



(11)

**EP 3 647 525 A1**

(12)

**EUROPEAN PATENT APPLICATION**

(43) Date of publication:  
**06.05.2020 Bulletin 2020/19**

(51) Int Cl.:  
**E06B 1/70 (2006.01)** **E06B 1/62 (2006.01)**  
**E06B 1/64 (2006.01)** **E06B 1/68 (2006.01)**

(21) Application number: **19188066.5**

(22) Date of filing: **24.07.2019**

(84) Designated Contracting States:  
**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB  
GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO  
PL PT RO RS SE SI SK SM TR**

• **Fieten, Jan**  
**2993 LJ Barendrecht (NL)**

(30) Priority: **26.07.2018 NL 2021398**

(71) Applicant: **BUVA RATIONELE  
BOUWPRODUCTEN BV**  
**2993 LJ Barendrecht (NL)**

(74) Representative: **V.O.**  
**P.O. Box 87930**  
**2508 DH Den Haag (NL)**

Remarks:

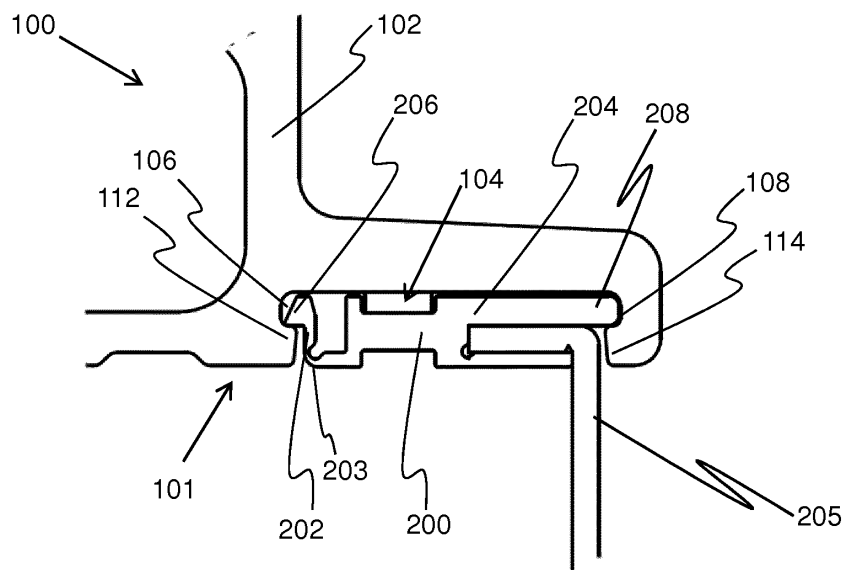
Claims 16 to 23 are deemed to be abandoned due to non-payment of the claims fees (Rule 45(3) EPC).

(72) Inventors:  
• **Djasmo, Soekarmin Roland**  
**2993 LJ Barendrecht (NL)**

(54) **THRESHOLD FOR AN OPENING COMPRISING A CLAMPING GROOVE FOR A SLAB**

(57) Thresholds are provided at the bottom of architectural openings, and are often provided with an external profile to prevent water from entering underneath the threshold. For convenient mounting of the external profile, a threshold profile is provided comprising a clamping groove in which the external profile provided by a clamping profile may be clamped. The clamping profile may be mounted non-destructively, and may be constrained to

the threshold by virtue of clamping force only. To receive the clamping profile, the clamping groove may be provided with multiple receiving sections of which a shape corresponds to that of part of the clamping profile. The clamping profile may be resilient such that it may be compressed by hand, provided in the clamping groove, and released again clamping the clamping profile into the clamping groove.



**FIG 2A**

## Description

### TECHNICAL FIELD

[0001] The present invention relates to the field of a threshold for a frame to be provided in an architectural opening of a building, a clamping profile and an assembly of the threshold and the clamping profile.

### BACKGROUND

[0002] In buildings, thresholds may be provided at the foot of a frame in architectural openings in which for example doors or windows may be provided. Thresholds may be provided with a lead slab extending vertically downward from the bottom of the threshold, which is connected to the threshold using screws. Such an attachment process is very difficult to be performed on the building site itself, and therefore has to be prepared earlier on. A reason is that otherwise, the threshold, and especially the bottom of the threshold where the external profile is to be provided, is difficult to access when the threshold has already been provided in the architectural opening.

### SUMMARY

[0003] The present invention aims to provide an improved threshold arranged to have an external profile attached to it more easily.

[0004] A first aspect provides a threshold, comprising an elongated threshold profile, the threshold profile comprising a clamping groove, provided parallel to the threshold profile provided at a first substantially flat side of the threshold profile which in use is a bottom side, wherein the clamping groove comprises a first receiving section and a second receiving section arranged to receive a clamping profile between the first receiving section and the second receiving section.

[0005] The threshold with the clamping groove allows a clamping profile, with an external profile provided by the clamping profile, to be connected to the threshold without the need of additional fasteners, such as screws or glue. The clamping force of the clamping profile in the clamping groove is sufficient for keeping the clamping profile in substantially the same position inside the clamping groove during placement and/or further use of the threshold.

[0006] Furthermore, the clamping profile and the threshold according to this aspect allow convenient mounting of the external profile, like a flexible slab, to be mounted to the threshold while the threshold is already in place. The lower side of the threshold requires a minimum with respect to accessibility for mounting of the slab, compared to a case where the slab is mounted using screws or nails.

[0007] The external profile is, when the threshold is in use, oriented substantially vertically and may be used as

a dam to prevent water from accessing parts of the architectural opening in which the threshold has been placed, below the threshold.

[0008] In an embodiment of the threshold, the first receiving section is provided substantially opposite of the second receiving section. This allows a clamping force exerted by the clamping profile to the receiving sections to be substantially aligned over the same line which extends between the first receiving section and the second receiving section.

[0009] The threshold profile may comprise a low section and a high section, wherein a thickness of the threshold profile in the high section perpendicular to the first side is larger than a thickness of the threshold profile in the low section perpendicular to the first side. In an embodiment of the threshold, the clamping groove is provided substantially in the low section of the threshold profile.

[0010] The clamping groove may be provided with a first flange which protrudes into the clamping groove, wherein the first flange defines the first receiving section.

[0011] The clamping groove may be provided with a second flange which protrudes into the clamping groove, wherein the second flange defines the second receiving section.

[0012] The flange or flanges of the clamping groove constrain the clamping profile relative to the threshold in at least a direction perpendicular to the first side of the threshold.

[0013] A second aspect provides a clamping profile, comprising a first clamping part comprising a first clamping abutment arranged to abut a first receiving section of a threshold profile of any embodiment of the threshold. The clamping profile further comprises a second clamping part comprising a second clamping abutment arranged to abut a second receiving section of the threshold profile. In the clamping profile, the first clamping part and the second clamping part may be moved towards each other resiliently. The clamping profile is arranged to provide an external profile which, in use, protrudes downward from the first side of the threshold.

[0014] The clamping profile is arranged to be attached to the threshold without the use of fasteners such as screws or glue. When clamped into the clamping groove of the threshold, the clamping profile is constrained by virtue of the first clamping part and the second clamping part being constrained by the first receiving section and the second receiving section, respectively.

[0015] In an embodiment of the clamping profile, the first clamping part is hingedly attached to the second clamping part such that the first clamping part and the second clamping part may be hinged relative to each other around one or more hinges. The hinges may be arranged as living hinges, and may be formed as weakened sections in the material comprised by the clamping profile.

[0016] In an embodiment of the clamping groove, the second clamping part comprises a groove, wherein the

groove is arranged for receiving a flexible slab as an external profile or a cover or dam aiding at prevention of ingress of water, for example due to precipitation. Preferably, the groove is provided in a direction which is substantially parallel to the first side of the threshold.

**[0017]** A third aspect provides a set of mountable parts, comprising a threshold according to any of the threshold embodiments and a clamping profile according to any of the clamping profile embodiments. In the set, the first clamping abutment comprised by the clamping profile is arranged to abut a first receiving section comprised by the threshold and a second clamping abutment comprised by the clamping profile is arranged to abut a second receiving section comprised by the threshold. When the set has been mounted, the position of the clamping profile relative to the threshold has been fixed in a direction perpendicular to a first side of the threshold.

**[0018]** In a preferred embodiment, the external profile is made of a material with properties such that it may be bent by hand, such as lead.

**[0019]** Further, an aspect of the invention provides a method for assembling a set according to an embodiment of the invention, the method at least including a step of providing an initially flat external profile, and utilizing the clamping profile for deforming the flat external profile to a final shape, for example by inserting a first section of the initially flat external profile into a groove of the clamping profile, and subsequently deforming the external profile such that a remaining second section of the profile is bent with respect to the first section of the profile.

## DESCRIPTION OF THE FIGURES

**[0020]** The various aspects and embodiments thereof will now be discussed in conjunction with drawings. In the drawings:

- Fig. 1A shows part of an architectural opening;
- Fig. 1B shows a section view of the architectural opening;
- Fig. 2A shows part of the threshold and an embodiment of a clamping profile;
- Fig. 2B shows part of the threshold and the clamping profile partially inserted in the threshold;
- Fig. 2C shows a clamping profile and a flexible slab; and
- Fig. 3 shows part of the threshold and another embodiment of a clamping profile.

## DETAILED DESCRIPTION OF THE EMBODIMENTS

**[0021]** Fig. 1A shows part 10 of a construction of a frame in an architectural opening in a building for a door or window comprising a frame part such as a jamb 20. The jamb 20 is supported by a threshold 100. The threshold 100 is connected to a clamping profile 200 arranged for providing an external profile 205.

**[0022]** The clamping profile 200 is arranged to be

mounted conveniently to the threshold 100, preferably in a non-destructive and/or removable manner. With non-destructive, a manner is meant which doesn't require substantial plastic deformation or breaking of one or both of the threshold 100 and the clamping profile 200 with for example a drill by making a hole.

**[0023]** Alternatively or additionally, the clamping profile 200 provides an external profile 205 which may be removably mounted to the threshold 100, preferably without use of a glue or resin. The external profile may also function as a protective cover or dam for protection against ingress of water due to rain or any other precipitation. As such, the external profile 205 may be embodied in multiple ways.

**[0024]** The threshold 100 as shown in Fig. 1A comprises a lower section 121 and a higher section 122, wherein a thickness of the lower section 121 is smaller than a thickness of the higher section 122. With thickness, here the distance from a first side 101 to a second side 103 is meant. The second side 103 is provided opposite to the first side 101, and the first side 101 is, when the threshold 100 is in use, a bottom side. The second side 103 is, when the threshold 100 is in use, substantially oriented upwards, thus in a direction substantially opposite to the force of gravity.

**[0025]** Fig. 1B shows a section view of the part 10 of the construction of the architectural opening with an embodiment of the threshold 100 built into the architectural opening. In this section view, the threshold 100 supports the jamb 20, and the threshold 100 is provided on an underground 30, which may be soil, isolation, toe board, or any underground 30 which may support the threshold 100. Provided in a clamping groove 104 of the threshold 100 is an embodiment of the clamping profile 200 which provides an external profile 205.

**[0026]** Fig. 2A shows a detailed (side) view of the lower section 121 of the threshold 100 with the clamping profile 200 clamped in the clamping groove 104 comprised by the elongated threshold profile 102 comprised by the threshold 100. The clamping groove 104 is provided in the first side 101 of the threshold profile 102, preferably substantially in the lower section 121. The clamping groove 104 comprises a first receiving section 106 and a second receiving section 108, which are arranged to receive the clamping profile 200 between the first receiving section 106 and the second receiving section 108.

**[0027]** The clamping profile 200 as shown in Fig. 2A defines an abutment profile 205 which is arranged to protrude substantially perpendicular away from the first side 101 of the threshold 100.

**[0028]** In the embodiment of the threshold 100 as shown in Fig. 2A, the first receiving section 106 is provided substantially opposite of the second receiving section 108.

**[0029]** The first receiving section 106 may be defined by a first flange 112 which protrudes into the clamping groove 104. The first receiving section 106 may be defined entirely by the first flange 112 or by a combination

of the first flange 112 and part of the clamping groove 104.

**[0030]** The second receiving section 108 may be defined by a second flange 114 which protrudes into the clamping groove 104. The second receiving section 108 may be defined entirely by the second flange 114 or by a combination of the second flange 114 and part of the clamping groove 104.

**[0031]** When one or both of the first receiving section 106 and the second receiving section 108 are defined combined with part of the clamping groove 104, a top plane of the clamping groove 104 may not be substantially parallel to the first side 101 of the threshold profile 102, but has one or more indentations in the top plane. Such indentations may provide part of the first receiving section 106 and/or the second receiving section 108.

**[0032]** The first receiving section 106 and the second receiving section 108 are in the embodiment as shown by Fig. 2A defined by the clamping groove 104 and the first flange 112 and the second flange 114, respectively. With the first protruding section 112 and the second protruding section 114 protruding inwards in the clamping groove 104, the shape of the clamping groove 104 may resemble that of a dovetail groove. The clamping groove 104 may further be at least partially tapered away from the first side 101.

**[0033]** The first receiving section 106 and second receiving section 108 as shown in Fig. 2A are arranged to constrain the clamping profile 200 in a direction substantially parallel to the gravity when the threshold 100 is used. The constraint may prevent the clamping profile 200 from falling out of the clamping groove 104 due to gravity.

**[0034]** The clamping profile 200 as shown in Fig. 2A comprises a first leg 202 as a first clamping part and a second leg 204 as a second clamping part. The first leg 202 comprises a first clamping abutment 206 arranged to be received by the first receiving section 106 of the threshold 100, and the second leg 204 comprises a second clamping abutment 208 arranged to be received by the second receiving section 108 of the threshold 100.

**[0035]** The first leg 202 is hingeable relative to the clamping profile 200 over a first hinge line 203. When hinging, the first leg 202 is hinged towards the clamping profile 200 which reduces the distance between the first clamping abutment 206 and the second clamping abutment 208, allowing the clamping profile 200 to be inserted into the clamping groove 104 more easily. Preferably, the hinge is arranged as a weakened section.

**[0036]** The first leg 202 and the second leg 204 are provided such that they may be moved towards each other in a resilient way. A force provided to the first leg 202 towards the second leg 204 and/or a force provided to the second leg 204 towards the first leg 202 decreases a distance between the first clamping abutment 206 and the second clamping abutment 208. By virtue of this decreased distance, the clamping profile 200 may be provided more easily into the clamping groove 104. In some embodiments, the clamping abutments are shaped such that the legs move towards one another upon pushing

the clamping profile 200 in the clamping groove 104.

**[0037]** Fig. 2B shows the clamping profile 200 partially inserted into the clamping groove 104 of the threshold 100. In this example of how the clamping profile 200 may be inserted into the clamping groove 104, first the second clamping abutment 208 is inserted into the second receiving section 108.

**[0038]** Next, the clamping profile 200 may be inserted further into the clamping groove 104 such that the first clamping abutment 206 may abut the first receiving section 106. The first clamping abutment 206 may comprise a bevelled section which allows a user to push the clamping profile 200 when positioned like in Fig. 2B into the first receiving section 106. Once the first clamping abutment 206 is provided in the first receiving section 106, it may snap back towards its unstressed position.

**[0039]** In embodiments of the clamping profile 200, the distance between the first clamping abutment 206 and the second clamping abutment 208 when no force is applied on the clamping profile 200 may be larger than the distance between the first clamping abutment 206 and the second clamping abutment 208 when the clamping profile 200 is clamped into the clamping groove 104. Due to the difference in these distances, residual stresses may be present in the clamping profile 200 when it is clamped in the clamping groove 104 by virtue of the resilience of the material. Such forces may aid in retention of the clamping profile 200. An outwardly oriented force due to these residual stresses in the clamping profile 200 may be applied by the clamping profile 200 to the clamping groove 104.

**[0040]** The resilience in the clamping profile 200 may be provided by one or more springs, such as a coil spring, or by a resilient material comprised by the clamping profile 200. In the latter case, at least part of the first leg 204 and/or second leg 206 acts as a leaf spring.

**[0041]** In another embodiment of the clamping profile 200, the position of the first clamping abutment 206 relative to the second clamping abutment 208 may be adjustable by a user. When wanting to insert the clamping profile 200 into the clamping groove 104, the first clamping abutment 206 and the second clamping abutment 208 may be moved towards each other by the user such that the clamping profile 200 can be inserted into the clamping groove 104.

**[0042]** After being inserted into the clamping groove 104, the first clamping abutment 206 and the second clamping abutment 208 may be moved away from each other by virtue of resilience of the clamping profile 200 or by the user such that the first clamping abutment 206 may abut the first receiving section 106 and the second clamping abutment 208 may abut the second receiving section 108. The resilience of the clamping profile 200 occurs due to elastic deformation of the clamping profile 200 by the user, and when the user releases the clamping profile 200, the clamping profile 200 substantially returns to its non/deformed shape which it held before the elastic deformation.

**[0043]** Now referring to Fig. 2C to elaborate further on the embodiment of the clamping profile 200 as shown in Figs. 2A and 2B, Fig. 2C shows the clamping profile 200 and a flexible slab 207 as the external profile 205, wherein the flexible slab 207 has not yet been provided in the clamping profile 200. The embodiment of the clamping profile 200 comprises a first protrusion 210 and a second protrusion 212. The second protrusion 212 in this embodiment comprises the second abutment 208. The first protrusion 210 is provided substantially parallel at a distance from the second protrusion 212, which defines a groove 214 between the first protrusion 210 and the second protrusion 212. The groove 214 may in particular be a horizontal groove after mounting/installation, as may be seen for example in Fig. 2A.

**[0044]** The groove 214 is arranged for receiving part of the flexible slab 207. The slab 207 as shown in Fig. 2C is bent such that part of the slab 207 which is not provided in the groove 214 may be directed downwards, which corresponds to a direction substantially parallel to the gravity when the threshold 100 is in use.

**[0045]** The slab 207 may comprise a material with properties such that it may be bent by hand, such as lead. In embodiments, the slab 207 may comprise a substantially incompressible material, and/or a material that allows plastic deformation such that the slab 207 may be bent, folded, and/or molded into a particular shape corresponding to the particular situation in which the threshold 100 is mounted.

**[0046]** Additionally or alternatively, other materials may be used for the slab 207. Such materials may be organic polymers, including, but not limited to polyvinylchloride or other vinyl polymers, other metals, metal-polymer composites, other, or a combination thereof.

**[0047]** In an embodiment of the clamping profile 200, the first protrusion 210 is hingedly attached to the clamping profile 200, (in examples via a hinge or hinge line indicated by reference number 704 in Fig. 2C), such that the first protrusion 210 may be hinged away from the second protrusion 212. Such a hinging movement opens the groove 214, which in turn allows a more easy insertion of the slab 207 into said groove 214. After the slab 207 has been sufficiently inserted into the groove 214, the first protrusion 210 may be hinged back, preferably to a position substantially parallel to the second protrusion 212.

**[0048]** The hinging movement of the first protrusion 210 may be performed over hinge line 704. A weakened section 706 may be provided to provide the hinge, i.e. to reduce a force required for hinging the first protrusion 210 with respect to a main section of the profile 200 and/or to substantially prevent plastic deformation of the first protrusion 210 around the hinge line 704.

**[0049]** As shown in Fig. 2C (see also Fig. 1A), the slab 207 as an external profile may be an L-shaped profile. For example, the slab 207 can be provided with or consist of a first leg 701 and a second leg 702, optionally extending in parallel with the first leg 701. In this example, the

second leg 702 is provided at an angle of approximately 90 degrees relative to the first leg 701 in the embodiment as shown in Fig. 2C. In different embodiments, the second leg 702 may be provided at a different angle relative to the first leg 701, for example an angle between 10 degrees and 170 degrees, between 40 degrees and 140 degrees, between 60 degrees and 120 degrees, or between 80 degrees and 100 degrees. The first leg 701 is arranged to be inserted into the groove 214.

**[0050]** Figure 2C depicts the slab 207 wherein it already has the above-mentioned L-shape before being mounted to the clamping profile. Alternatively, an initially flat/plane slab can be used.

**[0051]** In particular, in a preferred embodiment, for providing the angle between the first leg 701 and the second leg 702 (i.e. for forming a final profile shape of the mounted slab), first a substantially planar slab 207 may be applied. The planar slab 207 can be inserted with a first section (that will form the first leg 701) into the groove 214. After inserting the first section of the planar slab 207 into the groove 214, the slab 207 may be deformed, wherein a remaining second slab section that does not extend into the groove 214 is bent around a distal end or distal edge of the first protrusion 210, thereby creating the second leg 702 provided at an angle relative to the first leg 701. Herein, for example, the clamping profile 200 can be used as a tool for forming, or assisting in the forming of, the profile's final shape, which allows efficient and smooth shaping of the profile.

**[0052]** The first leg 701 and the second leg 702 of the slab 207 may be of substantially the same length (viewed in side view). Alternatively, the second leg 702 may be longer than the first leg 701 (as in Fig. 2C), or the first leg 701 may be longer than the second leg 702. When the second leg 702 is provided at an angle of approximately 90 degrees relative to the first leg 701, the slab 207 as an external profile may have a substantially L-shaped cross-section.

**[0053]** The slab 207 may be embodied as an elongated profile extending in substantially the same direction as (i.e. in parallel with) the elongated threshold profile 102 and the clamping profile 200 (in particular in a direction that is normal to the plane of Figures 2A, 2B, 2C).

**[0054]** Optionally, the first protrusion 210 comprises an optionally sharp protrusion 211 arranged to penetrate the slab 207 after the slab 207 has been inserted and the first protrusion 210 is hinged back into position substantially parallel to the second protrusion 212. With this penetration, it may substantially be prevented that the slab 207 may be moved out of the groove 214 parallel to the second protrusion 212. Alternatively or additionally, glue or another adhesive may be provided to further secure the flexible slab 207 in the groove 214.

**[0055]** Further indicated in Fig. 2C is a direction of movement 708, over which the first clamping abutment 206 may be moved towards the second clamping abutment 208. As an option, in the embodiment of Fig. 2C, the first clamping abutment 206 is hingedly attached to

the clamping profile 200 and the second clamping abutment 208 is rigidly attached to the clamping profile 200. Rigidly attached here means that the second clamping abutment 208 is attached to the clamping profile 200 such that it is substantially not movable relative to the clamping profile 200. As such, only the first clamping abutment 206 is movable. In alternative embodiments, the first clamping abutment 206 may be movable by virtue of a sliding connection, wherein the first clamping abutment 206 may be slid over the movement direction 708.

**[0056]** As shown in Fig. 2C, the external profile 205 may be shaped such that, when it is partially inserted into the groove 214, the second leg 702 extends beyond the clamping profile (e.g. a substantial part of the second leg 702 being located in an area that is situated at a level below a lower side of the clamping profile). With reference to Figs. 2A and 2B, this extension may imply that the external profile 205, for example the second leg 702 thereof, extends out of the clamping groove 104 of the threshold 100, or even extends beyond the threshold 100.

**[0057]** Fig. 3 shows a detailed view of a lower section 121 of a threshold 100 with another embodiment of the clamping profile 200 clamped into the clamping groove 104 of the threshold 100. The clamping profile 200 in this embodiment comprises the first leg 202 which in turn comprises the first abutment 206. The first leg 202 is hingedly attached to the clamping profile 200, such that it preferably resiliently may be hinged towards the clamping profile 200 to decrease the distance between the first clamping abutment 206 and the second clamping abutment 208.

**[0058]** It is to be noted that in any of the embodiments in this description hinging is not restricted to swivelling; bending of a preferably resilient material is considered hinging as well. For hinging, movement of two parts of a body towards each other may be considered as well. Hinges may be living hinges, wherein a living hinge may be defined as a flexible hinge made from the same material as the bodies it connects.

**[0059]** The clamping profile 200 as shown in Fig. 3 comprises a second leg 204, which preferably is also hingedly attached to the clamping profile, such that it may be hinged towards the clamping profile 200. Having both the first leg 202 and the second leg 204 hingedly attached allows both legs to be hinged less and still being able to decrease the distance between the first clamping abutment 206 and the second clamping abutment 208 sufficiently for the clamping profile 200 to be inserted into the clamping groove 104.

**[0060]** In the embodiment of the clamping profile 200 as shown in Fig. 3, the external profile 205 is provided by the clamping profile 200 itself, thus decreasing the amount of components that have to be assembled.

**[0061]** In summary, thresholds are provided at the bottom of architectural openings, and are often provided with an external profile to prevent water from entering underneath the threshold. For convenient mounting of the ex-

ternal profile, a threshold profile is provided comprising a clamping groove in which the external profile provided by a clamping profile may be clamped.

**[0062]** The clamping profile may be mounted non-destructively, and may be constrained to the threshold by virtue of clamping force only. To receive the clamping profile, the clamping groove may be provided with multiple receiving sections of which a shape corresponds to that of part of the clamping profile. The clamping profile may be resilient such that it may be compressed by hand, provided in the clamping groove, and released again clamping the clamping profile into the clamping groove.

**[0063]** Expressions such as "comprise", "include", "incorporate", "contain", "is" and "have" are to be construed in a non-exclusive manner when interpreting the description and its associated claims, namely construed to allow for other items or components which are not explicitly defined also to be present. Reference to the singular is also to be construed in be a reference to the plural and vice versa.

**[0064]** In the description above, it will be understood that when an element such as layer, region or substrate is referred to as being "on" or "onto" another element, the element is either directly on the other element, or intervening elements may also be present.

**[0065]** Furthermore, the invention may also be embodied with less components than provided in the embodiments described here, wherein one component carries out multiple functions. Just as well may the invention be embodied using more elements than depicted in the Figures, wherein functions carried out by one component in the embodiment provided are distributed over multiple components.

**[0066]** A person skilled in the art will readily appreciate that various parameters disclosed in the description may be modified and that various embodiments disclosed and/or claimed may be combined without departing from the scope of the invention.

**[0067]** The invention may be summarised in a way that thresholds are provided at the bottom of architectural openings, and are often provided with an external profile to prevent water from entering underneath the threshold. For convenient mounting of the external profile, a threshold profile is provided comprising a clamping groove in which the external profile provided by a clamping profile may be clamped. The clamping profile may be mounted non-destructively, and may be constrained to the threshold by virtue of clamping force only. To receive the clamping profile, the clamping groove may be provided with multiple receiving sections of which a shape corresponds to that of part of the clamping profile. The clamping profile may be resilient such that it may be compressed by hand, provided in the clamping groove, and released again clamping the clamping profile into the clamping groove.

**Claims**

1. A threshold, comprising an elongated threshold profile, the threshold profile comprising a clamping groove, provided parallel to the threshold profile provided at a first substantially flat side of the threshold profile which in use is a bottom side, wherein the clamping groove comprises a first receiving section and a second receiving section arranged to receive a clamping profile between the first receiving section and the second receiving section. 5 10
2. A clamping profile, comprising:
  - a first clamping part comprising a first clamping abutment arranged to abut a first receiving section of a threshold profile of a threshold according to any of claims 1, 16-20; 15
  - a second clamping part comprising a second clamping abutment arranged to abut a second receiving section of the threshold profile of a threshold according to any of claims 1, 16-20; 20

wherein the clamping comprises a groove, arranged for receiving an external profile which, in use, protrudes downward from the first side of the threshold. 25
3. Clamping profile according to claim 2, wherein the groove is provided in a direction which is substantially parallel to the first side of the threshold. 30
4. Clamping profile according to claim 2 or 3, wherein the first clamping abutment is movably attached to the clamping profile such that the first clamping abutment can be moved towards the second clamping abutment, and the groove is provided in a direction substantially parallel to the direction of this movement. 35
5. Clamping profile according to any of the claims 2-4, further comprising a first protrusion and a second protrusion, wherein the first protrusion is provided substantially parallel at a distance from the second protrusion, which defines the groove between the first protrusion and the second protrusion. 40 45
6. Clamping profile according to claim 5, wherein the first protrusion is hingedly attached to the clamping profile such that the first protrusion can be hinged away from the second protrusion. 50
7. Clamping profile according to claim 5 or 6, wherein the first protrusion comprises a sharp protrusion extending towards the second protrusion. 55
8. Clamping profile according to any of the claims 2-7, wherein the first clamping abutment is hingedly attached to the clamping profile, and the second clamping abutment is rigidly attached to the clamping profile.
9. Set of mountable parts, comprising a threshold according to any of claims 1, 16-20 and a clamping profile according to any of the claims 2-8, 21, 22, 23, wherein a first clamping abutment comprised by the clamping profile is arranged to abut a first receiving section comprised by the threshold and a second clamping abutment comprised by the clamping profile is arranged to abut a second receiving section comprised by the threshold such that the position of the clamping profile in the threshold is fixed in a direction substantially perpendicular to the first side of the threshold.
10. Set according to claim 9, further comprising the external profile, wherein the external profile is arranged to be at least partially inserted into the groove of the clamping profile.
11. Set according to any of claims 9-10, wherein the external profile comprises a first leg and a second leg, wherein the second leg is provided at an angle relative to the first leg, and the first leg is arranged to be inserted into the groove of the clamping profile.
12. Set according to claim 11, wherein, when the parts are mounted together, the second leg of the external profile extends outside out of the clamping groove.
13. Set according to claim 11 or 12, wherein, when the parts are mounted together, the second leg of the external profile extends beyond the threshold.
14. Set according to any of the claims 9-13, wherein the mountable parts can be detached non-destructively.
15. Method for assembling a set according to any of claims 9-14, at least including a step of providing an initially flat external profile, and utilizing the clamping profile for deforming the flat external profile to a final shape, for example by inserting a first section of the initially flat external profile into a groove of the clamping profile, and subsequently deforming the external profile such that a remaining second section of the profile is bent with respect to the first section of the profile.
16. Threshold according to claim 1, wherein the first receiving section is provided substantially opposite of the second receiving section.
17. Threshold according to claim 1 or 16, wherein the threshold profile comprises a low section and a high section, wherein a thickness of the threshold profile in the high section perpendicular to the first side is larger than a thickness of the threshold profile in the

low section perpendicular to the first side.

18. Threshold according to claim 17, wherein the clamping groove is substantially provided in the low section of the threshold profile. 5
19. Threshold according to any of the preceding claims 1, 16-18, wherein the clamping groove is provided with a first flange which protrudes into the clamping groove, wherein the first flange defines the first receiving section. 10
20. Threshold according to claim 19, wherein the clamping groove is provided with a second flange which protrudes into the clamping groove towards the first flange, and wherein the second flange defines the second receiving section. 15
21. Clamping profile according to any of the claims 2-8, wherein the first clamping part is hingedly attached to the second clamping part such that the first clamping part and the second clamping part can be hinged relative to each other around one or more hinges. 20
22. Clamping profile according to any of the claims 2-8, 21, further comprising the external profile, part of the profile protruding downward substantially perpendicular to the first side of the threshold. 25
23. Clamping profile according to any of the claims 2-8, 21, and 22, wherein the second clamping part comprises a groove, wherein the groove is arranged for receiving the external profile. 30

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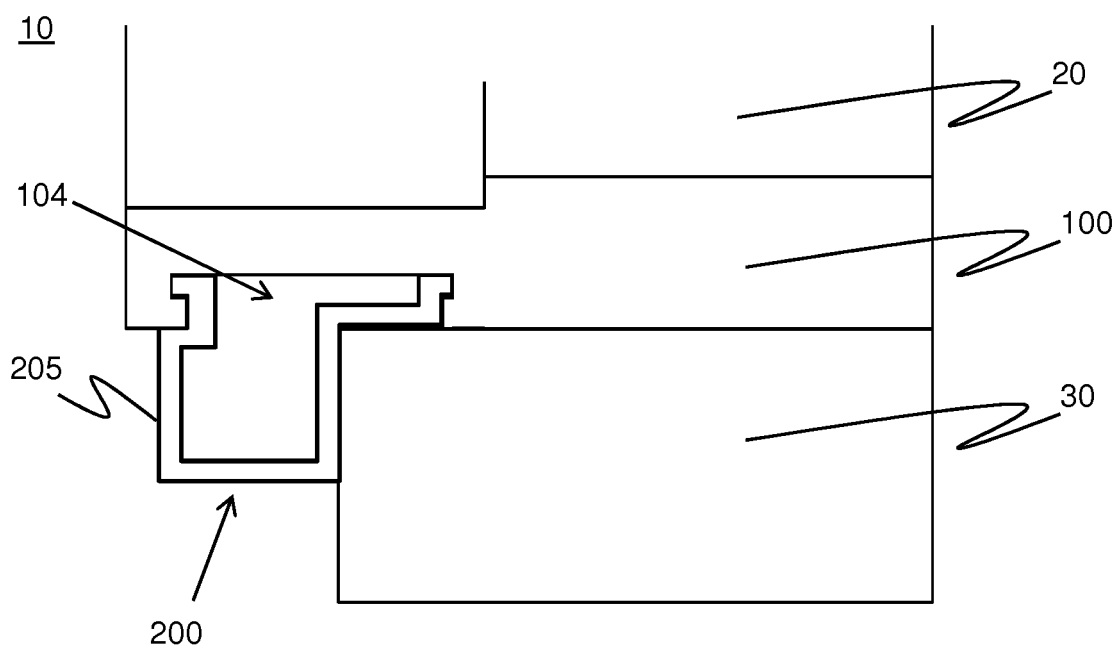
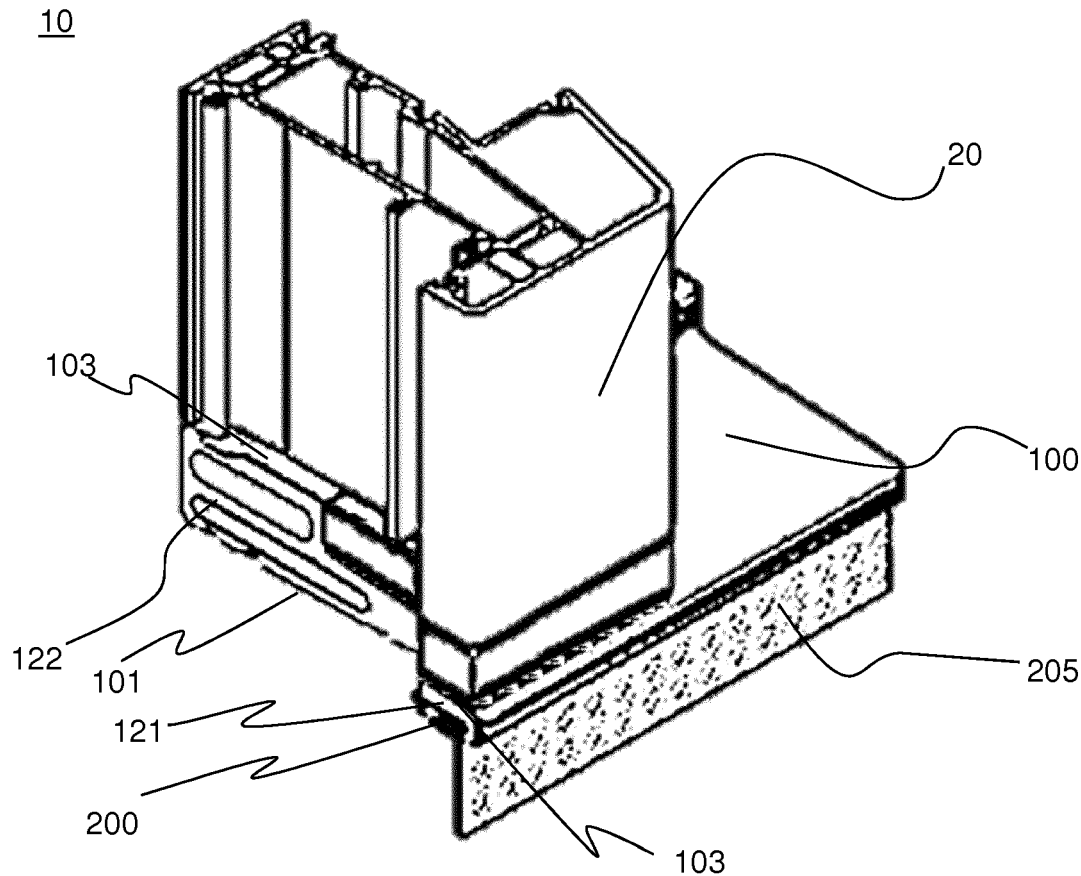
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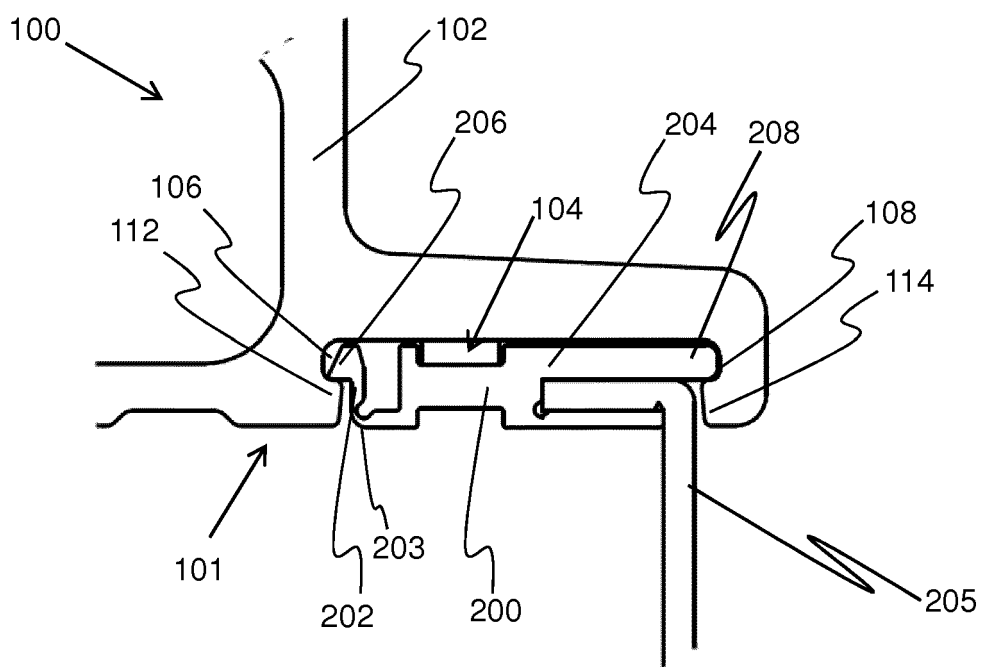


FIG 2A

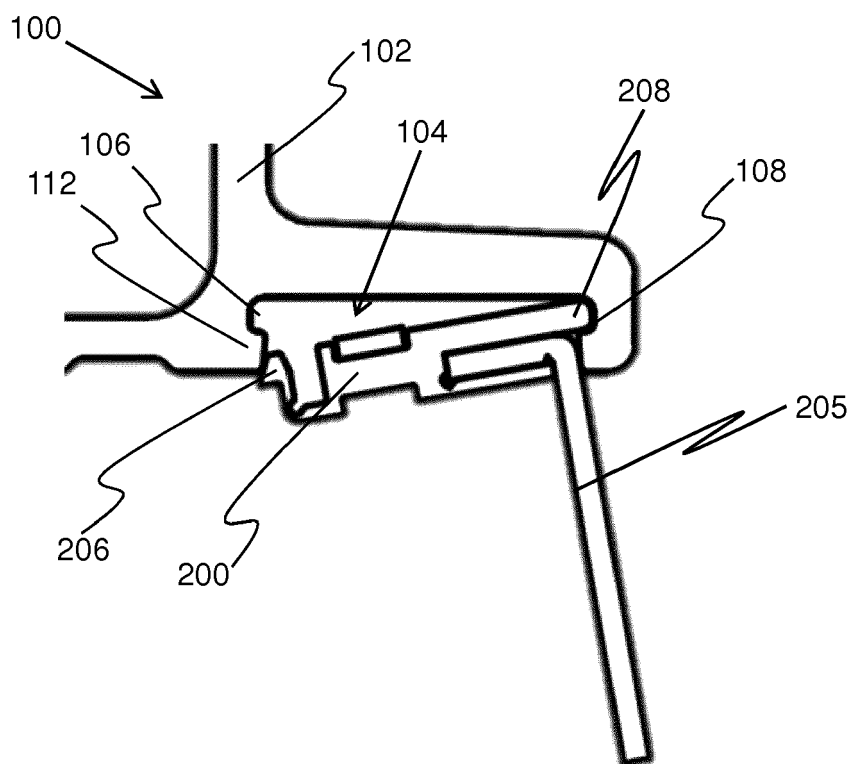


FIG 2B

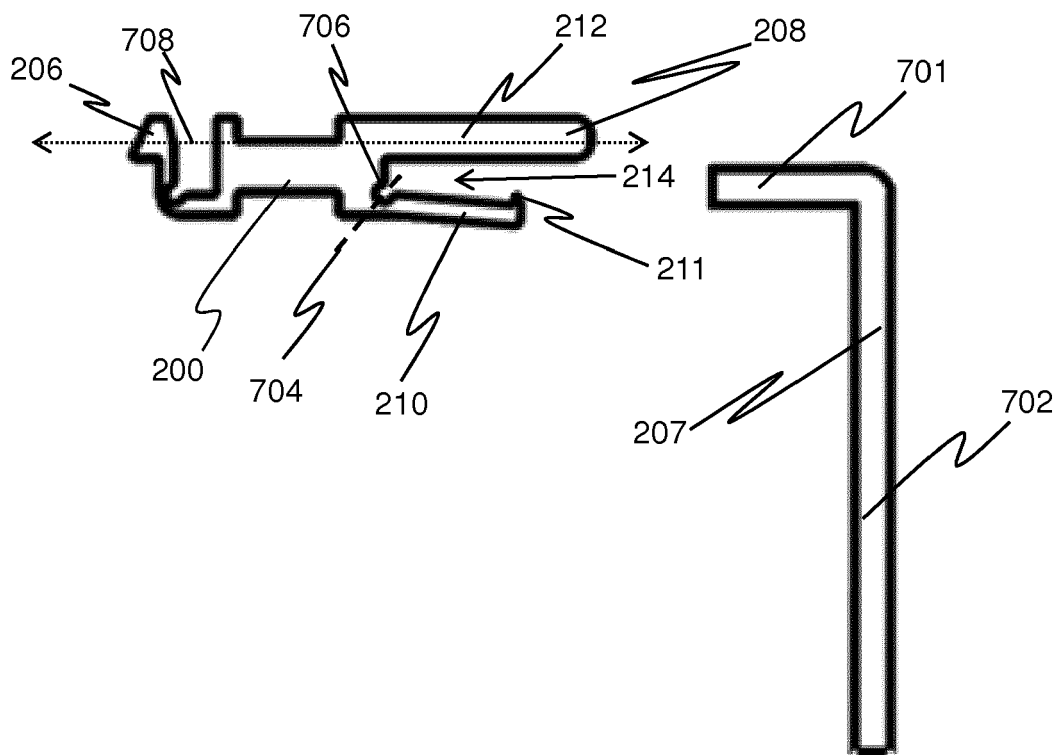


FIG 2C

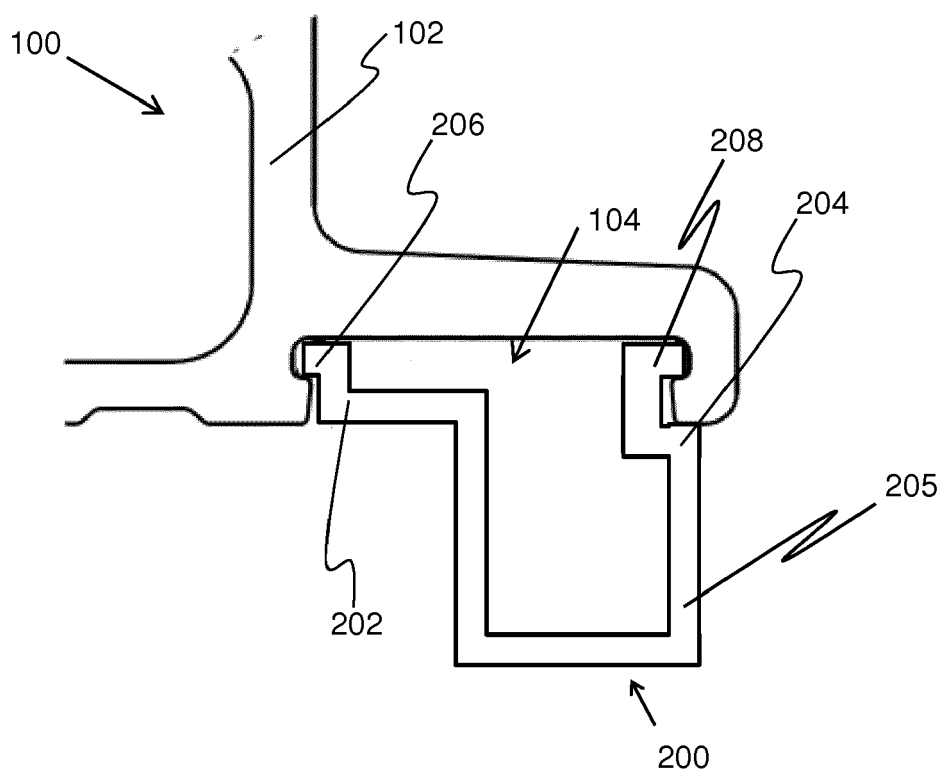


FIG 3



## EUROPEAN SEARCH REPORT

Application Number  
EP 19 18 8066

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| DOCUMENTS CONSIDERED TO BE RELEVANT  |   |  |  |
|--|---|--|--|
| Category   | Citation of document with indication, where appropriate, of relevant passages   | Relevant to claim  | CLASSIFICATION OF THE APPLICATION (IPC)    |
| X  | EP 0 953 710 A2 (WILLRICH PETER [DE])<br>3 November 1999 (1999-11-03)<br>* figure 11 *  | 1-5,7,9,<br>10,14  | INV.<br>E06B1/70                           |
| X  | DE 296 02 408 U1 (NIEMANN HANS DIETER<br>[DE]) 19 June 1997 (1997-06-19)<br>* figure 1 *  | 1  | ADD.<br>E06B1/62<br>E06B1/64<br>E06B1/68   |
| Y  |   | 9-15   |  |
| X  | US 2004/211132 A1 (PETTA GABRIEL [CA] ET<br>AL) 28 October 2004 (2004-10-28)<br>* the whole document *                                      | 1  |  |
| X  | US 2010/263307 A1 (GILLES ROBERT JOSEPH<br>JEAN-MARIE [CA] ET AL)<br>21 October 2010 (2010-10-21)<br>* figures 1,2,3D,3F,3H,4,16A-H,18A-H * | 1-5,9,<br>10,14  |  |
| X  | EP 1 741 867 A1 (SYLID SYSTEMLOGISTIK &<br>INDUSTRIEDIENSTLEISTUNG GMBH [DE])<br>10 January 2007 (2007-01-10)<br>* figures 1-6b,17 *        | 1-8  |  |
| Y  | * column 0067 - column 0098 *   | 9-15   | TECHNICAL FIELDS<br>SEARCHED (IPC)<br>E06B |
| The present search report has been drawn up for all claims   |   |  |  |
| Place of search<br>The Hague   |   | Date of completion of the search<br>25 March 2020  | Examiner<br>Blancquaert, Katleen           |
| CATEGORY OF CITED DOCUMENTS<br>X : particularly relevant if taken alone<br>Y : particularly relevant if combined with another document of the same category<br>A : technological background<br>O : non-written disclosure<br>P : intermediate document |   | T : theory or principle underlying the invention<br>E : earlier patent document, but published on, or after the filing date<br>D : document cited in the application<br>L : document cited for other reasons<br>& : member of the same patent family, corresponding document |  |

EPO FORM 1503 03.82 (P04C01)

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

EP 19 18 8066

5

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
The members are as contained in the European Patent Office EDP file on  
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25-03-2020

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50

55

| Patent document<br>cited in search report | Publication<br>date | Patent family<br>member(s) | Publication<br>date |
|---|---------------------|----------------------------|---------------------|
| EP 0953710 A2                             | 03-11-1999          | EP 0953710 A2              | 03-11-1999          |
|   |                     | PL 332888 A1               | 08-11-1999          |
| DE 29602408 U1                            | 19-06-1997          | AT 220172 T                | 15-07-2002          |
|   |                     | DE 29602408 U1             | 19-06-1997          |
|   |                     | EP 0789128 A1              | 13-08-1997          |
| US 2004211132 A1                          | 28-10-2004          | CA 2453604 A1              | 23-10-2004          |
|   |                     | US 2004211132 A1           | 28-10-2004          |
| US 2010263307 A1                          | 21-10-2010          | US 2010263307 A1           | 21-10-2010          |
|   |                     | US 2014145061 A1           | 29-05-2014          |
| EP 1741867 A1                             | 10-01-2007          | NONE                       |                     |

EPO FORM P0459

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