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(73) Jogosult(ak):

IFN-Holding AG, 4050 Traun (AT)

(72) Feltaláló(k):

Seibt, Christian, 4550 Kremsmünster (AT)

(74) Képviselő:

**Gödölle, Kékes, Mészáros & Szabó
Szabadalmi és Védjegy Iroda, Budapest**

(54)

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Az európai szabadalom ellen, megadásának az Európai Szabadalmi Közlönyben való meghirdetésétől számított kilenc hónapon belül, felszólalást lehet benyújtani az Európai Szabadalmi Hivatalnál. (Európai Szabadalmi Egyezmény 99. cikk(1))

A fordítást a szabadalmas az 1995. évi XXXIII. törvény 84/H. §-a szerint nyújtotta be. A fordítás tartalmi helyességét a Szellemi Tulajdon Nemzeti Hivatala nem vizsgálta.



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Description

The invention relates to a lifting sliding door element comprising at least one lifting sliding door leaf and at least one stationary leaf, which each exhibit a glass element, wherein the at least one lifting sliding leaf and the at least one stationary leaf are received in a joint frame and the joint frame forms part of the leaf frame of the stationary leaf, wherein the frame has two horizontal profiles and two vertical profiles as well as at least one further vertical profile, wherein the at least one further vertical profile forms a further part of the leaf frame of the stationary leaf and in the closed state the lifting sliding door leaf is in contact with the further vertical profile, wherein the frame also has an outer side and an inside relative to the installation position of the frame and wherein the frame is formed by hollow chamber profiles.

Lifting sliding doors are increasingly used as architectural elements in house building. The current trend is for these lifting sliding doors to have large-sized glass elements with the thinnest possible frame profile design, wherein as few frame profiles as possible should be used in addition. Since a high degree of stability of the frame profiles is required for these architectural solutions, in order to meet the requirements in terms of wind protection and protection against driving rain, these lifting sliding doors are frequently produced with wooden frame profiles.

However, embodiments are also described in the state of the art in which the frame profiles are made of plastic. Hence, for example, DE 10 2006 081 358 A2 describes a lifting sliding door guided in a horizontally movable manner with a plastic frame trim. For reinforcement, as is customary in principle in so-called plastic windows,

metal profiles are contained in the plastic profiles. The stationary leaf of this lifting sliding door has so-called interior glazing, i.e. the glass element is inserted from the inside (from the room side). In order to cover the glass inset and to produce the contact pressure for airtightness and tightness to driving rain, corresponding glass strips are arranged. Thanks to the interior glazing, problems which could arise due to driving rain in relation to the tightness of the lifting sliding door in the region of the stationary leaf are more effectively avoided, as there is an undivided profile on the outer side.

A lifting/sliding door is known from the Internorm International publication "The new lifting sliding door HS 330 from Internorm" (available at <https://www.youtube.com/watch?v=8xglppkSdr0>), which has a wood/aluminium frame. The frame forms part of the leaf frame of the fixed glazing. The ground sill is designed according to EP 2 610 423 A2. This lifting sliding door discloses all features of the preamble of Claim 1.

US 2003/0201071 A1 describes a sliding door in which the glass strips are arranged on the room side.

A sliding door is known from EP 2 317 061 A1 in which the sliding leaf lies in the plane of the stationary leaf. Between the two leaves, which are displaceable in respect of one another, is arranged a separable intermediate profile. The glass strips of the leaf profiles are arranged in the region of this intermediate profile on the outer side of the leaf.

EP 2 610 423 A2 describes a lifting/sliding door with a ground sill made of a profile body which - viewed in cross section - has a first and a second profile section, wherein the first profile section - viewed in

the vertical direction - has a smaller installation height than the second profile section and a recess is arranged in the first profile section in the region of a front face, in which recess a glass strip for holding a fixed glazing unit is arranged, wherein at least 50% of the glass strip is arranged below the point of the profile body which - viewed in the vertical direction - exhibits the greatest profile body height.

10 In view of this, the problem addressed by the invention is that of creating a lifting sliding door in which the profile elements of the frame are made of hollow chamber profiles and in which the glazing of the stationary leaf in the form of a so-called exterior glazing unit is possible.

This problem addressed by the invention is solved by the features of the independent Claim 1.

20 This lifting sliding door element makes it possible for the glass element of the stationary leaf to be inserted from the outer side. This is particularly advantageous, since the size of these glass elements makes them heavy and awkward. Accessibility from outer side has the advantage that more space is available for handling the glass element. In addition, it is thereby possible in a first step for the frame components of the lifting sliding door element to be fitted and for the glazing unit to be inserted only in a subsequent step. In this way, the risk of the glass being broken during the assembly of the lifting sliding door element is significantly reduced. Since the horizontal breadth of the detachable profile element part of the frame profile at least corresponds to the horizontal breadth of the first profile element part, in addition to the improved driving rain tightness, it also means that there is no dirt-collecting edge on the outer side, as a result of

which the lifting sliding door element becomes less dirty and the cleaning of the profile surfaces is simpler. In addition, the insertion of the glass element into the stationary leaf from outer side has the advantage that if the glass element has to be replaced later, due to a glass breakage, for example, this can be carried out more easily as only the detachable profile element parts have to be removed and the new glass element part inserted.

The design of the lifting sliding door element means that this can even take place if said door element is completely plastered in on the top and sides, i.e. if the front frame side of the vertical side and upper frame profile is not entirely visible and is not therefore accessible without removing the plaster layer. Another advantage of this lifting sliding door element is that larger glass areas can be achieved.

According to a preferred embodiment of the lifting sliding door, it is provided that the detachable profile element part has a clamping element, in particular a hook-shaped clamping element, with which it is connected to the first profile element part. A better attachment of the detachable profile element part to the first profile element part is thereby achieved, as a result of which the tightness to wind and driving rain can be further improved. In addition, an improvement in respect of wind suction protection can also thereby be achieved. This means that the removability of the detachable profile element part in the event of the glass being replaced can also be made easier.

According to a preferred embodiment, it is provided that in one plane the hook-shaped clamping element engages with a recess of the first profile element part which is at least approximately parallel to the plane of the

glass element. The hook-shaped clamping element is therefore arranged by at least roughly 90° in respect of the load plane, so that the mechanical load acting on the clamping element can be reduced.

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It can be further provided that the detachable profile element part is made of a material that is different from the material of the first profile element part. This means that when the detachable profile element part is made of aluminium, for example, additional facing formwork, as is customarily used with so-called plastic/aluminium windows, can be dispensed with in the region of the divided profiles of the frame of the lifting sliding door element, as a result of which the number of individual parts of the lifting sliding door element can be simplified and the assembly (or dismantling if the glass is being replaced) of the lifting sliding door element can therefore be made quicker. In addition, the weather resistance of the lifting sliding door element can thereby easily be improved.

The detachable profile element part is preferably likewise a hollow chamber profile. It is therefore possible for the displaceability of the displaceable profile element part to be improved. In addition, the thermal insulation of the lifting sliding door can also thereby be improved.

30 In order to improve the driving rain tightness, it may further be provided that a labyrinth-like plug-type connection is formed between the detachable profile element part and the first profile element part.

25 In addition, it may be provided that a centring element is arranged on the upper horizontal profile of the frame, which element engages with the detachable profile

element part, or that a centring element is fastened the detachable profile element part which engages with the upper horizontal profile of the frame. The correct positioning of the detachable profile element part on the profile element part can therefore be simplified.

For the same reason, it may be provided that the rear side of the detachable profile element part is longer than the front side, so that the longer rear side can be inserted into the upper horizontal profile of the frame.

In order to improve the wind suction protection, it may be provided that the detachable profile element part is adhesively connected to the first profile element part, at least in parts, and/or that the glass element is adhesively connected to the first profile element part.

The adhesive connection is preferably brought about with an adhesive tape, since the removal of the detachable profile element part, where necessary, can therefore take place more easily and the necessary restoration of the adhesion in this case can be simplified.

It is further preferred, if according to further embodiments of the lifting sliding door element, the first profile element part is connected to the lower horizontal profile, in particular to the reinforcing profile of the lower horizontal profile, via at least one connection means. An improved force flow is thereby achieved in the lifting sliding door element.

To improve understanding of the invention, it is explained in greater detail with the help of the following figures.

Shown in each case as a simplified, schematic representation is:

Fig. 1 a lifting sliding door element;

Fig. 2 a section through the lifting sliding door
element according to Fig. 1 along the
intersection line II-II in Fig. 1;

Fig. 3-7 the sequence involved in inserting the fixed
glazing unit;

Fig. 8 a detail from an embodiment of a clamping
element;

Fig. 9 a detail from an embodiment of the further
vertical profile of the frame of the lifting
sliding door;

Fig. 10 a detail of an embodiment of the lifting sliding
door with a centring element;

Fig. 11 an embodiment of a centring element;

Fig. 12 a cross section of an embodiment of the lifting
sliding door.

It should be made clear to begin with that the same
parts are provided with the same reference numbers or
the same component names in the differently described
embodiments, wherein the disclosures contained in the
full description can be applied analogously to the same
parts with the same reference numbers or the same
component names. Positional details selected in the
description, such as at the top, at the bottom, on the
sides, etc., for example, also relate to the figure
directly described and illustrated and these positional
details have to be transferred analogously to the new
position in the event of a change in position.

Figs. 1 and 2 show an embodiment of a lifting sliding door element 1. This has at least one horizontally displaceable lifting sliding leaf 2 in the form of a lifting sliding door and at least one stationary leaf 3, i.e. a fixed glazing unit. Lifting sliding door elements 1 of this kind are used in conservatories or in the area of terraces or balconies, for example. It goes without saying that there are also other possible uses.

The lifting sliding door element 1 has a frame 4 which is secured in a wall opening, for example. The frame 4 comprises an upper horizontal profile 5, a lower horizontal profile 6, a left vertical profile 7 and a right vertical profile 8. The profiles 5 to 8 form the outer periphery of the lifting sliding door element 1, as depicted in Fig. 1, so that the lifting sliding leaf 2 and the stationary leaf 3 are therefore received in this joint frame 4.

In addition, the frame 4 has a further vertical profile 9 (Fig. 2) which is arranged between the left vertical profile 7 and the right vertical profile 8.

In the embodiment of the lifting sliding door element 1 shown, the frame 4 therefore comprises the five profiles 5 to 9.

Furthermore, the lifting sliding leaf 2 has a first glass element 10 and the stationary leaf 3 has a second glass element 11. The glass elements 10, 11 are, in particular, double, triple or multiple pane insulating glass elements.

In addition, the lifting sliding leaf 2 has a leaf frame 12 which is formed in this embodiment of the lifting sliding door element 1 from two vertical and two

horizontal leaf frame profiles 13. The leaf frame 12 holds the first glass element 10.

5 The second glass element 11, in other words the glass element 11 of the stationary leaf 3, is, on the other hand, arranged directly in the frame 4 and held by said frame. Consequently, the leaf frame of the stationary leaf 3 is formed by part of the upper horizontal profile 5, the right vertical profile 8, part of the lower
10 horizontal profile 6 and the further vertical profile 9. The size of the lifting sliding leaf 3 and the stationary leaf 3 in this case may be chosen in such a manner, for example, that the further vertical profile 9 is arranged at least roughly in the centre between the
15 two vertical profiles 7 and 8. A different division is also possible, however.

The further vertical profile 9 has, in addition, the function that the lifting sliding leaf bears closely
20 against this further vertical profile 9 in the closed state, as shown in Fig. 1.

The frame 4 exhibits an inside 14 and an outer side 15 relative to the installation position of the lifting
25 sliding door element 1 (Fig. 2). By definition, the inside 14 in this case faces a room; the outer side 15, by contrast, faces the weather-exposed side, so usually the outdoors.

30 For further structural details of the lifting sliding element 1, such as a door handle 16, a runner 17 for the lifting sliding leaf 2 in the region of the upper horizontal profile 5, a runner 18 in the region of the lower horizontal profile 6, various fittings, etc., for
35 example, reference is made to the relevant state of the art

The lower horizontal profile 6 may be configured like the remaining profiles 5, 7 and 8. However, this profile 6 is preferably a so-called ground sill and, in particular, of flatter configuration than the other profiles 5, 7 and 8. It is further preferable for the surface facing the upper horizontal profile 6 to be made of a metallic material, in particular aluminium or an aluminium base alloy, as this ground sill preferably simultaneously forms the lower runner for the lifting sliding leaf 2.

The profiles 7 and 8 and also, where necessary, 5 may each have the same profile cross section, wherein, as already mentioned, the upper horizontal profile 5 may likewise exhibit a runner for the lifting sliding leaf 2 and therefore the profile cross section for arranging the runner in this upper horizontal profile 5 may be adapted.

All profiles 5 to 9 are preferably configured as so-called hollow chamber profiles, as can be seen from Fig. 2, in particular, and they are preferably made at least partly of plastic. The lower horizontal profile 6 configured as a ground sill may therefore also be a hollow chamber profile, even if other embodiments are also possible for this. In particular, the profiles 5, 7 and 8 are entirely made of plastic. A plastic customarily used in window construction, for example PVC, may be used as the plastic.

The profiles 5 to 9 may, however, also be made at least in part of a plastic-based material such as WPC (wood plastic composite), for example.

Furthermore, it is generally possible for all visible surfaces in the region of the outer side 15 of the frame 4 and of the further vertical profile 9 and also of the

leaf frame profiles 13 of the lifting sliding leaf 2 to be clad with aluminium facing formwork.

5 The individual profiles 5 to 9 may be connected to one another to the frame 4 in the usual manner, for example for welding or bonding, etc.. In addition, the corners of the frame 4 may be mitred or the respective profiles 5 to 9 may be connected to one another in an abutting manner by butt joints. Mixed shapes are also possible,
10 as depicted in Fig. 1.

The leaf frame profiles 13 of the lifting sliding leaf 2 are also preferably hollow chamber profiles, particularly made of plastic or a plastic-based material
15 such as WPC.

In addition, it should be pointed out that a plastic should be understood to mean a synthetic, organic polymer.

20 As can be seen from Fig. 2, at least individual profiles 5 to 9 of the frame 4 exhibit one or a plurality of reinforcing profiles 19 in at least one of the hollow chambers of the hollow chamber profiles which are connected, for example, screwed, where necessary, to the
25 profiles 5 to 9. These reinforcing profiles 19 are normally made of a metal, in particular steel, but they may also be made of another material, for example WPC.

30 As can be seen from Fig. 2, the profile 8 of the frame 4 preferably has a profile depth 20 which corresponds at least approximately to the sum of a profile depth 21 of the further vertical profile 9 of the frame and a profile depth 22 of the leaf frame profile 13 of the
35 lifting sliding leaf 2.

The further profiles 5, 6, and 7 of the frame 4 may exhibit a profile depth corresponding to the profile depth 20 of the profile 8.

- 5 As already mentioned, in the closed state of the lifting sliding element 1, the lifting sliding leaf 2 bears closely against the further vertical profile 9. For this purpose, one or preferably a plurality of sealing elements 23 are provided in the sealing plane which are
10 arranged on the further vertical profile 9 and/or on the leaf profile 13 bearing against said profile.

- In order to improve the tightness in the closed state of the lifting sliding element 1, the further vertical
15 profile 9 may exhibit a profile section 24 and the leaf frame profile 13 bearing thereon of the leaf frame 12 of the lifting sliding frame 1 may exhibit a profile section 25, wherein the two profile sections 24, 25 partly overlap in the closed state of the lifting
20 sliding leaf 2. In order to achieve this, the two profile sections 24, 25 each exhibit a tapering end region, for example, which is formed by a corresponding profile extension 26 or 27, so that a groove-like recess 28 or 29 is created in each case between the profile
25 section 24 of the further vertical profile 9 and the remainder of the further vertical profile 9 or between the profile section 25 of the leaf frame profile 13 and the remainder of the leaf frame profile 13, with which the other profile extension 24 or 25 in each case
30 engages.

Other embodiments of this sealing plane are, however, also possible.

- 35 The two profiles sections 24 and 25 may form a one-piece part of the further vertical profile 9 or of the leaf frame profile 13 or they may also be formed by separate

profiles and connected, for example screwed, to the further vertical profile 9 or to the leaf frame profile 13.

5 As can further be seen from Fig. 2, the leaf frame profile 13 of the lifting sliding leaf 2 preferably has a profile breadth 30 that corresponds at least approximately to a profile breadth 31 of the further vertical profile 9, so that the leaf frame profile 13
10 therefore overlaps or covers the further vertical profile 9 with regard to the inside 14 or overlaps or covers the further vertical profile 9 with regard to the outer side 13, with the lifting sliding leaf closed in both cases.

15 The glass element 11 of the at least one stationary leaf 3 is configured as a so-called exterior glazing unit, i.e. the glass element 11 is inserted from the outer side 15 of the lifting sliding door element 2 into the
20 profiles 5, 6 and 8 and also the further vertical profile 9 of the frame 4. For this purpose, these profiles 5, 6 and 8 and the further vertical profile 9 exhibit a so-called glass rebate, wherein only a glass rebate 32 of the further vertical profile 9 and a glass
25 rebate 33 of the profile 8 can be seen from Fig. 2.

In order to enable the glass element 11 to be inserted from the outer side 15, the further vertical profile 9 is configured in at least two parts and has a first
30 profile element part 34 and also a second profile element part 35 that can be removed therefrom and connected thereto. The detachable second profile element part 35 in this case forms the outer surface of the further vertical profile 9. In addition, the detachable
35 profile element part 35 has at least one breadth in the horizontal direction which corresponds to the breadth of the first profile element part 34 in the same direction,

so in particular the profile breadth 31. In this way, the detachable profile element part 35 forms a covering element for the glass rebate 32 (viewed from the outer side).

5 In the embodiment of the lifting sliding door element 1 shown in Fig. 2, the first profile element part 34 of the further vertical profile 9 has an approximately L-shaped cross section, the detachable second profile
10 element part 35, on the other hand, has an approximately flat profile-shaped configuration, seen as a plan view in each case (as depicted in Fig. 2).

15 Furthermore, the vertical profile 8 of the frame 4 (right profile in Fig. 2) in the region of the glass rebate 33 has a one-piece configuration. In order to allow the glass element 11 to be inserted, the lower horizontal profile 6 is furthermore configured in at
20 least two parts and, like the further vertical profile 9, has a first profile element part and a detachable second profile element part that can be connected to the first profile element part. To this extent, the embodiments of the further vertical profile 9 also apply
25 to the lower horizontal profile 6, even if this is configured as a ground sill. The lower horizontal profile 6 may, however, also be differently configured, as will be explained below.

30 The embodiment of the lifting sliding door element 1 depicted and described is the preferred one. It is also possible, however, for the profile 8 of the frame 4 to be in two parts in the region of the glass rebate 33 instead of the further vertical profile 9. It is
35 furthermore possible that instead of the lower horizontal profile 6, the upper horizontal profile 6 has a two-part configuration in the region of the glass rebate. To this extent, the corresponding embodiments of

the lower horizontal profile 6 and the further vertical profile 9 can be transferred to the other corresponding profiles, where necessary. The preferred embodiment has the advantage, however, that the frame 4 of the lifting sliding door element 1 can be completely plastered in at the sides, so that virtually nothing more can be seen of the profiles 5, 7 and 8 in the view from outer side. The detachable profile element part would no longer be accessible in this case without destroying the plaster layer.

In the case of the stationary leaf 3, the glass rebate of a vertical profile and the glass rebate of a horizontal profile are therefore freely accessible due to the removability of the second profile element part

To insert the glass element 11, said element is inserted into the open glass rebate 32, as shown in Fig. 3, wherein a glass rebate depth 36 (Fig. 2) of the two-part, i.e. openable glass rebate 32 of the profiles 9 or 6 (Fig. 1) is at least as great as a glass rebate depth 37 (Fig. 2) of the opposite profile 8 or 5 (Figs. 1 and 2) in each case. The glass element 11 is then displaced in the direction of the profile 6 and in the glass rebate 33 thereof and also in the direction of the upper horizontal profile 5 in the glass rebate thereof, so that it projects into these profiles 5 and 8. In order to secure the glass element at the correct height and to transfer the load, glass blocks are arranged in the glass rebate of the lower horizontal profile 6.

Following the introduction of the glass element 11 into the open glass rebate 32 and the open glass rebate of the lower horizontal profile 6, the glass element 11 bears against the rear walls of the glass rebate 32 and of the further opened glass rebate, as can also be seen

from Fig. 4. As soon as the glass element 11 has reached its correct position, the glass element 11 can be adhered to the rear wall of the open glass rebate 32 and possibly to the rear wall of the open glass rebate of the lower horizontal profile 6 (Fig. 1) via a bonded joint 38a, as can be seen from Fig. 5. The opened glass rebate 32 of the further vertical profile 9 and the glass rebate of the lower horizontal profile 6 are then sealed with the detachable second profile element parts 35 in each case, as can be seen from Fig. 6 for the further vertical profile 9, wherein in particular, a sealing element 39 is in turn arranged therebetween, as can be seen from Fig. 7, so that the glass element 11 does not bear directly against a wall of the corresponding rebate on any side. The exterior glazing of the stationary leaf 3 of the lifting sliding door 1 is thereby complete.

The glass element 11 is therefore mounted in the two one-piece glass rebates of the profile 8 and the profile 5.

For simplicity's sake, in the following reference will only be made to the further vertical profile 9. However, the corresponding embodiments also apply to the further profile 6 and 5 and 8, as appropriate, in each case.

It should be said, in addition, that it is also possible in principle for all profiles 5 to 9 of the frame 4 of the lifting sliding door 1 to be capable of being designed with detachable profile element parts 35 of this kind, even if for stability reasons this is not the preferred embodiment of the lifting sliding door element 1.

In order to connect the detachable second profile element part 35 to the first profile element part 34 of

the further vertical profile 9, said detachable second profile element part 35 preferably has a clamping element 40. In particular, this clamping element 40 is hook-shaped in design, as depicted in Fig. 2.

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For this purpose, the detachable second profile element part 35 may exhibit an approximately triangular embossment 41 (viewed in cross section) in its end region adjacent to the first profile element part 34, which engages with a likewise approximately triangular groove 42 corresponding thereto. In particular, a crosspiece 44 forming this (hook-shaped) clamping element 40 exhibits a profile which tapers in the direction of the glass element 11. The first profile element part 34, by contrast, has a further groove 45 in the region of the inserted crosspiece. This groove 45 has, in particular, an approximately triangular cross section. Substantially two wedge elements are thereby formed which reach the opposite abutment through the insertion of the detachable second profile element part 35 into the first profile element part 34 and create a friction connection, for instance.

The face of the end region 43 may be configured with a grading 46, wherein the horizontal breadth of the grading 46 corresponds to a wall thickness 47 of the exterior wall of the first profile element part 34 adjacent to the grading. In this way, the detachable second profile element part 35 is clamped to the first profile element part 34 and connected thereto. This means that no further connecting means, such as screws, etc., are necessary for example. In principle, however, other connecting means of this kind, such as screws for example, can be used to connect the detachable second profile element part 35 to the first profile element part 34, particularly if a facing framework, particularly made of aluminium, is applied to the

detachable second profile element part, so that this connecting means is not visible. In this case, the clamping element 40 or else the embodiment of the profile element parts 34, 35 described above for
5 production of a clamping connection can be dispensed with where necessary. In particular, the detachable profile element part 35 holds onto the first profile element part 34 (also) through the counter-pressure of the glass element 11, which this exerts onto the
10 detachable profile element part 35.

It is furthermore possible for the detachable profile element part 35 to be at least partly adhered to the first profile element part 34 as an alternative or in
15 addition to the clamping connection.

As can be seen from Fig. 2, the clamping element 40, i.e. the crosspiece 44, of the detachable second profile element part 35, preferably extends in a direction that
20 is oriented at least approximately parallel to the plane of the glass element 11. In this way, the hook-shaped clamping element 40 engages in a plane with the groove 45 of the first profile element part 34 which is rotated through at least approximately 90° in relation to the
25 load axis by the glass element 11.

However, other embodiments of the connection of the first profile element part 34 to the detachable second profile element part 35 are also possible. One of these
30 is shown sectionally in the region of the clamping element 40 in Fig. 8, which shows a further and possibly completely self-contained embodiment of the lifting sliding door element according to Fig. 1, wherein the same reference numbers or component names are used for
35 the same parts as in the preceding Figs. 1 and 2. In order to avoid unnecessary repetition, the detailed

description in the preceding Figs. 1 and 2 is indicated and referred to.

5 The clamping element 40 is in turn hook-shaped in design wherein, however, the crosspiece 44 does not run rotated about 90° in relation to the load axis.

10 In order to connect the first profile element part 34 to the detachable second profile element part 35, in the embodiments described, said second profile element part is displaced laterally, so that the clamping element 40 engages with the corresponding groove 45, possibly associated with a pivoting movement, and thereafter the end region 43 is pressed in the direction of the first
15 profile element part 34, so that the grading 46 comes into abutment against the first profile element part 34 and is thereby clamped.

20 According to another embodiment, it may be provided that the detachable second profile element part 45 is made of a different material to the material of the first profile element part 34. In particular, embodiments of the lifting sliding door element 1 are thereby possible, in which this detachable second profile element part 35
25 is made of a weatherproof material such as aluminium, for example, as a result of which the application of separate facing formwork can also be dispensed with.

30 As a general rule, however, the detachable profile element part 35 of the further vertical profile 9 can be made of plastic or WPC.

35 It is furthermore preferable for the detachable second profile element part 35 likewise to be configured as a hollow chamber profile, as depicted in Fig. 2.

A further embodiment which may be completely self-contained of the further vertical profile 9 is shown sectionally in Fig. 9, wherein the same reference numbers or component names are in turn used in the preceding Figs. 1 and 2 for the same parts. In order to avoid unnecessary repetition, the detailed description in the preceding Figs. 1 and 2 is referred to or indicated.

10 The end region 43 of the detachable second profile element part 35 in the position connected to the first profile element part 34 is shown in Fig. 8.

15 The essential difference with respect to the embodiment of the further vertical profile 9 in accordance with Fig. 2 is that between the detachable profile element part 35 and the first profile element part 34 is configured a labyrinth-like plug-type connection 48. For this purpose, the first profile element part 34 has a crosspiece 49 pointing in the direction of the
20 detachable profile element part 35 which engages with a groove 50 in the detachable second profile element part 35. If necessary, the end region of the crosspiece 49 may be provided with a cross-sectional extension 51, in the form of an embossment, for example, so that a
25 clamping connection can thereby be more effectively configured. In this case, a corresponding recess may also be provided in the groove 50 of the detachable profile element part 35, which groove can engage the cross-sectional extension 51 of the crosspiece 49 in a
30 locking manner.

Otherwise, the detachable profile element part 35 is in turn arranged flush with the first profile element part 34 (viewed from outer side), as in the embodiment of the
35 further vertical profile 9 according to Fig. 2.

It is furthermore possible in this case for even more crosspieces to be provided on the first profile element part 34 which engage with corresponding grooves in the detachable second profile element part 35, in order to increase the run of the labyrinth.

As has already been stated above, according to a further embodiment, it may be provided that the glass element 11 is adhered to the first profile element part 34, for example in the region of the sealing element 38 or through the sealing element 38. The bonded joint in this case is preferably realized using a double-sided adhesive tape. For this purpose, this adhesive tape is introduced prior to the insertion of the glass element 11 in the glass rebate into said rebate. It is also possible, however, for a liquid adhesive to be applied as the adhesive, which then sets.

The bonding of the glass element 11 to the frame 4 means that an improvement is also achieved in terms of burglar proofing.

Fig. 10 shows a detail of a further and possibly completely self-contained embodiment of the lifting sliding door element 1, wherein in turn the same reference numbers or component names are used for the same parts as in the preceding figures. In order to avoid unnecessary repetition, the detailed description in the preceding figures is indicated and referred to.

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In this embodiment, a centring element 52 in the form of a centring bolt is secured to the upper horizontal profile 5 of the frame 4 and fastened to the profile 8, for example screwed. The centring element 52 projects in the direction of the detachable profile element part 35 of the further vertical profile 9, so that during assembly of the further vertical profile 9, the

35

detachable profile element part 35 can therefore be pushed onto the centring element 52 in the direction of the arrow 53. As can be seen from Fig. 2, the centring element 52 is partly removed from a hollow chamber of the detachable profile element part 35. The centring element 52 is preferably received in the hollow chamber furthest away from the end region 43 of the detachable profile element part 35, in which the connection to the first profile element part 34 of the further vertical profile 9 is made, wherein the centring element 52 particularly bears against the wall or walls forming this hollow chamber in accordance with the depiction in Fig. 2.

The centring element 52 may, however, also be configured as a fitting plate, as shown in Fig. 11. This fitting plate is fastened to a rear side 54 of the detachable profile element part 35 facing the first profile element part 34 (Fig. 2), for example by rivets or screws, and projects in the direction of the upper horizontal profile 5 of the frame 4 (Fig. 1) via the detachable profile element part 35, so that it can be inserted into the upper horizontal profile 5 via this projecting part. The centring element in this case is preferably in turn in the region of the hollow chamber furthest away from the end region 43 (Fig. 2) of the detachable profile element part 35, in which the connection to the first profile element part 34 of the further vertical profile is made.

According to a further embodiment of this, it may be provided that the rear side 54 (Fig. 11) of the detachable profile element part 35 is longer than the front side thereof, as a result of which it is achieved that the detachable profile element part 35 with the part of the rear side 54 projecting beyond the front

side can be inserted into the upper horizontal profile 3 of the frame 4.

In Fig. 12 a cross section of a further and possibly completely self-contained embodiment of the lifting sliding door element 1 is shown, wherein the same reference numbers or component names are used for the same parts in the preceding figures. In order to avoid unnecessary repetition, the detailed description in the preceding figures is indicated and referred to.

Fig. 12 is intended to illustrate that the detachable profile element part 35 of the lower horizontal profile 6 of the frame 4 (Fig. 1) need not be of identical configuration to the detachable profile element part 35 of the further vertical profile 9 (Fig. 2). In particular, the detachable profile element part 35 of the lower horizontal profile 6 may also be configured as a single profile strip without hollow chambers, wherein a receiving groove 56 for the sealing element 38 may be provided in an end region 55 which is opposite the glass element 11 and the clamping element 40 for the connection to a ground sill 57 is provided in a second end region 56. The clamping element 40 is configured in the shape of a wall crosspiece which engages with a corresponding recess in the ground sill 57, as can be seen in Fig. 12.

Furthermore, further profiles 58 can be arranged on the glass element 11 where necessary, in particular adhered thereto, if a larger view breadth of the frame 4 is desired, for example so that the frame 4 ends at the same height as the corresponding upper edges of the leaf frame profiles 13 of the lifting sliding leaf 2. These other profiles 58 may likewise be configured as hollow chamber profiles.

Furthermore, an embodiment of an upper guide 59 and a lower guide 60 of the lifting sliding leaf 2 is shown in Fig. 12. These guides 59, 60 and also the ground sill 57 may be configured according to AT 512 327 A1 or AT 511 798 A1, which are expressly referred to in this connection and which to this extent are included in the description of the lifting sliding door element 1 forming the subject matter.

Furthermore, a glass block 61 can be seen in Fig. 12. Reference is made to the above description in relation to the glass block 61.

Although in the preceding text only the embodiment of the lifting sliding door element 1 with a lifting sliding leaf 2 and a stationary leaf 3 was described, within the framework of the invention it is possible for more than one lifting sliding door slash 2 and/or more than one stationary leaf 2 to be arranged. For example, the lifting sliding door element 1 may have two lifting sliding leaves 2 and a stationary leaf 2 arranged therebetween or two lifting sliding leaves 2 which run can be opened in opposite directions and have a peripheral stationary leaf 2, etc. in each case. Corner glazing units can likewise be realized using the lifting sliding door element 1.

It is further possible for the clamping element 40, so for example the crosspiece 44, to be provided with a friction-increasing coating in the region of the clamping connection, at least in parts, or for the surface thereof to be roughened in this area.

It may be further provided that the first profile element part 34 is connected to the lower horizontal profile 6, in particular the ground sill, via at least one connecting means 62. Screws, rivets, etc. may, for

example, be used as connecting means 62. It may also be provided in this case that the first profile element part 34 is connected to the optional reinforcing profile 19 of the lower horizontal profile 6 (depicted using dotted lines in Fig. 12), particularly the ground sill, via the at least one connecting means 62.

Due to the structure of the further vertical profile 9, this has no dirt-collecting edge on the front outer side 15, so no channel, but it is preferably configured with a smooth surface. This is achieved in that the connecting edge of the detachable profile element part 35 is configured laterally with the first profile element part 34, as can be seen from Fig. 2 in particular.

The exemplary embodiments show possible embodiments of the lifting sliding door element 1, wherein it is pointed out here that various combinations of the individual embodiments are also possible among one another, provided they fall within the scope of the dependent claims.

As a matter of form, it should finally be pointed out that for better understanding of the structure of the lifting sliding door element 1, said element or the components thereof has/have been represented not to scale and/or enlarged and/or reduced in size in some cases.

List of reference numbers

	1	Lifting sliding door element
	2	Lifting sliding leaf
5	3	Leaf
	4	Frame
	5	Profile
	6	Profile
	7	Profile
10	8	Profile
	9	Profile
	10	Glass element
	11	Glass element
	12	Leaf frame
15	13	Leaf frame profile
	14	Inside
	15	Outer side
	16	Door handle
	17	Runner
20	18	Runner
	19	Reinforcing profile
	20	Profile depth
	21	Profile depth
	22	Profile depth
25	23	Sealing element
	24	Profile section
	25	Profile section
	26	Profile extension
	27	Profile extension
30	28	Recess
	29	Recess
	30	Profile breadth
	60	Guide
	61	Glass block
35	62	Connection means
	31	Profile breadth
	32	Glass rebate

	33	Glass rebate
	34	Profile element part
	35	Profile element part
	36	Glass rebate depth
5	37	Glass rebate depth
	38	Sealing element
	38a	Bonded joint
	39	Sealing element
	40	Clamping element
10	41	Embossment
	42	Groove
	43	End region
	44	Crosspiece
	45	Groove
15	46	Grading
	47	Wall thickness
	48	Plug-type connection
	49	Crosspiece
	50	Groove
20	51	Cross-section widening
	52	Centring element
	53	Arrow
	54	Rear side
	55	End region
25	56	Receiving groove
	57	Ground sill
	58	Profile
	59	Guide

Emelő tolóajtó elem

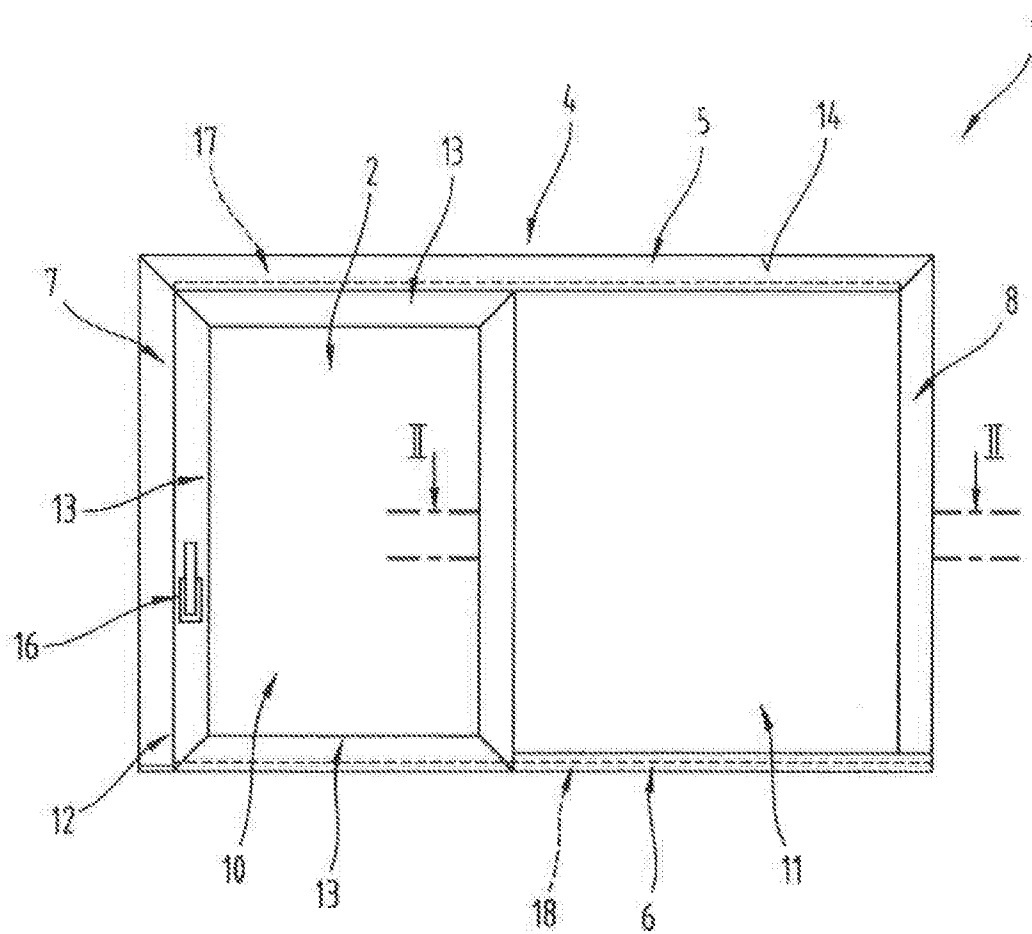
Szabadalmi igénypontok



1. Emelő tolóajtó elem (1), amely tartalmaz első síkban legalább egy emelő tolópanelt (2) és második, az első síkkal párhuzamos síkban lévő legalább egy rögzített panelt (3), amelyek mindegyike üvegelemet (10, illetve 11) tartalmaz, a legalább egy emelő tolópanel (2) és a legalább egy rögzített panel (3) közös keretbe (4) van befogva és a közös keret (4) a rögzített panel (3) panelkeretének részét képezi, amely keret (4) két vízszintes profilt (5, 6) és két függőleges profilt (7, 8), valamint legalább egy további függőleges profilt (9) tartalmaz, amely legalább egy további függőleges profil (9) a rögzített panel (3) panelkeretének egy további részét képezi és az emelő tolópanel (2) a zárt állapotban a további függőleges profilra (9) fekszik rá, amely keret (4) továbbá a keret (4) beépítési helyzetéhez viszonyítva külső oldalt (15) és belső oldalt (14) tartalmaz, és továbbá a legalább egy rögzített panel (3) üvegeleme (11) a külső oldal (15) felől van beépítve, amihez a további függőleges profil (9) és a keret (4) két vízszintes profilja (5, 6) egyikének legalább egy része első profilelem részt (34) és arról levehető második profilelem részt (35) tartalmaz, amely második profilelem részek (35) az üvegező falc (32) takaróprofilját képezik, és a második profilelem részek (35) vízszintes irányban olyan szélességűek, hogy ugyanazon irányban legalább az első profilelem részek (34) szélességének felelnek meg, **azzal jellemezve, hogy** a keret (4) üregkamrás profilokkal van kialakítva és a rögzített panel (3) kerete (4) függőleges profiljának (8) üvegező falca (33) egy darabból van kialakítva.
2. Az 1. igénypont szerinti emelő tolóajtó elem (1), **azzal jellemezve, hogy** a levehető profilelem rész (35) rögzítő elemet (40), különösen horog alakú rögzítő elemet (40) tartalmaz, amellyel az az első profilelem résszel (34) össze van kötve.

3. A 2. igénypont szerinti emelő tolóajtó elem (1), **azzal jellemezve, hogy a** horog alakú rögzítő elem (40) az első profilelem rész (35) síkban lévő bemélyedésébe nyúlik be, amely legalább megközelítőleg párhuzamos az üvegelem (11) síkjával.
4. Az 1-3. igénypontok bármelyike szerinti emelő tolóajtó elem (1), **azzal jellemezve, hogy a** levehető profilelem rész (35) anyaga az első profilelem rész (34) anyagától eltérő.
5. Az 1-4. igénypontok bármelyike szerinti emelő tolóajtó elem (1), **azzal jellemezve, hogy a** levehető profilelem rész (35) üregkamrás profil.
6. Az 1-5. igénypontok bármelyike szerinti emelő tolóajtó elem (1), **azzal jellemezve, hogy a** levehető profilelem rész (35) és az első profilelem rész (34) között labirintusszerű dugaszoló csatlakozás (48) van kialakítva.
7. Az 1-6. igénypontok bármelyike szerinti emelő tolóajtó elem (1), **azzal jellemezve, hogy a** keret (4) felső vízszintes profilján (5) központosító elem (52), előnyösen központosító csap van elrendezve, amely a levehető profilelem részbe (35) benyúlik és/vagy hogy a levehető profilelem részre (35) központosító elem (52) van rögzítve, amely a keret (4) felső vízszintes profiljába (5) benyúlik és/vagy hogy a levehető profilelem résznek (35) a hátsó oldala (54) hosszabb, mint az előlő oldala.
8. Az 1-7. igénypontok bármelyike szerinti emelő tolóajtó elem (1), **azzal jellemezve, hogy a** levehető profilelem rész (35) az első profilelem résszel (34) legalább részben össze van ragasztva.
9. Az 1-8. igénypontok bármelyike szerinti emelő tolóajtó elem (1), **azzal jellemezve, hogy az** üvegelem (11) az első profilelem résszel össze van ragasztva.

10. A 8. vagy 9. igénypont szerinti emelő tolóajtó elem (1), **azzal jellemezve, hogy a ragasztás ragasztószalaggal van kivitelezve.**
11. Az 1-10. igénypontok bármelyike szerinti emelő tolóajtó elem (1), **azzal jellemezve, hogy az első profilelem rész (34) az alsó vízszintes profillal (6) legalább egy összekötő eszközzel (62) össze van kötve.**
12. Az 1-11. igénypontok bármelyike szerinti emelő tolóajtó elem (1), **azzal jellemezve, hogy az első profilelem rész (34) az alsó vízszintes profil (6) merevítő profiljával (19) legalább egy összekötő eszközzel (62) össze van kötve.**

**Fig.1**

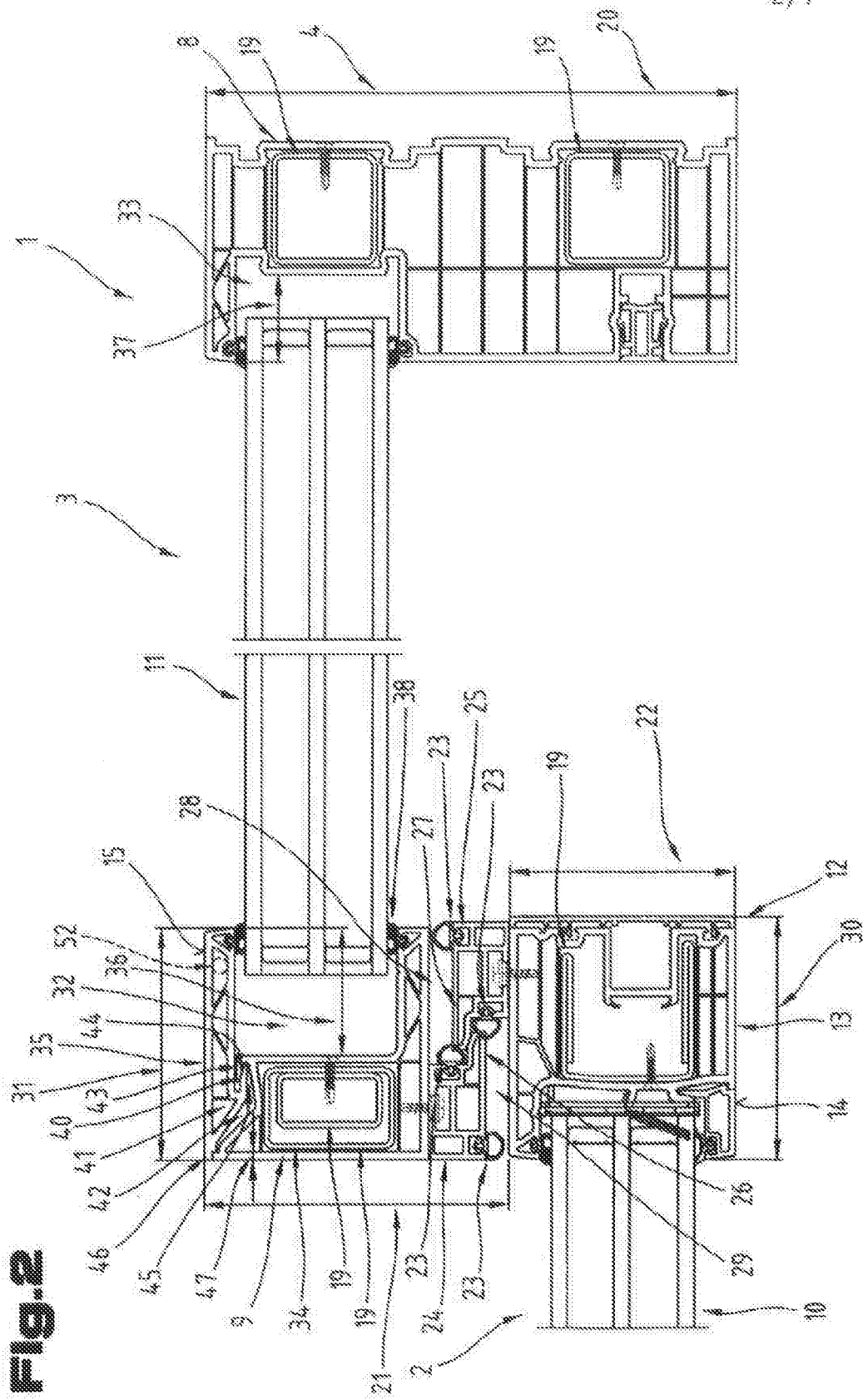


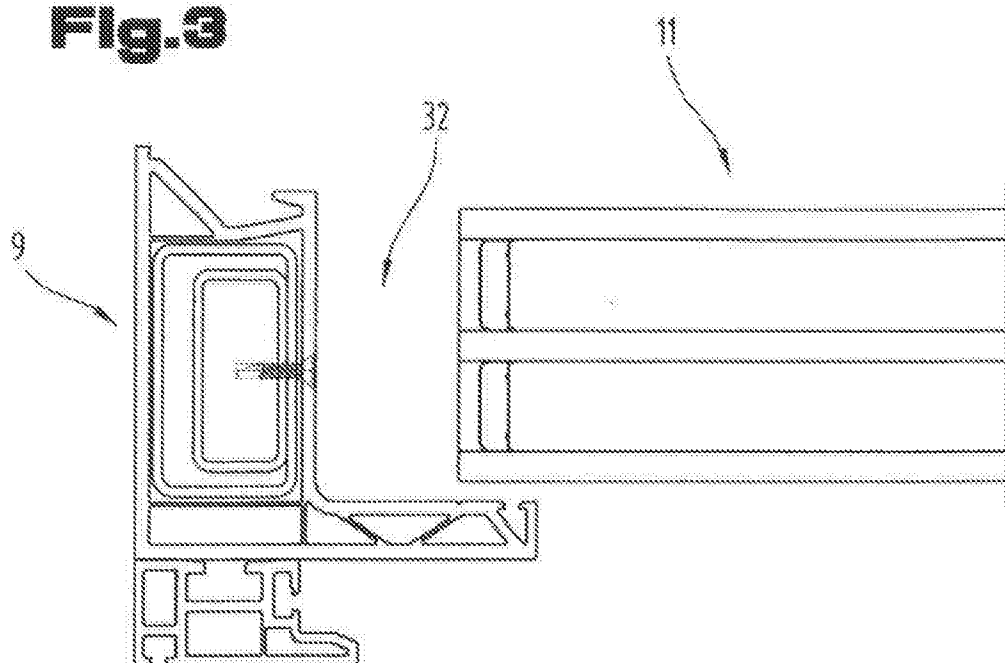
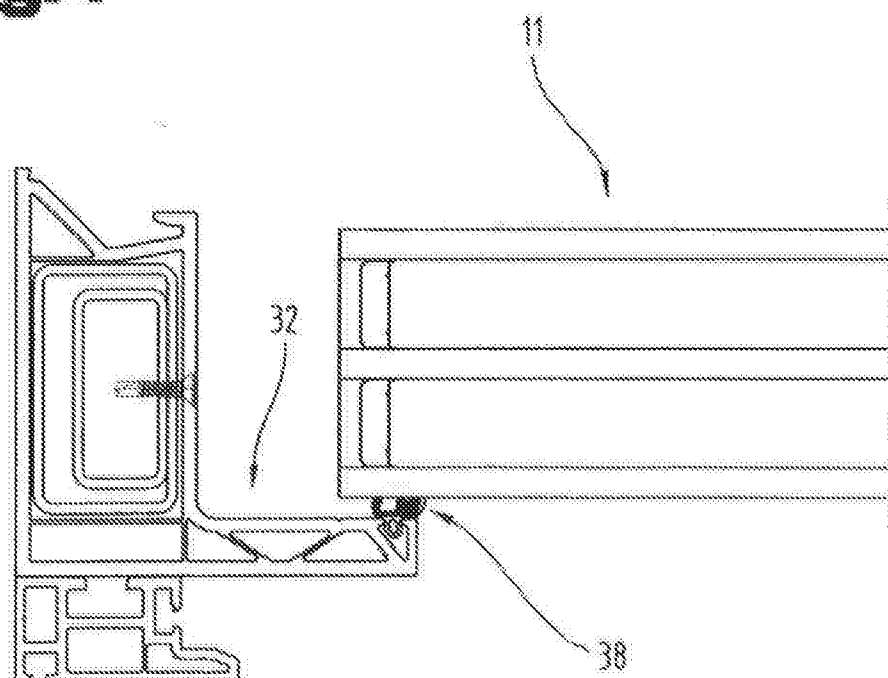
Fig.3**Fig.4**

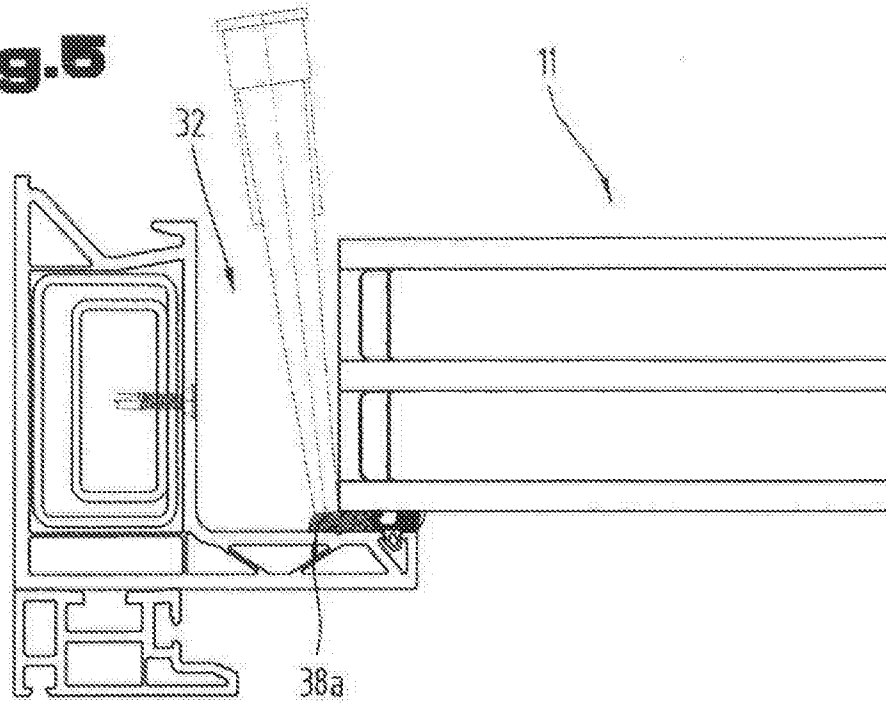
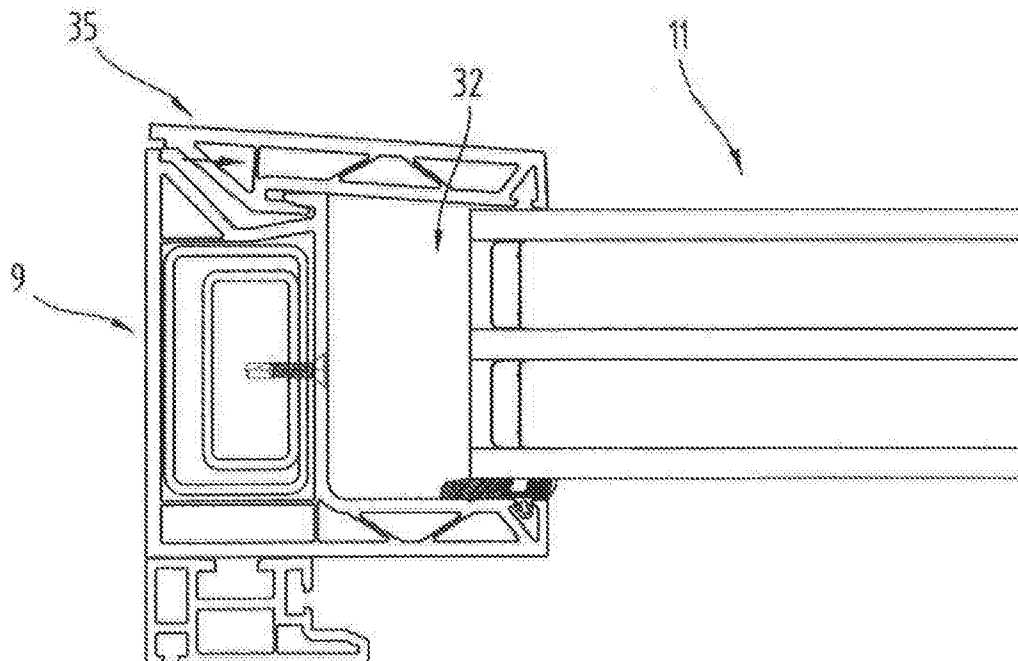
Fig.5**Fig.6**

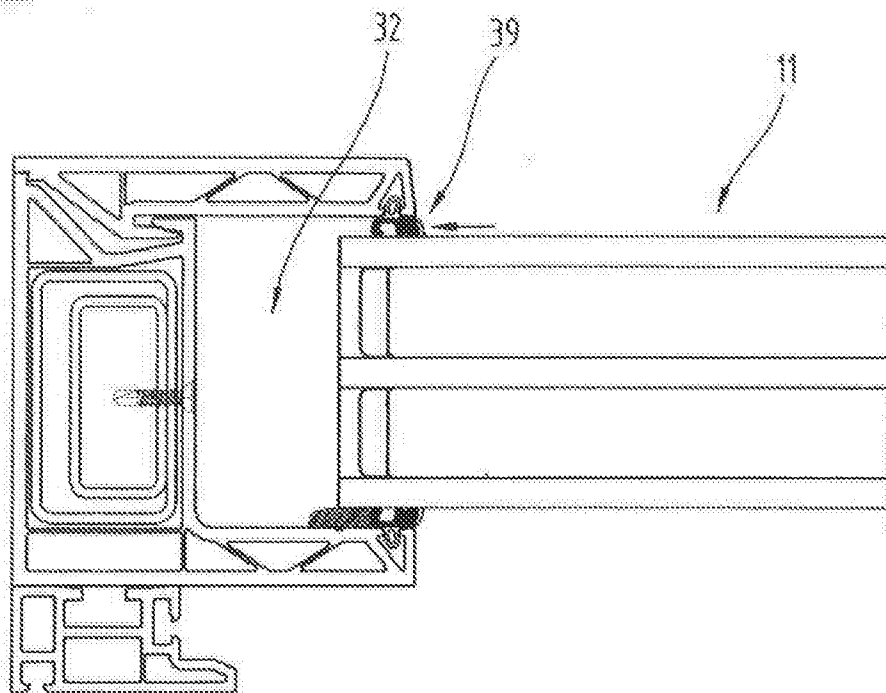
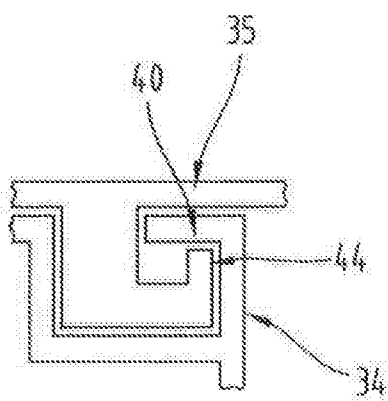
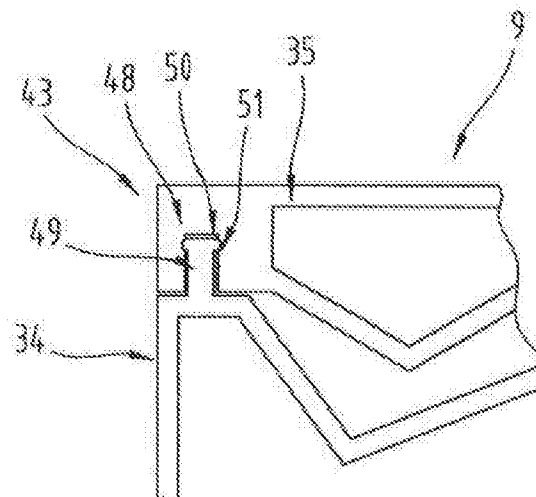
Fig.7**Fig.8****Fig.9**

Fig.10

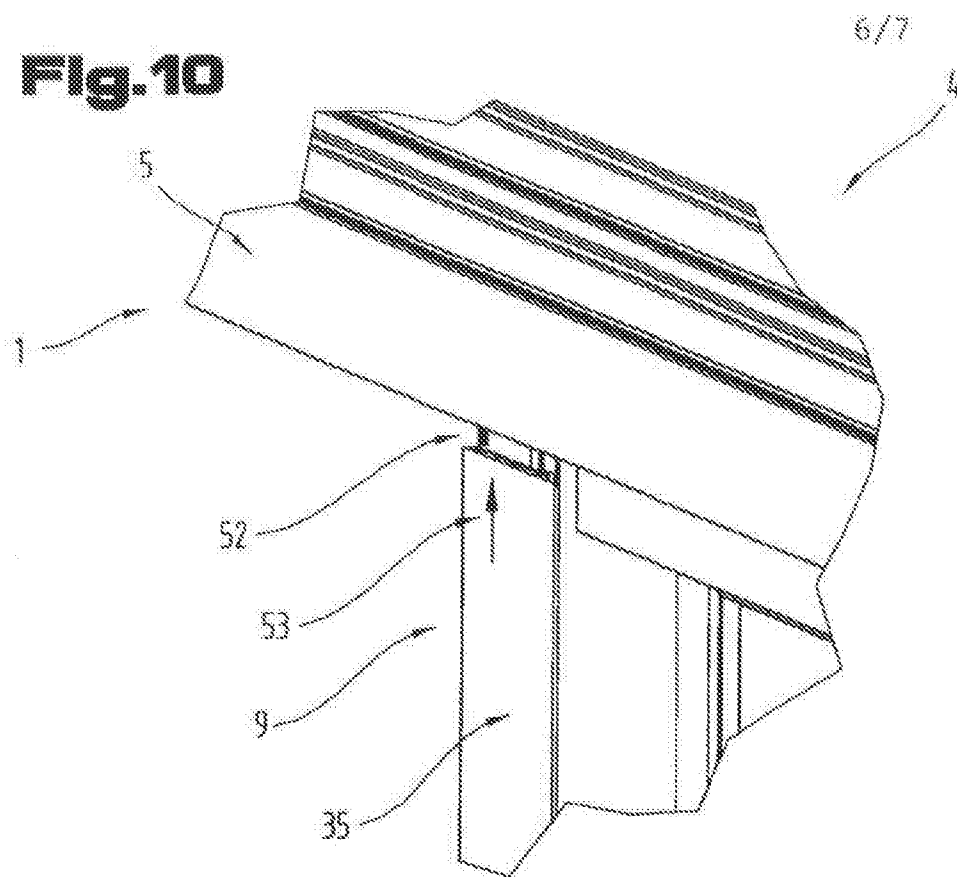


Fig.11

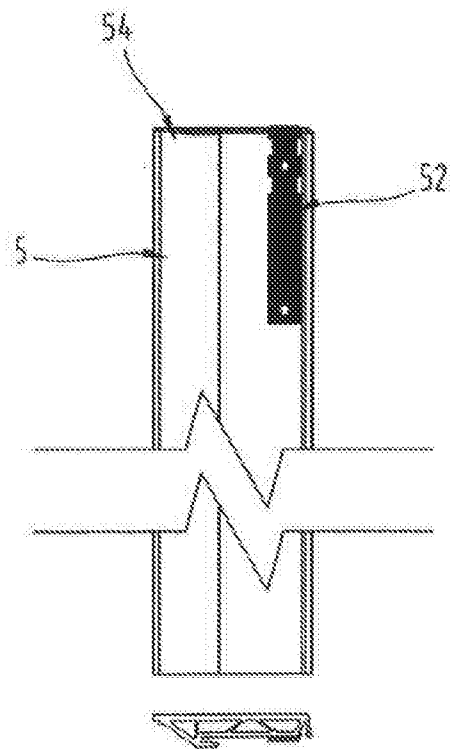


Fig.12

