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(54) **A set of side frame covers of a roof window**

Satz von Seitenrahmenabdeckungen eines Dachfensters

Ensemble de couvercles latéraux du cadre d'une fenêtre de toiture

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Description

[0001] The invention discloses a set of side frame covers according to the preamble of claim 1, for a roof window, protecting both the window and the attic where the roof window is installed against weather conditions, such as rain, snow and wind. The disclosed set of covers is intended for use in pivot windows or dual action tilt and pivot windows.

Prior art.

[0002] The prior art, includes roof windows with a set of covers for the side frames of a window frame and a sash frame with trapezoidal profile trims.

[0003] The window frame covers feature outer side seals, corresponding to the outer bends of the trims.

[0004] The covers do not feature seals from the sash frame side, as well as a window pane installed in the frame.

[0005] BE1015350A3 discloses a set of side frame covers for a roof window according to the preamble of claim 1.

Disclosure.

[0006] A set of side frame covers for a roof window comprising side frame covers for a window frame, hereinafter referred to as the "frame covers" and side frame covers of a sash frame, hereinafter referred to as the "sash covers" with the trims, covering the frame and sash covers, said covers further including elastomeric seals between the trims and the frame and sash covers, attached to the trims. These seals seal at least the gaps between the trim and the sash covers, and the seal which is attached to one of these covers includes a movable sealing blade which in a closed window position adjoins said sash cover. Preferably, said seals forming a sealing kit for the gap between the trims and the sash covers, from the window pane side, and the gap between the trims and the frame covers, from the inside of the window side. The sealing kit may also include the seals attached to the frame cover or the sash cover.

[0007] The sash covers are made of sections, preferably also used as a clamping strip fixing the window pane in the sash frame, said sections comprising an arm adjacent to the window pane. The sash frame section also include a protrusion transverse, preferably perpendicular to the sash frame face, i.e. the surface parallel to the window pane, along the entire sash frame side frame. The frame covers are made of bent sheet and overlap the side surfaces of the window frame and the flashing. The sections of the frame cover are positioned on the window frame face, i.e. the surface parallel to the roof with a protrusion transverse, preferably perpendicular to the window frame face.

[0008] The trims comprise edges bent towards the window frame and the sash frame, overlapping the protrusions of the frame and sash covers. Preferably the trims have a trapezoidal profile, and the bent sections overlap the protrusions of the frame and sash covers.

[0009] A window fitted with the set of side frame covers is opened by rotating the sash around its horizontal axis. The window may be opened by rotating the sash around the axis of rotation in its central section or as a dual action tilt and pivot window, where the axis of rotation for the tilt function is positioned near the top frames of the window frame and the sash frame. In both versions, each trim is divided into two parts - the bottom trim below the pivot hinge, and the top trim above the pivot hinge. The bottom trim is slightly narrower than the top trim to overlap the top cover in the direction of the rain water flow on the roof window. The set of side frame covers can also be used in a single action window, opened as a pivot window, where the trims are uniform along the entire window length.

[0010] In the first version of the invention, according to claim 1, a seal for the gap between the trim and the sash frame comprises a wide fixing surface, adjacent to the inner surface of the trim in its middle section, i.e. to the smaller base of the trapezoid. The fixing surface of the seal is attached to the inner surface of the trim; preferably the seal is glued to the inner surface. The seal along its entire length is fitted with a movable sealing blade, adjoining the sash cover with the window in a closed position, sealing the gap between the sash cover and the trim.

[0011] For the seal attached with the fixing surface to the trim, the sealing blade may be arched at the entire seal length, and a free edge of the sealing blade faces the fixing surface. The sealing blade of detailed shape is preferably used in the top trims, for easy fitting the seal to the sash cover and the top trim moving in relation to each other when the window closes. In the bottom trim, located near and moving with the sash, the sealing blade is single and not arched to avoid double thickness at the contact area with the sash cover. The seal attached to the trim with the fixing surface may also include an additional movable sealing blade, adjoining the window frame cover with the window in closed position.

[0012] In a preferred embodiment called second version of the invention, a set of side frame covers of a roof window includes an inner side seal, which is located under trims, between the sash cover, and an inner arch of the trim, from the window pane side. The seal is attached to the sash cover, preferably in the groove in the sash cover protrusion, transverse to the sash face, where the sealing blade of the seal adjoins to the bottom surface of the central part of the trim cross-section, i. e. on the shorter base of the trapezoid, close to the inner arch of this trim, according to claims 4 and 5, or to the bottom surface of the inner arch of the trim with the window in a closed position. The inner side seal complements the seal from the first version of the invention in its sealing function at the sash cover side forming a double seal.

[0013] The set of side frame covers of the roof window

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may further include the outer side seal, between the frame cover and the outer arch of the trim. The seal is attached to the window frame cover made of sheet metal, preferably clamped in a bend of the top cover section. The seal has a T profile, where two stationary arms adjoin the top section of the frame cover. The side outer seal is used mainly in the side frame covers, when the seal from the first version does not feature the additional sealing blade. It may also be used with the seal with an additional sealing blade, forming a double seal from the side window frame side.

[0015] Advantages of the invention. The side frame covers for the roof window, due to the seal between the trims and the frame and sash covers provide the protection against weather conditions, i.e. rain, snow or wind. They prevent snow and rain from penetrating the trims and the attic, where the window is installed. The seals with the fixing surface, attaching the seals to the trims, also suppress the noise of rain drops falling on the external trim surfaces.

[0016] Preferred embodiments. A set of side frame covers of the present invention is shown as the preferred embodiments in the following figures for the pivot windows, where the following figures show:

- Fig. 1 -A roof window, partially opened, pivot type - isometric view, with offset sections marked, A-A for closed window and B-B for partially open window, shown in the figures below.
- Fig. 2 -A set of covers with seals with a fixing surface and an arched sealing blade facing the fixing surface, with an outer side seals - in a closed window position, A-A offset section.
- Fig. 3 -The set of covers of Fig. 2 - in a partially open window position, B-B offset section.
- Fig. 4 -A set of covers with seals with a fixing surface attaching the seals to the trims with an arched sealing blade facing the fixing surface with an additional sealing blade - in a closed window position, A-A offset section.
- Fig. 5 -The set of covers of Fig. 4 - in a partially open window position, B-B offset section.
- Fig. 6 -A set of covers with a fixing surface attaching the covers to the trims with a long sealing blade and an additional sealing blade - in a closed window position, A-A offset section.
- Fig. 7 -The set of covers of Fig. 6 - in a partially closed window position, B-B offset section.
- Fig. 8 -A set of covers with an inner side seal and an outer side seal - in a closed window, A-A offset section.
- Fig. 9 -The set of covers of Fig. 8 - in a partially open window, B-B offset section.
- Fig. 10 -Outer side seal - detail C of Fig. 2, or 10.
- Fig. 11 -Inner side seal - detail D of Fig. 8.

[0017] The invention is disclosed based on the preferred embodiments for pivot and dual action tilt and pivot

windows, which were not included in the figures, but are described with the indication of design similarities and differences in relation to the examples showed in the figures.

[0018] The common components of the roof windows in accordance with the embodiments shown. A roof window comprises a window frame **1**, seated in a roof plane, said window frame comprising the side frames **11** and a movable sash **2**, a frame thereof comprising side frames **21**, further including a double window pane **22** with a seal kit and spacers between said window panes. In the middle section of the window, slightly above the half of said window frame **1** length, a pivot hinge is fixed to both side frames **11**, joining said frames with the side frames **21** of said sash frame **2**. The pivot hinge fixed to the window frame comprises an arched guide, corresponding to the arched slide of the pivot hinge fixed to said sash frame.

[0019] Along the entire length of said side frame **11** of said window frame **1**, a frame cover **13** made of bent sheet metal, with a profile comprising a section positioned on the window frame face and the section overlapping the side surface of the side frame. The window frame cover **13** further includes a protrusion **14** perpendicular to the window frame face.

[0020] Along the entire length of the side frame **21** of said sash frame **2**, a sash cover **23** is installed used as a clamping strip for the window pane **22**. The sash cover **23** is a section with a profile including a section adjoining the sash frame face and the clamping section, overlapping the window pane **22** edge. The sash cover **23** further includes a protrusion **24**, at the edge of the section, said protrusion being perpendicular to the sash frame face.

[0021] The set of side frame covers of a roof window further includes the trims of a trapezoidal profile, made of bent sheet metal. Above a pivot hinge, on both sides of the window are the top trims **15** attached to the side frames **11** of the window frame **1**, stationary when the window is opened or closed. Below the pivot hinge **12**, on both sides of the window are the bottom trims **25** attached to the side frames **21** of the window frame **1**, moving with the sash when the window is opened or closed. In its cross-section, the top trim **15** comprises a middle section, a smaller base of the trapezoid profile, further including an inner bend **16** and an outer bend **17** - both at an obtuse angle in relation to the middle section and facing the frame and sash covers, overlapping the protrusions **14**, **24** of said covers. Also the bottom trim **25** in its cross-section comprises a middle section, further including an inner bend **26** and an outer bend **27** - shaped and positioned identical to the top trim.

[0022] The distance between the bends: inner **16** and outer **17** of the top trim **15** is slightly larger than the distance between the bends: inner **26** and outer **27** of the bottom trim **25**, and the top trim **15** is installed further along the window frame and the sash frame than the bottom trim **25**. The top end of said bottom trim **25** is located under the bottom end of the top trim **15** in a closed

window position.

[0023] Besides the frame cover, sash cover and the trim seals, the window further includes known seal kits attached in the grooves between the side frames 11 of the window frame and the side frames 21 of the sash frame. At the section of the window below the pivot hinges, a single seal 18 is seated in the groove of the side frame 11 of the window frame, and the second seal 28 is seated in the groove of the side frame 21 of the sash frame. At the section of the window above the pivot hinges, both seals 28 are seated in the grooves of the side frame 21 of the sash frame.

[0024] **Embodiment 1.** A set of side frame covers of the roof window shown in Fig. 2 and Fig. 3, comprises a well known outer side seal 3, on the outer surface of a side frame 11 of a window frame 1, between a protrusion 14 of the frame cover 13 and an outer bend of a trim. The seal has a T profile, with two stationary arms 31 of said profile adjoining the protrusion 14 of the frame cover 13, and the top arm clamped with a section 14a of said cover (detail - Fig. 10). A sealing blade 32 of said outer side seal in a closed window position, with its free edge adjoining the bottom surface of an outer bend 17 of a top trim 15, and an outer bend 27 of a bottom trim 25.

[0025] At the opposite inner side of the side frames, the set of covers comprises a flat seal 4 with a fixing surface 41, adjoining half of the width of a middle bottom section of the trims 15, 25, and attached to the surface, preferably glued. The sealing blades of the seal 4 cooperate with a protrusion 24 of a sash cover 23, said seals available in two versions, one for the top trim, and the other for the bottom trim. The seal attached to the top trim 15 comprises an arched sealing blade 42, a free end thereof facing the fixing surface 41. The seal is more flexible and better adapts itself to the moving sash trim. A seal attached to the bottom trim 25 comprises a relatively short, straight sealing blade 43. It makes it easy to fit the seal with a single sealing blade layer, under the bottom trim 25, which is nearer to the window compared to the top trim.

[0026] **Embodiment 2.** A set of side frame covers shown in Fig. 4 and Fig. 5, comprises only the flat seals 5 with a fixing surface 51, adhering almost to the entire width of a bottom middle section of the trims 15, 25 and attached to said surface, preferably glued. On the side corresponding to a protrusion 24 of a sash cover 23, a seal 5 is attached to a top trim 15, with an arched sealing blade 52, and said seal 5 fixed to said top trim 25 has a relatively short, straight sealing blade 53. Both versions of the sealing blades are similar to the blades 42 and 43 of the seal 4 of the first embodiment. On the opposite, outer side of the side frames, the seal 5 has an additional sealing blade 54, diagonal in relation to the fixing surface 51, similar to the inclination of the outer bends 17, 27 of the top 15 and the bottom 25 trim. It is supported by the face of a protrusion 14 of a frame cover 13 in a closed window position. The blade (54) is identical for both trims.

[0027] **Embodiment 3.** A set of side frame covers

shown in Fig. 6 and 7 comprises only the flat seals. A top trim 15 comprises a seal 6 with a fixing surface 61, adjoining almost the entire width of a bottom middle surface of said trim, and attached to said surface, preferably glued. The seal 6 on the side corresponding to a protrusion 24 of a sash cover 23 comprises a long sealing blade 62, diagonal in relation to the fixing surface 61, similar to an outer bend 16 of a top trim. The long sealing blade 62 overlaps the protrusion 24 of the sash cover 23, and a free edge of said sealing blade rests on the section of said sash cover on the sash frame face. On the opposite side, the seal 6 comprises an additional sealing blade 63, corresponding to a protrusion 14 of a frame cover 13, identical to the sealing blade 54 of the second embodiment. A bottom trim 25 comprises a seal 5 with a fixing surface 51 and a straight sealing blade 53, identical to the second embodiment.

[0028] **Embodiment 4.** A set of side frame covers showed in Fig. 8 and Fig. 9 comprising an inner side seal 8, which is located under trims: upper 15 and bottom trims 25, between sash cover 23 and inner arch 16, 26 of the trims from the window pane side. The seal is seated in the grooves 29 (Detail - Fig. 11) in the protrusions 24 of a sash cover 23. The sealing blades 81 of the inner side seal adjoin with the free ends thereof a top trim 15 and a bottom trim 25, in points close to the inner arch 16 and 26 of these trims. On the opposite outer side of the frames, the set of covers comprises an outer side seal 3, identical to the first embodiment (Fig. 2, 3, and 10).

[0029] **Dual action windows.** Dual action pivot and tilt windows, opened with tilt function, by rotating the windows around the axis near the window frame top frame, or with pivot function with the intermediate arms pivotally mounted to the window frame, said arms fitted with hinges for opening the window in pivot mode, joining the intermediate arms with the side frames of a sash frame. The top trims are attached to the intermediate arms, not to the window frame, as in the pivot action windows. The intermediate arms, in a pivot mode rest on the window frame, and the embodiment no. 1 to 4 shown above apply also to the dual action window opened in pivot mode. When opening the window using the tilt function, the intermediate arms move to the top with the sash, adjoining the side frames of the sash frame. The top trims move with the intermediate arms, which with the window open are located in relation to the side frames of the sash frame identical as the bottom trims. For the dual action window, opened with the tilt function, the embodiment no. 1 to 4 in the scope of the bottom trim description are valid both for top and bottom trims. To illustrate the embodiments, for the window opened with the tilt function, the figures 2 to 9 are provided, relating both to the bottom (as shown) and top trims.

Claims

1. A set of side frame covers for a roof window, prefer-

- ably opened by the rotation of a sash (2) around its horizontal axis, as a pivot window - by the rotation around the axis in the middle section of said window or as a dual action pivot and tilt window, where with the window opened in a tilt mode, the axis of rotation of said sash (2) is near a top frame of a window frame (1), said set of side frame covers comprising the covers (13) for said side frames (11) of said window frame (1), hereinafter referred to as the "frame covers" (13), and the covers (23) for the side frames (21) of a window sash (2), hereinafter referred to as the "sash covers" (23), preferably used as a clamping strip for a window pane (22) of said window, said window pane (22) seated in said sash frame (2), said set of side frame covers further including trims (15, 25), preferably with a trapezoid profile, covering said frame cover (13) and said sash cover (23), where the edges (16, 17, 26, 27) of said trims (15, 25) are arched towards said window frame (1) and said sash frame (2), overlapping the sash cover (23) and frame cover (13) protrusions (14, 24), said protrusions (14, 24) being transverse to the sash frame (2) and window frame (1) faces, **wherein**, said set of side frame covers comprises elastomeric seals (4, 5, 6), between said trims (15, 25) and said sash covers (23), said elastomeric seals (4, 5, 6) attached to said trims sealing at least the gaps between said trims (15, 25) and said sash covers (23) **characterized in that** each of said elastomeric seals (4, 5, 6) between a trim (15, 25) and a sash cover (23) comprises a wide fixing surface (41, 51, 61), said wide fixing surface adjoining the inner surface of said trim (15, 25) in the middle section thereof and is attached to said inner surface, and **in that** a movable sealing blade (42, 52, 53, 62) of each of said elastomeric seals (4, 5, 6) adjoins said sash cover (23) in a closed window position.
2. A set of covers according to claim 1 **wherein** the free edge of said movable sealing blade (42, 52) faces said wide fixing surface.
 3. A set of covers according to claim 1 or 2 **wherein** said elastomeric seal (5, 6) attached with said wide fixing surface (51, 61) thereof to the trims (15, 25) comprises an additional movable sealing blade (54, 63), said sealing blade (54, 63) adjoining said frame cover (13) in a closed window position.
 4. A set of covers according to claims 1 or 2 or 3 **wherein** it comprises an inner side seal (8) between said sash cover (23) and an inner arch (16, 26) of said trims (15, 25), from a window pane side (22), wherein said inner side seal (8) is attached to said sash cover (23), preferably in a groove (29) positioned in a protrusion (24) of said sash cover transverse to the sash face.
 5. A set of covers according to claim 4, wherein, at sealing blade (81) of the inner side seal (8) adjoins to the bottom surface of the central part of the trim cross-section (15, 25) close to the inner arch (16, 26) of this trim in the closed window position, complementing sealing functions of said elastomeric seals (4, 5, 6).
 6. A set of covers according to claims 1 or 2 or 3 or 4 or 5 **wherein** it comprises an outer side seal (3) between said frame cover (13) and an inner bend (17, 27) of said trim (15, 25), said seal being attached to said frame cover (13), preferably clamped in a bend (14a) of a top section of a protrusion (14) of said frame cover (13).
 7. A set of covers according to claim 7 **wherein** said outer side seal (3) has a T outline, and two stationary arms (31) of said T outline adjoin said protrusion (14) of said frame cover (13).

Patentansprüche

1. Schirmgruppe der Seitenrahmen vom Dachfenster, insbesondere durch die Drehung des Flügels (2) um die waagerechte Achse im mittleren Abschnitt des Fensters drehbar oder doppelfunktional, d.h. kippdrehbar geöffnet, wo sich beim Öffnen durch Kippen die Drehachse des Flügels (2) in der Nähe des oberen Rahmens der Zarge (1) befindet; Die Schirmgruppe der Seitenrahmen enthält Schirme (13) der Seitenrahmen (11) der Zarge (1), im Weiteren kurz "Zargenschirme" (13) genannt, sowie Schirme (23) der Seitenrahmen (21) des Flügelrahmens (2), im Weiteren kurz "Flügelgeschirme" (23) genannte, vorzugsweise als Pressleisten der Glasscheibe (22) dieses Fensters ausgeführt und im Flügelrahmen eingesetzt (2); Die Schirmgruppe der Seitenrahmen enthält auch Aufsetzschirme (15, 25), insbesondere mit Trapezquerschnitt, die die vorgenannten Zargenschirme (13) und Flügelgeschirme (23) bedecken, wobei die Ränder (16, 17, 26, 27) der Aufsetzschirme (15, 25) so in die Seite der Zarge (1) und des Flügelrahmens (2) gebogen, dass sie die Vorkragungen (14, 24) der Schirme des Flügels (23) der Zarge (13) überlappen, wobei die Vorkragungen (14, 24) quer zur Stirnfläche der Zarge (1) und des Flügelrahmens (2) angeordnet sind, wo die Schirmgruppe der Seitenrahmen Elastomerdichtungen (4, 5, 6) zwischen den Aufsetzschirmen (15, 25) und Flügelschirmen (23) aufweist; Die Elastomerdichtungen sind an die Aufsetzschirme befestigt und mindestens die Schlitz zwischen den Aufsetzschirmen (15, 25) und Flügelschirmen (23) abdichten, **gekennzeichnet dadurch, dass** jede Elastomerdichtung (4, 5, 6) zwischen dem Aufsetzschirm (15, 25) und dem Schirm des Flügels (23) und der Zarge einen breiten

Befestigungsblatt (41, 51, 61) aufweist, das an die Innenfläche des Aufsetzschirmes (15, 25) im mittleren Abschnitt seines Querschnitts anliegt und an diese Fläche befestigt ist; Die bewegliche Dichtungsfeder (42, 52, 53, 62) jeder Elastomerdichtung (4, 5, 6) an die Flügelschirme (23) beim geschlossenen Fenster anliegt.

2. Die Schirmgruppe nach dem Anspruch 1, **gekennzeichnet dadurch, dass** der freie Rand der beweglichen Dichtungsfeder (42, 52) in die Seite des breiten Befestigungsblattes gerichtet ist.
3. Die Schirmgruppe nach dem Anspruch 1 oder 2, **gekennzeichnet dadurch, dass** die Elastomerdichtung (5, 6), die mit ihrem breiten Befestigungsblatt (51, 61) an den Aufsetzschirm (15, 25) befestigt ist, eine zusätzliche bewegliche Dichtungsfeder (54, 63), die beim geschlossenen Fenster an die Rahmenschirme der Zarge (13), anliegt, aufweist.
4. Die Schirmgruppe nach dem Anspruch 1 oder 2 oder 3, **gekennzeichnet dadurch, dass** sie eine innere Seitendichtung (8) zwischen dem Flügelschirm (15, 25) und der inneren glasscheibenseitigen (22) Biegung (16, 26) des Aufsetzschirmes aufweist, wobei diese Dichtung (8) in dem Flügelschirm (23) befestigt ist, vorzugsweise in der Nut (29) der quer zur Stirnfläche des angeordneten Vorkragung (24) des Flügels dieses Schirmes.
5. Die Schirmgruppe nach dem Anspruch 4, **gekennzeichnet dadurch, dass** die Dichtungsfeder (81) der inneren Seitendichtungen (8) an die innere Fläche vom mittleren Querschnittsteil der Aufsetzschirme (15, 25) in der Nähe der Biegungen (16, 26) dieser Schirme beim geschlossenen Fenster anliegen und die Dichtfunktion der Elastomerdichtungen (4, 5, 6) ergänzen.
6. Die Schirmgruppe nach dem Anspruch 1 oder 2 oder 3 oder 4 oder 5, **gekennzeichnet dadurch, dass** sie eine externe Seitendichtung (3) zwischen dem Zargenschirm (13) und der externen Biegung der (17, 27) Aufsetzschirme (15, 25) aufweisen, wobei diese Dichtung im dem aus dem Blech ausgeführten Zargenschirm (13) befestigt ist, vorzugsweise in der Biegung (14a) im oberen Abschnitt der Vorkragung (14) dieses Schirmes (13) zusammengedrückt.
7. Die Schirmgruppe nach dem Anspruch 7, **gekennzeichnet dadurch, dass** die externe Seitendichtung (3) einen T-Querschnitt aufweist, wobei zwei unbewegliche Arme (31) des T-Querschnitts an die Vorkragungen des (14) des Zargenschirmes (13) anliegen.

Revendications

1. L'ensemble de protections de montants latéraux de lucarne, ouverte notamment par le pivotement du vantail (2) autour de l'axe horizontal, comme pivotante - autour de l'axe situé dans la zone de milieu de la fenêtre, ou ouverte bifonctionnellement, comme d'inclinaison-pivotante, où, à l'ouverture inclinée, l'axe de pivotement du vantail (2) se trouve à proximité de la traverse supérieure du dormant (1), l'ensemble de protections de montants latéraux comprend les protections (13) de montants latéraux (11) du dormant (1), appelées ci-après en abrégé « protections de dormant » (13), et les protections (23) de montants latéraux (21) du cadre de vantail (2), appelées ci-après en abrégé « protections de vantail » (23), remplissant avantageusement également les fonctions de lattes de serrage pour le vitrage (22) de cette fenêtre, assis dans le cadre de vantail (2), l'ensemble de protections de montants latéraux comprend également les protections d'éclisse (15, 25), surtout à coupe de trapèze, recouvrant les protections de dormant (13) et les protections de vantail (23) précitées, les bords (16, 17, 26, 27) de protections d'éclisse (15, 25) étant pliés vers le dormant (1) et le cadre de vantail (2), de la manière qu'ils viennent à recouvrement aux pièces en saillie (14, 24) des protections de vantail (23) et des protections de dormant (13), les pièces en saillie (14, 24) étant situées perpendiculairement par rapport aux surfaces frontales du dormant (1) et du cadre de vantail (2), où l'ensemble de protections de montants latéraux est doté de joints d'élastomère (4, 5, 6), situés entre les protections d'éclisse (15, 25) et les protections de vantail (23), les joints d'élastomère sont fixés aux protections d'éclisse, en étanchant au moins les fentes entre les protections d'éclisse (15, 25) et les protections de vantail (23), **se caractérisant par** ceci que chaque joint d'élastomère (4, 5, 6), entre la protection d'éclisse (15, 25), la protection de vantail (23) et la protection de dormant, est doté d'une ailette de fixation large (41, 51, 61), qui adhère à la surface intérieure de la protection d'éclisse (15, 25), dans le segment central de sa coupe, et est fixée à cette surface, et une languette d'étanchéité mobile (42, 52, 53, 62) de chaque joint d'élastomère (4, 5, 6) adhère à la protection de vantail (23) dans la fenêtre fermée.
2. L'ensemble de protections selon la revendication 1 **se caractérise par** ceci que l'arrête libre de la languette mobile d'étanchéité (42, 52) est dirigée vers l'ailette de fixation large.
3. L'ensemble de protections selon la revendication 1 ou 2, **se caractérisant par** ceci qu'un joint d'élastomère (5, 6), fixé par son ailette de fixation large (51, 61) à la protection d'éclisse (15, 25), est doté d'une

languette d'étanchéité mobile supplémentaire (54, 63), qui adhère à la protection de montant de dormant dans une fenêtre fermée (13).

4. L'ensemble de protections selon la revendication 1, ou 2, ou 3, se **caractérise par** ceci qu'il est doté de joint latéral intérieur (8), situé entre la protection de vantail (15, 25) et un pli intérieur (16, 26) de la protection de vantail, situé du côté de la vitre (22), ce joint (8) étant fixé dans la protection de vantail (23), avantagement dans la rainure (29), située dans la partie en saillie (24) de cette protection, transversale par rapport à la surface frontale du vantail. 5 10
5. L'ensemble de protections selon la revendication 4, se **caractérise par** ceci que les languettes d'étanchéité (81) des joints latéraux intérieurs (8) adhèrent à la surface intérieure de la partie de milieu de la coupe transversale des protections d'éclisse (15, 25) à proximité des plis (16, 26) de ces protections quand la fenêtre est fermée, en complétant la fonction d'étanchéité des joints d'élastomère (4, 5, 6). 15 20
6. L'ensemble de protections selon la revendication 1, ou 2, ou 3, ou 4, ou 5 **se caractérisant par** ceci qu'il est doté de joint latéral extérieur (3), situé entre la protection de dormant (13) et un pli extérieur (17, 27) de la protection d'éclisse (15, 25), ce joint, étant fixé dans la protection de dormant faite en tôle (13), est avantagement clipsé dans le pli (14a) du segment supérieur de la partie en saillie (14) de cette protection (13). 25 30
7. L'ensemble de protections selon la revendication 7 se **caractérise par** ceci que le joint latéral extérieur (3) est doté de coupe en T, les deux bras immobiles (31) de la coupe en T adhèrent à la partie en saillie (14) de la protection de dormant (13). 35

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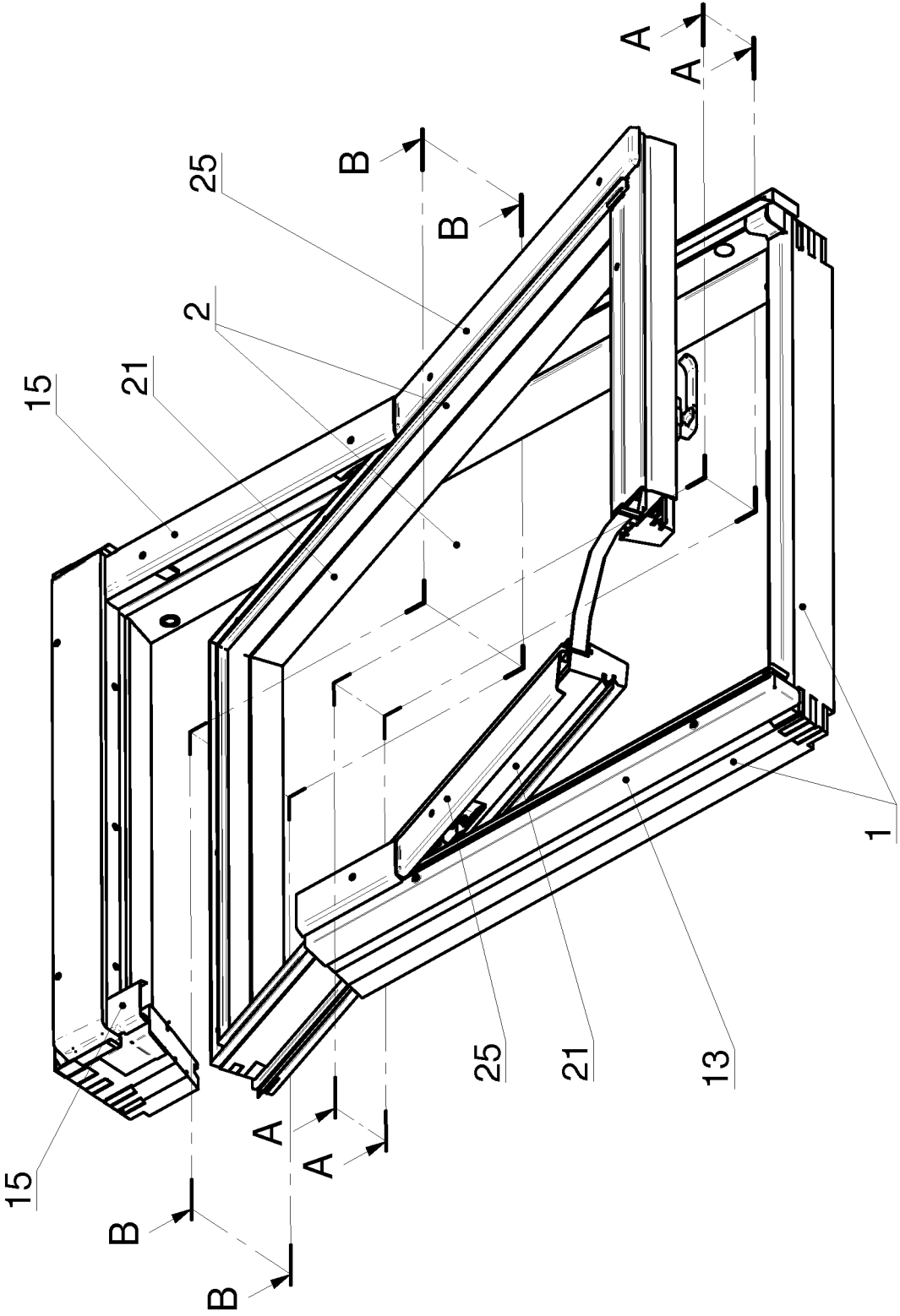


Fig. 1

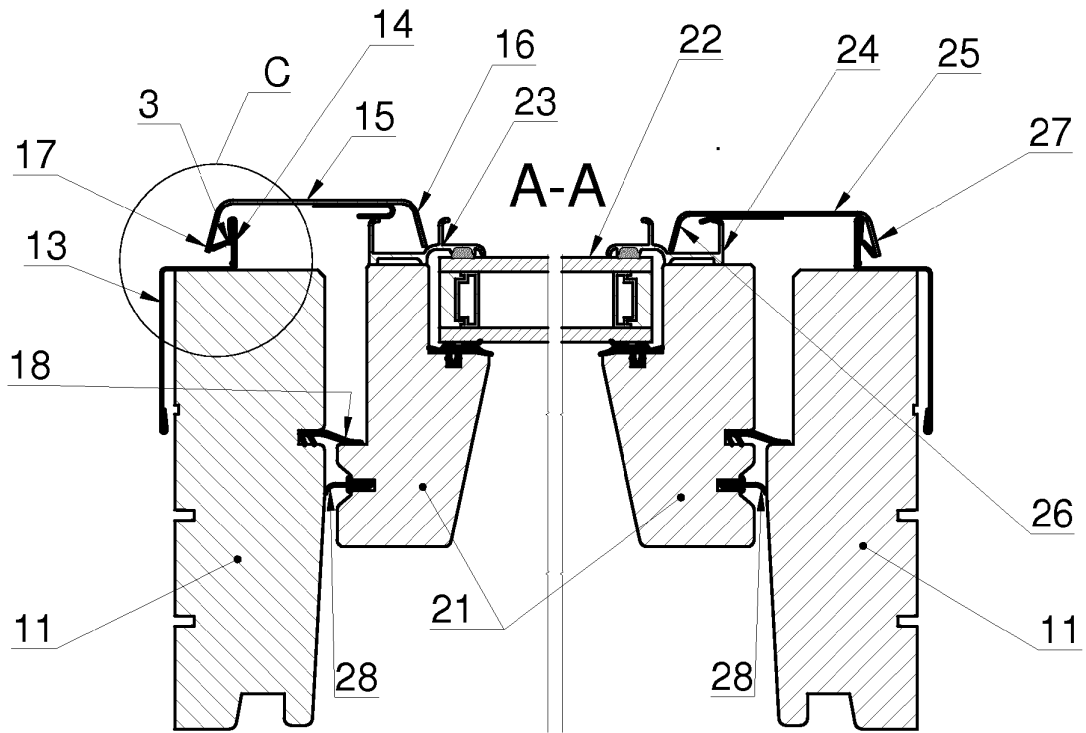


Fig. 2

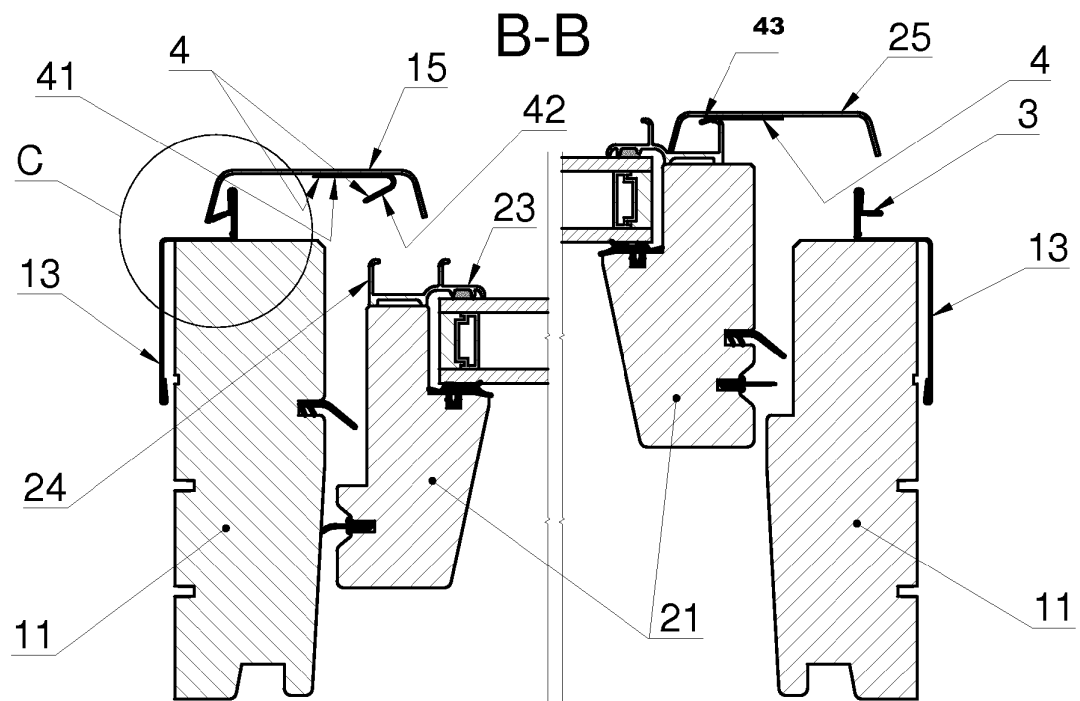


Fig. 3

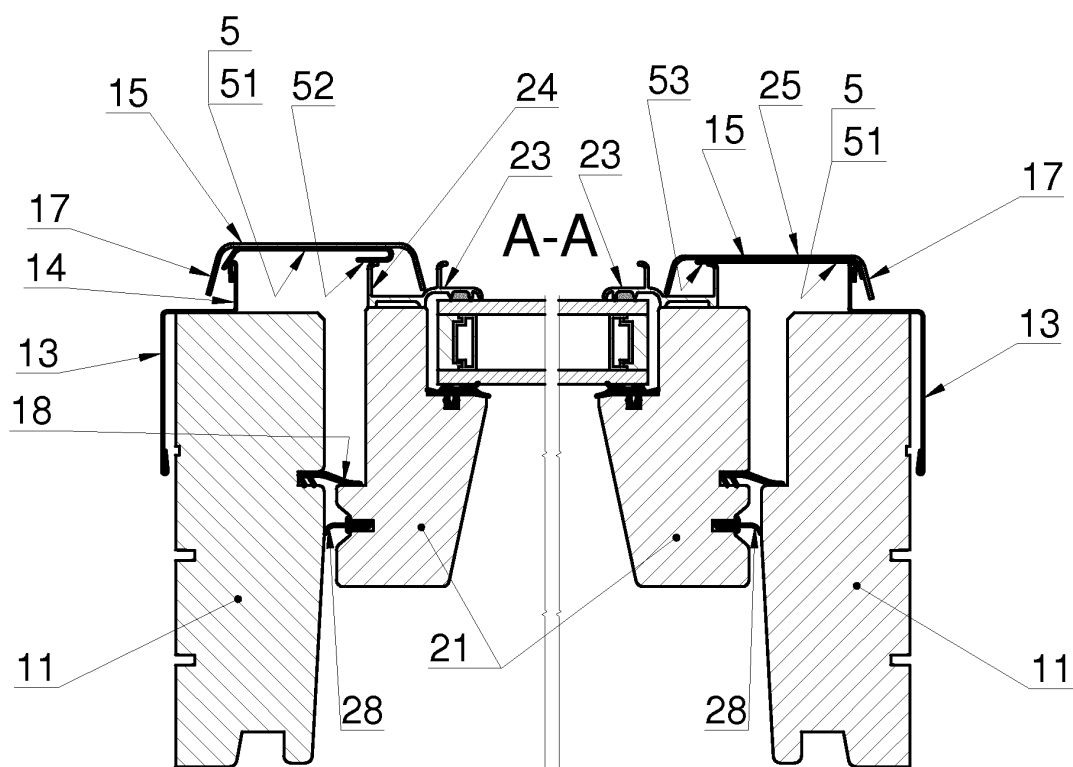


Fig. 4

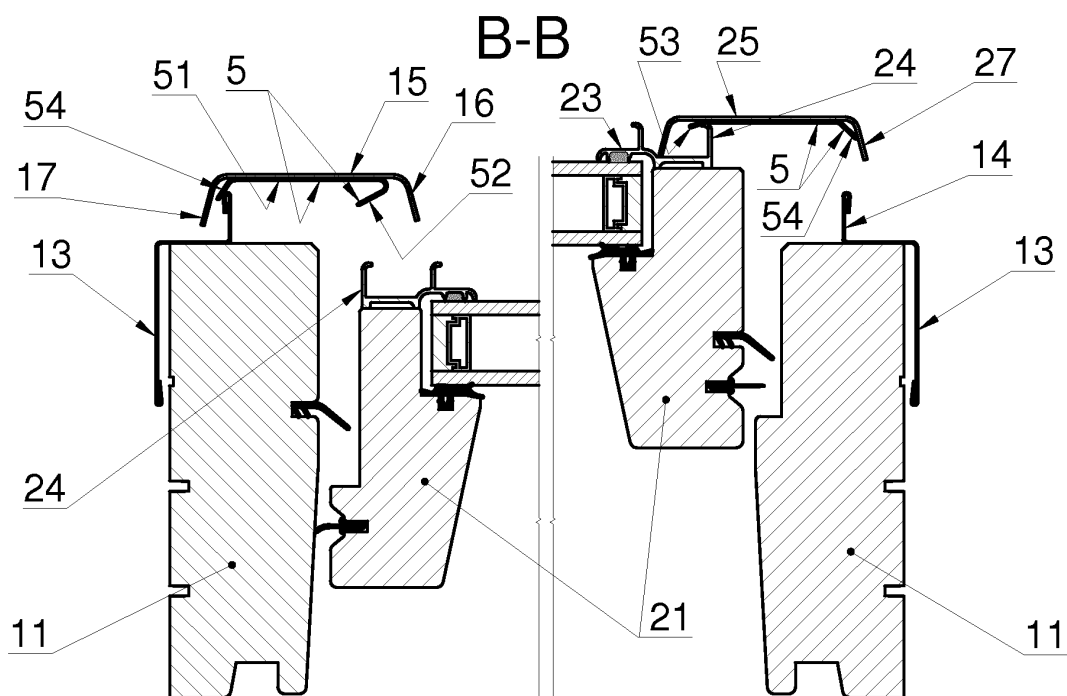


Fig. 5

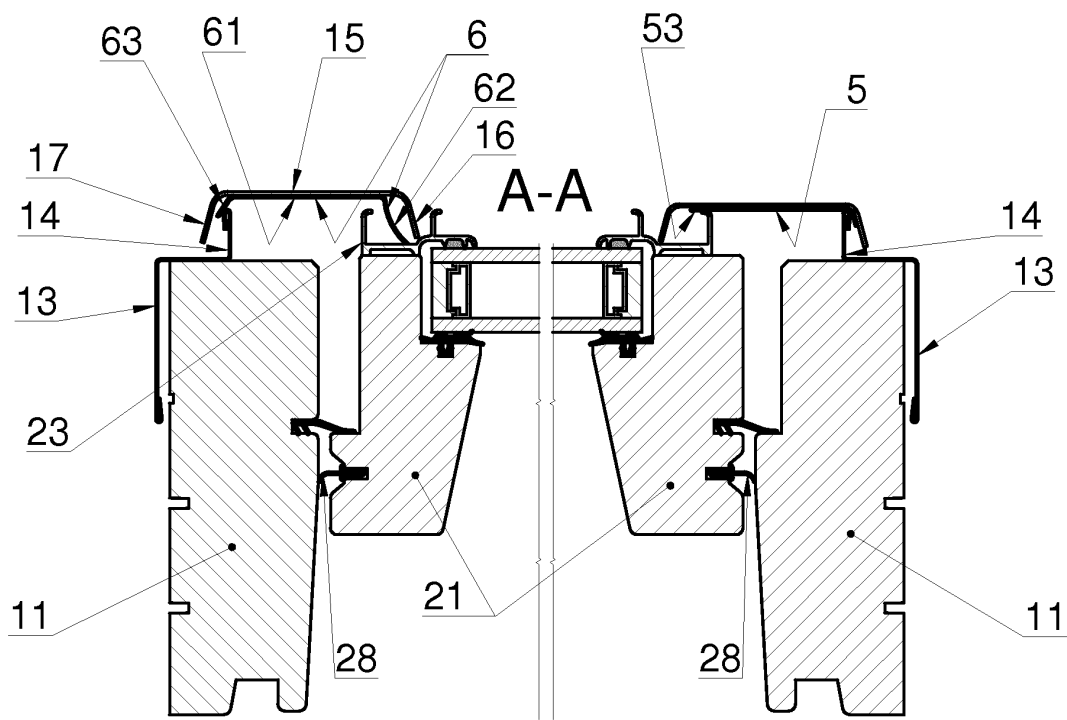


Fig. 6

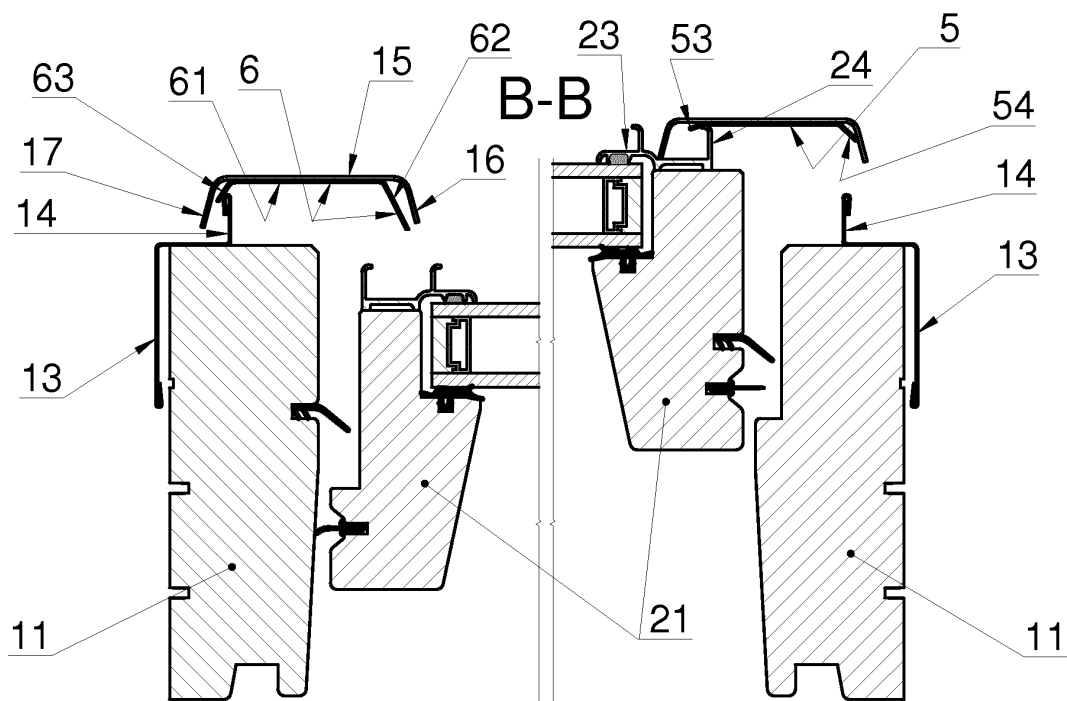


Fig. 7

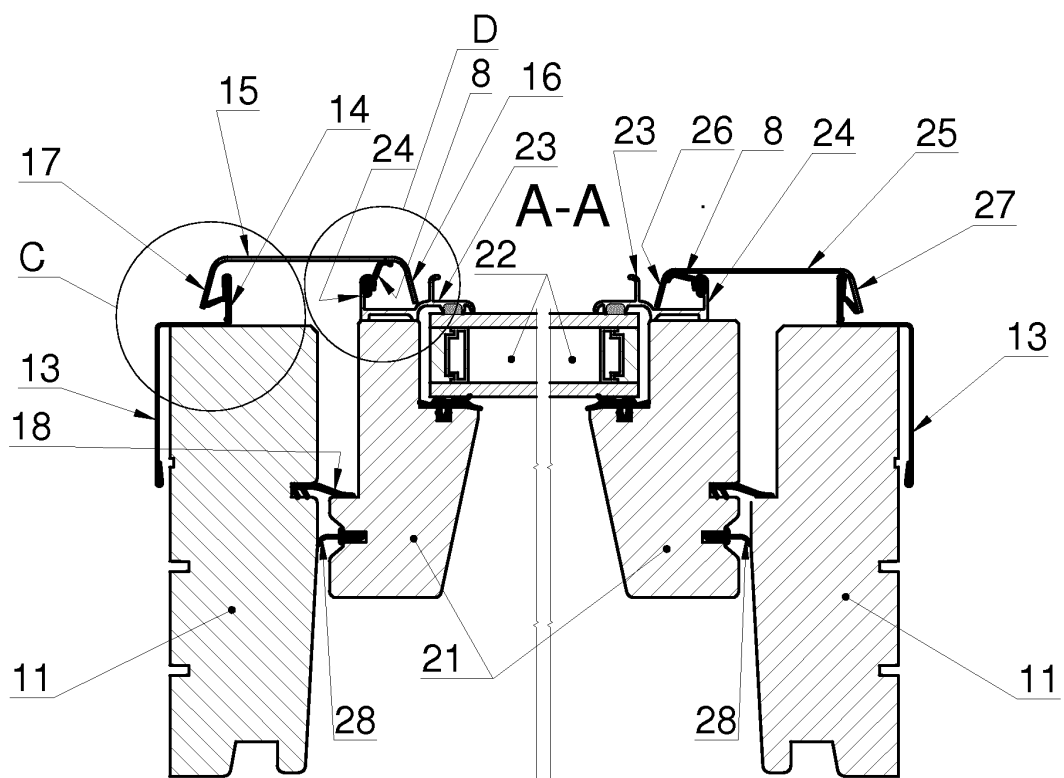


Fig. 8

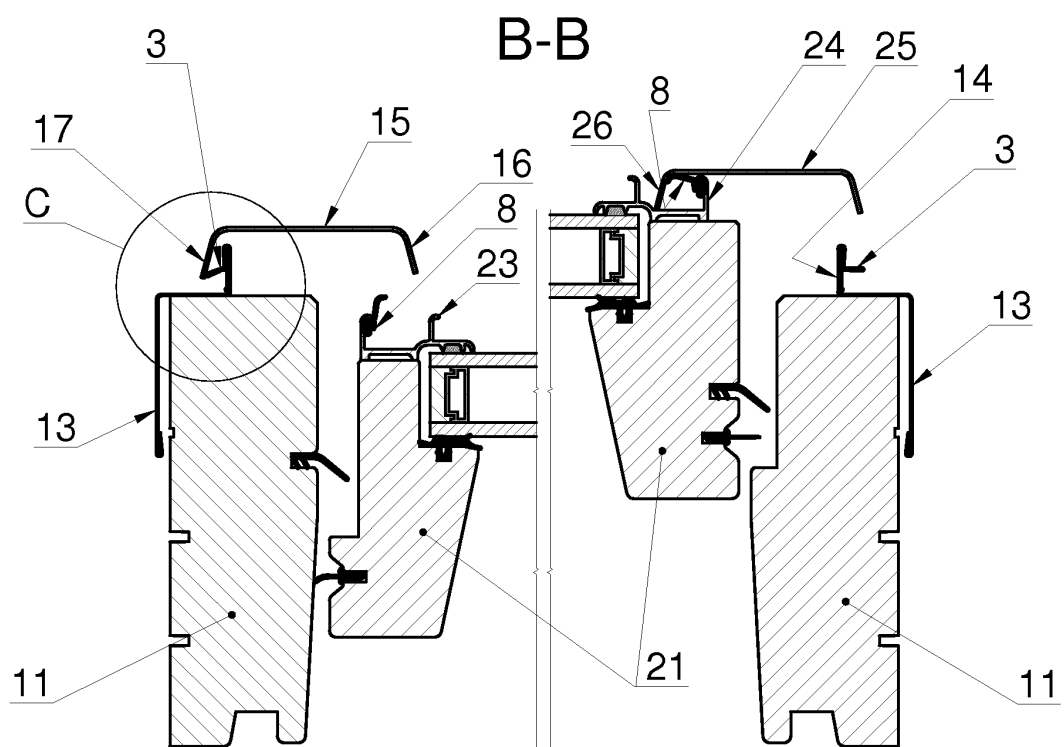


Fig. 9

Detail C

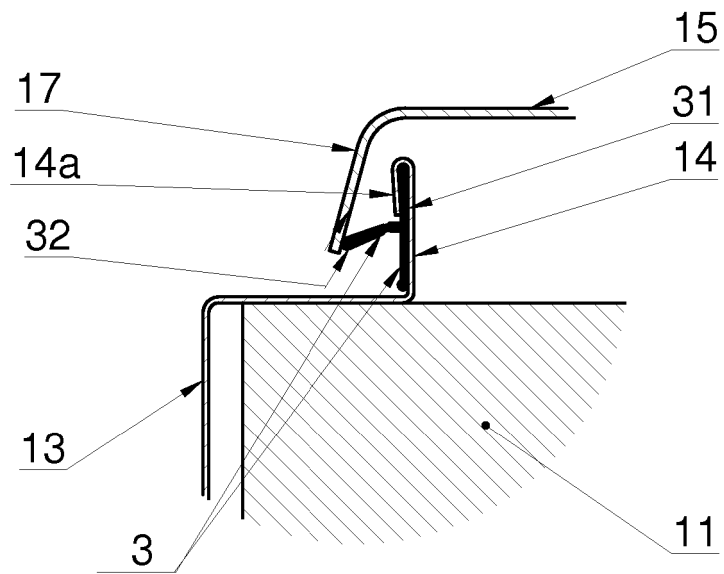


Fig. 10

Detail D

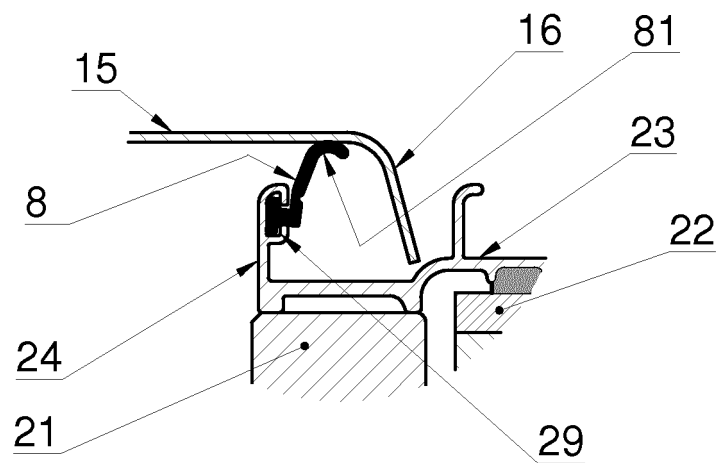


Fig. 11

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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