is connected to the external corner and/or the internal corner by means of a connecting rod which is inserted into an opening.

[0008] In some embodiments, the connecting rod is comprised in the bottom profiled section of the external corner or the internal corner, and the opening is comprised in the bottom profiled section of the straight part of the roof edge.

[0009] In some embodiments, the connecting rod is comprised in the bottom profiled section of the straight part of the roof edge, and the opening is comprised in the bottom profiled section of the external corner or the internal corner.

[0010] In some embodiments, the connecting rod is a separate connecting rod, wherein the connecting rod comprises a first end and a second end, wherein the first end is inserted into an opening comprised in the bottom profiled section of the external corner or the internal corner, and wherein the second end is inserted into an opening comprised in the bottom profiled section of the straight part of the roof edge.

[0011] In some embodiments, the connecting rod comprises ribs.

[0012] In some embodiments, a flexible sealing piece is inserted between the bottom profiled section and the decorative panel of the external corner or an internal corner.

[0013] In some embodiments, the supporting plate and the connecting plate both comprise serrations, and the serrations of the supporting plate are configured to engage in the serrations of the connecting plate in order to form a serrated connecting face.

[0014] In some embodiments, the supporting plate and the clamping element each form part of the decorative panels, and the connecting plate forms part of the bottom profiled sections.

[0015] In some embodiments, the decorative panels comprise a protuberance for rainwater to trickle down.

[0016] In some embodiments, the decorative panels and/or the bottom profiled sections comprise a facade lip.

[0017] In some embodiments, the distance between the facade lip and the protuberance is equal to 5.0 to 15.0 cm, for example 8.0 to 12.0 cm.

[0018] In some embodiments, the roof edge comprises several straight parts, several external corners, and/or several internal corners.

[0019] There is also provided herein a method for installing a roof edge as described herein, the method comprising the following steps:

a) providing a base surface;

b) placing two bottom profiled sections of straight

parts of the roof edge on the base surface, wherein the two bottom profiled sections are placed at right angles to each other;

c) connecting the straight parts to a bottom profiled section of an external corner and/or a bottom profiled section of the internal corner by inserting a connecting rod in one or more openings;

d) fastening the bottom profiled sections to the base surface;

e) fitting roof covering to the bottom profiled sections; and,

f) fastening decorative panels to the bottom profiled section of the straight part and to the bottom profiled section of the external corner and/or the bottom profiled section of the internal corner.

[0020] In some embodiments, the bottom profiled section is pre-punched.

[0021] In some embodiments, the roof edge comprises two or more adjacent bottom profiled sections, and a clearance is left between adjacent bottom profiled sections in order to allow for thermal expansion; and a clearance is left between a bottom profiled section of a straight part of the roof edge, on the one hand, and a bottom profiled section of an external corner or internal corner, on the other hand, in order to allow for thermal expansion.

[0022] In some preferred embodiments, the roof covering is glued onto the bottom profiled section in step d).

[0023] In some preferred embodiments, the roof edge comprises two or more adjacent decorative panels between which there are one or more joints, and step e) is followed by step f) fitting one or more joint clips for sealing the one or more joints between two or more adjacent decorative panels.

[0024] In some embodiments, the base surface is made of wood.

[0025] In some embodiments, the bottom profiled section is attached to the base surface by means of screws.

[0026] In some embodiments, step f) comprises providing a connection between the decorative panel and the bottom profiled section, wherein the connection comprises a supporting plate, a connecting plate, and a clamping element, and wherein the connecting plate is clamped between the supporting plate and the clamping element.

DESCRIPTION OF THE FIGURES

[0027]

Fig. 1 shows a roof edge (100) which comprises a decorative panel (110) and a bottom profiled section (120).

Fig. 2 shows a perspective drawing of a straight part (101) of a roof edge.

Fig. 3 shows how a decorative panel (110) and a bottom profiled section (120) can be inserted into each other.

Fig. 4 shows a perspective drawing of a bottom profiled section (120) of a straight part (101) of a roof edge.

Fig. 5 shows a roof edge (100) which comprises a facade lip (116).

Fig. 6 shows a detail drawing of a connection (150) between the decorative panel (110) and the bottom profiled section (120).

Fig. 7 shows a perspective view of a decorative panel (210) of an external corner.

Fig. 8 shows a perspective view of a decorative panel (310) of an internal corner.

Fig. 9 shows a perspective view of a bottom profiled section (220) of an external corner (200).

Fig. 10 shows a perspective view of a bottom profiled section (320) of an internal corner (300).

Fig. 11 shows in perspective view how a bottom profiled section (220) of an external corner (200) is connected to the bottom profiled section of a straight part (101) of a roof edge by means of connecting rod (250).

Fig. 12 shows in perspective view how a bottom profiled section (320) of an internal corner (300) is connected to the bottom profiled section of a straight part (101) of a roof edge by means of a connecting rod (350).

Fig. 13 illustrates the connecting plate (152) and the clamping element (153) of an external corner (200), wherein the components have been made semi-transparent in order to show the clamping element (153).

Fig. 14 illustrates the connecting plate (152) and the clamping element (153) of an external corner (200), wherein the components have been made semi-transparent in order to show the clamping element (153).

[0028] Throughout the figures, the following numbers are used: 100 - roof edge; 101 - straight part of roof edge; 110 - decorative panel; 111 - outer part; 112 - bottom part of the decorative panel; 113 - top part; 115 - protu-

berance; 116 - facade lip; 117 - serrated bottom side of the decorative panel; 120 - bottom profiled section; 122 - top end of the bottom profiled section; 123 - opening; 124 - bearing surface; 125 - support surface; 127 - serrated top side of top end of bottom profiled section; 150 - fastening mechanism; 151 - supporting plate; 152 - connecting plate; 153 - clamping element; 154 - serrated connecting face; 200 - external corner; 210 - decorative panel of external corner; 220 - bottom profiled section of external corner; 250 - connecting rod; 300 - internal corner; 310 - decorative panel of internal corner; 320 - bottom profiled section of internal corner; 350 - connecting rod.

DETAILED DESCRIPTION

[0029] As used in the text below, the singular forms "a", "an", and "the" include both singular and plural referents unless the context clearly dictates otherwise.

[0030] The terms "comprise", "comprises" as used herein are synonymous with "including", "include" or "contain", and are inclusive or open-ended and do not exclude additional, non-recited members, elements or method steps. The terms "comprising", "comprises" comprise the term "consist".

[0031] The recitation of numerical ranges by endpoints includes all numbers and fractions subsumed within the respective ranges, as well as the recited endpoints.

[0032] The term "about" or "approximately" as used herein when referring to a measurable value such as a parameter, an amount, a temporal duration, and the like, is meant to encompass variations of +/-10% or less, preferably +/-5% or less, more preferably +/-1% or less, and still more preferably +/-0.1% or less of and from the specified value, in so far as such variations are appropriate to perform in the disclosed invention. It is to be understood that the value to which the modifier "about" or "approximately" refers is itself also disclosed.

[0033] All documents cited in the present specification are hereby incorporated by reference in their entirety.

[0034] Unless otherwise defined, all terms disclosed in the invention, including technical and scientific terms, have the meaning as commonly understood by someone skilled in the art. By means of further guidance, definitions are included to further explain terms which are used in the description of the invention.

[0035] There is provided herein a roof edge which, on the one hand, comprises straight parts, and, on the other hand, comprises external corners and/or internal corners. The straight parts, external corners and internal corners all comprise a decorative panel, a bottom profiled section and a connection between the decorative panel and the bottom profiled section. The connection comprises a supporting plate, a connecting plate, and a clamping element and is brought about by clamping the connecting plate between the supporting plate and the clamping element.

[0036] In some embodiments, the supporting plate

and/or the connecting plate comprise a roughened surface. Preferably, both the supporting plate and the connecting plate comprise a roughened surface. The roughening increases the friction between the connecting plate on the one hand and the supporting plate and/or the clamping element on the other hand. An example of a suitable roughened surface is a serrated surface. Thus, in some embodiments, the supporting plate and/or the connecting plate comprise serrations, preferably both the supporting plate and the connecting plate comprise serrations. The roughened surfaces of the connecting plate and the supporting plate are configured to engage in each other in order to form a connecting face. If the supporting plate and the connecting plate comprise serrations, then the serrations of the supporting plate are configured to engage in the serrations of the connecting plate in order to form a serrated connecting face.

[0037] Preferably, the serrations are asymmetrical. In these embodiments, the serrations are serrated in a direction opposite the extension direction of the roof sealing.

[0038] In some preferred embodiments, the clamping element and the connecting plate both comprise serrations, and the serrations of the clamping element are configured to engage in the serrations of the connecting plate in order to form a serrated connecting face.

[0039] In some preferred embodiments, the supporting plate, the connecting plate and the clamping element all comprise serrations, and the serrations of the supporting plate and the clamping element are configured to engage in the serrations of the connecting plate in order to form serrated connecting faces.

[0040] The expression "serrated surface", as used herein, refers to a surface which comprises alternating ribs and grooves. An alternative expression for the expression "serrated surface" is "ridged surface". In some embodiments, the serrated surface comprises successive ribs with a triangular cross section, wherein the cross section of each rib has a base which is between 0.0 mm and 2.0 mm, or between 0.1 mm and 1.9 mm, or between 0.5 mm and 1.5 mm long, and wherein the cross section of each rib has a height which is between 0.0 mm and 2.0 mm, or between 0.1 mm and 1.9 mm, or between 0.5 mm and 1.5 mm high. In some embodiments, the corners of the triangular cross sections of the ribs are rounded, for example the rounding of the corners of the ribs describes a sector of a circle over an angle between 0.0° and 3.0°, or between 0.1° and 2.9°, or between 0.5° and 2.5°, or between 1.0° and 2.0°. By roughening the surface of the supporting plate and/or the connecting plate, the coefficient of friction between the supporting plate and the connecting plate increases. Thus, it is possible to form a strong connection between the decorative panel and the bottom profiled section in an efficient manner. Serrations are easy to produce, for example by means of extrusion, and make it possible to produce an excellent mechanical connection between the decorative panel and the bottom profiled section.

[0041] Optionally, the supporting plate and the clamping element each form part of the decorative panel, and the connecting plate forms part of the bottom profiled section. Alternatively, the supporting plate and the clamping element each form part of the bottom profiled section and the connecting plate forms part of the decorative panel. Both configurations allow a suitable connection between the bottom profiled section and the decorative panel.

[0042] Preferably, the connection between the decorative panel and the bottom profiled section is reinforced. This may be achieved, for example, by providing both the supporting plate and the connecting plate with serrations. The serrations of the supporting plate then engage in the serrations of the connecting plate in order to form a serrated connecting face.

[0043] The colours of the decorative panel and bottom profiled section may be chosen in a simple manner and independently from each other. Thus, for example, the bottom profiled section may be produced in the colour of the façade to which it is fitted. In addition, the present roof edges can be fitted quickly and easily.

[0044] Such roof edges are strong, robust, and are very easy to assemble. Thus, it suffices to simply slide the decorative panel over the bottom profiled section, so that the connecting plate slides between the supporting plate and the clamping element until the connecting plate is securely clamped between the supporting plate and the clamping element.

[0045] By means of the abovementioned configuration, a roof edge having a front with limited visibility is also made possible.

[0046] In some embodiments, the decorative panel and/or the bottom profiled section comprise aluminium. Preferably, the decorative panel and/or the bottom profiled section are made of aluminium, which results in a roof edge having excellent weatherproof properties.

[0047] Compared to prior-art roof edges, for example roof edges made of zinc, aluminium roof edges according to the present invention can be fitted very quickly and easily.

[0048] In addition, the present aluminium roof edges provide excellent resistance to deformation. This applies in particular when the roof edges are manufactured from extruded aluminium.

[0049] Preferably, the supporting plate is substantially unbendable and the clamping element is configured as a spring. The connecting plate is also preferably substantially unbendable. In this way, the connecting plate can be securely clamped between the supporting plate and the clamping element in an efficient manner.

[0050] Straight parts of the roof edge are connected by corners (that is with external corners or internal corners) by means of connecting rods which are inserted in openings.

[0051] In some embodiments, the connecting rod is comprised in the bottom profiled section of the external corner or the internal corner, and the opening is com-

prised in the bottom profiled section of the straight part of the roof edge. Alternatively, the connecting rod is comprised in the bottom profiled section of the straight part of the roof edge, and the opening is comprised in the bottom profiled section of the external corner or the internal corner. Alternatively, the connecting rod is a separate element, and the straight part of the roof edge and the external corner or internal corner all comprise an opening into which the connecting rod can be inserted.

[0052] In some embodiments, the opening is formed as a triangle and the connecting rod also has a triangular cross section. Preferably, a triangular cross section which is not equilateral, for example a triangular cross section which is not isosceles. Non-equilateral triangular connecting rods have the advantage that they can only be fitted in one way. This is unlike square and round connecting rods which can be fitted incorrectly.

[0053] In some embodiments, the opening is formed as a triangle with at least one rounded corner. In some embodiments, the opening is formed as a triangle with two rounded corners. In some embodiments, the opening is formed as a triangle with three rounded corners. In other words, in some embodiments, the cross section of the opening has a triangular shape with one, two or three rounded corners. The connecting rod preferably has an identical shape to the opening. The rounded corners make it possible to easily slide the connecting rods in the openings.

[0054] Preferably, the connecting rod comprises ribs. These increase the bending moment of the connecting rod.

[0055] In some embodiments, a flexible sealing piece is inserted between the bottom profiled section and the decorative panel of the external corner or an internal corner.

[0056] By means of these corners with connecting rods, the roof edges can be fitted very efficiently, even when they comprise corners.

[0057] In some embodiments, the bottom profiled section of a corner (that is an external corner or internal corner) does not have a bearing surface.

[0058] In some embodiments, the roof edge comprises a flexible sealing piece which is arranged between, on the one hand, a bottom profiled section of a corner or a straight part and, on the other hand, a decorative panel of a corner or a straight part. The flexible sealing piece provides improved closure, damping and clamping. Various materials are suitable for producing the flexible sealing piece. Preferably, rubber and/or plastics are used. These substances are preferably deformable, rotproof and moistureproof. In some embodiments, the flexible sealing piece comprises rotproof adhesive tape of PVC (polyvinylchloride) foam. Such flexible sealing pieces last long and are readily recyclable.

[0059] In some embodiments, the decorative panel comprises a protuberance for rainwater to trickle down. Preferably, this protuberance is a ridge which hangs from the bottom of the decorative panel.

[0060] The term "protuberance", as used herein, refers to a rib which is provided on the bottom part of the decorative panel. In some embodiments, the protuberance has a width of between 0.0 cm and 2.0 cm, or between 0.1 cm and 1.9 cm, or between 0.5 cm and 1.5 cm and/or a height of between 0.0 cm and 2.0 cm, or between 0.1 cm and 1.9 cm, or between 0.5 cm and 1.5 cm.

[0061] Precipitation which runs from the decorative panel flows onto the protuberance and then drops down. Preferably, the protuberance is arranged on the bottom part of the decorative panel.

[0062] During normal use, the roof edge rests on a wall and the protuberance is situated at a certain distance from the wall, so that any water which is running down will also flow down at a certain distance from the wall. During normal use, the distance between the wall and the façade lip is determined by the distance between the protuberance and the façade lip. In some embodiments, the distance between the façade lip and the protuberance is equal to 10.0 mm to 20.0 mm, 12.0 mm to 16.0 mm, or approximately 14.0 mm. In this way, it is ensured that the wall remains dry.

[0063] In some embodiments, the decorative panel comprises a façade lip. In an alternative embodiment, the bottom profiled section comprises the façade lip. Preferably, the façade lip is arranged on the bottom part of the decorative panel and/or the bottom profiled section. The decorative panel is connected to the bottom profiled section, preferably by means of a connection as described above.

[0064] The term "façade lip", as used herein, refers to an ornamental plate which preferably forms part of the decorative panel. In some embodiments, the façade lip has a length of 3.0 to 50.0 cm, of 4.0 to 25.0 cm, for example of 4.0 or 22.0 cm. In some embodiments, the façade lip is rectangular.

[0065] In normal use, the façade lip is oriented vertically, the façade lip is situated underneath the decorative panel and/or the bottom profiled section, and the façade lip is parallel with the wall on which the roof edge rests. Preferably, the façade lip is configured to be situated close to the wall in normal use, the term "close" preferably expressing a distance which is smaller than 6.0, 4.0, or 2.0 cm. The façade lip provides a visual guard for the inside of the roof edge, which improves the aesthetic properties of the roof edge.

[0066] Preferably, the roof edge comprises both a façade lip and a protuberance, and the distance between the façade lip and the protuberance is equal to 5.0 to 15.0 cm, for example 8.0 to 12.0 cm.

[0067] In some embodiments, the bottom profiled section comprises a horizontal bearing surface and a vertical support surface. In normal use, the bearing surface rests on the wall to which the roof edge is fitted. In normal use, the support surface is oriented vertically and is positioned against the wall on which the roof edge rests.

[0068] Preferably, the distance between the supporting plate and the façade lip is 1.0 to 8.0 cm, 2.0 to 6.0

cm, or approximately 4.0 cm smaller than the distance between the vertical support surface and the supporting plate. By the same token, the distance between the vertical support surface and the façade lip is preferably equal to 1.0 to 8.0 cm, 2.0 to 6.0 cm, or approximately 4.0 cm. In this way, the façade lip can be arranged close to the wall.

[0069] Preferably, the decorative panel comprises both a façade lip and a protuberance. The façade lip improves the aesthetic properties of the roof edge, as described above. However, without the protuberance, rain can flow down via the façade lip. Because the façade lip is situated close to the wall in normal use, the wall will consequently become wet. Of course, this may be remedied by increasing the distance between wall and façade lip, but this has an adverse effect on the aesthetic qualities of the roof edge. Providing both a façade lip and a protuberance thus results in an aesthetically attractive roof edge which keeps the walls reliably dry.

[0070] In some embodiments, the distance between the façade lip and the protuberance is equal to 5.0 to 15.0 cm, for example 8.0 to 12.0 cm. This distance ensures that the wall to which the roof edge is fitted remains reliably dry.

[0071] In some embodiments, the roof edge comprises several decorative panels which have joints between them. In these embodiments, the joints between two adjacent decorative panels are preferably sealed by means of one or more joint clips.

[0072] In some embodiments, the roof edge comprises several bottom profiled sections and clearance is preferably left between two bottom profiled sections which have been fitted next to each other in order to allow for thermal expansion of the profiled sections. In some embodiments, the bottom profiled sections have a length of between 1.0 and 5.0 m, or 2.0 and 4.0 m, or 2.5 and 3.5 m, or 3.0 m, and a clearance is left between adjacent bottom profiled sections of between 1.0 and 10.0 mm, or between 2.0 and 9.0 mm, between 3.0 and 8.0 mm, between 4.0 and 7.0 mm, or between 5.0 and 6.0 mm. Preferably, a clearance of at least 5.0 mm is left for every 3.0 m of bottom profiled section.

[0073] In some embodiments, the roof edge furthermore comprises a joint cover which is click-fitted onto two adjacent decorative panels. In this way, the joint between the two adjacent decorative panels can be covered efficiently, thus improving the watertightness of the roof edge. If the roof edge comprises a corner, a joint cover is click-fitted onto the corresponding decorative corner panel and an adjacent decorative panel. In this way, the joint between the decorative corner panel and the decorative panel is covered, thus improving the watertightness of the roof edge.

[0074] In some embodiments, the bottom profiled section and/or the decorative panel are painted. If both the bottom profiled section and decorative panel are painted, they may have identical or different colours. Thus, a desired appearance may be achieved, for example a colour

accent or a uniform appearance.

[0075] In some embodiments, the bottom profiled section comprises a top end which comprises a roughened surface. The bottom side of the top part of the decorative panel also comprises a roughened surface. Preferably, these roughened surfaces are serrated. In these embodiments, the top side of the top end of the bottom profiled section cooperates with the bottom side of the top part of the decorative panel in order to securely hold roof coverings efficiently. In particular, the roof covering is securely clamped between, on the one hand, the serrated top side of the top end of the bottom profiled section and, on the other hand, the serrated bottom side of the top part of the decorative panel. Thus, roof coverings can be connected to the roof edge in a secure and watertight manner.

[0076] Preferably, the top end of the bottom profiled section comprises the opening in which a connecting rod can be inserted.

[0077] There is further provided herein a method for installing a roof edge as described herein. The method comprises the following steps:

- a) providing a base surface, for example a wooden base surface, for example a roof;
- b) placing two bottom profiled sections of straight parts of the roof edge on the base surface, wherein the two bottom profiled sections are placed at right angles to each other;
- c) connecting the straight parts to a bottom profiled section of an external corner and/or a bottom profiled section of the internal corner by inserting a connecting rod in an opening. Preferably, the connecting rod is connected to the bottom profiled section of the internal corner or external corner, and the opening is comprised in a bottom profiled section of a straight part.
- d) fastening the bottom profiled sections to the base surface, for example by means of gluing;
- e) fitting roof covering to the bottom profiled sections; and,
- f) fastening decorative panels to the bottom profiled section of the straight part and to the bottom profiled section of the external corner and/or the bottom profiled section of the internal corner.

[0078] In some embodiments, the bottom profiled section is pre-punched.

[0079] In some embodiments, the roof edge comprises two or more adjacent bottom profiled sections, and a clearance is left between adjacent bottom profiled sections in order to allow for thermal expansion. A clearance is left between a bottom profiled section of a straight part

of the roof edge, on the one hand, and a bottom profiled section of an external corner or internal corner, on the other hand, in order to allow for thermal expansion.

[0080] In some embodiments, the roof edge comprises two or more adjacent decorative panels between which there are one or more joints, and step e) is followed by step f) fitting one or more joint clips for sealing the one or more joints between two or more adjacent decorative panels.

[0081] The corners of the roof edge are preferably formed by sliding the connecting rods of a corner-shaped bottom profiled section into an opening of a bottom profiled section of a straight part of the roof edge, and by fastening a decorative corner panel on such a bottom profiled section. In this way, it is possible to fit a corner of a roof edge efficiently.

[0082] In some embodiments, the roof covering is glued together with the bottom profiled section in step d). This has the advantage that a roofer can seal a roof using only one single layer of roof covering.

[0083] In some embodiments, the bottom profiled section is pre-punched. In this way, a roofer does not have to drill through the aluminium himself during installation. In fact, aluminium bottom profiled sections are difficult to drill through on site. Thus, pre-punched aluminium bottom profiled sections are much easier to install than aluminium bottom profiled sections which are not pre-punched.

[0084] A clearance is preferably left between adjacent bottom profiled sections to allow for thermal expansion. A clearance to allow thermal expansion is then also preferably left between a bottom profiled section of a straight part of the roof edge, on the one hand, and a bottom profiled section of an external corner or internal corner, on the other hand.

[0085] A clearance is also preferably left between adjacent decorative panels. There is thus a joint between these decorative panels. In this case, a joint clip is arranged on the joint. This improves the watertightness of the roof edge.

[0086] In some embodiments, step f) of the present method comprises providing a connection between the decorative panel and the bottom profiled section. This connection comprises a supporting plate, a connecting plate, and a clamping element. The connecting plate is then clamped between the supporting plate and the clamping element.

EXAMPLES

[0087] The present invention will be illustrated further by means of the following examples. These examples are only included here to illustrate specific features and embodiments of the present invention, and are by no means intended to limit the scope of the invention.

[0088] First, the figures will be discussed briefly. Fig. 1 shows a roof edge (100) which comprises a decorative panel (110) and a bottom profiled section (120), and Fig.

2 shows a perspective drawing of a straight part (101) of such a roof edge. The roof edge (100) comprises a decorative panel (110) and a bottom profiled section (120) which can be pushed inside each other, as is illustrated in Fig. 3. After they have been pushed inside each other, the decorative panel (110) and the bottom profiled section (120) are attached to each other by means of a serrated connecting face (154). The serrations in the bottom profiled section (120) are clearly visible in Fig. 4 and the connection (150) between the decorative panel (110) and the bottom profiled section (120) is shown in Fig. 6. An alternative configuration of the roof edge is illustrated in Fig. 5: this roof edge (100) comprises a façade lip (116). Fig. 7 shows a decorative panel (210) of an external corner, and Fig. 8 shows a decorative panel (310) of an internal corner. Fig. 9 shows a bottom profiled section (220) of an external corner (200), and Fig. 10 shows a bottom profiled section (320) of an internal corner (300). These bottom profiled sections (220,320) comprise connecting rods (250,350) which are used to connect a straight part (101) of a roof edge to an external corner (200) or internal corner (300), as is illustrated in Figs. 11 and 12.

[0089] The roof edges which are illustrated in the figures will now be described in detail.

[0090] The roof edge comprises a decorative panel. The decorative panel determines the appearance of the roof edge (100) for passers-by and comprises an outer part (111), a bottom part (112) and a top part (113). The bottom part (112) of the roof edge (100) comprises a protuberance (115). The protuberance (115) is a linear rib on the bottom part (112) of the decorative panel (110). Precipitation which runs down the decorative panel (110) flows onto the protuberance (115), and then drops down. During normal use, the roof edge (100) rests on a wall and the protuberance (115) is at a certain distance from the wall, so that the water running off also flows down at a certain distance from the wall. In this way, it is ensured that the wall remains dry.

[0091] The bottom profiled section (120) comprises a horizontal bearing surface (124) and a vertical support surface (125). In normal use, the bearing surface (124) rests on the wall to which the roof edge is fitted. In normal use, the support surface (125) is oriented vertically and is positioned against the wall on which the roof edge rests.

[0092] During normal use, the bottom profiled section (120) of the roof edge (100) rests on a wall. The bottom profiled section (120) comprises a top end (122). The top side (127) of the top end of the bottom profiled section (120) is serrated and cooperates with the underside (117) of the top part (113) of the decorative panel (110) in order to secure roof coverings efficiently. In particular, the roof covering is securely clamped between, on the one hand, the serrated top side (127) of the top end (122) of the bottom profiled section (120) and, on the other hand, the serrated underside (117) of the top part (113) of the decorative panel (110).

[0093] The decorative panel (110) and the bottom profiled section (120) are connected to each other by means of a connecting mechanism (150). Fig. 6 is a detail drawing of this connecting mechanism (150). The connecting mechanism (150) comprises a supporting plate (151), a connecting plate (152), and a clamping element (153). The connecting plate (152) is clamped between the supporting plate (151) and the connecting hook (153). In the figures, the connecting plate (152) forms part of the bottom profiled section (120), and the supporting plate (151) and the clamping element (153) form part of the decorative panel (110). However, in an alternative configuration, the connecting plate (152) forms part of the decorative panel (110), and the supporting plate (151) and the clamping element (153) form part of the bottom profiled section (120).

[0094] In order to bring about the connection, the connecting plate (152) is slid and then clamped between the supporting plate (151) and the clamping element (153). The hook shape of the clamping element (153) facilitates sliding the connecting plate (152) between the supporting plate (151) and the clamping element (153).

[0095] The supporting plate (151) and the connecting plate (152) are both serrated. By clamping the connecting plate (152) between the clamping element (153) and the supporting plate (151), the serrations of the connecting plate (152) engage with the serrations of the supporting plate (151) in order to form a serrated connecting face (154), so that a strong connection between the decorative panel (110) and the bottom profiled section (120) is formed.

[0096] Straight parts (101) of the roof edge (100) can be connected using internal corners (300) and/or external corners (200) by means of connecting rods (250,350). The connecting rods (250,350) are connected to the bottom profiled section (220,320) of the internal or external corner and are inserted into an opening (123) of a straight part. Alternatively, the connecting rods (250,350) are connected to the bottom profiled section of a straight part and the connecting rods (250,350) are inserted into an opening of the bottom profiled section of an internal or external corner.

[0097] Fig. 11 shows how an external corner (200) is connected to a straight part (101) of a roof edge (100) by means of a connecting rod (250). The connecting rod fits in an opening (123) of the bottom profiled section (120). In this way, a decorative panel can be supported in an optimum manner along the entire length of the roof edge in which the decorative panel is used.

[0098] Fig. 12 shows how an internal corner (300) is connected to a straight part (101) of a roof edge (100) by means of a connecting rod (350). A connecting rod (350) fits in a corresponding opening of the bottom profiled section of the straight part (101) of the roof edge. In this way, a decorative panel can be supported in an optimum manner along the entire length of the roof edge in which the decorative panel is used.

[0099] Alternatively, the connecting rod (250,350) is a

separate connecting rod (250,350). In this case, the connecting rod (250,350) comprises a first end and a second end. The first end is then inserted into an opening (123) comprised in the bottom profiled section (220,320) of the external corner (200) or the internal corner (300). The second end is then also inserted into an opening (123) comprised in the bottom profiled section (120) of the straight part (101) of the roof edge (100).

[0100] Preferably, a joint cover is provided to improve the watertightness at the position where two decorative panels touch each other.

[0101] The roof edges according to these examples preferably comprise a flexible sealing piece between the decorative panel (110,210,310) and the bottom profiled section (120,220,320). The flexible sealing piece is not shown in the figures. Fig. 5 shows an alternative configuration of a roof edge (100). This roof edge (100) comprises a façade lip (116). The façade lip is provided on the bottom part (112) of the roof edge (100). The façade lip (116) is a part of the decorative panel (110) which is oriented vertically during normal use. In other words, during normal use, the façade lip (116) runs parallel to the wall on which the roof edge (100) rests. The façade lip (116) is provided with a visual guard for the inside of the roof edge (100), which improves the aesthetic properties of the roof edge (100).

[0102] The protuberance (115) and the façade lip (116) have a synergistic effect. If the façade lip (116) were present and the protuberance (115) were not present, then rainwater would drip down via the façade lip (116). During normal use, the façade lip (116) is situated very close to the wall on which the roof edge (100) rests, so that people are prevented from seeing the inside of the roof edge (100). If there were no protuberance (115), water would thus drip down via the façade lip (116) very close to the wall. As a result thereof, the wall would easily get wet, for example when it is windy. The protuberance (115) is provided in order to prevent this, since it ensures that rainwater trickles down at a suitable distance from the wall. Thus, the façade lip (116) and the protuberance (115) cooperate in order to provide an aesthetically pleasing roof edge (100) which keeps walls dry.

[0103] The length of the façade lip (116) can be chosen in accordance with the desired aesthetic appearance. In normal use, a relatively long façade lip (116) will cover a larger part of the wall on which the roof edge (100) rests, thus resulting in the roof edge being more prominent. On the other hand, a relatively short façade lip (116) will cover a smaller part of the wall on which the roof edge (100) rests, thus resulting in a less prominent roof edge (100).

[0104] The distance between the supporting plate (151) and the façade lip (116) is 4.0 cm smaller than the distance between the vertical support surface (125) and the supporting plate (151). By the same token, the distance between the vertical support surface (125) and the façade lip (116) is equally 4.0 cm. In this way, the façade lip (116) can be fitted close to the wall.

[0105] The abovementioned roof edges may be in-

stalled as follows:

a) providing a base surface;

5 b) placing two bottom profiled sections (120) of straight parts (101) of the roof edge on the base surface, wherein the two bottom profiled sections are placed at right angles to each other;

10 c) connecting the straight parts (101) to a bottom profiled section (220) of an external corner (200) and/or a bottom profiled section (320) of the internal corner (300) by inserting a connecting rod (250,350) in an opening (123).

15 d) fastening the bottom profiled sections (120) to the base surface;

20 e) fitting roof covering to the bottom profiled sections (120); and,

25 f) fastening decorative panels (110,210,310) to the bottom profiled section of the straight part (101) and to the bottom profiled section (220) of the external corner (200) and/or the bottom profiled section (320) of the internal corner (300).

[0106] Preferably, one or more joint clips are furthermore also fitted in order to seal the cavity between two adjacent decorative panels.

[0107] The bottom profiled section is pre-punched. This makes fitting easier. In fact, if pre-punched bottom profiled sections are used, a roofer does not have to drill through the bottom profiled section during installation.

35 **[0108]** Usually, several bottom profiled sections are fitted next to each other on the base surface. A clearance is left between two bottom profiled sections which have been fitted next to each other in order to allow for thermal expansion of the profiled sections. In particular, the bottom profiled sections in the present example are 3.0 m long, and a clearance of 5.0 mm is left between adjacent bottom profiled sections.

[0109] The roof covering is glued onto the bottom profiled section (120) in step d). This has the advantage that a roofer can seal a roof using only a single layer of roof covering. By contrast, with prior-art roof edges which consist of a single part, use is made of a flashing or an additional sealing strip of bitumen. The term "flashing" refers to a thin piece of material which is not permeable to water. An example of a suitable flashing is a vulcanised EPDM strip with a width of approximately 0.5 m.

45 **[0110]** Both the bottom profiled section and the decorative panel are painted. These may be painted the same colour or different colours. In this way, it is possible to achieve a desired appearance, for example a colour accent or a uniform appearance. One possibility is for the bottom profiled section and/or the decorative panel to be painted in the colour of the façade to which the roof edge

is fitted.

[0111] Connecting rods (250,350) are used to attach bottom profiled sections (120) of straight parts (101) of the roof edge, on the one hand, to bottom profiled sections (220,320) of external corners (200) and internal corners (300), on the other hand. The connecting rods are attached to the bottom profiled sections of internal corners (300) and external corners (200), and are inserted into openings (123) of the straight parts (101). A reverse configuration is also possible.

Claims

1. Roof edge (100) comprising a straight part (101), and

- an external corner (200); and/or
- an internal corner (300);

wherein the straight part (101), the external corner (200), and the internal corner (300) comprise the following: a decorative panel (110,210,310), a bottom profiled section (120,210,310), and a connection (150) between the decorative panel (110,210,310) and the bottom profiled section (120,220,320), wherein the connection (150) comprises a supporting plate (151), a connecting plate (152), and a clamping element (153), and wherein the connecting plate (152) is clamped between the supporting plate (151) and the clamping element (153);

wherein the straight part (101) is connected to the external corner (200) and/or the internal corner (300) by means of a connecting rod (250,350) which is inserted into an opening (123).

2. Roof edge according to Claim 1, wherein the connecting rod (250,350) is comprised in the bottom profiled section (220,320) of the external corner (200) or the internal corner (300), and wherein the opening (123) is comprised in the bottom profiled section (120) of the straight part (101) of the roof edge (100); or,

wherein the connecting rod (250,350) is comprised in the bottom profiled section (220,320) of the straight part (101) of the roof edge (100), and wherein the opening (123) is comprised in the bottom profiled section (220,320) of the external corner (200) or the internal corner (300); or,

wherein the connecting rod (250,350) is a separate connecting rod (250,350), wherein the connecting rod (250,350) comprises a first end and a second end, wherein the first end is inserted into an opening (123) comprised in the bottom profiled section (220,320) of the external corner (200) or the internal corner (300), and wherein the second end is inserted into an opening (123) comprised in the bottom profiled section (120) of the straight part (101) of the roof edge (100).

3. Roof edge (100) according to one of Claims 1 or 2, wherein the connecting rod (250,350) comprises ribs.

4. Roof edge (100) according to any of Claims 1 to 3, wherein a flexible sealing piece is inserted between the bottom profiled section (220,320) and the decorative panel (210,310) of the external corner (200) or an internal corner (300).

5. Roof edge (100) according to any of Claims 1 to 4, wherein the supporting plate (151) and the connecting plate (152) both comprise serrations, and wherein the serrations of the supporting plate (151) are configured to engage in the serrations of the connecting plate (152) in order to form a serrated connecting face (154).

6. Roof edge (100) according to any of Claims 1 to 5, wherein the supporting plate (151) and the clamping element (153) each form part of the decorative panels (110,210,310), and wherein the connecting plate (152) forms part of the bottom profiled sections (120,220,320).

7. Roof edge (100) according to any of Claims 1 to 6, wherein the decorative panels (110,210,310) comprise a protuberance (115) for rainwater to trickle down.

8. Roof edge (100) according to any of Claims 1 to 7, wherein the decorative panels (110,210,310) and/or the bottom profiled sections (120,220,320) comprise a façade lip (116), preferably wherein the distance between the façade lip (116) and the protuberance (115) is equal to 5.0 to 15.0 cm, for example 8.0 to 12.0 cm.

9. Roof edge according to any of Claims 1 to 8, comprising several straight parts (101), several external corners (200), and/or several internal corners (300).

10. Method for installing a roof edge according to any of Claims 1 to 9, the method comprising the following steps:

- a) providing a base surface;
- b) placing two bottom profiled sections (120) of straight parts (101) of the roof edge on the base surface, wherein the two bottom profiled sections are placed at right angles to each other;
- c) connecting the straight parts (101) to a bottom profiled section (220) of an external corner (200) and/or a bottom profiled section (320) of the internal corner (300) by inserting a connecting rod (250,350) in one or more openings (123);
- d) fastening the bottom profiled sections (120) to the base surface;

e) fitting roof covering to the bottom profiled sections (120); and,
 f) fastening decorative panels (110,210,310) to the bottom profiled section of the straight part (101) and to the bottom profiled section (220) of the external corner (200) and/or the bottom profiled section (320) of the internal corner (300),

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preferably wherein the bottom profiled section (120) is pre-punched.

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- 11.** Method according to Claim 10, wherein the roof edge (100) comprises two or more adjacent bottom profiled sections (120), and a clearance is left between adjacent bottom profiled sections (120) in order to allow for thermal expansion; and wherein a clearance is left between a bottom profiled section (120) of a straight part of the roof edge (101), on the one hand, and a bottom profiled section (220,320) of an external corner (200) or internal corner (320), on the other hand, in order to allow for thermal expansion.
- 12.** Method according to any of Claims 10 or 11, wherein the roof covering is glued onto the bottom profiled section (120) in step d).
- 13.** Method according to any of Claims 10 to 12, wherein the roof edge comprises two or more adjacent decorative panels (110,210,310) between which there are one or more joints, and wherein step e) is followed by step f) fitting one or more joint clips for sealing the one or more joints between two or more adjacent decorative panels.
- 14.** Method according to any of Claims 13 to 17, wherein the base surface is made of wood, and/or wherein the bottom profiled section (120) is attached to the base surface by means of screws.
- 15.** Method according to any of Claims 10 to 14, wherein step f) comprises providing a connection (150) between the decorative panel (110,210,310) and the bottom profiled section (120,220,320), wherein the connection (150) comprises a supporting plate (151), a connecting plate (152), and a clamping element (153), and wherein the connecting plate (152) is clamped between the supporting plate (151) and the clamping element (153).

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FIGURES

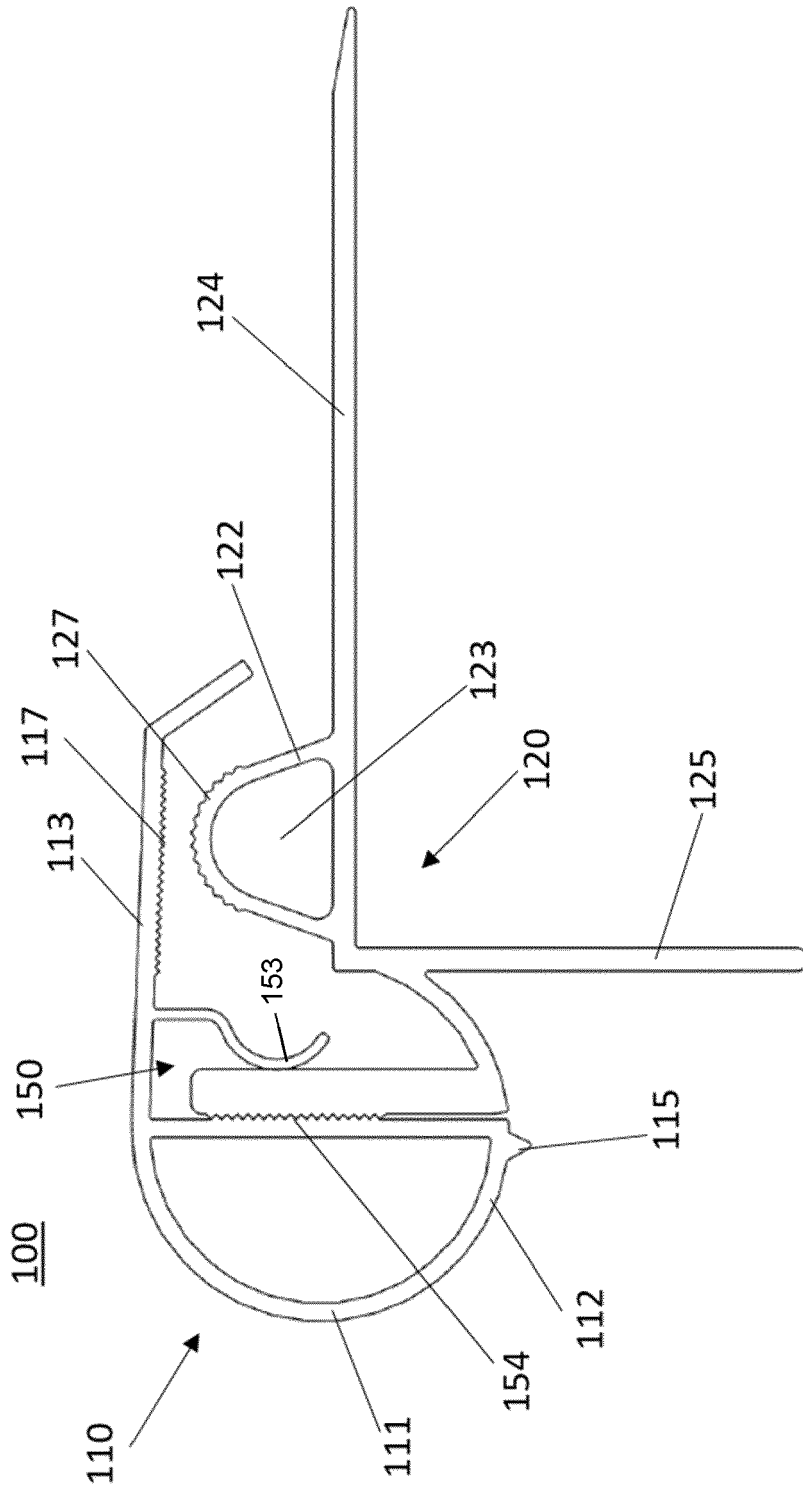


Fig. 1

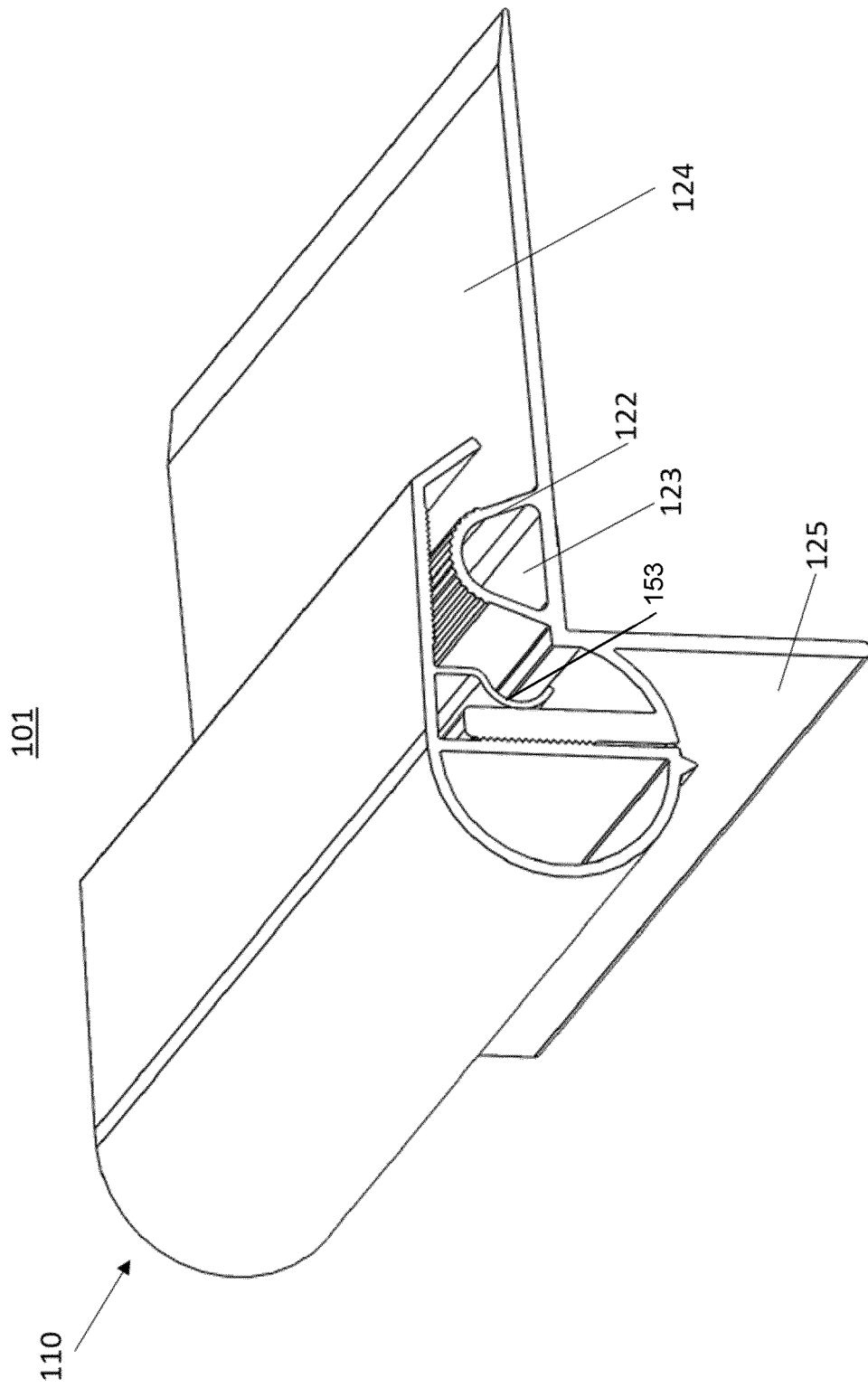


Fig. 2

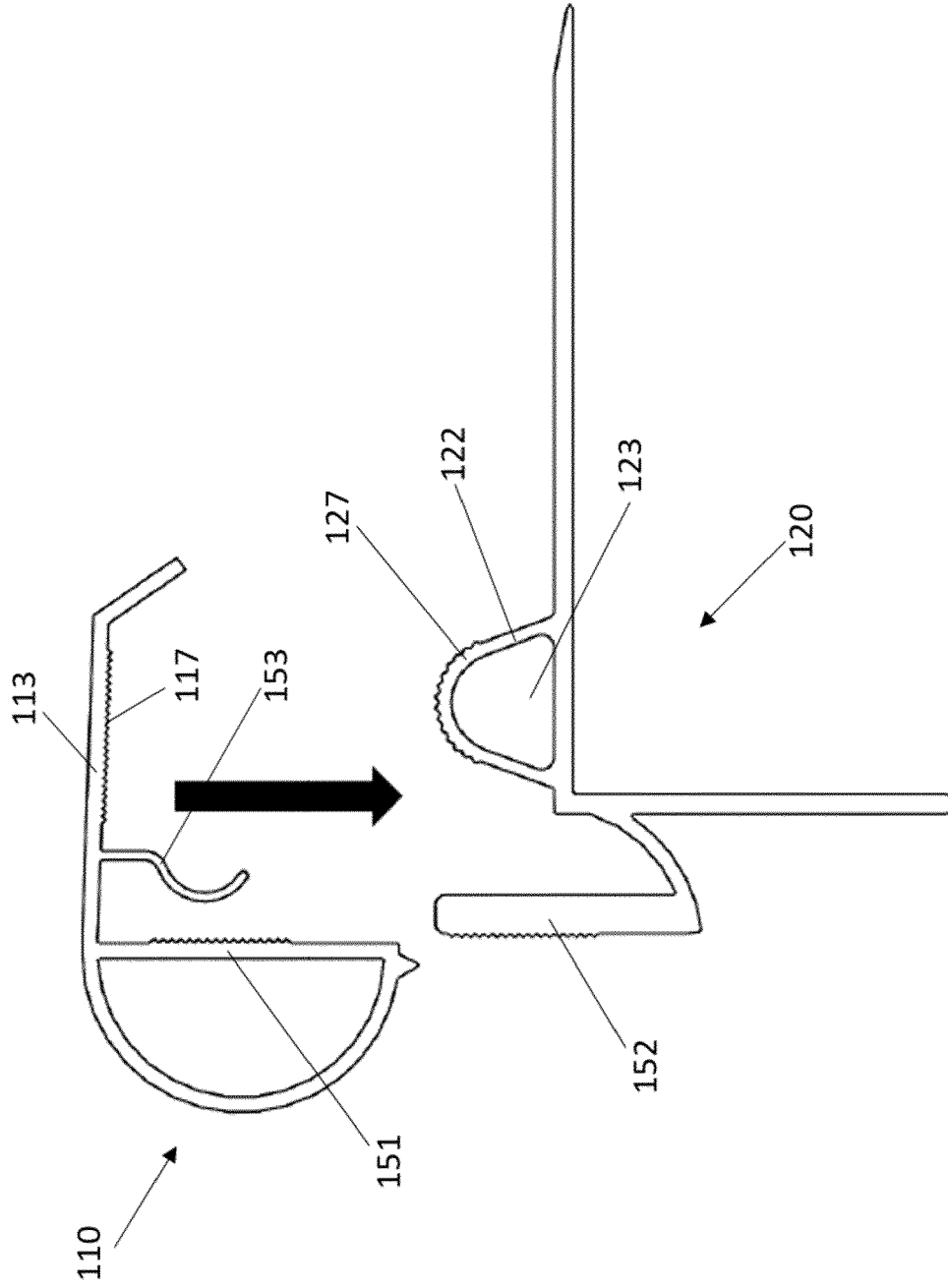


Fig. 3

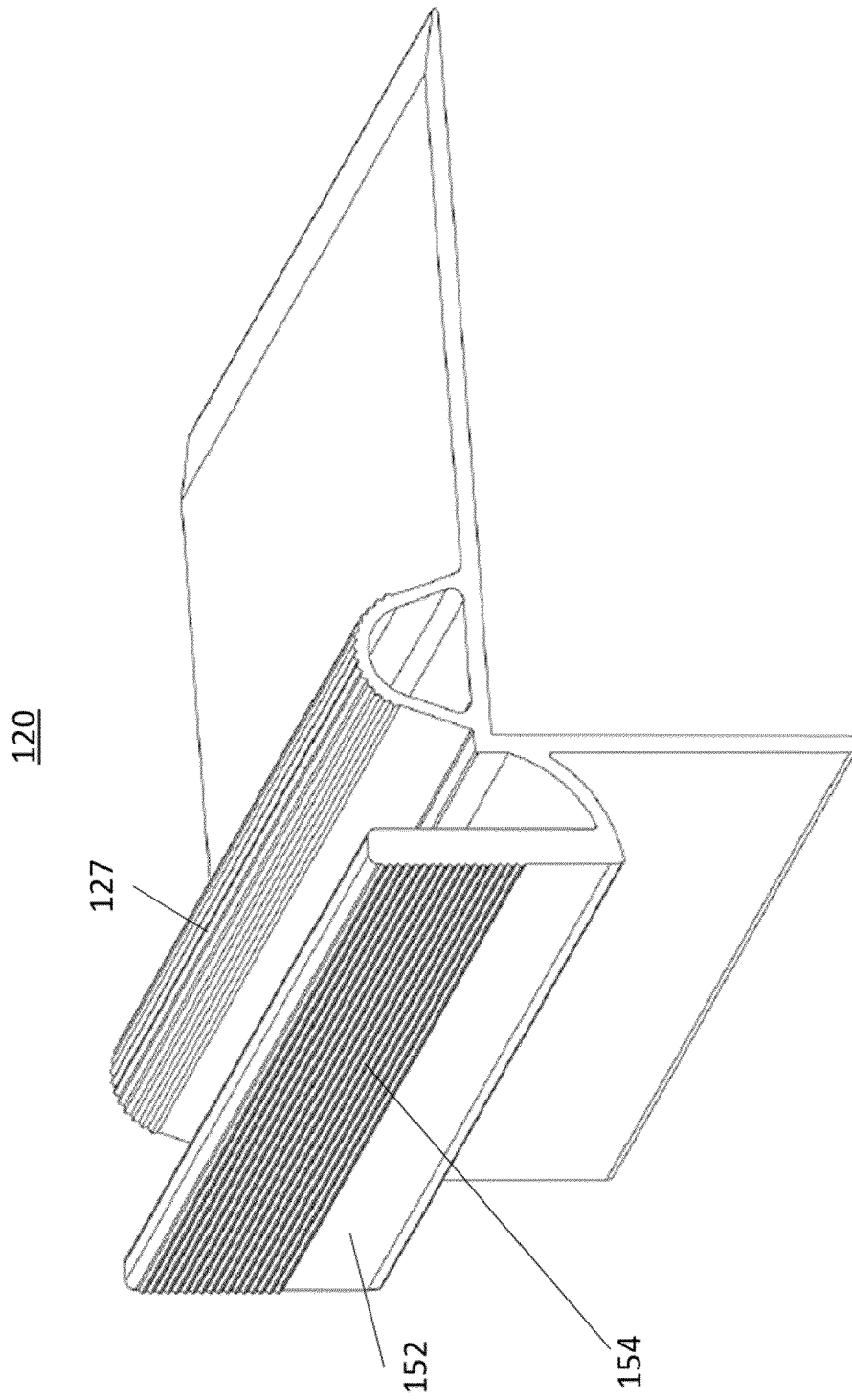


Fig. 4

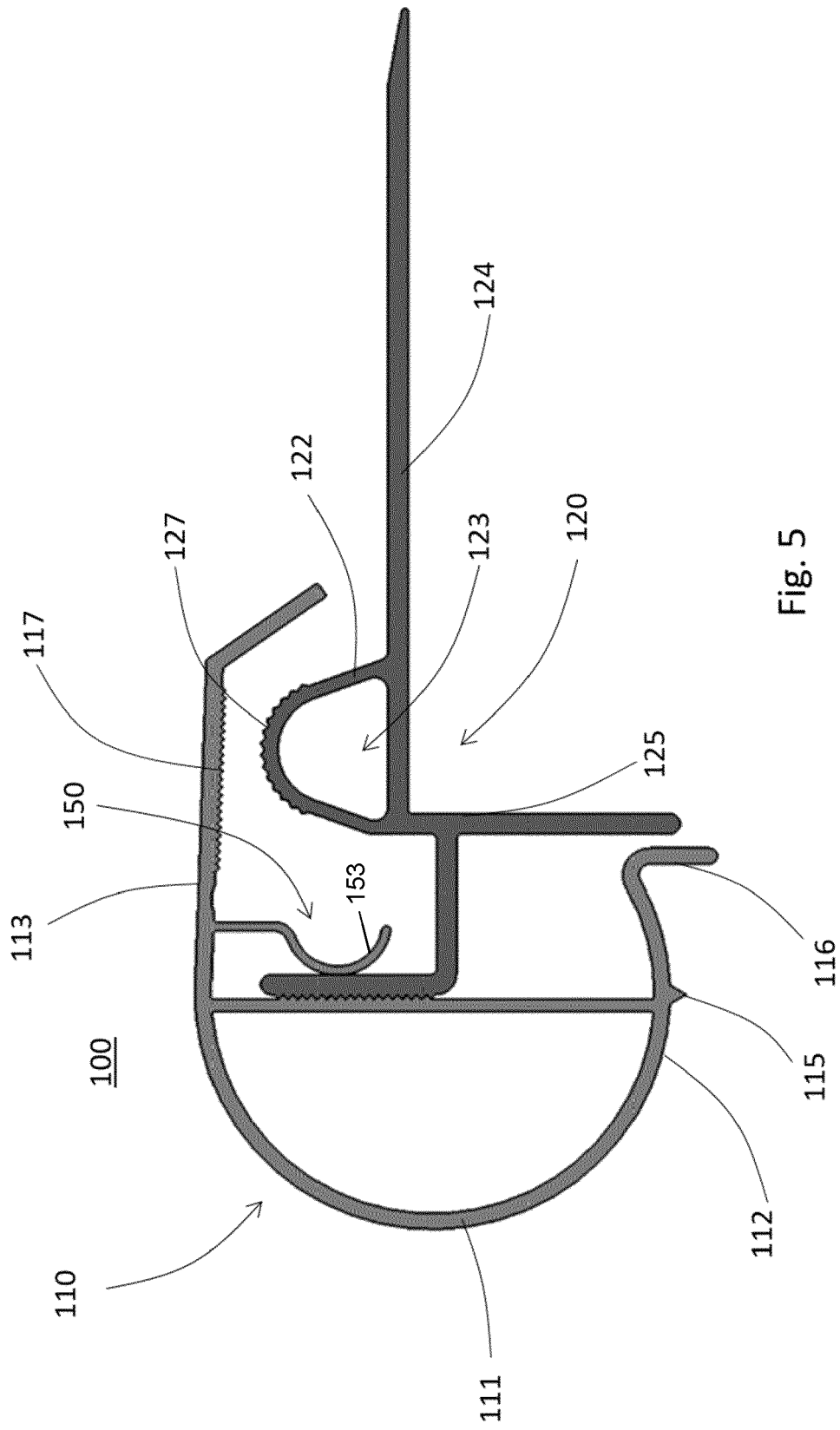


Fig. 5

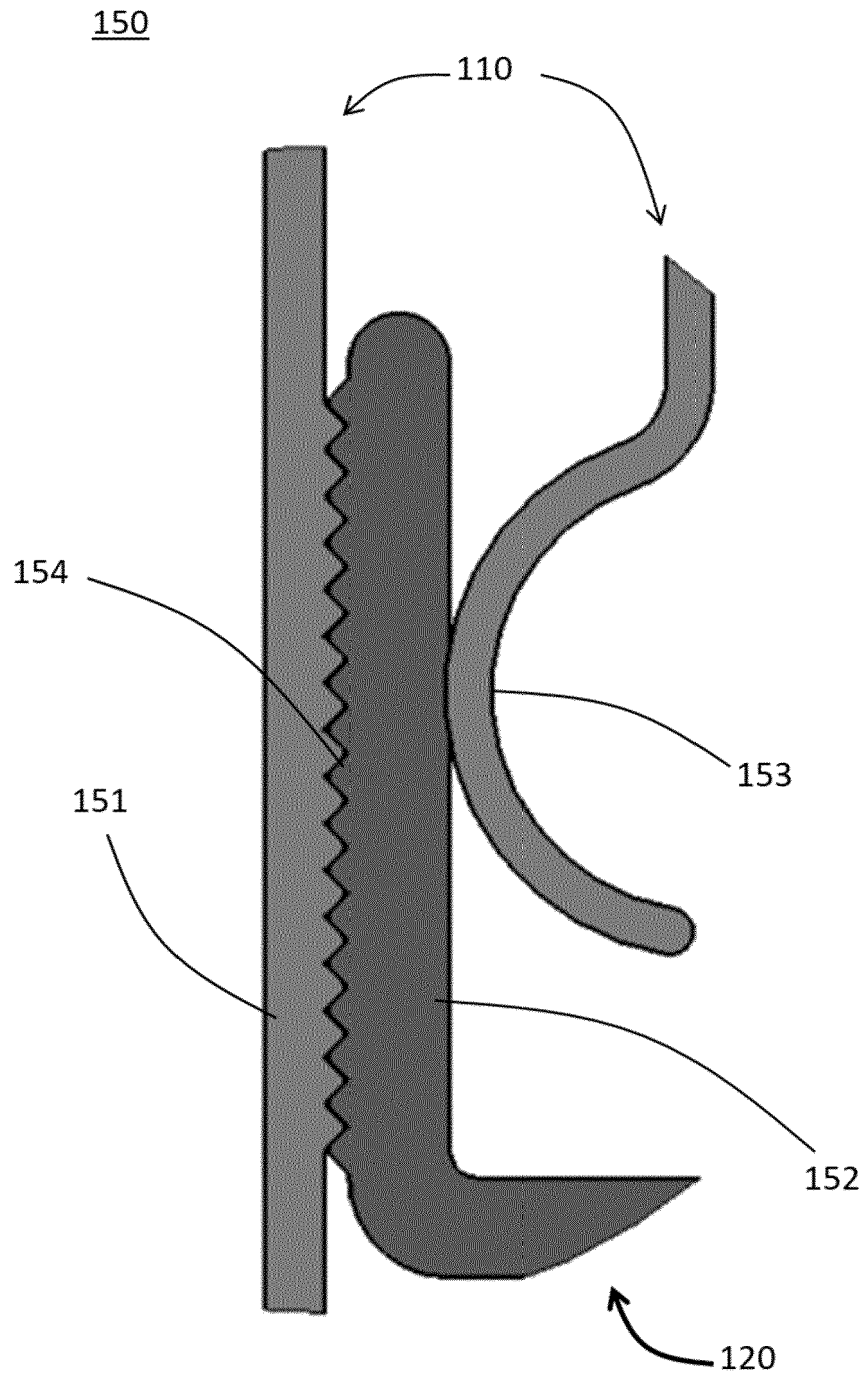


Fig. 6

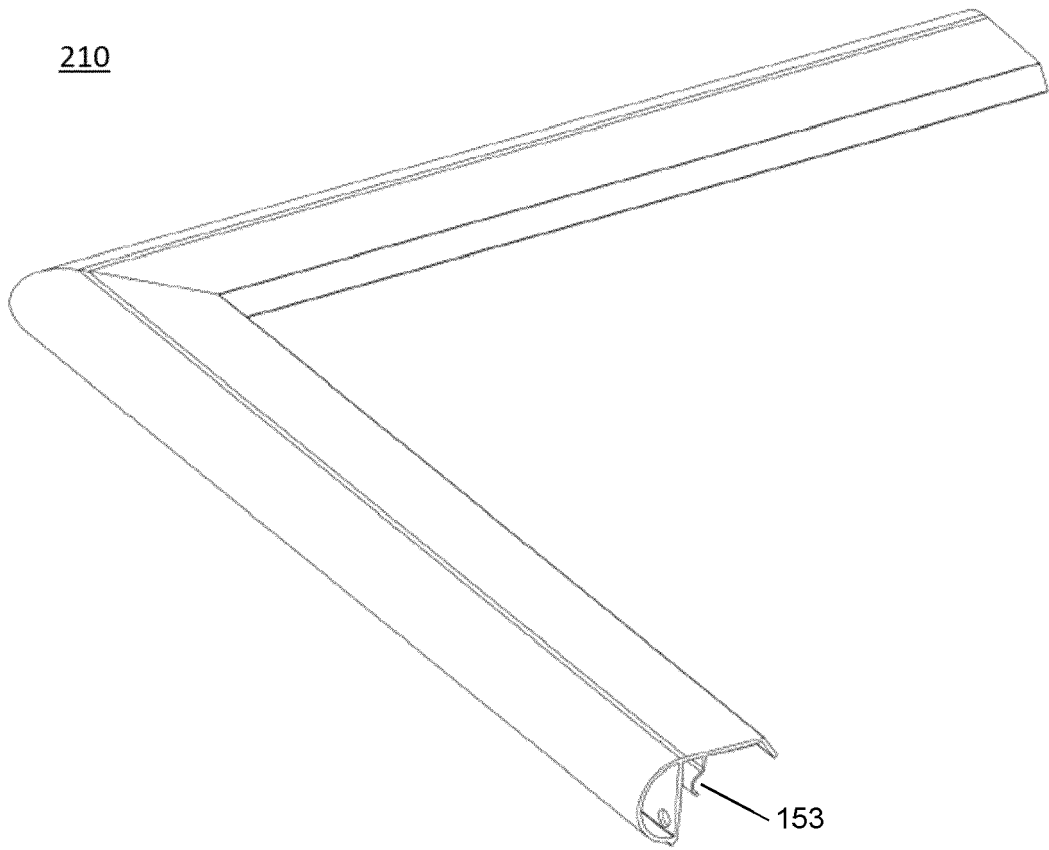


Fig. 7

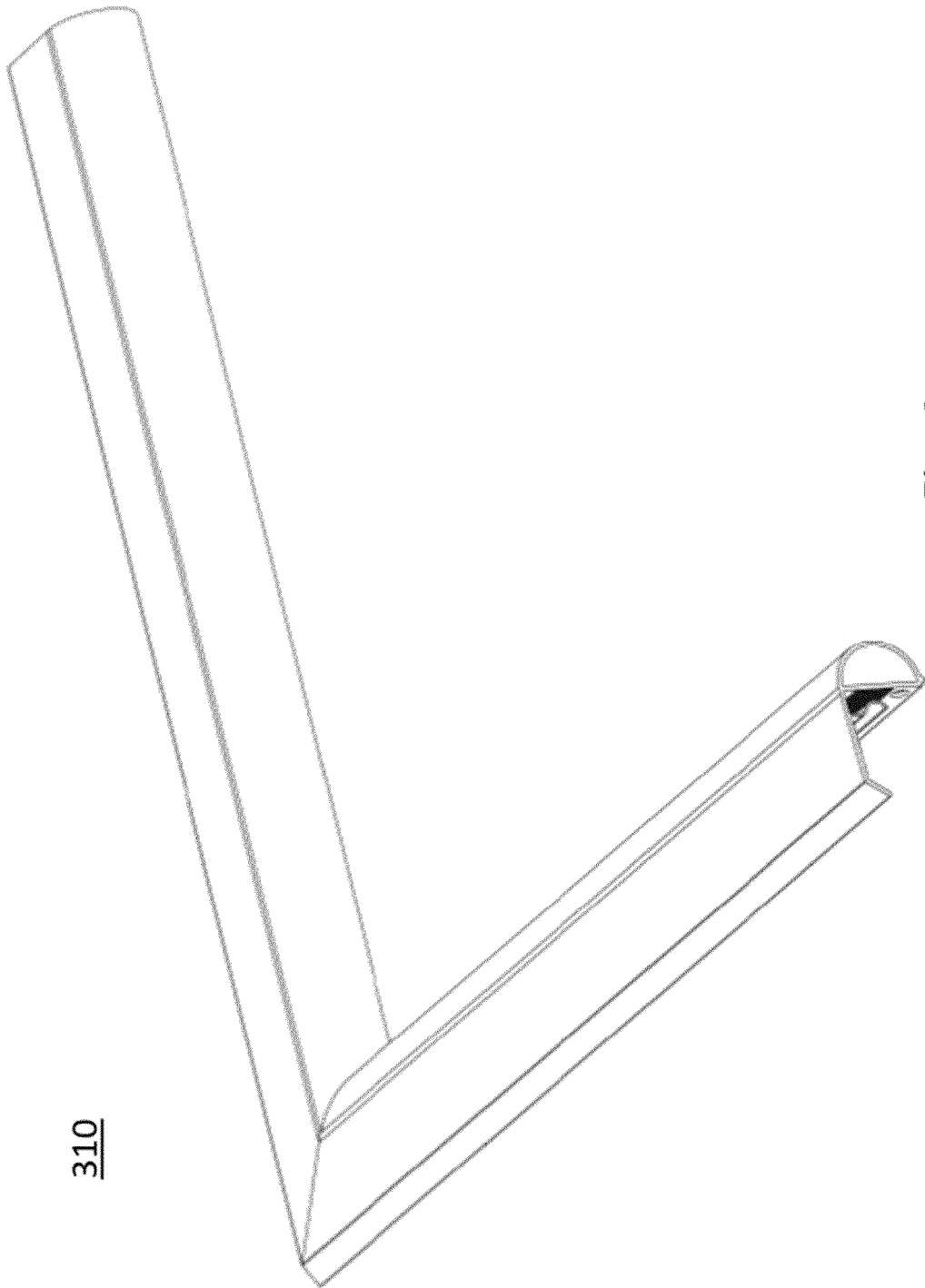


Fig. 8

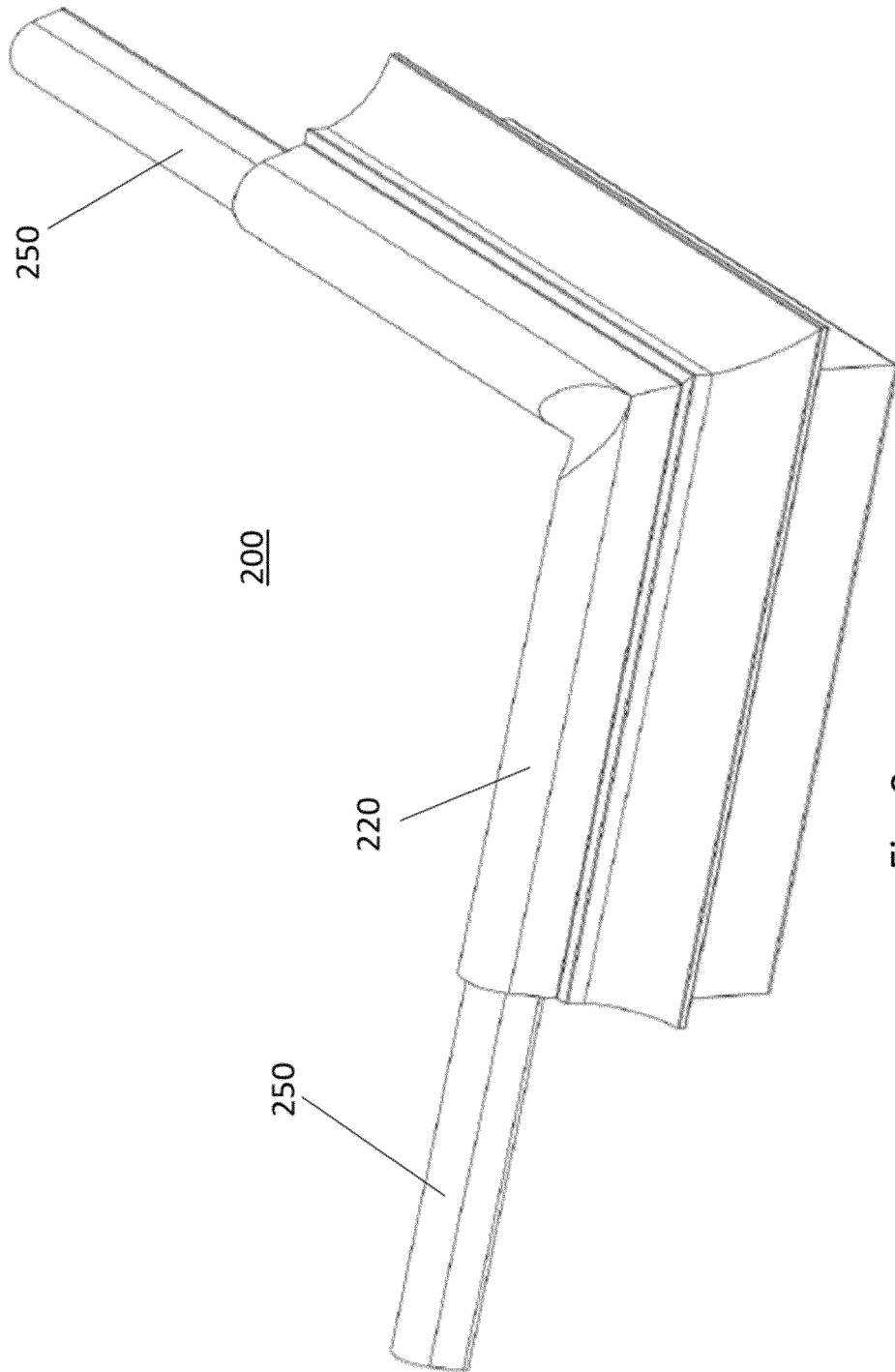


Fig. 9

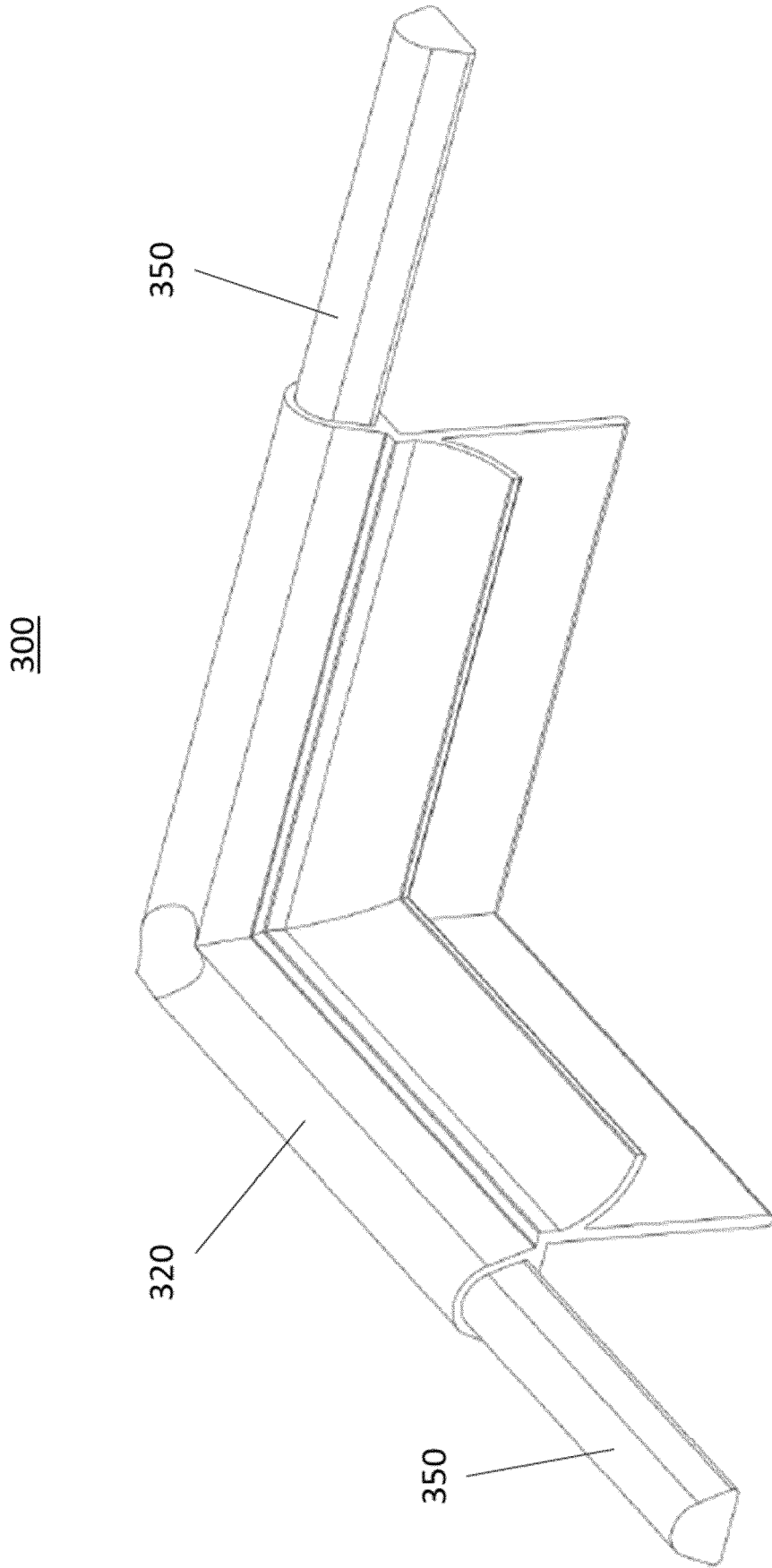


Fig. 10

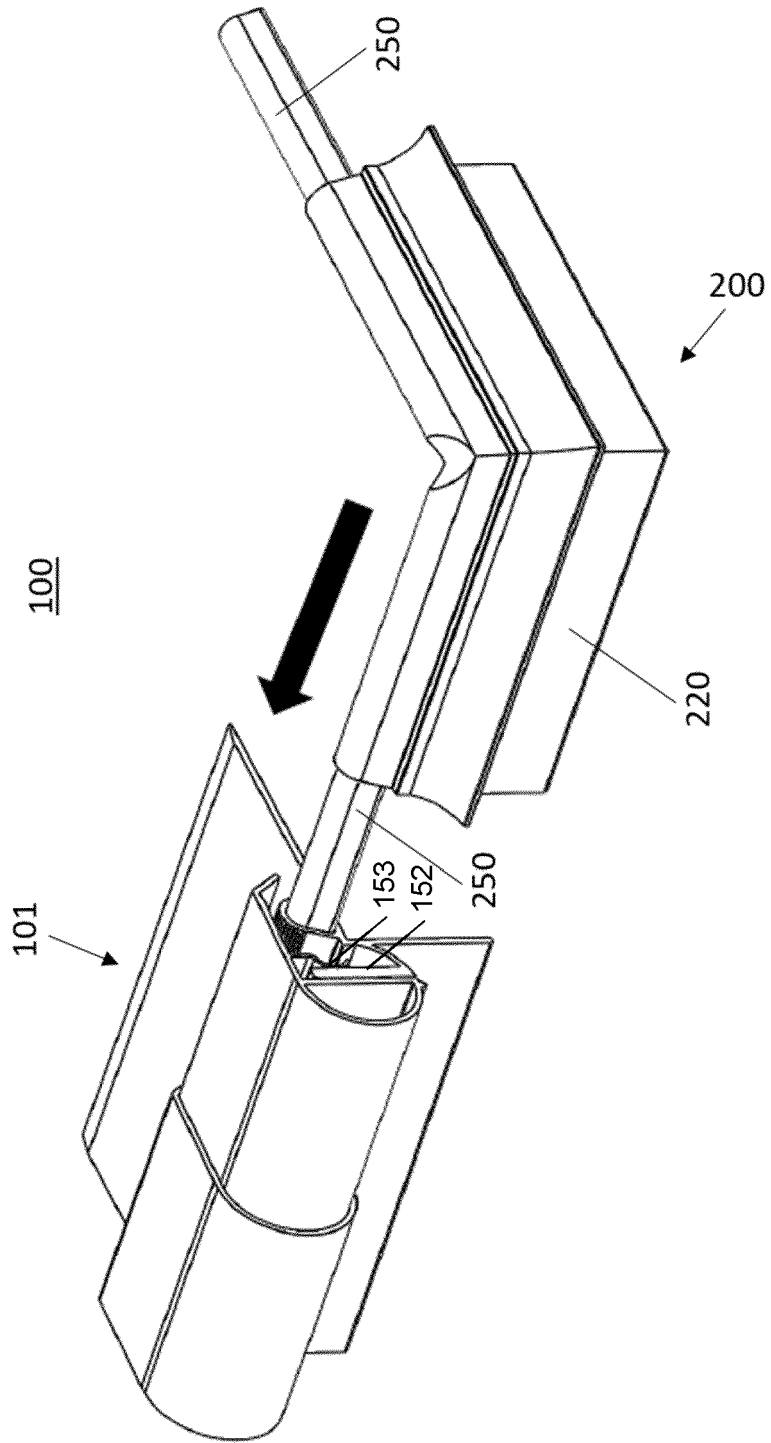


Fig. 11

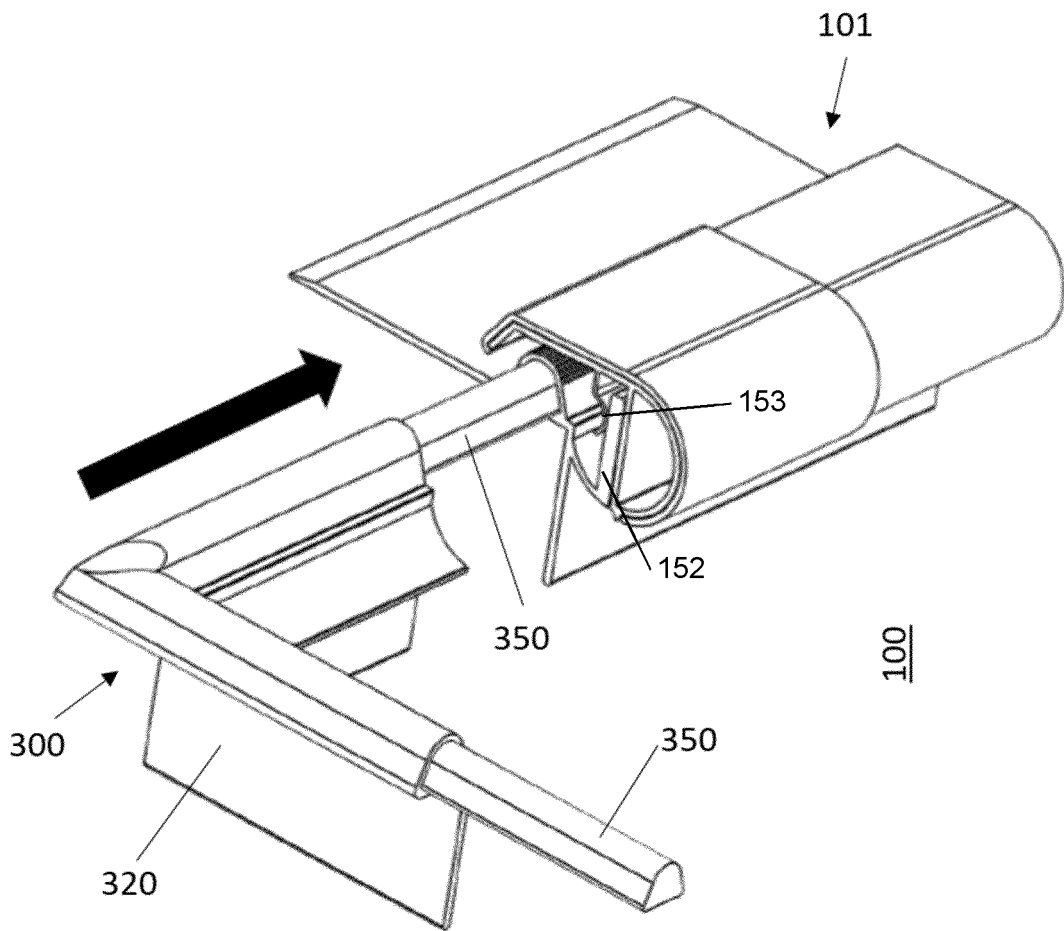


Fig. 12

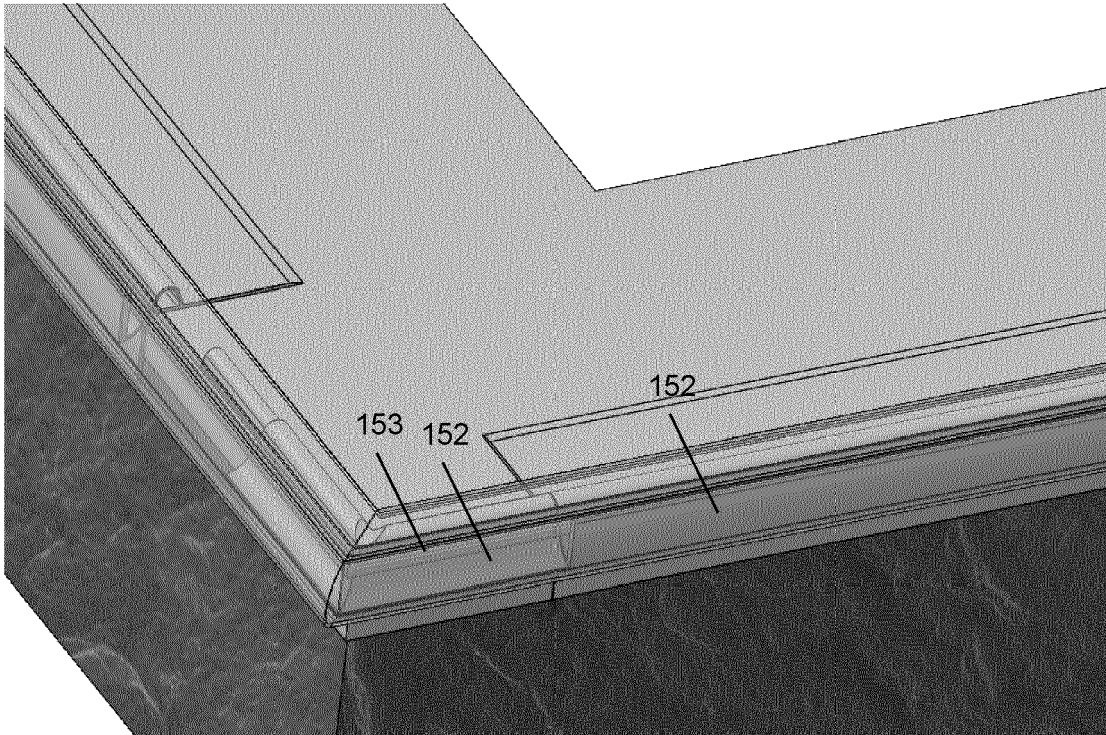


Fig. 13

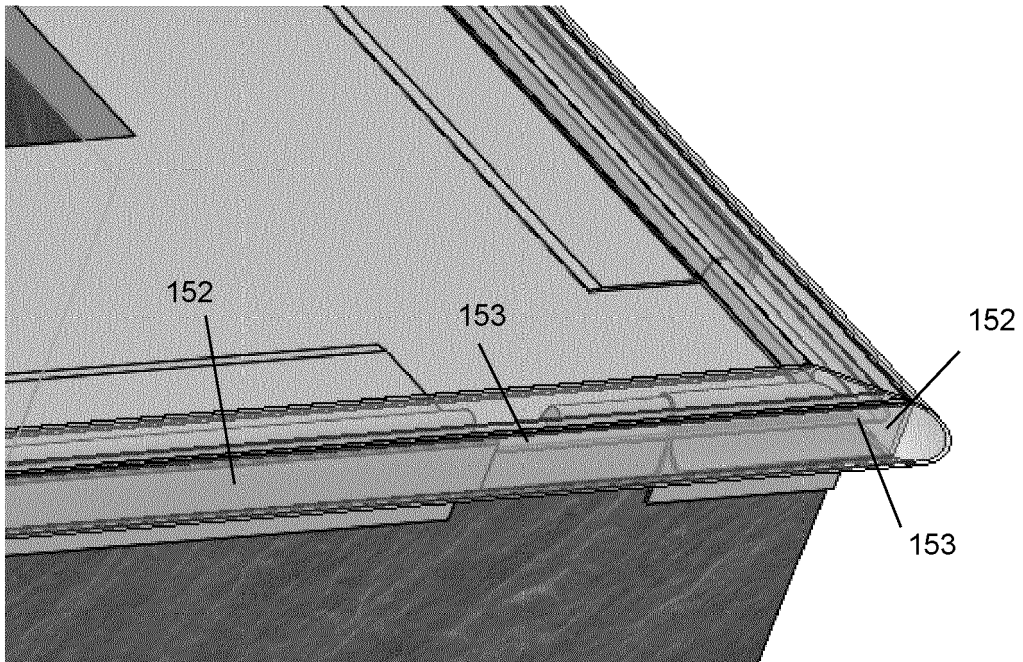


Fig. 14



EUROPEAN SEARCH REPORT

Application Number
EP 20 18 0932

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	EP 3 467 229 A1 (CLAERHOUT ALUMINIUM NV [BE]) 10 April 2019 (2019-04-10) * figures 2,3 *	1-15	INV. E04D13/15 E04D13/155
A	DE 18 12 627 A1 (MARET GMBH WERNER) 18 June 1970 (1970-06-18) * figure 1 *	1-15	
A	DE 20 28 965 A1 (MAUERSBERGER, KARL-HEINZ [DE]) 23 December 1971 (1971-12-23) * figures 1,2 *	1-15	
A	EP 2 957 688 A1 (ROOS STEFAN [BE]) 23 December 2015 (2015-12-23) * figures 1-3 *	1-15	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
			E04D
Place of search		Date of completion of the search	Examiner
The Hague		28 October 2020	Tran, Kim Lien
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	

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EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.

EP 20 18 0932

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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
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28-10-2020

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 3467229 A1	10-04-2019	BE 1025627 A1 EP 3467229 A1	03-05-2019 10-04-2019
DE 1812627 A1	18-06-1970	NONE	
DE 2028965 A1	23-12-1971	BE 761857 A DE 2028965 A1	01-07-1971 23-12-1971
EP 2957688 A1	23-12-2015	BE 1022259 B1 EP 2957688 A1	07-03-2016 23-12-2015

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