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(54) **A ROOF WINDOW WITH AT LEAST ONE WINDOW FRAME AND A FLANGE OF THE WINDOW'S FRAME LOWER RAIL**

(57) Roof window with at least one thermoplastic window frame, wherein the window frame comprises glass unit (3), and is constructed out of upper stile (11), lower stile (12) and two side stiles (13) welded to one another

in window frame corners and inside window frame stiles there are chambers, and window frame lower stile (12) comprises flange (4) and flange sides terminate with end caps (5).

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Description

[0001] The object of the invention is a roof window with at least one window frame and window frame lower stile flange.

[0002] A roof window with a window frame and a glass unit was disclosed under patent CN100501101C. The window frame lower stile of that window comprises a hood which, once the window frame is installed in a jamb, overlaps the jamb lower stile. That hood discharges rain-water from the surface of the glass unit onto the roof covering Surface.

[0003] The known solution does not solve the problem of discharging water from the glass unit surface for windows with plastic frames where stiles are welded together, which requires the joined frame stiles to be of identical shapes.

[0004] The z according to the invention pertains to a roof window with a thermoplastic window frame and a glass unit, designed to be seated in a second window frame. The window frame is constructed out of an upper stile, a lower stile and two side stiles. Each stile comprises an outer wall, an inner wall as well as a top wall and a bottom wall. The window handle is designed for mounting on the lower stile of the said window frame. The outer wall of each stile of a window frame seated in a second window frame, referred to as the window jamb, is adjacent to the inner sides of appropriate stiles of that jamb. Window frame stile walls are welded in its corners and therefore the welded walls of those stiles have to be of the same shape. There are chambers inside the stiles which can hold insulation profiles and/or strengthening profiles. The glass unit, shielded by a masking profile, is seated on the window frame lower stile top wall. The lower stile top wall also comprises a flange with its sides terminated by end caps. Lower stile top wall flange comprises its continuation so that the flange and the lower stile top wall constitute a uniform element made using an extrusion method. The flange together with an end cap create a trough for condensate which collects in the region of the window frame glass unit and discharge it to the outside of the window onto the roof covering. The end cap comprises a bottom piece and a side piece. The end cap bottom piece comprises an end cap flange, which at least partially overlaps the lower stile flange and is attached to it preferably using an attachment screw. From the side the end cap flange is closed by a side wall. Whereas the end cap side piece is fixed to the window frame side stile using an attachment screw. The side piece at least partially abuts the window frame side stile outer wall. It comprises a socket for mounting window frame side stile shielding profile. Whereas the window frame lower stile shielding profile is attached on assembly bases mounted on the window frame lower stile so that it shields both the flange as well as the window frame lower stile side surface.

[0005] The window frame for a roof window according to the invention comprises a lower stile flange which, in

the window closed position, overlaps with its jamb the frame lower stile. The flange and the window frame lower stile constitute a uniform element. Therefore, the lower stile flange constitutes a discharge path for condensate which collects by the glass unit to the outside of the window. Use of end caps attached to lower stile flange sides ensures a tight connection between side stiles and the lower stile flange and makes it possible to attach roof window side covers.

[0006] The illustration depicts the solution, with given figures showing the following:

Fig. 1 roof window with a window frame and a glass unit and jamb frame in an open position,

Fig. 2 part of window frame bottom section with end caps,

Fig. 3 cross-section of window frame lower stile,

Fig. 4 cross-section of lower section of roof window with window frame in different positions.

[0007] The roof window presented in the embodiment comprising two frames, where one frame comprises glass unit 3 and is seated in the second frame referred to as the jamb frame. The window frame is seated in the jamb frame using hinges which make it possible to rotate the window frame relative to the jamb. The window frame is constructed out of upper stile 11, lower stile 12 and two side stiles 13. The frame stiles constitute chambered profiles, welded to each other at frame corners. Chambers feature strengthening profiles 14.

[0008] Window frame lower stile flange 4 establishing condensate discharge path to the roof covering is the essence of the invention. With the window closed, flange 4 together with end caps 5 installed on the sides of flange 4, is located above roof window jamb lower stile 21. End cap 5 comprises a bottom piece and a side piece. The end cap bottom piece comprises end cap flange 51, which at least partially overlaps lower stile 12 flange 4 and end cap flange 51 is closed from the side by side wall 52. End cap side piece 53 is located by frame side stile 13 and is attached to it using an attachment screw. Side stile 13 insulation profile 10 is flush with end cap 5 side piece. The end cap side piece also comprises coupling socket 9 for mounting window frame side stile shielding profile 6. There are two assembly bases 7 on lower stile 12 flange 4 which window frame lower stile shielding profile 8 is attached to. Lower stile shielding profile 8 shields lower stile 12 flange 4 and its external surface by overlapping with jamb 21 frame lower stile.

Claims

1. Roof window comprising at least one thermoplastic window frame, wherein the window frame comprises

glass unit (3), and is constructed out of upper stile (11), lower stile (12) and two side stiles (13) welded to one another in window frame corners and inside window frame stiles there are chambers, **characterized in that** window frame lower stile (12) comprises flange (4) and flange sides terminate with end caps (5). 5

2. The window frame according to claim 1 **characterized in that** end cap (5) comprises a bottom piece and side piece (53). 10
3. The window frame according to claim 2 **characterized in that** the end cap bottom piece comprises end cap flange (51), which at least partially overlaps lower stile (12) flange (4) and end cap flange (51) is closed from the side by side wall (52). 15
4. The window frame according to claim 1 or 2, or 3 **characterized in that** end cap side piece (53) is fixed to window frame side stile (13) using attachment screw (15). 20
5. The window frame according to claim 1 or 2, or 3 or 4 **characterized in that** end cap side piece (53) comprises coupling socket (9) for attaching window frame side stile shielding profile (8). 25

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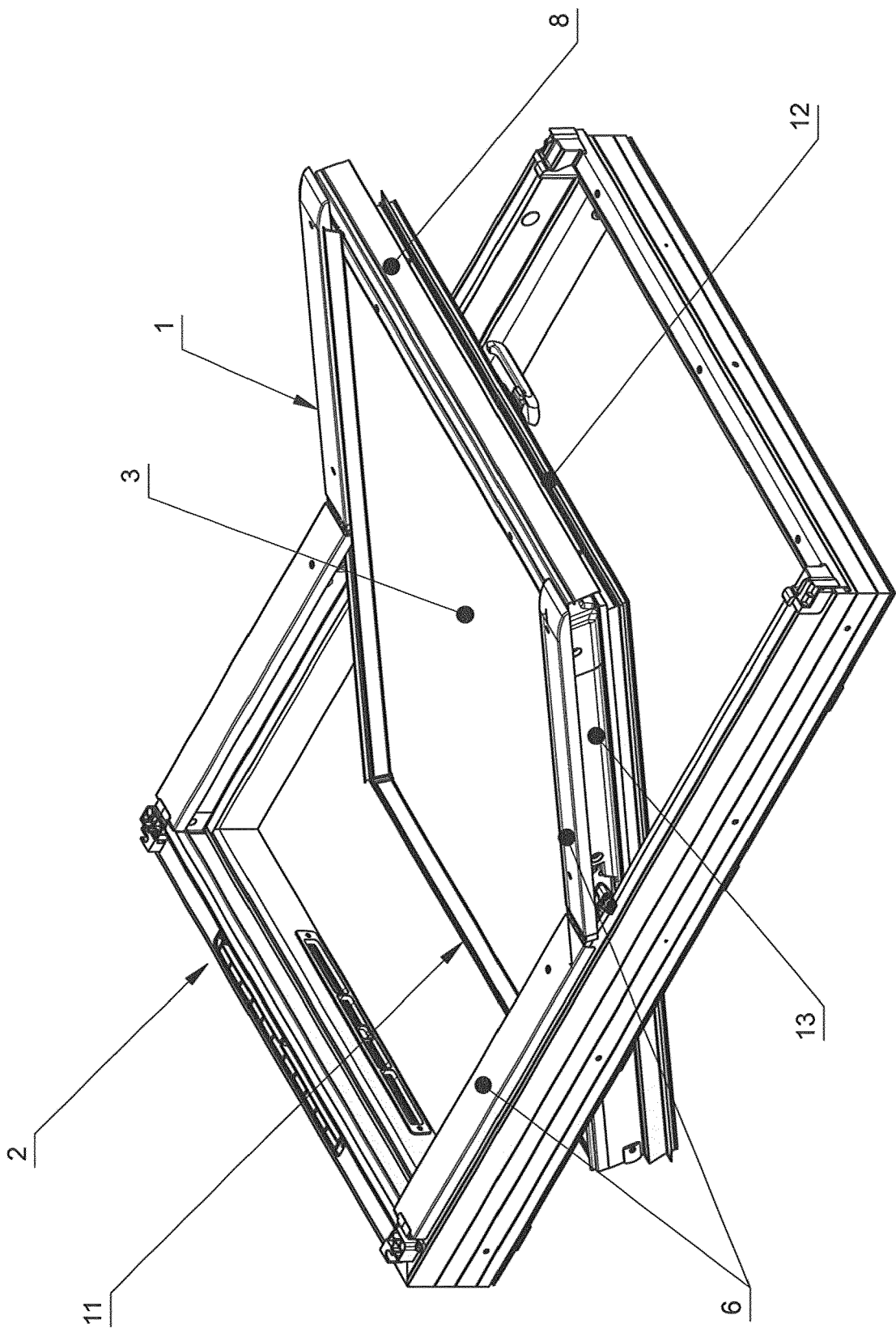


Fig. 1

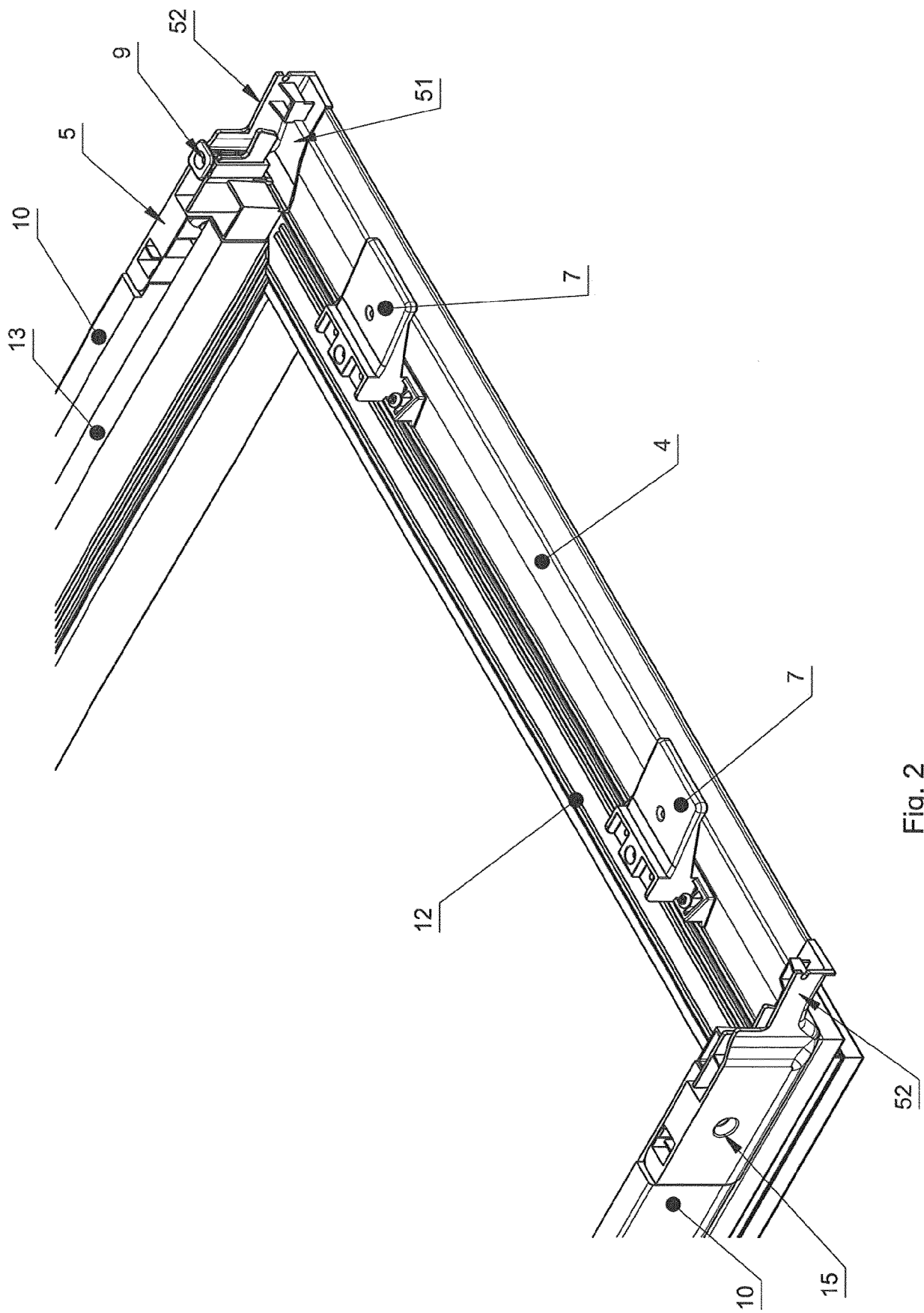


Fig. 2

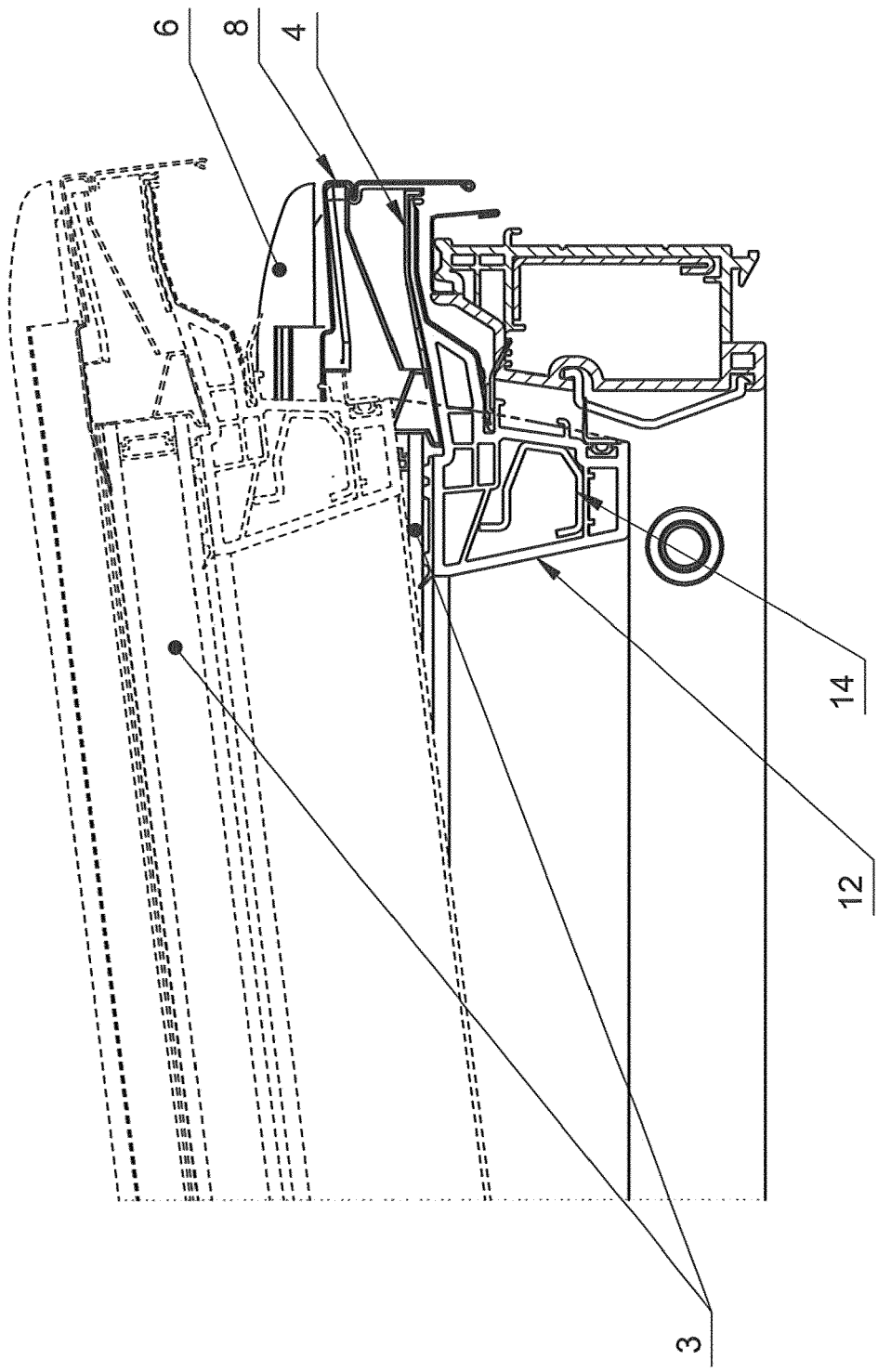
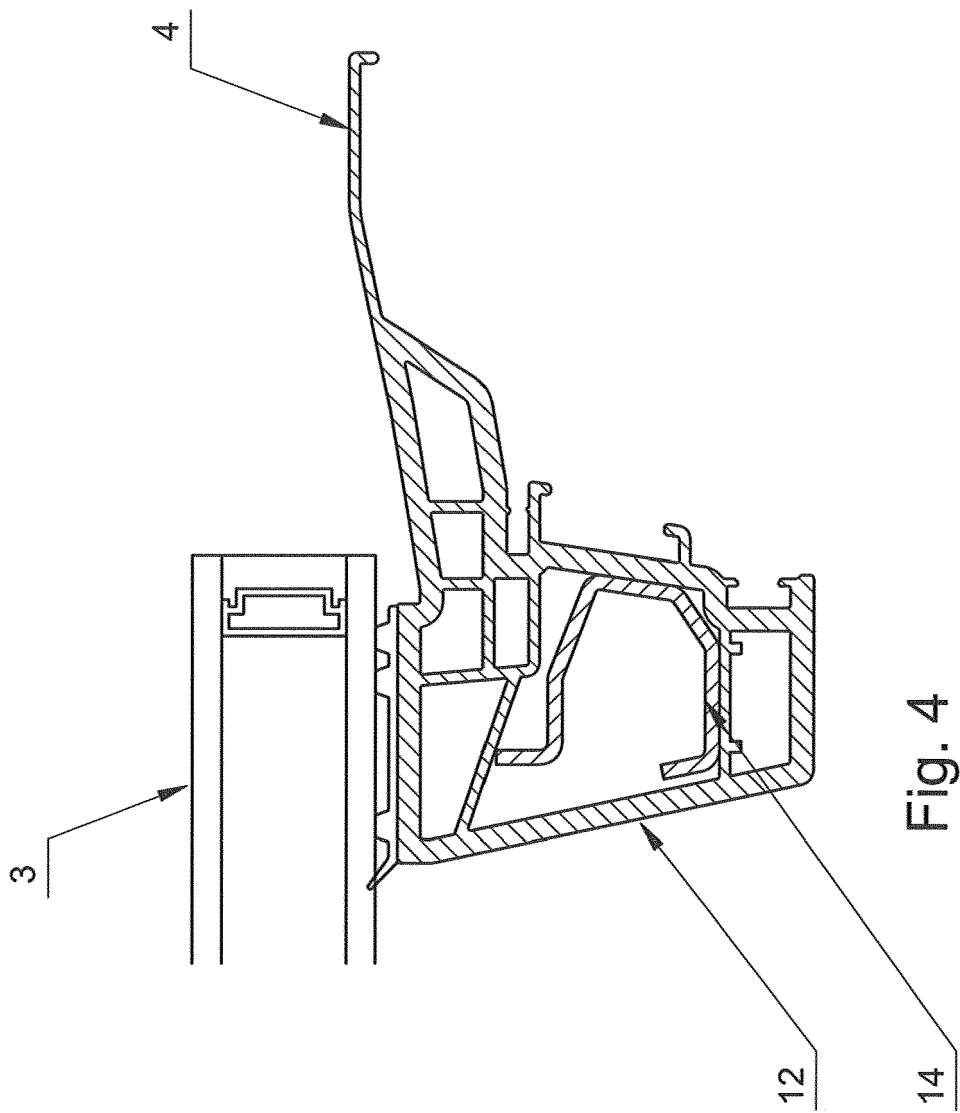


Fig. 3





EUROPEAN SEARCH REPORT

Application Number

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The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 19 September 2023	Examiner Demeester, Jan
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