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(54) **CONNECTING ELEMENT**

(57) Connecting element (1) comprising a base segment (2), with which the connecting element (1) is connectable to a substructure (3), and comprising a coupling segment (4) with which the connecting element (1) is connectable to an exposed element, such as a strip, wherein a base segment (2) and the coupling segment (4) are two separate components that are joined together detachably.

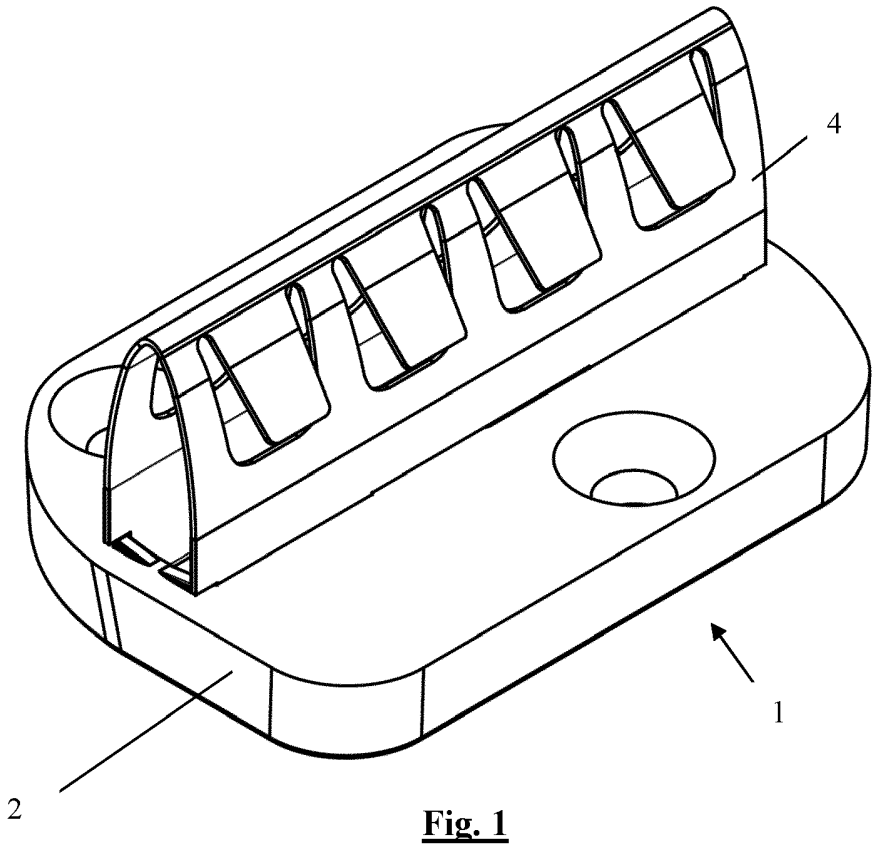

Fig. 1

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Description

[0001] The present invention relates to a connecting element comprising abase segment, with which the connecting element is connectable to a substructure, and comprising a coupling segment with which the connecting element is connectable to an exposed element, such as a strip.

[0002] The present invention also relates to an assembly of a substructure and one or more connecting elements for connecting a strip to the substructure to form a wall or a floor, wherein the substructure comprises at least one profile, wherein the profile extends in a longitudinal direction, a transverse direction and a vertical direction.

[0003] The exposed elements are for example strips, wherein these strips are then provided to form a wall or a floor, such as a façade wall, a ceiling or a terrace. The wall or the floor then follows along the substructure and extends for example above, next to, or under the substructure. This substructure comprises for example one or more profiles.

[0004] When covering façades, forming ceilings or forming terraces, use is often made of elongated strips, which will be placed next to each other to create a certain aesthetic effect and/or a walking surface. For fastening these strips in the desired manner to a façade, a ceiling or a substrate, use is often made of a substructure, such as profiles/rails, and associated connecting elements, such as clips. The profiles are then secured to the façade, the ceiling or the substrate, respectively. The connecting elements are fastened to the profiles and comprise for example click elements, which are clickably receivable in corresponding grooves of the strips. The strips are then fastened to the profiles by means of the connecting elements so as to form a wall or a floor.

[0005] The existing connecting elements comprise for example a coupling segment with one or more click elements that are clickably receivable in a groove of an aforementioned strip, wherein the grooves of the strips for example are accessible via a relatively narrow opening. During connecting of the connecting elements to the strips, the one or more click elements click firmly in the groove. Once the click elements have been firmly clicked in the groove, it is difficult to detach the strip from the connecting elements again.

[0006] As time passes, it may be desirable to detach one or more strips again. This is for example the case when one or more strips are damaged and need to be replaced. If mistakes are made during installation, it may also be desirable to detach one or more strips again in order for them to be installed correctly. With the existing connecting elements it is time-consuming to detach strips from the substructure.

[0007] Thus, one aim of the invention is to provide connecting elements that allow the exposed elements to be detached easily from the substructure.

[0008] This aim is achieved by providing a connecting element as presented in the first paragraph of the description, wherein the base segment and the coupling segment are two separate components that are joined together detachably.

[0009] A strip that is connected with one or more connecting elements to a substructure can then be detached from the substructure by detaching the coupling segment with the one or more connecting elements from the respective base segment. The result is then a substructure to which one or more base segments are fastened and an exposed element to which one or more coupling segments are fastened. Optionally, one may choose to detach the base segments from the substructure and/or to detach the coupling segments from the exposed element, and then connect the base segments and the coupling segments back together to form usable connecting elements. By means of these connecting elements, strips are easily replaceable or movable, and optionally the connecting elements are also reusable. In addition, because the coupling segment and the base segment are two separate components, it is possible to configure the base segment in such a way that it has the necessary rigidity, and configure the coupling segment in such a way that it has the necessary flexibility to accomplish connection to an exposed element. Thus, the base segment and the coupling segment may for example be made of different materials. The coupling segment may for example be made of spring steel or plastic. The base segment may for example be made of aluminium, steel or plastic. The substructure may for example comprise one or more profiles, such as aluminium profiles. Preferably the base segment is made entirely of the second material. Preferably the coupling segment is made entirely of the first material.

[0010] By means of these connecting elements, one or more exposed elements are fastenable to a substructure to form a visible surface.

[0011] Preferably the coupling segment is made of a first material comprising metal or plastic and the base segment is made of a second material comprising metal or plastic, wherein the first material and second material are different. By making said segments from different materials, these segments can be provided with the necessary properties. Thus, the base segment can be made of a stiff and sturdy material such as steel, aluminium, PVC, etc. The coupling segment may then be made from a springy material, such as spring steel or a plastic with the necessary flexibility. The coupling segment may thus be made of a material so that it is clickably connectable to the base segment as well as clickably connectable to an exposed element. If both segments are made of a metal or a metal alloy, the connecting element contributes to fire safety.

[0012] In an alternative embodiment, the coupling segment and/or the base segment are each made of two or more materials.

[0013] Preferably the coupling segment is clickably connected to the base segment. A click connection of

this kind may, if desired, be detached again and can be restored if desired.

[0014] In a specific embodiment the coupling segment comprises one or more coupling elements that are connectably receivable in a groove of an exposed element in a receiving direction, for connecting the coupling segment to an exposed element, wherein the coupling segment extends beyond the base segment viewed in the receiving direction in such a way that the one or more coupling elements extend next to the base segment viewed in the receiving direction, so that one or more exposed elements, which are fastened to a substructure by means of one or more of said connecting elements, form a visible surface which, viewed in the receiving direction, follows along the substructure. These one or more coupling elements may for example be clickably receivable in a groove of an exposed element. Thus, the coupling elements may for example be click elements such as pairs of two small springs/wings that are located opposite one another, or small springs/wings extending successively next to each other. These click elements may for example be receivable in grooves of the strips that are accessible via a relatively narrow opening. During the connecting of the connecting elements to the strips, the small springs/wings are then pressed in during passage through the opening, then springing back once they have passed through the aforementioned narrow opening. Once the small springs/wings have sprung back, an aforementioned strip will not become detached undesirably from the connecting elements.

[0015] Preferably, in this specific embodiment, the one or more coupling elements extend to a distance from the base segment viewed in the receiving direction.

[0016] Also preferably, in this specific embodiment, the base segment comprises one or more passages that extend in the receiving direction, wherein the coupling segment extends through these one or more passages and extends on either side of these one or more passages viewed in the receiving direction, and wherein the coupling segment engages on the base segment at the level of these one or more passages to connect the coupling segment to the base segment. The connection between the coupling segment and the base segment is breakable at the level of the base segment. The connection between the coupling segment and the base segment is therefore breakable when the connecting element connects an exposed element to a substructure, for example by applying a hand tool or similar between this exposed element and the substructure. The coupling segment is for example clickably connectable to the coupling segment at the level of the one or more passages. For this, the coupling segment may comprise one or more components that are clickably receivable in the one or more respective passages.

[0017] More preferably, the coupling segment comprises a first coupling part, comprising the one or more coupling elements, and one or more second coupling parts, and the base segment comprises a sheet-like base that extends almost perpendicularly to the receiving direction, wherein this base comprises said one or more passages, an upper plate surface that is configured to be directed towards an exposed element and a lower plate surface located opposite the upper plate surface, wherein, viewed in the receiving direction, the first coupling part extends on the side of the upper plate surface and rests against the upper plate surface and the one or more second coupling parts each comprise a first component that adjoins the first coupling part and extends in a respective passage and on this first component there is an adjoining second component that rests against the lower plate surface. Because the second component rests against the lower plate surface and the first coupling part rests against the upper plate surface, here the base segment is clamped between components of the coupling segment. This produces a sturdy connection and there is little risk of this connection being broken undesirably.

[0018] The first material is preferably a springy material, such as spring steel. The springy material may also be a plastic. Springy materials are good for making click connections. A coupling segment made of a springy material may therefore be clickably connectable to an exposed element and detachably clickably connectable to the base segment. Preferably the coupling segment is then formed from a plate made of this first material, wherein this plate is then folded and/or cutouts are made in this plate, to form the desired coupling segment.

[0019] More preferably and in the specific embodiment, the coupling segment is formed from a plate made of this first material, wherein this plate is folded along a main fold line that divides the plate into two almost identical segments, wherein this main fold line extends almost parallel to the base, and each segment comprises a first sheet part with a rectangular perimeter, which adjoins the main fold line, and one or more second sheet parts adjoining this first sheet part, wherein the first sheet parts form the first coupling part and the second sheet parts are the respective second coupling parts, and wherein the first sheet parts, in the connected state of the base segment and the coupling segment and at the level of the second coupling parts, can be brought towards each other from the main fold line, to break the connection between the base segment and the coupling segment. The first sheet parts are foldable towards each other along the main fold line. Second sheet parts and second coupling parts are then terms that are interchangeable. The second coupling parts are preferably located two by two opposite each other, viewed in the direction of the main fold line. The plate may for example be a plate made of spring steel. A plate made of spring steel is foldable into the desired shape. Cutouts may also be made in these plates, in order to obtain the desired shape and for example to form the coupling elements. With the aid of this main fold line, the first coupling parts are foldable towards each other at the level of the second coupling parts. By means of a hand tool or the like it is possible

for example for the first sheet parts, in the connected state of the base segment and the coupling segment, to be brought towards each other, to break the connection between the base segment and the coupling segment.

[0020] More preferably, each second component is folded relative to the respective first component and the second component adjoins the lower plate surface. The second coupling parts then form legs that support the coupling segment. With this configuration, a sturdy connection is obtained between the base segment and the coupling segment.

[0021] Even more preferably, the base segment comprises at least two of said passages that extend at a distance from each other viewed in the direction of the main fold line, wherein at least two second sheet parts adjoin each first sheet part, wherein these second sheet parts extend at a distance from each other viewed in the direction of the main fold line and wherein the second sheet parts extend through the respective passages.

[0022] Also more preferably, each first sheet part comprises cutouts, for forming the coupling elements. The coupling elements are in this case configured to engage in a groove of an exposed element. It is possible for example to opt for cutouts that form tooth-shaped coupling elements. The coupling segment may then be formed from one sheet-like component that is cut and folded into the desired shape.

[0023] The present invention also relates to an assembly of a substructure and one or more connecting elements for connecting a strip to the substructure to form a wall or a floor, wherein the substructure comprises at least one profile, wherein the profile extends in a longitudinal direction, a transverse direction and a vertical direction, wherein the one or more connecting elements are connecting elements as described above. One or more of said profiles then form said substructure.

[0024] In a preferred embodiment, the profile comprises one or more openings that are accessible in the vertical direction and extend in succession viewed in the longitudinal direction, wherein the base segment of each connecting element comprises a base and an element that projects relative to the base and is receivable as a form-fit in said one or more openings and in the receiving direction, which extends in the vertical direction, so that the connecting element is couplable to the profile in at least one base position, wherein the projecting element extends through an aforementioned opening and the connecting element occupies an almost fixed place relative to the profile viewed in the longitudinal direction, and wherein the profile comprises a channel that extends in the longitudinal direction, and at a distance from the one or more openings viewed in the transverse direction, wherein the projecting element is receivable in the channel in the receiving direction, so that each connecting element is additionally couplable to the profile in a sliding position, wherein the projecting element extends into the channel. In the prior art, often during installation of the wall/floor, the connecting elements have already been connected to the profiles beforehand. It is only then necessary to connect the profiles to for example the façade, the ceiling, or the substrate and then connect the strips to the connecting elements, which ensures quick and easy installation. These connecting elements occupy a fixed position relative to the profiles and are fastened to the profiles at equal distances from one another. The disadvantage of this is that it allows little freedom of movement for placement of the strips. Façades, ceilings and substrates often do not have standard dimensions, so that the finish at the level of the edges is not always really aesthetic. Thus, for example, it will be necessary to saw off pieces of strips at the level of the edges. The strips may be placed in such a way that there is still some space between the successive strips, i.e. there is still some clearance between the strips. This clearance would in principle allow differences in dimensions to be compensated, but the position of the connecting elements on the profiles is already established beforehand. With the existing assemblies of profiles and connecting elements, it is not easy or is even impossible to readjust the position of the connecting elements, once they are fastened to the profiles. One solution would be to connect the connecting elements to the profiles only during installation of the wall or the floor, but installation then takes much more time. By means of the aforementioned preferred embodiment, the aforementioned problem is rectified and an assembly is obtained that gives an aesthetic finish, easily and quickly. With the aforementioned channel, there is more freedom of choice regarding the position of the connecting element relative to the profile, viewed in the longitudinal direction. Thus, it is possible to choose where the connecting element is located in the sliding position, viewed in the longitudinal direction. Accordingly, a floor or a wall can be given an aesthetic finish, regardless of the dimensions. The minimum dimension of the channel, viewed in the transverse direction, is preferably at least as large as the corresponding dimension of the one or more openings. The channel extends in the longitudinal direction. The dimensions of the channel may then be configured so that the projecting element, and thus also the connecting element, are installed slidably in the channel in the sliding position, in the longitudinal direction and over a certain length or the full length of the channel. Preferably the channel extends mainly at the bottom of said openings, viewed in the receiving direction. The one or more openings extend following one another, viewed in the longitudinal direction, and always at a distance from one another. In this case each connecting element is connectable to the profile in the two aforementioned positions, i.e. a base position in which the projecting element extends through an aforementioned opening and a sliding position in which the connecting element extends in the channel. Because a channel allows displacement of the projecting element or at least allows the connecting element to be connected to the profile in different positions, viewed in the longitudinal direction, therefore in the sliding position the fastening element can

be given the desired place relative to the profile, viewed in the longitudinal direction. It will then be possible to choose the mutual distance between two successive strips that are connected to the profile. A fastening element that is in the sliding position, whether or not it is brought to the desired place by displacement, may then for example additionally be fastened with a screw or the like to the profile, so that when the wall or terrace is in use, the connecting element can no longer slide in the longitudinal direction of the profile. This additional fastening of the connecting element may be carried out before or after a strip is fastened to the profile. Installation can then take place easily and quickly, while the strips are always fastenable aesthetically to the profile. Thus, for example, it will be possible to deliver the profile with the connecting elements fastened thereon, wherein the connecting elements are all located in said base positions. The base positions then form the standard positions. If it appears that one or more connecting elements must be located in a non-standard position, in order to allow the strips to be connected aesthetically to the profile, these one or more connecting elements are brought to their sliding positions, and these one or more connecting elements will for example be displaced until the desired place on the profile is reached, in such a way that all strips are connectable to the profile in an aesthetic manner. It is then only necessary to bring one or more connecting elements into the sliding position, so that installation is still always easy. By providing an aforementioned channel, each connecting element can always occupy the desired place in the longitudinal direction. Thus, a connecting element that extends between two other connecting elements can for example occupy any place between these two connecting elements, viewed in the longitudinal direction. The channel preferably extends over the full length of the profile. However, there may also be several such channels extending successively one after another, viewed in the longitudinal direction.

[0025] The aforementioned openings are for example circular.

[0026] In an alternative embodiment of this preferred embodiment, the base segment and the coupling segment also do not need to be two separate components that are joined together detachably. Thus, the base segment and the coupling segment may for example be configured as one piece. The fastening element is then for example a plastic element that is obtained by injection moulding. The base segment and the coupling segment may also be joined together non-detachably. This signifies that for example they are not detachable from each other without damage. The feature 'the base segment and the coupling segment are two separate components that are joined together detachably' is not in this case an essential feature and thus does not need to be present on assembly.

[0027] More preferably, in the preferred embodiment or the alternative embodiment, the profile comprises two vertical parts that extend in the longitudinal direction and that extend at a distance from each other viewed in the transverse direction, wherein the openings extend between these vertical parts viewed in the transverse direction and wherein the vertical parts extend beyond the one or more openings viewed in the vertical direction, wherein the base segment is clickably receivable between these vertical parts, and the dimension of the base segment in the transverse direction, in the base position and the sliding position of the connecting element, therefore almost coincides with said distance between the vertical parts. The connecting element is in this case additionally clicked firmly between these vertical parts, in the base position and in the sliding position. A click connection is a connection that can be made easily and quickly. In addition, if desired, this connection is also breakable again. Therefore a connecting element that is connected to the profile in an aforementioned base position is detachable from the profile again, for the connecting element to be connected to the profile in the sliding position. In the sliding position, this click connection preferably allows a displacement of the connecting element in the longitudinal direction.

[0028] Also preferably, in the preferred embodiment or the alternative embodiment, the base position is rotated 180° relative to the sliding position, namely about an axis that extends in the vertical direction. Therefore it is easy to work with said openings that extend on one line viewed in the longitudinal direction and with an aforementioned channel that extends in the longitudinal direction, at a distance from the openings viewed in the transverse direction. The projecting element is preferably off-centre, viewed in the transverse direction in a connected state of the connecting element to the profile. Viewed in the transverse direction, the openings and the channel also preferably extend off-centre, wherein the distance from said openings to the middle of the profile and the distance from the channel to the middle of the profile are almost the same.

[0029] More preferably, viewed in the transverse direction, the distance from the channel to its farthest located vertical part is roughly equal to the distance from an aforementioned opening to its farthest located vertical part and wherein the distance from the opening to its nearest located vertical part is roughly equal to the distance between the projecting element and an edge of the base segment when the connecting element is connected to the profile in an aforementioned base position. Here, the distance always means the minimum distance. The distance to the middle of the profile that extends between the two vertical parts, viewed in the transverse direction, is then preferably the same for both the channel and an aforementioned opening. Here, the projecting element is then off-centre, viewed in the transverse direction. The openings are then located on the left and the channel is located on the right, or vice versa, viewed in the longitudinal direction. Then by providing said connecting element, wherein said positions are rotated 180° relative to each other viewed in the vertical direction, and wherein

the projecting element is not located centrally viewed in the transverse direction, in the base position and the sliding position, it is possible to choose whether to fit the projecting element in an aforementioned opening or in the channel. "Distances that are roughly equal" means distances that differ by less than 0.5 cm, preferably less than 0.3 cm and most preferably less than 0.1 cm.

[0030] The present invention is now explained in more detail on the basis of the following detailed description of a preferred embodiment of a connecting element and an assembly according to the present invention. The purpose of this description is exclusively to present illustrative examples and point out further advantages and features, and should thus not be interpreted in any way as a limitation of the scope of the invention or of the patent rights claimed in the claims.

[0031] In this detailed description, the appended drawings are referred to by means of reference numbers, wherein

- ***Fig. 1*** is a perspective view of a first embodiment of a connecting element according to the invention;
- ***Fig. 2*** is a perspective view of an assembly of a profile and a connecting element according to the invention, in which the profile is shown partially and in which the connecting element is the connecting element as shown in Fig. 1;
- ***Fig. 3*** is a side view of the connecting element shown in Fig. 1;
- ***Fig. 4*** is a front view of the connecting element shown in Fig. 1;
- ***Fig. 5*** is a perspective view of the connecting element shown in Fig. 1, where the underside is clearly visible;
- ***Fig. 6*** shows a cross-section of an assembly of a profile and a connecting element according to the invention, in which the connecting element is the connecting element as shown in Fig. 1 and in which the connecting element is connected to the profile in a sliding position;
- ***Fig. 7*** is a cut-away perspective view of the connecting element shown in Fig. 1;
- ***Fig. 8*** is a perspective view of a second embodiment of a connecting element according to the invention;
- ***Fig. 9*** is a cut-away perspective view of the connecting element shown in Fig. 8;
- ***Fig. 10*** is a perspective view of an embodiment of a profile of an assembly according to the invention.

[0032] The connecting elements (1) as shown in the figures comprise a base segment (2) and a coupling segment (4). The coupling segment (4) is clickably detachably connected to the base segment (2). The coupling segment (4) is formed from a plate made of spring steel, wherein this plate is folded and cut to the desired shape. The base segment (2) is made of a metal, such as aluminium, or a metal alloy, wherein the material of the coupling segment (4) differs from the material of the base segment (2).

[0033] By means of the base segment (2), each connecting element (1) is couplable to a substructure (3) (see Figs. 2 and 6). Here, the substructure (3) comprises one or more elongated profiles (3), such as aluminium profiles (3). The base segment (2) is clickably receivable between vertical walls (14) of the profile (3). By means of the coupling segment (4), each connecting element (1) is clickably receivable in a groove of a strip, in a receiving direction (A). For this, the coupling segments (4) each comprise a plurality of coupling elements (5), which are wing-shaped, and are clickably receivable in a groove of a strip and are configured to engage in the strip. The coupling segment (4) extends beyond the base segment (2), in this receiving direction (A). Consequently, one or more strips, which are fastened by means of one or more of said connecting elements (1) to a substructure (3), form a visible surface which, viewed in the receiving direction (A), follows along the substructure (3). The profile (3) extends in a longitudinal direction (C), a transverse direction (D) and a vertical direction (A). In a connected state of the connecting elements (1) to the profile (3), the receiving direction (A) extends in the vertical direction (A).

[0034] In both embodiments of the connecting element (1), the base segment (2) comprises a sheet-like base (7) that extends almost perpendicularly to the receiving direction (A), wherein this base (7) comprises two passages (6) that extend in the receiving direction (A), an upper plate surface (16a) that is configured to be directed towards an exposed element and a lower plate surface (16b) located opposite the upper plate surface (16a). Of course, embodiments are also possible with one or more than two passages (6). The coupling segment (4) extends through both passages (6) and is located on either side of these passages (6) viewed in the receiving direction (A). The coupling segment (4) engages on the base segment (2) at the level of the passages (6) to connect coupling segment (4) to the base segment (2) and moreover the coupling segment (4) rests against at least the lower plate surface (16b) of the base (7).

[0035] In the first embodiment, the coupling segment comprises (4) a first coupling part, comprising the coupling elements (5), and one or more second coupling parts. The first coupling part extends on the side of the upper plate surface (16a) and rests against the upper plate surface (16a). The second coupling parts each comprise a first component (8) that adjoins the first coupling part and extends in a respective passage (6), and a second component (9) adjoining this first component (8), which rests against the lower plate surface (16b). Here, the base (7) is clamped between the first coupling part and the second components (9) of the second coupling parts. The plate from which the first coupling segment (4) is formed is folded along a main fold line (B) that divides the plate into two almost identical segments, wherein this main fold line (B) extends almost parallel to the sheet-like base (7), and each segment comprises a

first sheet part (10) with a rectangular perimeter that forms with the main fold line (B) and two second sheet parts adjoining this first sheet part (10), wherein the first sheet parts (10) form the first coupling part and the second sheet parts are the respective second coupling parts, and wherein the first sheet parts (10), in the connected state of the base segment (2) and coupling segment (4) and at the level of the second coupling parts, are foldable towards each other along the main fold line (B), to break or to create the connection between the base segment (2) and the coupling segment (4). Furthermore, the first sheet parts (10) each roughly extend along a curved plane at the level of the respective one or more second coupling parts, wherein the first components (8) of these second coupling parts extend along the respective aforementioned plane and the second components (9) are folded relative to this plane so that these adjoin the lower plate surface (16b) of the base (7). Each first sheet part (10) comprises cutouts for forming the coupling elements (5).

[0036] In the second embodiment, the coupling segment (4) is formed from a plate made of spring steel, which is cut and folded. Thus, the coupling segment (4) comprises a base sheet part (17) and two first sheet parts (10) each comprising one coupling element (5). The first sheet parts (10) are connected to the base sheet part (17) and extend beyond the base sheet part (17) viewed in the receiving direction (A). The sheet-like base (7) of the base segment (2) comprises, for each first sheet part (10), a corresponding passage (6) that extends in the receiving direction (A) and through which the first sheet parts (10) are configured to extend in such a way that the base sheet part (17) extends against the lower plate surface (16b) of the base (7).

[0037] The profile (3) shown in the figures is an elongated profile (3) that extends in the longitudinal direction (C), the transverse direction (D) and the vertical direction (A). The profile (3) may among other things comprise a base plate with a plurality of circular openings (11), which extend successively along a line that extends in the longitudinal direction (C) and at a constant distance from one another. The dimensions of the openings (11) are almost identical. The base plate extends in the longitudinal direction (C) and the transverse direction (D) and said openings (11) extend through the base plate in the vertical direction (A). The profile (3) further comprises a channel (13) that for example forms a groove in the base plate, wherein this channel (13) extends in the longitudinal direction (C) and at a distance from the said openings (11) viewed in the transverse direction (D), wherein the minimum dimension of the channel (13), viewed in the transverse direction (D), is the same as the diameter of an aforementioned opening (11). This channel (13) comprises a bottom wall that extends in the longitudinal direction (C) and the transverse direction (D) and two vertical walls that extend in the longitudinal direction (C) and the vertical direction (A). The channel (13) extends over the full length of the profile (3). The profile (3) further comprises two vertical sheet-like walls (14) that are connected to the base plate and between which the base plate extends, wherein these sheet-like parts (14) extend almost parallel to each other and each in the longitudinal direction (C) and vertical direction (A) and at a constant distance from each other in the transverse direction (D). As can be seen in Fig. 10, the profile (3) comprises for example two supports on which the vertical walls (14) are supported and additional supports that support the base plate centrally. The profile (3) further comprises two edge portions which at the top adjoin the respective vertical walls (14), wherein these edge portions extend in the longitudinal direction (C) and the transverse direction (D) and are directed towards each other in the transverse direction (D) and thus extend beyond the respective vertical walls (14) viewed in the transverse direction (D). The profile (3) comprises for example two ribs which at the top adjoin the base plate, which extend in the longitudinal direction (C) and extend vertically. Viewed in the transverse direction (D) the distance between said openings (11) and the nearest vertical wall (14) is roughly equal to the distance between the channel (13) and the nearest vertical wall (14).

[0038] The base (7) of the base segment (2) in both embodiments of the connecting elements (1) is configured, in a connected state to the profile (3), to extend in the longitudinal direction (C) and the transverse direction (D) and has a certain height in the vertical direction (A). The dimension viewed in the transverse direction (D) coincides with the distance between the two vertical walls (14) so that the base (7) is clickably and clampably receivable between these vertical walls (14), and the height coincides with the corresponding distance between the edge portions and the optional ribs so that the base (7) is also clamped in the vertical direction (A). This is clearly visible in Fig. 6. Each base segment (2) further comprises an element (12) projecting relative to the base (7), which projects viewed in the vertical direction (A). As can be seen in the figures, the projecting element (12) extends to the bottom of the base (7). The projecting element (12) is a form-fit with an aforementioned opening (11), and the minimum distance, viewed in the transverse direction (D), between the projecting element (12) and an edge of the base (7), almost coincides with the corresponding distance between an aforementioned opening (11) and the nearest vertical wall (14), so that the projecting element (12) is receivable through an aforementioned opening (11), while the base (7) is clamped between the vertical walls (14).

[0039] Each connecting element (1) is connectable to the profile (3) in two positions, being a base position in which the projecting element (12) extends through an aforementioned opening (11) and occupies a fixed position relative to the profile (3) viewed in the longitudinal direction (C), and a sliding position in which the projecting element (12) extends in the channel (13) and is installed slidably relative to the profile (3) in the longitudinal direction (C). The base position and the sliding position are

rotated 180° relative to each other and about an axis that extends in the vertical direction (A). Both in the sliding position and an aforementioned base position, the base (7) is clicked between the vertical walls (14) and clamped in the vertical direction (A). To prevent displacement in this sliding position in the longitudinal direction (C), additionally a screw may be fastened through the base (7) and thus in the base plate. For this, the base (7) may be provided with one or more screw passages (15) that extend through the base (7), in the vertical direction (A).

Claims

1. Connecting element (1) comprising a base segment (2), with which the connecting element (1) is connectable to a substructure (3), and comprising a coupling segment (4) with which the connecting element (1) is connectable to an exposed element, such as a strip, **characterized in that** the base segment (2) and the coupling segment (4) are two separate components that are joined together detachably.

2. Connecting element (1) according to Claim 1, **characterized in that** the coupling segment (4) is made of a first material comprising metal or plastic and the base segment (2) is made of a second material comprising metal or plastic, wherein the first material and second material are different.

3. Connecting element (1) according to one of the preceding claims, **characterized in that** the coupling segment (4) comprises one or more coupling elements (5) that are connectably receivable in a groove of an exposed element in a receiving direction (A), for connecting the coupling segment (4) to an exposed element, wherein the coupling segment (4) thus extends beyond the base segment (2) viewed in the receiving direction (A) and the one or more coupling elements (5) extend next to the base segment (2) viewed in the receiving direction (A), so that one or more exposed elements, which are fastened by means of one or more of said connecting elements (1) to a substructure (3), form a visible surface which, viewed in the receiving direction (A), follows along the substructure (3).

4. Connecting element (1) according to Claim 3, **characterized in that** the base segment (2) comprises one or more passages (6) that extend in the receiving direction (A), wherein the coupling segment (4) extends through these one or more passages (6) and extends on either side of these one or more passages (6) viewed in the receiving direction (A), and wherein the coupling segment (4) engages on the base segment (2) at the level of these one or more passages (6) to connect the coupling segment (4) to the base segment (2).

5. Connecting element (1) according to Claim 4, **characterized in that** the coupling segment (4) comprises a first coupling part, comprising the one or more coupling elements (5), and one or more second coupling parts, and **in that** the base segment (2) comprises a sheet-like base (7) that extends almost perpendicularly to the receiving direction (A), wherein this base (7) comprises said one or more passages (6), an upper plate surface (16a) that is configured to be directed towards an exposed element and a lower plate surface (16b) located opposite the upper plate surface (16a), wherein, viewed in the receiving direction (A), the first coupling part extends on the side of upper plate surface (16a) and rests against the upper plate surface (16a) and the one or more second coupling parts each comprise a first component (8) that adjoins the first coupling part and extends in a respective passage (6) and a second component (9) adjoining this first component (8) that rests against the lower plate surface (16b).

6. Connecting element (1) according to one of the preceding claims, **characterized in that** the first material is a springy material such as spring steel.

7. Connecting element (1) according to Claims 5 and 6, **characterized in that** the coupling segment (4) is formed from a plate made of this first material, wherein this plate is folded along a main fold line (B) that divides the plate into two almost identical segments, wherein this main fold line (B) extends almost parallel to the sheet-like base (7), and **in that** each segment comprises a first sheet part (10) with a rectangular perimeter, which adjoins the main fold line (B) and one or more second sheet parts adjoining this first sheet part (10), wherein the first sheet parts (10) form the first coupling part and the second sheet parts are the respective second coupling parts, and wherein the first sheet parts (10), in the connected state of the base segment (2) and coupling segment (4) and at the level of the second coupling parts, can be brought towards each other from the main fold line (B), to break the connection between the base segment (2) and the coupling segment (4).

8. Connecting element (1) according to Claim 7, **characterized in that** each second component (9) is folded relative to the respective first component (8) and adjoins the lower plate surface (16b).

9. Connecting element (1) according to Claim 7 or 8, **characterized in that** the base segment (2) comprises at least two of said passages (6) that extend at a distance from each other viewed in the direction of the main fold line (B), wherein at least two second sheet parts adjoin each first sheet part (10), wherein these second sheet parts extend at a distance from each other viewed in the direction of the main fold

line (B) and **in that** the second sheet parts extend through the respective passages (6).

10. Connecting element (1) according to one Claims 7 to 9, **characterized in that** each first sheet part (10) comprises cutouts, to form the coupling elements (5).

11. Assembly of a substructure (3) and one or more connecting elements (1) for connecting a strip to the substructure (3) to form a wall or a floor, wherein the substructure (3) comprises at least one profile (3), wherein the profile (3) extends in a longitudinal direction (C), a transverse direction (D) and a vertical direction (A), **characterized in that** the one or more connecting elements (1) are connecting elements (1) according to one or more of Claims 1 to 10.

12. Assembly according to Claim 11, **characterized in that** the profile (3) comprises one or more openings (11) that are accessible in the vertical direction (A) and extend in succession viewed in the longitudinal direction (C), wherein the base segment (2) of each connecting element (1) comprises a base (7) and an element (12) projecting relative to the base (7) and is receivable as a form-fit in said one or more openings (11) in the receiving direction (A) that is configured to extend in the vertical direction (A), so that the connecting element (1) is couplable to the profile (3) in at least one base position, wherein the projecting element (12) extends through an aforementioned opening (11) and the connecting element (1) occupies an almost fixed place relative to the profile (3) viewed in the longitudinal direction (C), and wherein the profile (3) comprises a channel (13) that extends in the longitudinal direction (C), and at a distance from the one or more openings (11) viewed in the transverse direction (D), wherein the projecting element (12) is receivable in the channel (13) in the vertical direction (A), so that each connecting element (1) additionally is couplable to the profile (3) in a sliding position, wherein the projecting element (12) extends in the channel (13).

13. Assembly according to Claim 12, **characterized in that** the profile (3) comprises two vertical parts (14) that extend in the longitudinal direction (C) and that extend at a distance from each other viewed in the transverse direction (D), wherein the openings (11) extend between these vertical parts (14) viewed in the transverse direction (D) and wherein the vertical parts (14) extend beyond the one or more openings (11) viewed in the vertical direction (A), wherein the base segment (2) is clickably receivable between these vertical parts (14), and the dimension of the base segment (2) in the transverse direction (D), in the base position and the sliding position of the connecting element (1), almost coincides with said distance between the vertical parts (14).

14. Assembly according to Claim 12 or 13, **characterized in that** the base position is rotated 180° relative to the sliding position, about an axis that extends in the vertical direction (A).

15. Assembly according to Claims 13 and 14, **characterized in that**, viewed in the transverse direction (D), the distance from the channel (13) to its farthest located vertical part (14) is roughly equal to the distance from an aforementioned opening (11) to its farthest located vertical part (14) and wherein the distance from the opening (11) to its nearest located vertical part (14) is roughly equal to the distance between the projecting element (12) and an edge of the base segment (2) when the connecting element (1) is connected to the profile (3) in an aforementioned base position.

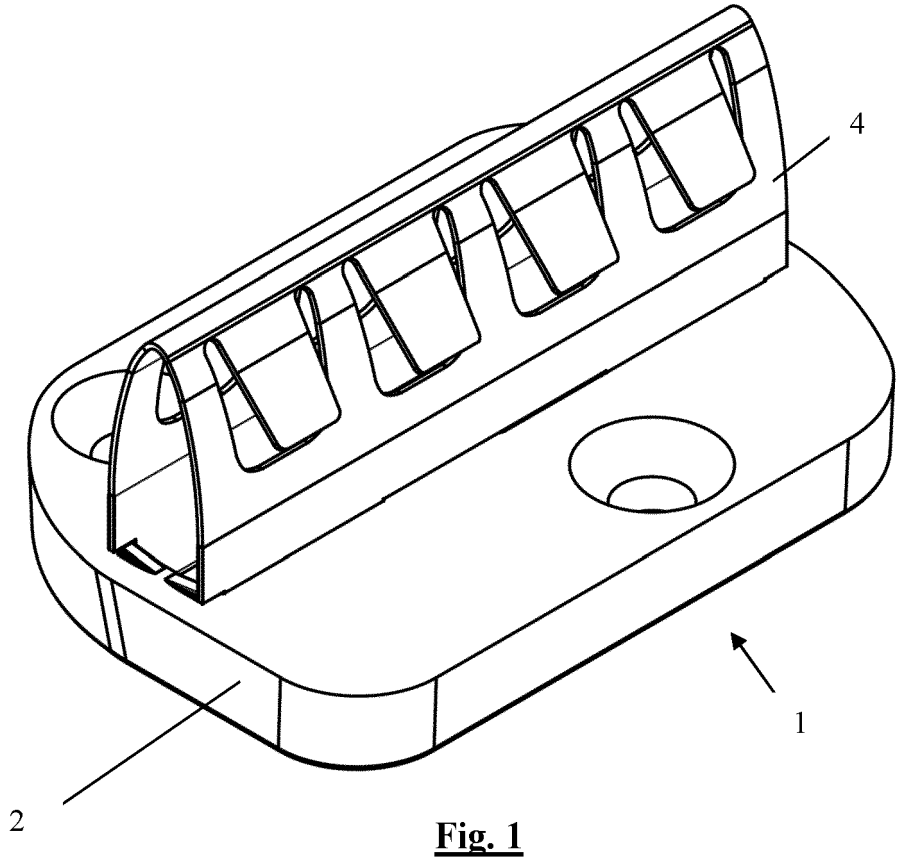

Fig. 1

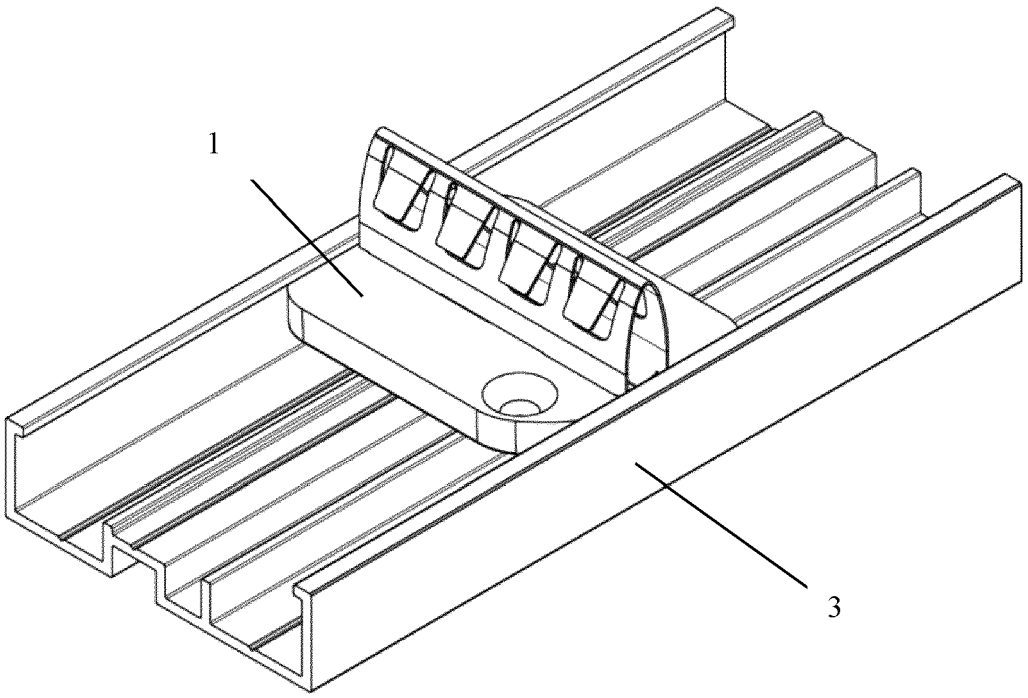

Fig. 2

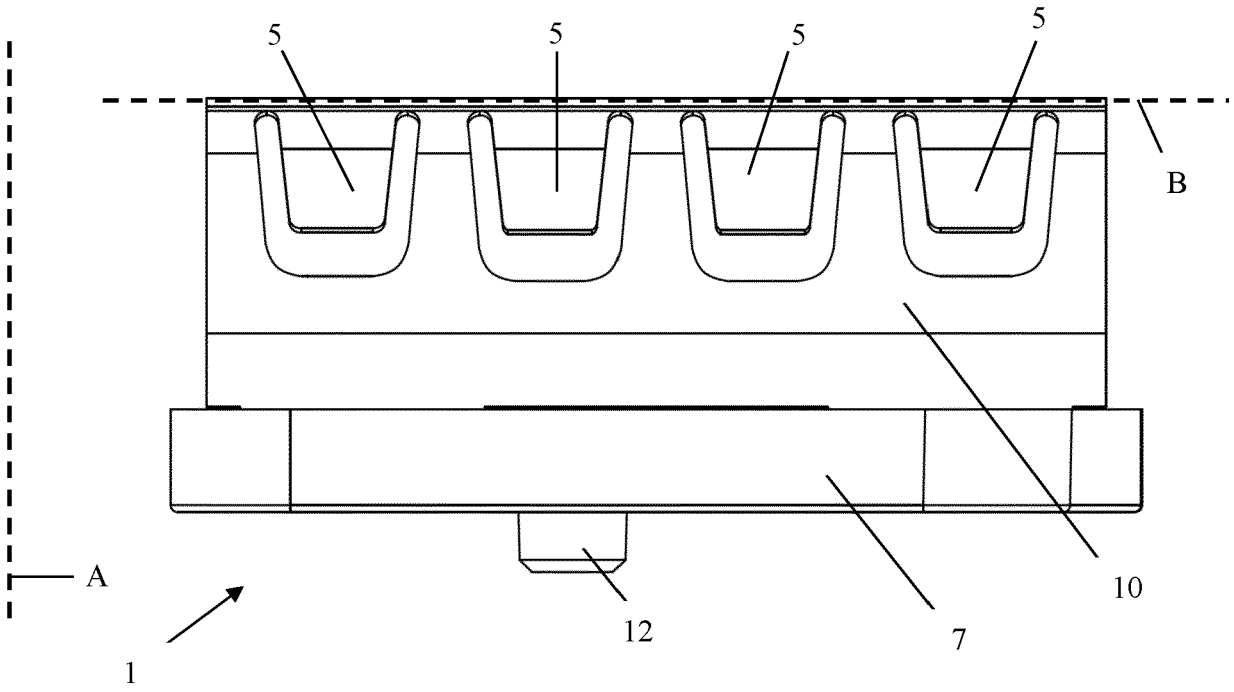

Fig. 3

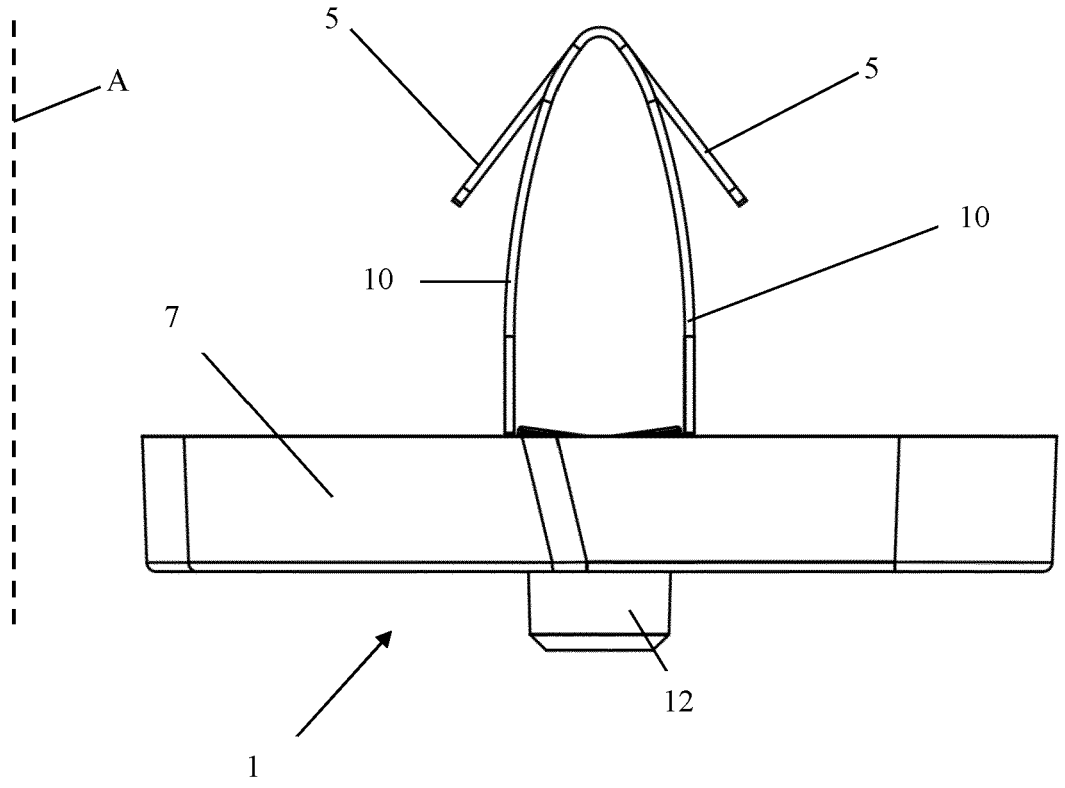

Fig. 4

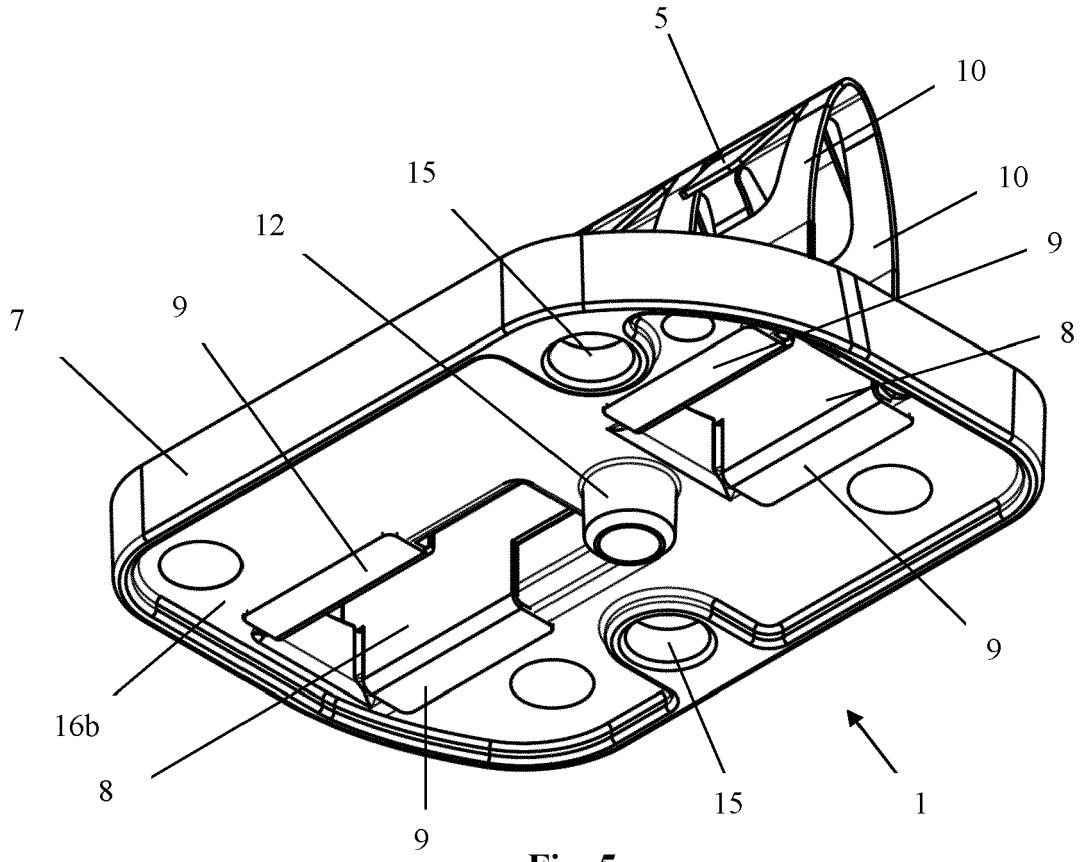

Fig. 5

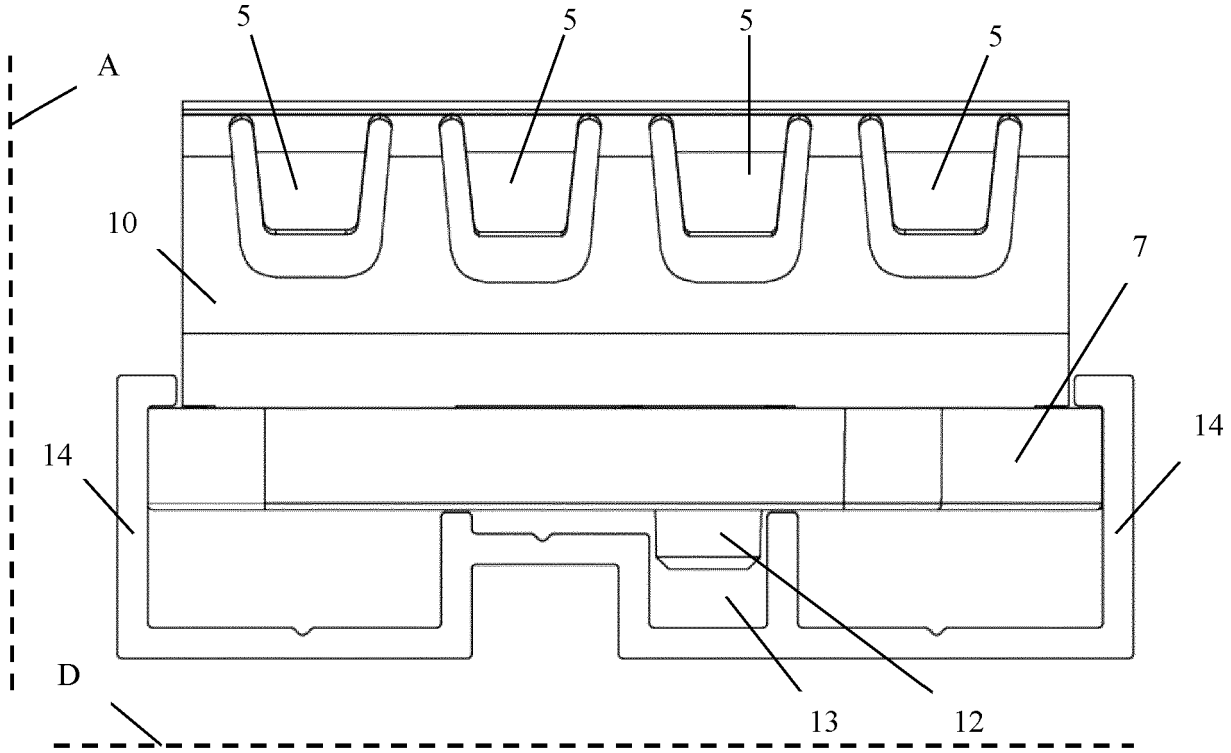

Fig. 6

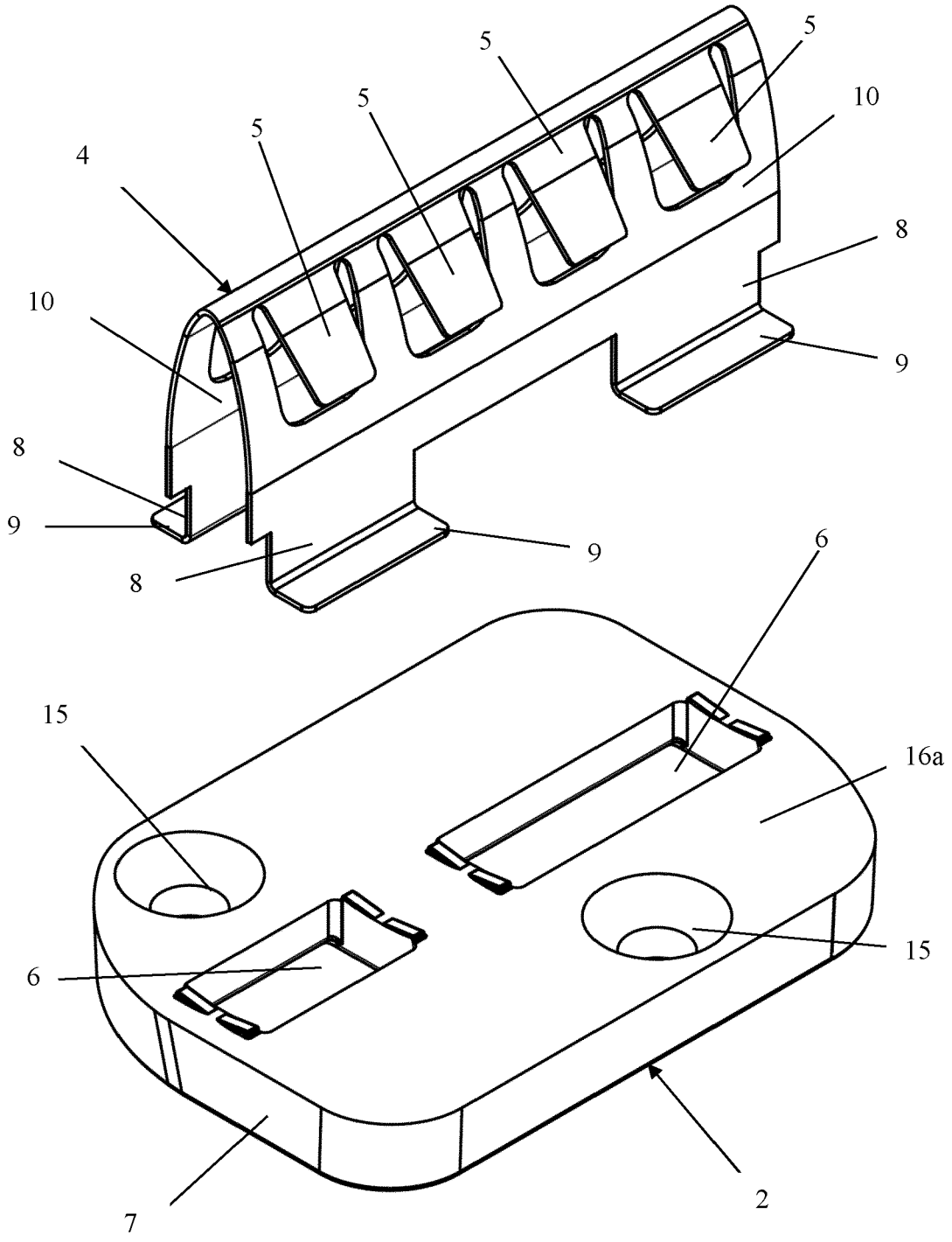

Fig. 7

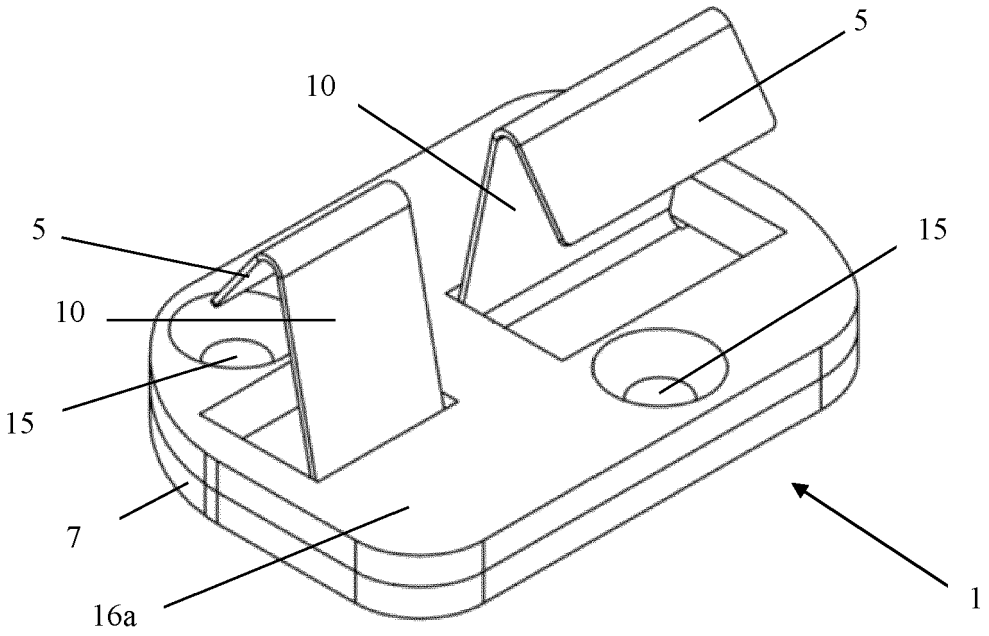

Fig. 8

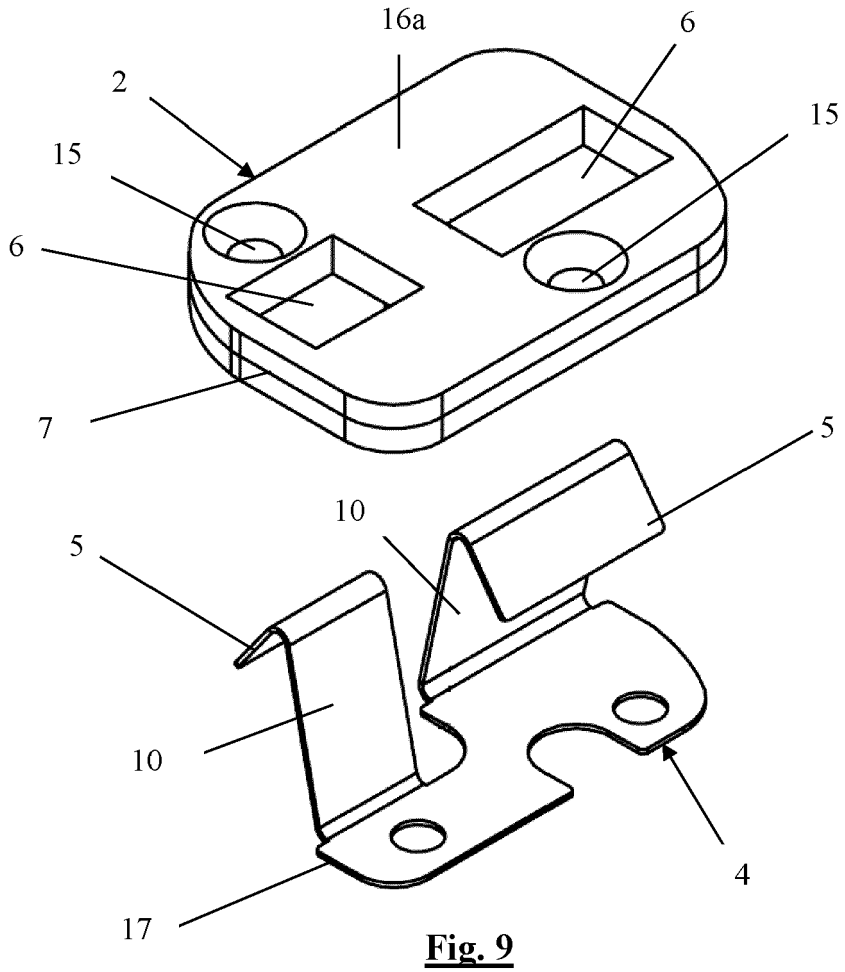

Fig. 9

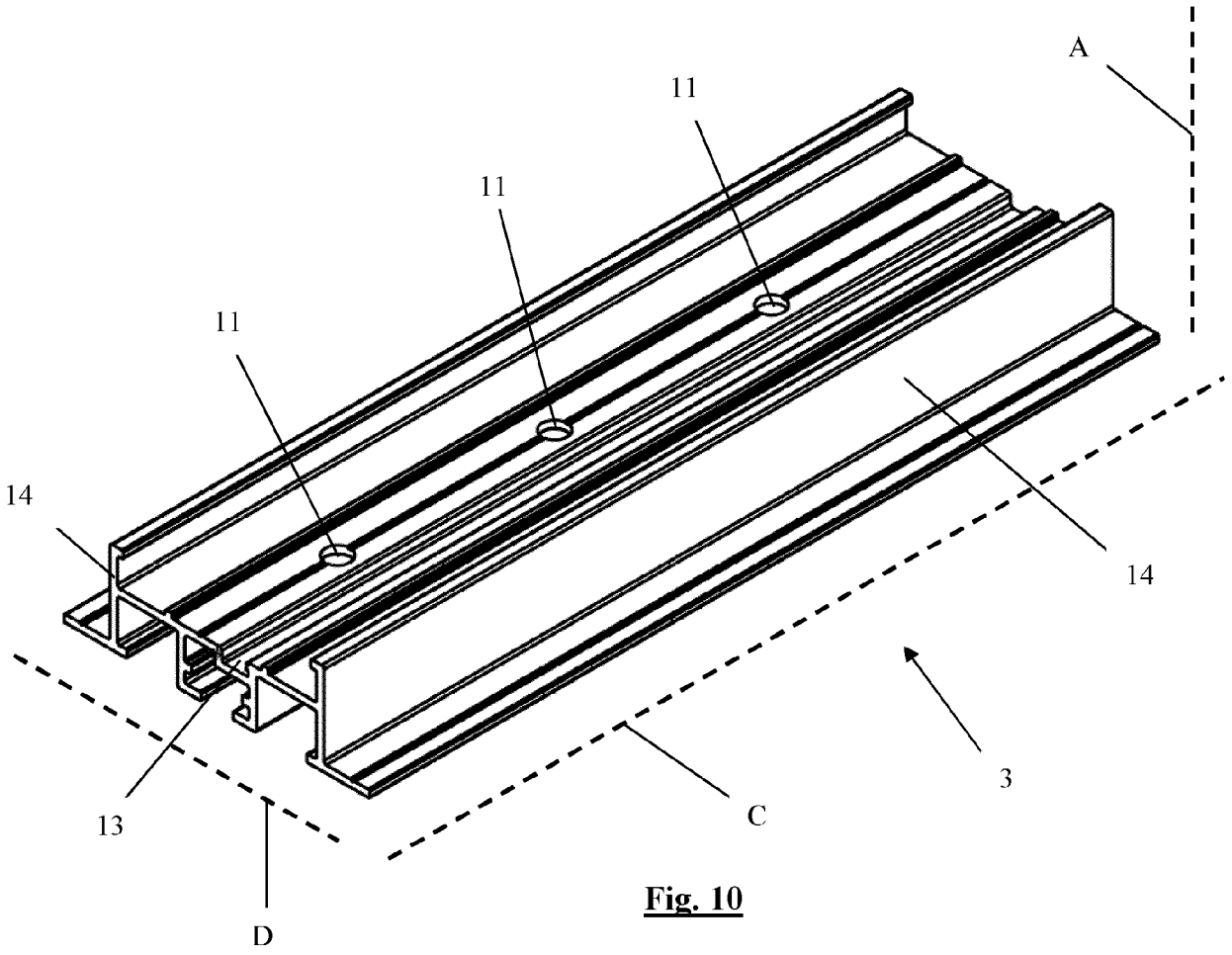

Fig. 10

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EUROPEAN SEARCH REPORT

Application Number
EP 21 19 1590

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	DE 297 07 884 U1 (FENNEL GMBH [DE]) 25 September 1997 (1997-09-25)	1,3-5,11	INV. E04F15/02
Y	* figures 1-2 * * page 4, last paragraph * * page 6, paragraph 1. *	2,6, 12-14	E04F13/08
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A	* figure 13 * * paragraph [0038] * * paragraph [0053] *	7-10	
Y	EP 3 282 066 A1 (UPM-KYMMENE CORP [FI]) 14 February 2018 (2018-02-14)	12-14	
A	* figures 1a-1f, 2a, 3a, 4 * * paragraph [0013] * * paragraph [0021] - paragraph [0024] * * paragraph [0048] *	15	

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E04F

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	7 September 2021	Estorgues, Marlène

CATEGORY OF CITED DOCUMENTS

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