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(71) Applicant: **A. Aalbers Holding B. V.**
3927 AC Renswoude (NL)

(72) Inventor: **AALBERS, Aart**
3927 AC RENSWOUDE (NL)

(74) Representative: **EP&C**
P.O. Box 3241
2280 GE Rijswijk (NL)

(54) **BURGLARY PREVENTING FASTENING FOR A FACADE COVER ELEMENT**

(57) An attachment assembly for an outside wall cladding element to an outside wall, wherein the outside wall cladding element, on at least one of its edges, ha a support profile arranged on the inner side thereof and a clamping strip arranged on the outer side thereof, wherein a fastening pin, such as a screw with a screw head and a threaded shank, engages the clamping strip and the support profile in order to clamp the outside wall cladding element between the clamping strip and the support profile, wherein the screw head is screwed against the clamping strip from the outer side, in such a way that the shank grips into the support profile.

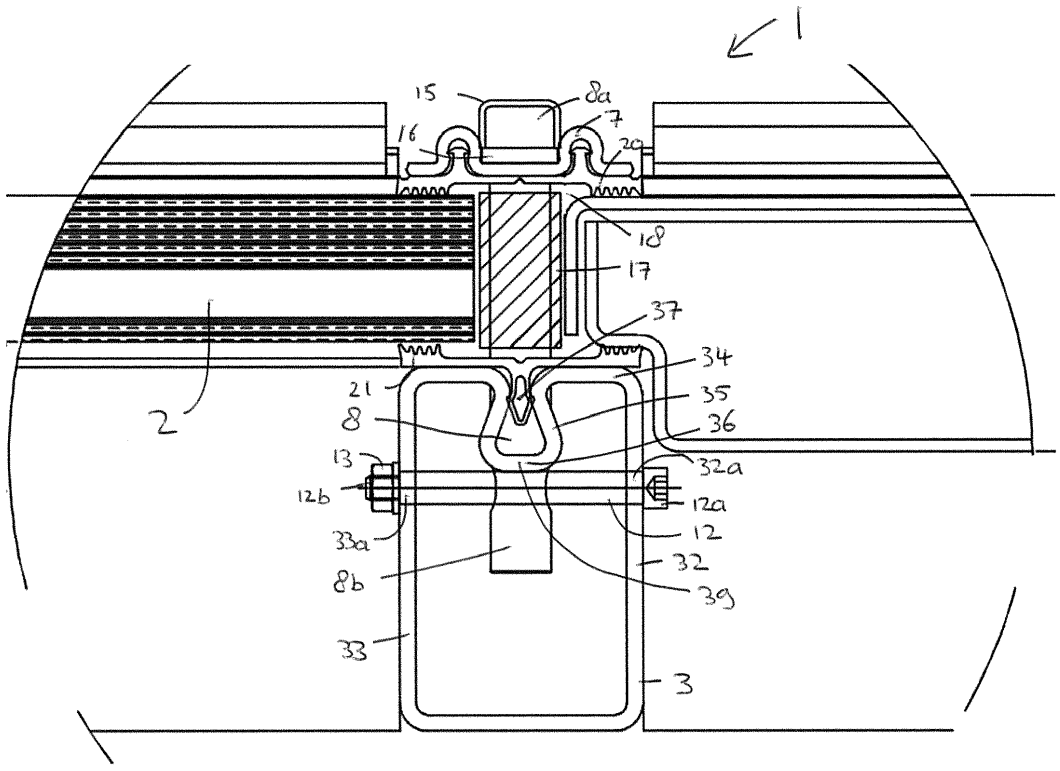

Fig. 2

EP 3 296 482 A1

Description

[0001] The present invention relates to an attachment assembly according to the preamble of claim 1.

[0002] EP 0722022 shows an outside wall cladding element which is clamped by a clamping strip and a support profile. In this case, the support profile, on the side positioned against the outside wall cladding element, has a slot which extends in the longitudinal direction. A slot-shaped opening is created by forming said slot. The width and the diameter of this slot-shaped opening is approximately of the same size as the shank of the screw which clamps the clamping strip and the support profile together. Here, the shank of the screw is self-tapping. A profile is placed over the head of the screw, so that the screw head cannot readily be engaged after the outside wall cladding elements have been fitted.

[0003] A drawback of this attachment assembly is that it can be forced open relatively simply. Burglars may, for example, drill out the screw or they may remove the profile placed over the screw head using a grinding machine, after which the screw can be unscrewed.

[0004] Another attachment assembly for an outside wall cladding element is for example known from EP 2450519 A1.

[0005] It is an object of the invention to make such an attachment assembly for outside wall cladding elements more burglar-proof.

[0006] Therefore, an attachment assembly according to claim 1 is provided.

[0007] The function of the retaining pin is to keep the clamping strip and the support profile (and thus the outside wall cladding elements) together, even after the screw has been removed. The retaining pin is secured from the inside. As a result of this additional retaining pin, the attachment assembly remains intact, even after the screw has been removed. As the retaining pin cannot be released from the outside, this provides an improved security against burglary.

[0008] A fitted bolt may for example be used as a securing pin.

[0009] The anti-burglary head of the burglar-proof retaining pin is embodied in such a way that it cannot be destroyed or engaged by means of a tool, such as a screw driver, a socket spanner, an electric drill, a grinder and/or a metal saw. This may be achieved, for example, by manufacturing the head from a hardened material, by inserting a hardened insert into the head, by making the head round, by providing a steel ball in the head of the retaining pin and/or by making the head solid.

[0010] In a possible embodiment, the support profile is substantially rectangular and comprises a support side facing the outside wall cladding element. This support side comprises a slot which extends in the longitudinal direction thereof, in such a way that a slot-shaped opening is formed in the support side. This slot has a bottom, so that the support profile has a closed cross section. It may be possible for the support profile to be formed as a single part, but it is also possible that various profiles are welded together in order to achieve the desired shape of the support profile.

[0011] One possible shape of this support side, viewed in a cross section, is a shape which could be described as being omega-shaped. However, other shapes, such as a more rectangular shape of the slot, are also possible. The bottom of the slot is preferably substantially straight, but a more curved or bent design of the slot is also possible.

[0012] According to a preferred embodiment, the transverse bore in the retaining pin is positioned in such a way that the securing pin touches the bottom of the slot in the support profile on an inner side facing away from the cladding panel. In this way, the retaining pin is fixed at three places, namely at the two openings in the side of the support profile and against the bottom of the slot. This provides a more secure attachment compared to a connection in which the retaining pin is only secured on the two sides of the support profile.

[0013] The securing pin may be connected to the sides of the support profile in multiple ways. The securing pin may be fastened to the lateral sides of the support profile by means of a welded joint, after the securing pin has been inserted into the retaining pin through the transverse bore. Alternatively, the securing pin may be provided with a threaded shank, in which case the securing pin can be secured with respect to the sides of the support profile by means of a nut. An advantage of this second option is that the attachment assembly can then be released more readily. It should be noted that the retaining pin can in any case only be removed from the inside of the connection, so the difference with regard to the anti-burglary effect between the two above-described solutions is small.

[0014] In a further embodiment, the retaining pin is integrally connected to the clamping strip. This integral connection may be effected by forming the two components as a single part, but also, for example, by welding the two components to one another. By integrally connecting the retaining pin and the clamping strip, attaching the outside wall cladding element to the outside wall is made simpler.

[0015] As has been described in the above, the outer part of the retaining pin is embodied in such a way that it is not possible to engage it or to work it. The retaining pin can thus not be fastened or removed from the outside of the attachment assembly. To this end, various embodiments of the retaining pin are conceivable. The embodiments described below may also be combined with each other.

[0016] Thus, it is for example possible to make the outer part of the retaining pin burglar-proof by making it round in cross section, without the outer part having an indentation. In this embodiment, the outer part is thus solid, so that it cannot be engaged by means of a tool, such as a screw driver or socket spanner.

[0017] In a further embodiment, the outer part of the

retaining pin is also round in cross section and solid, and in addition made of a hardened material: a material which is harder than the remainder of the retaining pin. The effect of this hardened material is that the retaining pin can then not be destroyed by tools, such as an electric drill, a grinder or a metal saw.

[0018] In a more specific embodiment, the outer part of the retaining pin has at least one bore in its longitudinal direction. In this bore, an insert of a material which is harder than the material of the retaining pin is provided. This hardened insert is fixed in the bore, for example by welding. When the retaining pin has both a round shape and a hardened insert, it is very difficult to remove.

[0019] In a further embodiment, on the outer side of the attachment assembly, an elongate U-shaped profile is fitted. This profile is thus situated over the head of the at least one screw and the outer part of the at least one retaining pin. The U-shaped profile ensures that it is not directly visible from the outside at which location or locations an outside wall cladding element is clamped between the clamping strip and the support profile. This improves the burglar-proof effect of the attachment. Preferably, the U-shaped profile is welded to the clamping strip. However, other ways of attaching are also conceivable, for example adhesive bonding or attachment to the outside wall cladding elements instead of the clamping strip. Preferably, the U-shaped profile is fitted along the entire edge of the outside wall cladding panel.

[0020] In a further embodiment, a strip made of a material that is harder than the material of the clamping strip is fitted on the outer side of this clamping strip. This strip of hardened material is arranged between the clamping strip and the head of the screw and around the outer part of the retaining pin. This strip of hardened material renders drilling out and destroying the attachment assembly in other ways more difficult and thus increases the burglar-proof effect.

[0021] In a further embodiment, a hollow space is formed between the edge of the outside wall cladding element, the clamping strip and the support profile, wherein a filler block, preferably made of plastic, is arranged in the hollow space. The aim of the filler block is to prevent the clamping strip from being bent sideways. The filler block thus partly ensures that the outside wall cladding element cannot be removed via the clamping strip.

[0022] In a preferred embodiment, the filler block comprises openings for inserting the at least one screw and the at least one retaining pin.

[0023] In a further embodiment, a steel ball is provided in the head of the screw, after fitting. This steel sphere makes it impossible to unscrew the screw once it has been fitted.

[0024] In a further embodiment of the attachment assembly according to the invention, a glazing rubber is arranged between the clamping strip and the outside wall cladding element and/or a glazing rubber is arranged between the support profile and the outside wall cladding element. This glazing rubber inter alia provides an improved seal against moisture.

[0025] A method for installing an outside wall cladding element to an outside wall with a burglar-proof attachment assembly, which attachment assembly comprises at least one screw, at least one retaining pin, a support profile, a clamping strip and a securing pin, is described below. The method comprises at least the following steps:

- providing a support profile,
- providing a burglar-proof retaining pin which has an outer part with an anti-burglary head, so that the outer part cannot be used for removing or fastening the retaining pin, and wherein the retaining pin has a more inwardly situated part which can be secured with respect to the support profile,
- providing a passage for the at least one retaining pin in a support side of the support profile,
- arranging the support profile, preferably arranging several support profiles, in both the horizontal and vertical direction,
- providing and arranging a panel support in the longitudinal direction of a horizontally arranged support profile,
- providing and arranging an outside wall cladding element in such a way that an inner side of an edge region of the outside wall cladding element lies against the support profile,
- providing and arranging a clamping strip to the outer side of the edge region of the outside wall cladding element,
- fastening the at least one screw from the outer side of the clamping strip, so that the outside wall cladding element is clamped between the clamping strip and the support profile,
- finishing the screw in such a way that it cannot be engaged or be destroyed by a tool after it has been attached,
- securing the retaining pin on the inner side of the attachment assembly by providing and arranging a securing pin through a transverse bore in the retaining pin.

[0026] Optionally, one or more of the following installation steps may be carried out before, during or after the burglar-proof attachment assembly has been installed:

- integrally securing the retaining pin to the clamping strip,
- providing and arranging a glazing rubber in the support profile side facing the outside wall cladding element
- providing and arranging a glazing rubber in the clamping strip side facing the outside wall cladding element,
- providing and arranging a strip made of a material that is harder than the material of the clamping strip

on the outer side of this clamping strip,

- providing and arranging a U-shaped profile to the outer side of the clamping strip, over the outer part of the at least one retaining pin,
- providing and arranging a filler block in the hollow space between the outside wall cladding element, the support profile and the clamping strip,
- providing at least one passage in the support side of the support profile, in order to enable the at least one screw to engage therein,
- arranging a burglar-proof steel ball in a head of the screw.

[0027] The present invention will be explained in more detail below by means of a few embodiments and with reference to the drawings, in which:

Fig. 1 shows a cross section of the attachment assembly according to the invention at the location of a screw,
Fig. 2 shows a cross section of the attachment assembly from Fig. 1 at the location of a retaining pin,
Fig. 3 shows a cross section of the attachment assembly from Fig. 1 at the location of a panel support,
Fig. 4a shows a cross section of the retaining pin from Fig. 2,
Fig. 4b shows a top view of the retaining pin from Fig. 2,
Fig. 5a shows a top view of a filler block of the attachment assembly from Fig. 2, and
Fig. 5b shows a cross section of the filler block from Fig. 5a.

[0028] Figs. 1 and 2 together show an attachment assembly, here an attachment 1 of an outside wall cladding element 2 to an outside wall. This attachment comprises at least one screw, here a fastening pin 4 and at least one retaining pin 8. Fig. 1 shows a cross section of the attachment at the location of the fastening pin 4. Fig. 2 shows a cross section of the attachment at the location of the retaining pin 8.

[0029] Fig. 1 shows a cross section of an embodiment of an attachment for an outside wall cladding element 2. An edge region of the outside wall cladding element 2 is clamped between a support profile 3 and a clamping strip 7. The support profile 3 and the clamping strip 7 are connected by a fastening pin 4. In the embodiment of Fig. 1, the fastening pin 4 is a screw having a screw head 5 and a threaded shank 6. The screw head 5 is arranged on the outer side of the clamping strip 7 and the shank 6 of the screw grips into a passage 38 in the support profile 3. During placement, the screw is tightened from the outside, so that the outside wall cladding element 2 is clamped between the support profile 3 and the clamping strip 7.

[0030] Fig. 1 shows a U-shaped profile 15 that is fitted over the head 5 of the screw 4. The screw head 5 is thus covered by the U-shaped profile 15. In the example in Fig. 1, the U-shaped profile 15 is welded to the clamping strip 7. This is not necessary. An alternative would be, for example, to adhesively bond the U-shaped profile 15 to the clamping strip 7. In an alternative embodiment, the U-shaped profile 15 has been drilled through at the location of the screw head 5. In order to make the attachment more burglar-proof, more specifically to cover the screw head 5, it is for example possible to arrange a steel ball in the screw head 5 after it has been fastened. In this way, an easy removal of the screw 4 is prevented.

[0031] A further alternative (not shown) to render the attachment burglar-proof, more specifically to cover the screw head 5, is to slide a strip into the U-shaped profile 15 after the attachment for the outside wall cladding elements has been installed. This strip is then arranged near the outer side of the U-shaped profile 15 and thus covers the screw head 5, as a result of which the screw head 5 can no longer be removed.

[0032] In order to arrange the clamping strip 7, the U-shaped profile 15 may be connected to this clamping strip 7, for example by welding or adhesively bonding the U-shaped profile 15 to the clamping strip 7. However, it is also possible to arranged the U-shaped profile 15 in one of the last installation steps, after the at least one fastening pin 4 has been attached.

[0033] In a possible embodiment (not shown), a steel ball is fitted in the head 5 of the fastening pin 4, after installation. This steel ball prevents the fastening pin from being easily loosened from the outside.

[0034] Fig. 2 shows a cross section of the attachment at the location of a possible embodiment of the burglar-proof retaining pin 8. The outer part 8a of this retaining pin 8 is produced in such a way that it cannot be engaged or destroyed. More specifically, it is not possible to untighten the retaining pin 8 from outside by means of a tool, for example a socket spanner or screw driver. Neither is it possible to destroy the retaining pin 8 from the outside by means of a tool, for example a grinder, electric drill or metal saw.

[0035] Several embodiments of the retaining pin 8 are conceivable, with the outer part 8a of the retaining pin 8 being burglar-proof in all cases. Some options are described below. It is also possible to combine various options with each other.

[0036] One exemplary possibility is to make the outer part 8a round and completely solid in cross section. By making the outer part 8a round in cross section, the retaining pin 8 cannot be engaged by means of tools, such as for example a socket spanner. By making the outer part 8a completely solid in cross section, the retaining pin 8 cannot be engaged by means of tools, such as for example a screw driver.

Another possibility to make the outer part 8a of the retaining pin 8 burglar-proof is to make this outer part 8a from a hardened, burglar-proof material. By making the outer part 8a from a hardened material, the retaining pin 8 cannot be destroyed by tools such as for example a grinder, an electric drill or a metal saw. Preferably, the

outer part 8a of the retaining pin 8 is further round and solid in cross section.

[0037] In a further embodiment, the outer part 8a of the retaining pin 8 comprises at least one bore in its longitudinal direction. This specific embodiment of the retaining pin is illustrated in Figs. 4a and 4b. In this case, Fig. 4a shows a cross section of the retaining pin 8 in a longitudinal direction; Fig. 4b shows a top view of the retaining pin 8. In this bore, an insert 14 made of a material harder than the material used for the retaining pin 8 is arranged. The insert 14 is fixed in this bore. By fixing a hardened insert 14 in the outer part 8 an of the retaining pin 8, it is not possible to destroy the retaining pin 8, for example by a tool such as a grinder, an electric drill or a metal saw. If, in addition, the retaining pin 8 is made round and solid in cross section, it also cannot be engaged by a universal spanner or a screw driver.

[0038] In Figs. 1-3, the support profile 3 has a specific shape which is explained in more detail below. This is one of the possible shapes the support profile 3 can have; it is not necessary for the support profile 3 to have this specific design. The support profile 3 in the illustrated figures has a substantially rectangular cross-sectional shape, with a support side 34 facing the outside wall cladding element 2, an outside wall side 31 situated opposite thereto and two lateral sides 32, 33. The support side 34 of the support profile 3 comprises a slot 35 which extends inwardly in the longitudinal direction. This slot 35 forms an opening 37 in the support side 34. The slot 35 has a bottom 36, as a result of which the support profile 3 has a closed contour in cross section. In the illustrated Figs. 1-3, the support profile 3 is made in one piece, but this is not necessary. The support profile 3 may also be produced by assembling different profiles to each other. The support profile 3 comprises a passage 39 in the support side 34, at the location of the slot 35. This passage 39 allows the retaining pin 8 to pass through.

[0039] In the embodiment of the support profile 3 which is illustrated in Figs. 1-3, the slot 35 is formed in such a way that the support side 34 of the support profile 3 is omega-shaped in cross section. However, alternative shapes for the slot 35 are also conceivable, such as for example a more square cross-sectional shape or a more round cross-sectional shape. In the embodiment illustrated in Figs. 1-3, the bottom 36 of the slot 35 is substantially flat. However, it is also possible for this bottom 36 to have a round shape or, on the contrary, a convex shape.

[0040] It is also possible that the slot 35 is entirely absent and that the support side 34 of the support profile 3 is substantially straight. The support profile 3 will then preferably have a substantially rectangular cross section.

[0041] In the embodiment of Fig. 2, the retaining pin 8 comprises a transverse bore 10. Lateral sides 32, 33 of the support profile 3 each comprise an opening 32a, 33a. A securing pin 12 extends through both lateral sides 32a, 33a and through the transverse bore 10 in the retaining pin 8. Thus, the retaining pin 8 is secured against the lateral side 32, 33 with respect to the support profile 3. In the embodiment of Fig. 2, the transverse bore 10 is arranged in such a way that the securing pin 12 touches the bottom 36 of the slot 35 on an inner side facing away from the cladding element. In this way, the securing pin 12 is supported at three places, namely at both lateral sides 32, 33 and against the bottom 36 of the slot 35. Such a way of arranging the securing pin 12 is preferred over an arrangement wherein the securing pin 12 is only fixed against the lateral sides 32, 33. Fixing at three places results in a lower tolerance and more strength than fixing in two locations. However, a connection in which the securing pin 12 is only fixed against the lateral sides 32, 33 is also possible and also results in an improved burglar-proof effect with respect to the known prior-art attachments.

[0042] In the embodiment of Fig. 2, an attachment is shown in which the securing pin 12 is a fitted bolt. This fitted bolt has a head 12a and a threaded shank 12b. The fitted bolt is fixed with respect to the support profile 3 with a nut 13. The fitted bolt fits accurately in the openings 32a, 33a and the transverse bore 10. The use of a fitted bolt results in little tolerance and a strong connection. However, it is not necessary that the securing pin 12 is a fitted bolt and other solutions are also conceivable. It is also not necessary that the securing pin 12 is secured with a nut 13. It is also possible, for example, to weld the securing pin 12 to the lateral sides 32, 33.

[0043] In the embodiment shown in Fig. 2, a U-shaped profile 15 can inter alia also be seen. This profile is fitted over the outer part 8a of the retaining pin 8. The U-shaped profile 15 may also be omitted in some embodiments.

[0044] The embodiment shown in Fig. 2 furthermore shows a hardened strip 16. The material of this strip 16 is harder than the material which is used for the clamping strip 7. This hardened strip 16 is fitted on the outer side of the clamping strip 7, but under the side of the head 5 of the fastening pin 4 facing the clamping strip 7 and around the outer part 8a of the retaining pin 8. Holes have been drilled in the strip 16 at the locations where the shank 6 of the fastening pin 4 and the retaining pin 8 extend through it. Embodiments are also conceivable in which the hardened strip 16 is absent.

[0045] The embodiment of Fig. 2 furthermore shows two glazing rubbers 20, 21. These glazing rubbers 21, 22 are fitted between the clamping strip 7 and the outside wall cladding element 2 and between the support profile 3 and the outside wall cladding element 2, respectively. These glazing rubbers 20, 21 have several functions. The glazing rubbers 20, 21 ensure, inter alia, that vibrations between the outside wall cladding element 2 and the clamping strip 7 and the support profile 3, respectively, during wind and/or gusts are absorbed. The glazing rubbers 20, 21 also provide an improved sealing against moisture to the attachment. Furthermore, the glazing rubbers 20, 21 provide a certain tolerance when small manufacturing errors occur during the production of one of the other components which are used in the attachment. However, other ways of fulfilling these functions are also

conceivable; the glazing rubbers 20, 21 are not the only solution.

[0046] Also visible in Fig. 2 is a filler block 17. Fig. 1 shows a hollow space 18 between the edge of the outside wall cladding element 2, the clamping strip 7 and the support profile 3. In Fig. 2, this hollow space 18 is partly filled with a filler block 17. This filler block 17 is preferably made of plastic. The filler block 17 partly ensures that the outside wall cladding element 2 cannot be removed via the clamping strip 7.

[0047] In a preferred embodiment, the clamping strip 7 and the retaining pin 8 are integrally connected to each other, for example by welding the retaining pin 8 to the clamping strip 7. Methods other than welding, such as adhesive bonding, are also conceivable to connect the clamping strip 7 and the retaining pin 8 to each other.

[0048] Figs. 5a and 5b show a top view and cross section, respectively, of the filler block 17 which may be arranged in the hollow space 18 between the outside wall cladding element 2, the clamping strip 7 and the support profile 3. This filler block 17 is preferably made of plastic, but may also be made from other materials.

[0049] In the illustrated embodiment, the filler block 17 has openings 19 to enable the at least one fastening pin 4 and the at least one retaining pin 8 to pass through it.

[0050] By means of Figs. 1, 2 and 3, the below describes how an attachment according to the present invention may be fitted. It is not necessary that the various steps are carried out in this order. It is possible to reverse the order of some steps compared to the order described below. However, it is possible that additional steps are carried out. A number of the steps described below are optional. If a step described below is optional, this will be mentioned.

[0051] First, there are a number of preparatory steps. These preparatory steps may be carried out at the location of installation, but may also be carried out during or after the production of the various components to be used.

[0052] A first preparatory step is providing a support profile 3.

[0053] A further preparatory step is providing a burglarproof retaining pin 8 which has an outer part 8a which is configured in such a way that it cannot be destroyed or engaged by a tool, so that the outer part 8a cannot be used to remove or fasten the retaining pin 8, and wherein the retaining pin 8 has a more inwardly situated part 8b which can be secured with respect to the support profile 3.

[0054] A further, optional, preparatory step is the integral attachment of the retaining pin 8 to the clamping strip 7.

[0055] A further, optional, preparatory step is providing and arranging a strip 16, made of a material that is harder than the material of the clamping strip 7, to the outer side of this clamping strip 7. If this step is carried out as a preparatory step, holes have to be provided in this strip 16 and the clamping strip 7, so that the at least one fastening pin 4 can be fitted during installation.

[0056] A further, optional, preparatory step is providing and fitting a U-shaped profile 15 to the outer side of the clamping strip 7. If the clamping strip 7 and the at least one retaining pin 8 have been integrally connected in a previous step, this U-shaped profile 15 will be fitted over the outer part 8a of the at least one retaining pin 8. If this step is being carried out as a preparatory step, holes have to be provided in this strip 16 and the clamping strip 7, so that the at least one fastening pin 4 can be fitted during installation.

[0057] A further, optional, preparatory step is providing at least one passage in the support side 34 of the support profile 3, so that the at least one fastening pin 4 can grip into it.

[0058] A further, optional, preparatory step is providing a passage for the at least one retaining pin 8 in the support side 34 of the support profile 3.

[0059] After the description of various possible preparatory steps, below follows a description of the various installation steps involved in installing a attachment according to the present invention. Some of the following steps are optional, when indicated.

[0060] In order to fix the outside wall cladding element 2 to the outside wall, a support profile 3 is arranged as a first step. At least one of the edges of this support profile 3 will come to lie against the inner side of the outside wall cladding element 2. Preferably, however, several support profiles 3 are fitted: both horizontally and vertically oriented. The support profile 3 may have various shapes, as has already been specified above while describing the figures. Preferably, the support profile 3 has passages 38, 39 which have been provided beforehand for the at least one fastening pin 4 and the at least one retaining pin 8. However, this is not necessary; the passages 38, 39 may also be provided in a further step. It is also possible, for example, that the passage 38 for the fastening pin 4 has not yet been provided, but that the passage 39 for the retaining pin 8 has, or vice versa. It is also possible for the fastening pin 4 to have self-tapping screw thread.

[0061] A following, optional, step is to provide a glazing rubber 21 and to clamp it in the opening 37 of the support profile 3.

[0062] Subsequently, a panel support 22 is provided and arranged in the longitudinal direction of the horizontally fitted support profile 3. The function of the panel support 22 is to partly bear the weight of the outside wall cladding element 2.

[0063] A subsequent step is to provide and fit the outside wall cladding element 2. The outside wall cladding element 2 now rests on the panel support 22 and lies against the support side 34 of the support profile 3 with the edge of its inwardly arranged side.

[0064] A subsequent step is to provide a clamping strip 7.

[0065] An optional step is to provide the glazing rubber 20 now and clamp it onto the inner side of the clamping strip 7.

[0066] Then, the clamping strip 7 is fitted against the

at least one edge of the outside wall cladding element 2. Preferably, the retaining pin 8 is welded to this clamping strip 7, but it is also possible that these two elements are connected in a different way, for example with adhesive bonding. Optionally, it is conceivable that the clamping strip 7 and the retaining pin 8 are not connected, but this is not preferred.

[0067] Simultaneously with the clamping strip 7, the filling block 17 may be provided and arranged in a hollow space 18 between the outer wall cladding element 2, the support profile 3 and the clamping strip 7.

[0068] Preferably, the hardened strip 16 and the U-shaped profile 15 have already been integrated with the clamping strip 7 before fitting. However, the hardened strip 16 and the U-shaped profile 15 may also be fitted later. If the U-shaped profile 15 is connected to the clamping strip 7 before fitting, at least one passage with a minimum diameter equal to the diameter of the at least one screw head 5 has to be provided in the U-shaped profile 15.

[0069] In a following step, the fastening pin 4 is fitted from the outside. The side of the head 5 of the fastening pin 4 facing the shank 6 then lies against the clamping strip 7 or against the hardened strip 16. The shank 6 of the screw 4 grips into the support profile 3. By tightening the screw 4, the outside wall cladding element 2 is securely clamped between the clamping strip 7 and the support profile 3.

[0070] In a following step, the fastening pin 4 may be worked, so that it can no longer be engaged or destroyed after it has been secured. There are several conceivable options to achieve this aim. If the U-shaped profile 15 is provided with at least one passage for the screw head 5, then this screw head 5 is visible from outside. The screw head 5 may then be worked, for example by arranging a steel ball therein to render it more difficult to engage the screw head 5. Another possibility is to only fit the U-shaped profile 15 after the fastening pin 4 has been fastened, so that this U-shaped profile hides the location of the fastening pin 4. It is also possible to combine the above two possibilities or to work the fastening pin 4 in any other way, for example fitting a strip to the inside of the U-shaped profile 15, which strip is arranged over the screw head 5.

[0071] In a following step, the retaining pin 8 is secured on the inside of the attachment with respect to the support profile 3 by fitting a securing pin 12 through a transverse bore 10 in the retaining pin 8.

Claims

1. Attachment assembly (1) for attaching an outside wall cladding element (2) to an outside wall, wherein the attachment assembly comprises at least one screw (4) with a screw head (5) and a threaded shank (6), at least one burglar-proof retaining pin (8), a support profile (3) and a clamping strip (7), wherein the inner side of at least one of the edges of the outside wall cladding element (2) can be placed against the support profile (3), and wherein the clamping strip (7) can be placed on the outer side thereof, wherein the screw (4), in use, engages with the clamping strip (7) and the support profile (3) to clamp the outside wall cladding element (2) between the clamping strip (7) and the support profile (3), wherein the screw head (5), in use, is screwed against the clamping strip (7) from the outer side, in such a way that the shank (6) grips into the support profile (3), wherein the burglar-proof retaining pin (8) keeps the clamping strip (7), the outside wall cladding element (2) and the support profile (3) together, wherein the retaining pin (8) has an outer part (8a) which is situated on the outer side of the clamping strip (7) and has an anti-burglary head, so that the outer part (8a) is unusable for removing and/or fixing the retaining pin (8) from the outer side, and wherein the retaining pin (8) has a more inwardly situated part (8b) which is secured with respect to the support profile (3), **characterized in that** the retaining pin (8) has a transverse bore (10) in the more inwardly situated part (8b), **in that** the support profile (3) comprises two lateral sides (32, 33), each of these lateral sides (32, 33) containing an opening (32a, 33a), and **in that** the attachment assembly furthermore comprises a securing pin (12) which extends through the openings (32a, 33a) in the lateral sides (32, 33) of the support profile (3) and through the transverse bore (10) in the retaining pin (8), in order to thus secure the retaining pin (8) with respect to the lateral sides (32, 33) of the support profile (3).

2. Attachment assembly according to claim 1, wherein the support profile (3) is substantially rectangular and comprises a support side (34) facing the outside wall cladding element (2), wherein said support side (34) comprises a slot (35) extending in the longitudinal direction thereof, in such a way that a slot-shaped opening (37) is formed in the support side (34), and wherein the slot (35) has a bottom (36).

3. Attachment assembly according to claim 2, wherein the transverse bore (10) in the retaining pin (8) is positioned in such a way that the securing pin (12) touches the bottom (36) of the slot (35) in the support profile (3) on an inner side facing away from the cladding panel.

4. Attachment assembly according to any of the preceding claims, wherein the securing pin (12) comprises a head (12a) and a threaded shank (12b), wherein the securing pin (12) is secured with respect to one of the lateral sides (32, 33) of the support profile (3) with a nut (13).

5. Attachment assembly according to any of the pre-

ceding claims, wherein the securing pin (12) is a fitted bolt.

6. Attachment assembly according to any of the preceding claims, wherein the retaining pin (8) is integrally connected to the clamping strip (7).

7. Attachment assembly according to any of the preceding claims, wherein the outer part (8a) of the retaining pin (8) is made burglar-proof by making it round and completely solid in cross section, so that it is not engageable by means of a tool, such as for example a screw driver or socket spanner.

8. Attachment assembly according to any of the preceding claims, wherein the outer part (8a) of the retaining pin (8) is made of a hardened, burglar-proof material, so that it is undestroyable.

9. Attachment assembly according to any of the preceding claims, wherein the outer part (8a) of the retaining pin (8) has at least one bore in its longitudinal direction, in which an insert (14) of material that is harder than the material of the retaining pin (8) is inserted and fixed.

10. Attachment assembly according to any of the preceding claims, wherein, on the outer side of the attachment assembly (1), an elongate U-shaped profile (15) is arranged over the head of the at least one screw (4) and the outer part of the at least one retaining pin (8).

11. Attachment assembly according to any of the preceding claims, wherein a strip (16) of a material that is harder than the material of the clamping strip (7) is arranged on the outer side of said clamping strip (7), between the clamping strip (7) and the head of the screw (4) and around the outer part (8a) of the retaining pin (8).

12. Attachment assembly according to any of the preceding claims, wherein a steel ball is arranged in the head (5) of the screw (4), after fitting.

13. Method for installing an outside wall cladding element (2) on an outside wall with a burglar-proof attachment assembly (1), which attachment assembly comprises at least one screw (4), at least one retaining pin (8), a support profile (3), a clamping strip (7) and a securing pin (12), wherein the method comprises at least the following steps:

- providing a support profile (3),
- providing a burglar-proof retaining pin (8) which has an outer part (8a) with an anti-burglary head, so that the outer part (8a) cannot be used for removing and/or fastening the retaining pin (8), and wherein the retaining pin (8) has a more inwardly situated part (8b) which can be secured with respect to the support profile (3),
- providing a passage for the at least one retaining pin (8) in a support side (34) of the support profile (3),
- arranging the support profile (3), preferably arranging several support profiles (3), in both the horizontal and vertical direction,
- providing and arranging a panel support (22) in the longitudinal direction of a horizontally arranged support profile (3),
- providing and arranging an outside wall cladding element (2) in such a way that an inner side of an edge region of the outside wall cladding element (2) lies against the support profile (3),
- providing and arranging a clamping strip (7) to the outer side of the edge region of the outside wall cladding element (2),
- attaching the at least one screw (4) from the outer side of the clamping strip (7), so that the outside wall cladding element (2) is clamped between the clamping strip (7) and the support profile (3),
- finishing the screw (4) in such a way that it cannot be engaged or be destroyed by a tool after it has been attached,

securing the retaining pin (8) on the inner side of the attachment assembly by providing and arranging a securing pin (12) through a transverse bore (10) in the retaining pin (8).

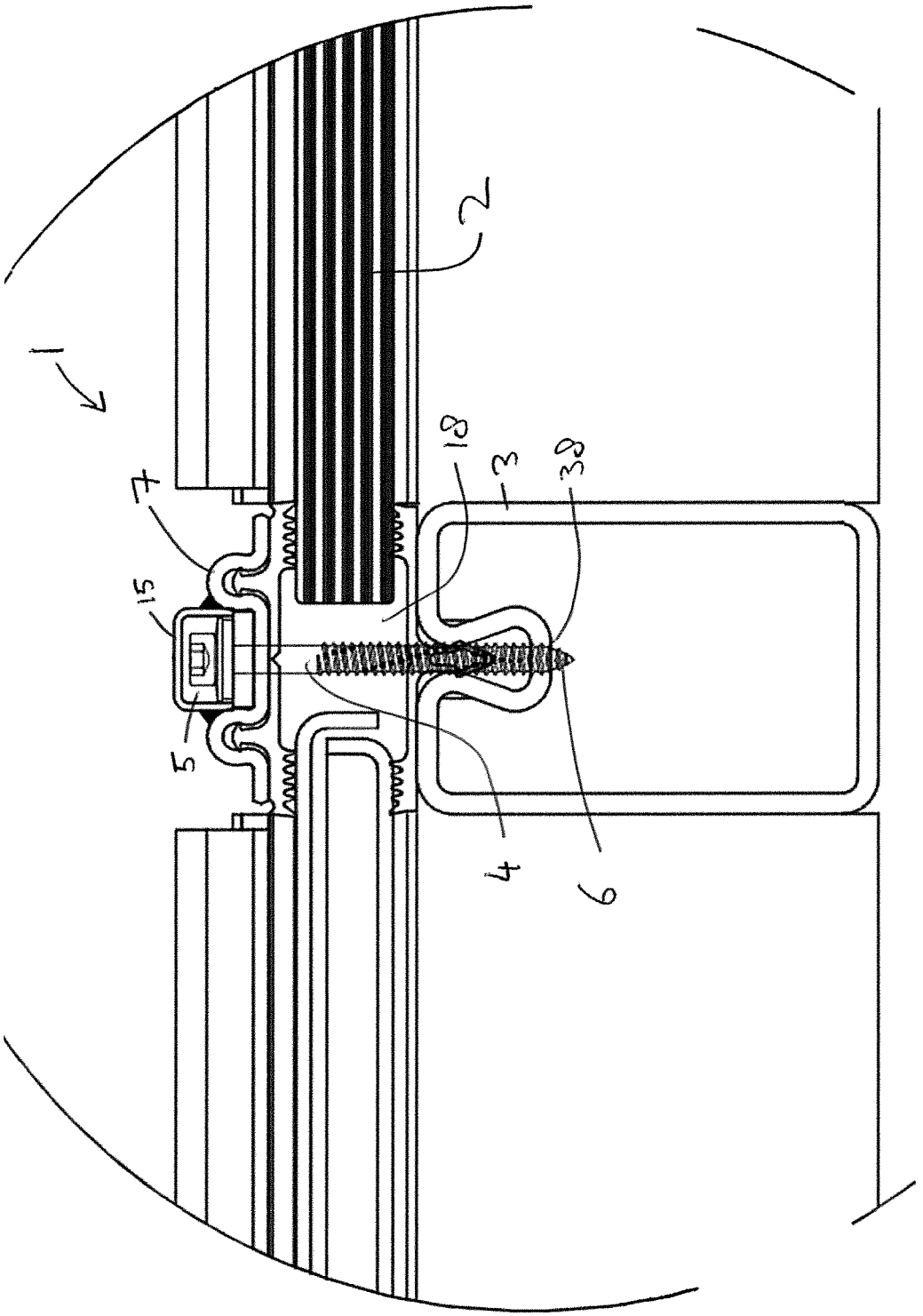

Fig. 1

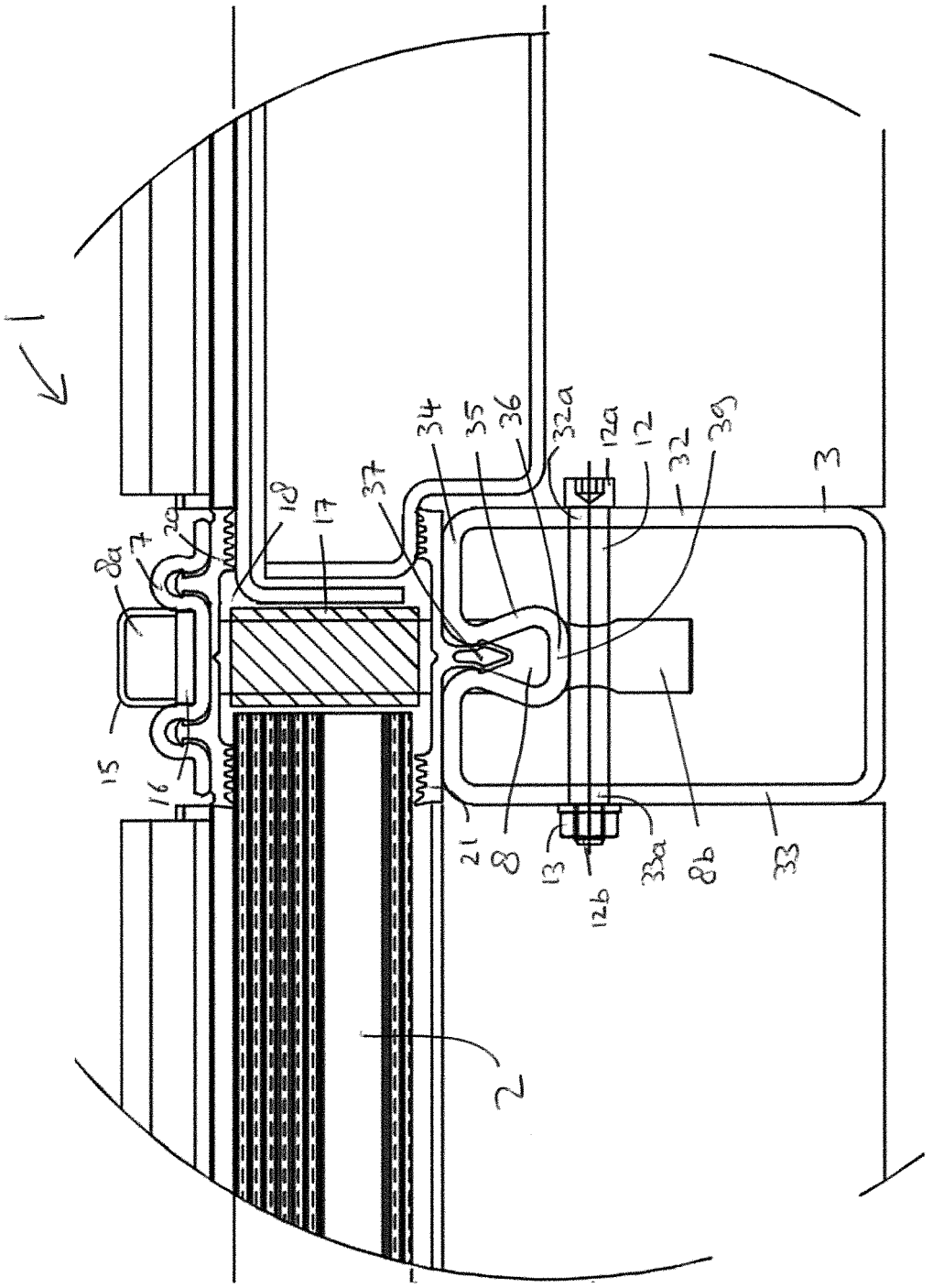
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Fig. 2

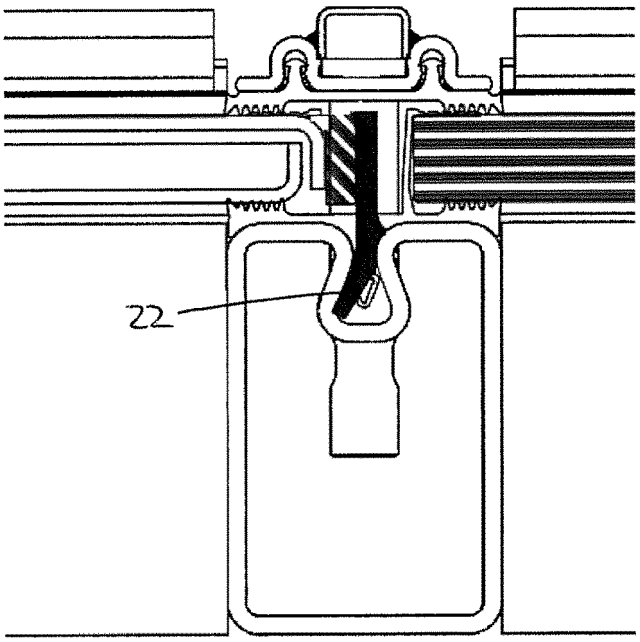

Fig. 3

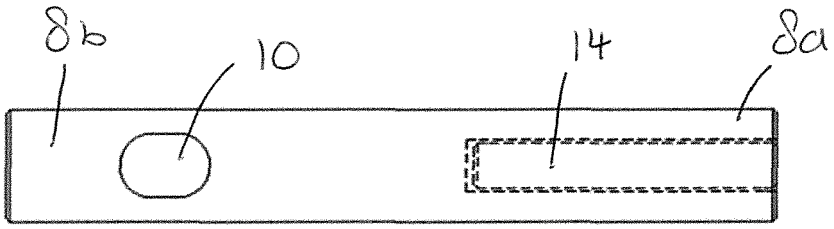

Fig. 4a

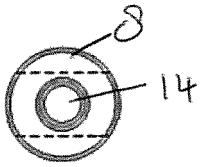

Fig. 4b

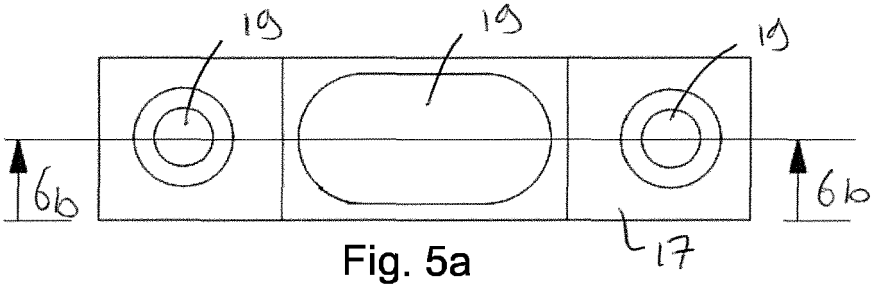

Fig. 5a

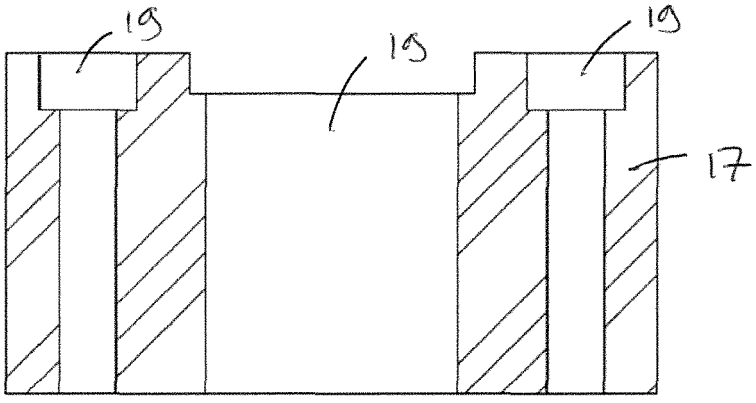

Fig. 5b

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EUROPEAN SEARCH REPORT

Application Number
EP 17 19 0772

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 2 450 519 A1 (SAELZER SICHERHEITSTECHNIK [DE]) 9 May 2012 (2012-05-09) * paragraph [0026] - paragraph [0036]; figures 1-3 *	1-13	INV. E04B2/96 ADD. E04D3/08
A	DE 297 24 117 U1 (BERCHTHOLD JOERG [DE]) 5 January 2000 (2000-01-05) * the whole document *	1-13	

TECHNICAL FIELDS SEARCHED (IPC)

E04B
E04D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	22 January 2018	Galanti, Flavio

CATEGORY OF CITED DOCUMENTS

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22-01-2018

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 2450519 A1	09-05-2012	NONE	
DE 29724117 U1	05-01-2000	NONE	

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

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- EP 0722022 A **[0002]**
- EP 2450519 A1 **[0004]**