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## (54) Assembly provided with at least one tile and suspension profiles therefor

(57) An assembly provided with at least one tile and suspension profiles therefor, wherein said tile (1) is provided on a rear side (2) with at least one groove (3, 4), while each groove (3, 4) is provided, at a distance (K) of the tile rear side, with an undercut (5, 6), the suspension profiles (10; 20; 30) each being provided with at least one first flange (11, 15) for coupling said tile (1) by said groove undercut (5, 6), while each suspension profile (10; 20; 30) is provided with at least one second flange (12, 16) extending, during use, at a distance (L) from the rear side (2) of a tile (1) coupled to said first flange (11, 15), said second flange (12, 16) and/or said tile rear side (2) being provided with elastic means (7) which, during use, are compressed between the tile (1) and the second flange (12, 16).

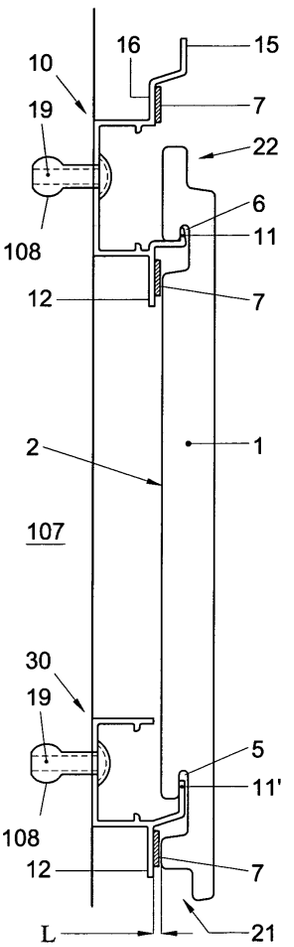



Fig. 6

EP 1 460 200 A1

## Description

**[0001]** The invention relates to an assembly provided with at least one tile and suspension profiles therefor.

**[0002]** Such an assembly is known from practice. During use of the known assembly, the at least one tile is suspended via the suspension profiles from, for example, a construction, a building or the like. On a rear side, the tile of the known assembly is provided with a groove so as to be suspended from at least one suspension profile. Moreover, the known assembly is provided with securing clips which are to be provided during suspension for securing the tile to the suspension profile. An advantage of this assembly is that the at least one tile is suspended so that use of tile glue can be avoided for arranging the tile in the desired position.

**[0003]** A disadvantage of the known assembly is that arranging the securing clips in the desired position is relatively cumbersome and time-consuming. Moreover, after fitting, the at least one tile appears to still be somewhat movable, which can lead to the tile rattling against the suspension profile, for instance under the influence of wind. Due to this rattling, the tile and the profile can become damaged. Furthermore, the tile rattling causes an annoying sound.

**[0004]** The present invention contemplates a new assembly of the above-mentioned type, wherein the drawbacks mentioned are avoided while maintaining its advantages. In particular, the invention contemplates an assembly with which the at least one tile can be suspended relatively rapidly.

**[0005]** To this end, the assembly according to the invention is characterized by the features of claim 1.

**[0006]** According to the invention, the tile is provided on a rear side with at least one groove which is provided, at a distance from the tile rear side, with an undercut. Further, each suspension profile is provided with at least one first flange for coupling the tile by the groove undercut. After fitting, the at least first flange of the profile extends, at least partly, in the groove undercut, so that the profile can retain the tile firmly, with relatively little clearance. Each suspension profile is further provided with at least one second flange which, during use, extends at a distance from the rear side of a tile coupled to the first flange. This second flange and/or this tile rear side is provided with elastic means which, during use, are compressed between the tile and the second flange. As a result, in a simple manner, these elastic means effect a securing of the tile coupled to the suspension profile. In this manner, use of separate securing clips for the purpose of securing the tile is avoided. Thus, coupling and securing the at least one tile to the suspension profiles can be carried out in one operation so that fitting the assembly can be carried out relatively rapidly. An additional advantage is that the elastic means, at least in the compressed condition, prevent undesirable rattling of the tile well.

**[0007]** For the tile to be secured well it is further advantageous when the elastic means comprise a friction enhancing material. Such material can comprise, for instance, rubber, in particular a plastic cellular rubber, neoprene or the like. Further, the elastic means are preferably designed in a relatively inexpensive, durable and compressible plastic.

**[0008]** A preferred embodiment of the invention is characterized by the features of claim 2.

**[0009]** The tile is provided with at least two substantially parallel grooves provided with undercuts. As a result, the tile can be engaged relatively sturdily via first flanges of the suspension profiles. The tile can be solidly secured in a suspended position, in particular through the use of at least two second flanges for compressing respective elastic means with the tile rear side.

**[0010]** Further, the invention provides a tile which is characterized by the features of claim 30. This tile can be engaged relatively sturdily by one or more suspension profiles, for the purpose of rapidly suspending the tile, securing the tile and avoiding rattling of the tile.

**[0011]** Further, the invention provides a suspension profile characterized by the features of claim 31. The suspension profile can well engage the groove undercut of one or more tiles. Preferably, the suspension profile is provided with the elastic means for the purpose of rapidly fitting and securing one or more tiles to the profile.

**[0012]** Furthermore, the invention provides a construction, in particular a building, provided with the present assembly, while the assembly offers the above-mentioned advantages of the construction.

**[0013]** Further, the invention provides a method for suspending tiles, which is characterized in an advantageous manner by the features of claim 35.

**[0014]** As elastic material is provided between a part of the suspension profile extending behind the tile on one side, and the tile on the other side such that the elastic material between the tile and suspension profile is compressed, the tile is secured to the suspension profile with relatively simple means in a relatively rapid and easy manner.

**[0015]** Further elaborations of the invention are described in the subclaims. Presently, the invention will be clarified with reference to an exemplary embodiment and the drawing. In the drawing:

Fig. 1 shows a front view of an exemplary embodiment of the invention;
Fig. 2 shows a cross section of a tile of the exemplary embodiment represented in Fig. 1;
Fig. 3A shows a perspective view of a starting profile of the exemplary embodiment represented in Fig. 1;
Fig. 3B shows a cross section of the profile represented in Fig. 3A;
Fig. 4A shows a perspective view of a middle profile of the exemplary embodiment represented in Fig. 1;
Fig. 4B shows a cross section of the profile represented in Fig. 4A;

Fig. 5A shows a perspective view of an end profile of the exemplary embodiment represented in Fig. 1;
Fig. 5B shows a cross section of the profile represented in Fig. 5A;
Fig. 6 shows a tile suspended from a starting and middle profile of the exemplary embodiment represented in Fig. 1;
Fig. 7 shows a cross section along the line A-A of Fig. 1;
Fig. 8 shows a cross section along the line B-B of Fig. 1;
Fig. 9 shows a cross section along the line C-C of Fig. 1;
Fig. 10 shows a cross section along the line D-D of Fig. 1;
Fig. 11 shows a cross section along the line E-E of Fig. 1;
Fig. 12 shows a cross section along the line F-F of Fig. 1;
Fig. 13 shows a similar cross section as Fig. 12 of an alternative embodiment of a corner;
Fig. 14 shows a cross section along the line G-G of Fig. 1; and
Fig. 15 shows a cross section along the line H-H of Fig. 1.

**[0016]** Fig. 1 shows a front view of a construction Q, provided with an assembly comprising tiles 1 and suspension profiles 10, 20, 30. The tiles 1 form a tile wall suspended by the suspension profiles 10, 20, 30 from the construction Q. The suspension profiles 10, 20, 30 mentioned are not visible in Fig. 1.

**[0017]** Fig. 2 shows one of the tiles 1 in cross-section. On a rear side, the tile 1 is provided with two substantially parallel grooves 3, 4 the lower groove 3 of which - at least in the drawing - is wider than the upper groove 4, measurer in a longitudinal tile direction indicated with arrow Z and in a plane parallel to the rear side 2 of the tile. On the same side, at a distance K from the tile rear side, each of these grooves 3, 4 is provided with an undercut 5, 6, respectively, while the distance K is measured from a central axis of the undercut 5, 6. The undercuts 5, 6 extend substantially parallel to the tile rear side 2. Measured in the above-mentioned longitudinal tile direction Z, the undercut 5 of the widest groove 3 is deeper than the undercut 6 of the other groove 4. The two grooves 3, 4 extend adjacent opposite edges 21, 22 of the tile 1. The one tile edge 22, represented at the top in Fig. 2, is provided with an edge flange 24 extending on the tile rear side 2 while the other, lower tile edge is provided on the same side with an edge groove 23. As shown in Figure 7, during use of the assembly, the tile edge flanges 24, when the tiles 1 are suspended with the tile edge flanges 21, 22 alongside each other, the tile edge flanges 24 can somewhat enter into the tile edge grooves 23 so that the tile edges 21, 22 of the respective tiles 1 slightly overlap. As furthermore shown in Fig. 7, tiles 1 can be suspended alongside each other such that a particular slit continues to exist between the respective tile edges 21, 22 facing each other. This slit can compensate for possible thermal expansion of the tiles 1.

**[0018]** Figs. 3—5 show three different suspension profiles 10, 20, 30. Each profile 10, 20, 30 comprises at least one first flange 11, 15. Adjacent each first flange 11, 15 the profile 10, 20, 30 is provided with a respective parallel second flange 12, 16. The first flange 11, 15 can be included, at least partly, in a respective tile undercut 5, 6 such that the respective second flange 12, 16 is brought at a limited distance L from the rear side 2 of a respective tile 1. The latter distance is drawn with arrow L in Fig. 6.

**[0019]** In particular, each of the suspension profiles 10, 20, 30 comprises an elongated attachment plate 100 provided on each longitudinal edge with longitudinal flanges 101, 102 extending at right angles to the plate 100. Each attachment plate 100 comprises passages 18 for connecting the respective profile 10, 20, 30 to a surrounding with attachment means 19, for instance screws, wood screws, pins, bolts, rivets, blind rivets or the like. Sides of these longitudinal flanges 101, 102 facing each other are provided with relatively narrow longitudinal ribs 103 extending opposite each other, with which two profiles can be mutually coupled.

**[0020]** In Figures 3 - 5, with each of the profiles 10, 20, 30, on an end remote from the attachment plate 100, the lower of the longitudinal flanges 101 is provided with a connecting flange 13 extending approximately parallel to the longitudinal flange 101. On an end remote from the attachment plate 100, each of the connecting flanges 13 is provided with said first flange 11 for coupling a tile 1 by a groove undercut 5, 6. This first flange 11 extends substantially parallel to the attachment plate 100, substantially at right angles to the connecting flange 13 and, at least in the drawing, upwards in a substantially vertical direction. During use, the latter vertical direction corresponds with the tile longitudinal direction Z. Hence, for convenience's sake, this direction has been drawn in Figs. 3B, 4B, 5B. The thickness of the first flange 11 is such that this flange can be included with relatively little clearance in a respective groove undercut 5, 6 of a tile 1. For that reason, during assembly, this groove undercut can be slid onto the first profile flange in a relatively tight-fitting manner.

**[0021]** Further, each suspension profile 10, 20, 30 is provided with at least one second flange 12, which is a substantially parallel to the first flange 11. Each second flange 12 extends substantially at right angles, in the drawing in downward direction, to an edge of the lower longitudinal flange 101 of the profile 10, 20, 30. The distance M between a central axis of the first flange 11 and a side of the second flange 12 proximal to the first flange is somewhat greater than the distance K between the groove undercut 5, 6 and the tile rear side 2. For the sake of simplicity, this distance between the first flange 11 and the second flange 12 is only drawn with an arrow

M in Fig. 4B.

**[0022]** The suspension profile represented in Figs. 3A, 3B comprises an end profile 20, particularly intended to be coupled with a last tile of a row of tiles 1. With this profile 20, the first flange 11 as a width such, measured in the longitudinal tile direction Z, that the flange 11, after coupling a tile 1, can extend substantially in a least deep groove undercut 6 of a tile 1. Further, the connecting flange 13 extends parallel to the lower longitudinal flange 101, while the connecting flange 13 is connected to the lower longitudinal flange 101 via a folded down edge.

**[0023]** The profile represented in Figs. 4A, 4B is a middle profile 10, intended to be coupled with two tiles 1. This profile 10 is provided with a lower first flange 11, a lower connecting flange 13 and a lower second flange 12, designed in a similar manner as in the end profile 20 represented in Fig. 3. The middle profile 10 is further provided with an upper, second flange 16, extending at right angles to be upper longitudinal flange 102, and extending along the same plane as the lower second flange 12. Via an upper connecting flange 13', an upper first flange 15 is connected to an upper edge of the upper second flange 16. This upper first flange 15 has a width such, measured in the longitudinal tile direction Z, that this flange 15 extends over a relatively great distance in the deepest groove undercut 5 after a tile 1 has been coupled therewith. To this end, the upper first flange 15 is wider than the lower first flange 11. Further, the distance between the central axis of the upper first flange 15 and a side of the upper second flange 16 facing the first flange 15 is substantially equal to the distance M between the lower first and second flange 11, 12. As represented in Fig. 4B, the upper connecting flange 13' extends upwards at a slight inclination in a direction away from the attachment plate 100.

**[0024]** The profile represented in Figs. 5A, 5B is a starting profile 30, intended to be coupled with a first tile of a row of tiles 1. Like the end profile 20, this profile 30 is only provided with a first flange 11' coupled to the lower longitudinal flange 101, a connecting flange 13" and second flange 12. However, in this starting profile 30, the connecting flange 13" and the first flange 11' are designed in a similar manner as the upper connecting flange 13' and the upper first flange 15 of the middle profile 10 shown in Fig. 4. Therefore, the first.flange 11' of the starting profile 30 is designed for retaining a tile 1 via a respective deep tile undercut 5.

**[0025]** As is the represented in Figs. 3 - 5, on a side facing the respective first flange 11, 15, each second flange 12, 16 is provided with elastic means 7, in particular tape or strips 7 of elastic material. The strips 7 are designed to be compressed during use between a tile 1 and the second flange 12, 16. The elastic means can have various dimensions. In the present exemplary embodiment, the elastic means 7 extend along substantially the entire length of the second flange 12, 16. Preferably, the elastic means 7 are substantially thick to a apply, during use, a desired securing force on a tile 1. The thickness, measured in a direction perpendicular to the second flange 12, 16 can, for instance, be in the range of approximately 1 - 10 mm. Depending on the dimensions of the tiles 1, the profiles 10, 20, 30 and/or desired uses, also elastic means 7 with other dimensions can be used. Preferably, the thickness of each elastic strips 7 is such that, after fitting the assembly, this strip 7 is compressed at least approximately one millimetre, which can already lead to the tile being secured well.

**[0026]** Figs. 6 and 7 show the use of the assembly of suspension profiles 10, 20, 30 and tiles 1. Here, the profiles 10, 20, 30 are connected to the construction Q, for instance a building, by means of a number of parallel coupling elements 107. These coupling elements 107 are designed to hold the suspension profiles 10, 20, 30 at distances from each other suitable for the suspension of tiles, in particular in that the coupling elements are provided on suitable positions with connecting holes 108 for receiving the attachment means 19 of the suspension profiles 10, 20, 30. Therefore, with the aid of the coupling elements 107, the suspension profiles 10, 20, 30 can be positioned and fitted to the construction Q relatively rapidly. In Figs. 6 - 15, these coupling elements 107 extend, each time, in vertical direction, as uprights. The suspension profiles 10, 20, 30 extending horizontal direction, as vertical members.

**[0027]** Fig. 6 shows a tile (1), coupled by the lower groove undercut 5 to the first flange 11' of a starting profile 30. The upper groove undercut 6 of the tile 1 is retained by the lower first flange 11 of a middle profile 10. This starting profile 30 and middle profile 10 are connected with the attachment means to the coupling elements 107 on positions suitable for the suspension of tiles. The upper first flange 15 of the middle profile 10 represented in Fig. 6 is available for coupling with a next tile by a respective lower undercut 5 for building the tile wall represented in Fig. 1 further up.

**[0028]** Fig. 7 shows a use of an end profile 20 adjacent an upper edge R of the construction Q. For the sake of simplicity of the drawing, the elastic means 7 are not represented in Figs. 7 - 10. In Fig. 7, the end profile 20 is attached below the upper edge R to the construction Q by means of the coupling elements 107. The first flange 11 of the end profile 20 simply retains a top tile 1 of the tile wall via the respective upper undercut 6. The upper tile 1 bears with the lower undercut 5 on an upper first flange 15 of the first middle profile 10 fitted below the end profile 20. Below the upper tile 1, the next tile 1' is placed, resting with the upper undercut 6 on the lower first flange 11 of the first middle profile 10. A second middle profile 10' is fitted below the first middle,profile 10 to support this next tile 1' via the respective lower undercut. The lower first flange 11 of this next middle profile 10' is clear for a next tile to be suspended therefrom. The construction Q is provided with a finishing profile 104 extending over the edge R, which finishing profile slightly overlaps the upper edge of the upper tile 1.

**[0029]** Figs. 8.and 9 show further elaborations of the invention, wherein by means of the profiles 10, 20, tiles 1 are held below windows S of the construction Q. In Fig. 8, an upper tile 1 adjacent the tile upper edge 22 is held by an end profile 20 below an outer part of a slightly inclining window profile 105. Adjacent the lower edge 21, the tile 1 is coupled to a middle profile 10.

**[0030]** Fig. 9 shows an alternative embodiment, wherein an upper tile 1" is used which is only provided with a lower groove 3 with an undercut 5. Via this groove 3 and undercut 5, this tile 1" is supported in a simple manner by the upper first flange 15 of the middle profile 10. The upper edge 22' of this upper tile 1" is not provided with an edge flange. With this upper edge 22', the outside of this upper tile 1" bears against a supporting profile 106, which profile 106 is attached to the coupling elements 107 for keeping the tile 1" in position. The upper tile 1" is slightly higher than the other tiles 1, measured in the longitudinal direction Z.

**[0031]** Fig. 10 shows a lower edge Y of the construction Q. The edge Y is provided with two starting profiles 30. The first starting profile 30 supports a vertically suspended tile 1, in the same manner as already described with Fig. 6. By means of a second starting profile 30' and an L-shaped profile 109, a horizontal end tile 1a is arranged at an underside of the edge Y. Here, the end tile 1a is suspended via the undercut 5 of a respective lower groove 3 from the first flange 11' of the second starting profile 30'. The first and second starting profile 30, 30' are fitted relative to each other such that the vertical tile 1 and the end tile 1a fit tightly together by the longitudinal edges. The second flange 12 of the first starting profile 30 then reaches into the edge groove 23 of the end tile 1a. To this end, the second starting profile 30' is disposed against the first starting profile 30' such that the second flange 12 of the second starting profile 30' extends parallel to the lower longitudinal flange 101 of the first starting profile 30. The end tile 1a is not provided with a second groove. An edge 22 of the end tile 1a remote from the starting profiles 30, 30'; simply bears on the L-shaped profile 109. The end tile 1a is designed to be shorter with respect to the vertical tile 1.

**[0032]** Fig. 11 shows the use of a joint profile 40. This joint profile 40 can be coupled to the suspension profiles 10; 20; 30 such that the joint profile 40, at least with the assembly in mounted condition, can extend along sides facing each other of the suspended tiles 1. Each first and/or second flange 11, 12 of the suspension means is provided with, for instance, means 41 for coupling with the joint profile 40. Coupling between joint profiles 40 and suspension profiles 10, 20, 30 can be carried out in a simple manner with, for instance, snap connections. In the exemplary embodiment, these coupling means comprise clips 41 with snap heads onto which the joint profiles 40 can be snapped. The joint profile 40 can be coupled substantially at right angles to the suspension profiles 10, 20, 30. With the joint profiles 40, the tile wall be provided with an appearance which is desired from an architectonic point of view.

**[0033]** Figs. 12 - 15 show various horizontal cross sections of the construction Q represented in Fig. 1. As shown in Figs. 12 - 15, the coupling elements 107, destined to couple the suspension profiles 10, 20, 30 to the construction Q, can be designed in various manners.

**[0034]** Fig. 12 shows a corner of the construction Q. Along the corner, a U-shaped coupling element 107f extends, to which suspension profiles 10 are connected extending at right angles to each other for the suspension of tiles 1. The U-shaped profile 107f is connected to the construction Q by an L-shaped profile 112 and an attachment plate 113. This L-shaped profile 112 and the attachment plate 113 are bolted to each other with nut/bolt connections 110. Tiles 1, the edges 114 of which are designed so as to be bevelled, extend along the corner. The bevelled, oppositely located tile edges 114 extend at a relatively short distance along the vertical plane of intersection 115 of the corner, so that the tiles 1 extending along the corner fit tightly together.

**[0035]** In Fig. 13, a similar corner as in Fig. 12 is represented. In Fig. 13, the corner comprises a vertically extending, tubular profile 107g provided at the side facing the construction Q with two corner flanges 116 facing away from each other at right angles. At the corner, extremities of suspension profiles 10 are coupled to these corner flanges 116. The suspension profiles 10 are further coupled to the construction Q by means of pairs of L-shaped elements 107a, 107b, 107h. The L-shaped elements 107a, 107b, 107h of each pair are bolted to each other by means of nut/bolt connections 110. Preferably, the position of the one L-shaped element 107a can be adjusted with respect to the other element 107b, 107h. The tubular profile 107g forms an alternative finish to the corner, for instance for giving the corner an aesthetic touch.

**[0036]** In Fig. 14, a suspension profile 10a is coupled via pairs of L-shaped elements 107a, 107b adjacent a window S of the construction Q. An end of the suspension profile 10 proximal to the window S is provided with a hook 107c which is engaged by a profile 107d connected to a window sill 111, thereby obtaining the advantage that the profiles can be placed independently of each other and a good stabilization is obtained of, in particular, the ridge edge.

**[0037]** In Fig. 15, a suspension profile 10 is connected in a simple manner via a Z-profile 107e to the construction adjacent a window S. On a window side, a tile 1 coupled to the suspension profile 10 slightly projects outside the suspension profile. This construction is particularly advantageous with sills that are virtually in the plane of the outer wall.

**[0038]** With this assembly, comprising the profiles 10, 20, 30 and tiles 1, a relatively large surface of the construction Q can be provided with an attractive tile wall in a short period of time. During the assembly, the tiles 1 can be slid easily and rapidly via the respective grooves 3, 4 and the undercuts 5, 6 onto the first flanges of the

starting profile 30, middle profile 10 and end profile 20. The elastic strips 7 are then compressed, which leads to a good securing of the tiles and, furthermore, prevents the tiles 1 from rattling.

**[0039]** It is self evident to the skilled person that the invention is not limited to be exemplary embodiment described. Various modifications are possible within the framework of the invention as set forth in the following claims.

**[0040]** For instance, the tiles 1 can be suspended from the construction in various positions, for instance in horizontal, vertical and/or inclining positions.

**[0041]** Further, the elastic material can, for instance, be applied to the second flange and/or on the tile 1 and/or be applied during mounting of the assembly.

**[0042]** Furthermore, the suspension profiles 10, 20, 30 can be designed in various forms and dimensions. For instance, each of the profiles 10, 20, 30 can be longer in longitudinal direction than the width of the tiles to be suspended therefrom, so that each suspension profile 10, 20, 30 can retain a number of tiles placed next to each other. Further, the profiles 10, 20, 30 can be designed in certain convenient standard dimensions.

**[0043]** Further, each suspension profile 10, 20, 30 can be manufactured from various materials, for instance metal, steel, aluminum, an alloy, plastic and the like.

**[0044]** Further, each tile 1 can be designed in various forms, for instance angular, rectangular, square, having curvatures and/or roundings and the like. The tile 1 can be manufactured from different materials, for instance stone, plastic, concrete, ceramics, wood and the like. Moreover, the assembly 1 can comprise tiles 1 of different dimensions. Furthermore, each tile 1 can have different dimensions, and for instance comprise a panel or cladding 1. Further, in order to save weight and/or material, the at least one tile 1 can be designed so as to be, for instance, partly hollow.

**[0045]** Moreover, an empty space located, for instance, between the tile rear sides 2 and the construction Q can be filled with insulating material or the like.

## Claims

1. An assembly provided with at least one tile and suspension profiles therefor, wherein said tile (1) is provided on a rear side (2) with at least one groove (3, 4), while each groove (3, 4) is provided, at a distance (K) from the tile rear side, with an undercut (5, 6), the suspension profiles (10; 20; 30) each being provided with at least one first flange (11, 15) for coupling said tile (1) by said groove undercut (5, 6), while each suspension profile (10; 20; 30) is provided with at least one second flange (12, 16) extending, during use, at a distance (L) from the rear side (2) of a tile (1) coupled to said first flange (11, 15), said second flange (12, 16) and/or said tile rear side (2) being provided with elastic means (7) which, during use, are compressed between the tile (1) and the second flange (12, 16).

2. An assembly according to claim 1, wherein said tile (1) is provided with at least two substantially parallel grooves (3, 4) provided with undercuts (5, 6).

3. An assembly according to claim 2, wherein the undercut (5) of the one groove (3) is deeper than the undercut (6) of the other groove (4).

4. An assembly according to claim 1 or 2, wherein the one groove (3) of said tile (1) is wider than the other groove (4), viewed in a plane parallel to the tile rear side (2).

5. An assembly according to at least claim 2, wherein said grooves (3, 4) extend adjacent oppositely located edges (21, 22) of the tile (1).

6. An assembly according to any one of the preceding claims, wherein the first flange (11, 15) and the second flange (12, 16) of each said suspension profile (10) extend substantially parallel to each other.

7. An assembly according to any one of the preceding claims, wherein each suspension profile (10) comprises a connecting flange (13, 17) extending between said first flange (11, 15) and said second flange (12, 16).

8. An assembly according to at least claim 2, wherein the suspension profiles comprise at least one first profile (10) which is provided with two first flanges (11, 15) such that at least a first tile (1) can be coupled by the one groove undercut (6) to the one first flange (11), while at least one second tile (1) can be coupled by the other groove undercut (5) to the other first flange (15).

9. An assembly according to claim 8, wherein said two first flanges (11, 15) have different widths.

10. An assembly according to at last claim 8, wherein the said first profile (10) is provided adjacent each said first flange (11, 15) with at least one respective, said second flange (12, 16).

11. An assembly according to claim 10, therein said second flanges (12, 16) extend substantially along the same plane.

12. An assembly according to at least claim 1, wherein the suspension profiles comprise at least one second profile (20; 30) which is provided with at least one said first flange (11).

13. An assembly according to at least claim 3 and 12,

wherein the first flange (11) of the second profile (20) can be included substantially in the deepest undercut (5) of said tile (1).

**14.** Assembly according to at least claims 3 and 12, wherein the first flange (11) of the second profile (30) can be included substantially in the least deep undercut (6) of said tile (1).

**15.** An assembly according to any one of the preceding claims, wherein said second flange (12, 16) is provided with said elastic means (7).

**16.** An assembly according to any one of the preceding claims, wherein said in elastic means (7) comprise a compressible plastic.

**17.** An assembly according to any one of the preceding claims, wherein said in elastic means (7) comprise a friction enhancing material

**18.** An assembly according to any one of the preceding claims, wherein said in elastic means (7) comprise a cellular rubber.

**19.** An assembly according to any one of the preceding claims, wherein the elastic means (7) extend along substantially the entire length of said second flange (12, 16).

**20.** An assembly according to any one of the preceding claims, wherein the elastic means (7) have a thickness in the range of approximately 1 - 10 millimetres, measured in a direction perpendicular to said second flange (12, 16).

**21.** An assembly according to any one of the preceding claims, wherein said suspension profile (10; 20; 30) is longer than said tile (1), measured in a longitudinal direction of the suspension profile (10; 20; 30).

**22.** An assembly according to any one of the preceding claims, wherein the assembly is provided with attachment means (18, 19) for attaching said suspension means (10; 20; 30) to a surrounding, for instance a supporting structure, wall or the like.

**23.** An assembly according to any one of the preceding claims, provided with at least one joint profile (40) extending, during use, along a side of said tile (1).

**24.** An assembly according to claim 23, wherein said joint profile (40) can be coupled to said suspension profiles (10; 20; 30).

**25.** An assembly according to at least claim 23, wherein each first and/or second flange (11, 12) is provided with means (41) for coupling said joint profile (40) therewith.

**26.** An assembly according to at least claim 23, wherein said joint profile (40) can be coupled substantially at right angles to said suspension profiles (10; 20; 30).

**27.** An assembly according to any one of the preceding claims, provided with at least one supporting profile (106; 109) arranged for supporting a tile (1) coupled to said suspension profile (10; 20; 30) at a tile outside.

**28.** An assembly according to any one of the preceding claims, provided with at least one coupling element (107f; 107g) arranged for intercoupling suspension profiles (10; 20; 30) extending in different directions.

**29.** An assembly according to any one of the preceding claims, provided with a number of coupling element (107), in particular uprights, arranged for intercoupling the suspension profiles (10; 20; 30) at positions suitable for the suspension of tiles.

**30.** A tile (1), evidently destined and suitable for an assembly according to any one of the preceding claims.

**31.** A suspension profile (10; 20; 30) evidently destined and suitable for an assembly according to any one of claims 1 - 29.

**32.** The joint profile (40) apparently intended and suitable for an assembly according to at least claim 23.

**33.** A construction, in particular a building, provided with an assembly according to any one of claims 1-29.

**34.** A construction, provided with a number of substantially vertical coupling elements (107), a number of substantially horizontal suspension profiles (10, 20, 30) connected to those coupling elements (107), and at least one tile (1) suspended from said suspension profiles (10, 20, 30), wherein flexible means (107) are compressed between said tile (1) on the one side and at least one suspension profile (10, 20, 30) retaining the tile (1) on the other side.

**35.** A method for suspending tiles (1), wherein at a tile rear side each tile (1) is provided with at least one groove (3, 4), wherein, at a distance (K) from said tile rear side (2), each groove (3, 4) is provided with an undercut (5, 6) while said tile (1) is coupled by said groove undercut (5, 6) to at least a first flange (11, 15) of a suspension profile, while between a part (12, 16) of the suspension profile extending behind the tile (1) of the suspension profile (10) on the

one side, and the tile (1) on the other side, elastic material is provided such that the elastic material (7) is compressed between the tile (1) and the suspension profile for securing the tile (1).

**36.** A method according to claim 35, wherein said tile (1) is provided with two grooves (3, 4) with undercuts (5, 6), wherein the tile (1) is coupled by both groove undercuts (5, 6) to the first flanges (11, 15) of two different suspension profiles (10).

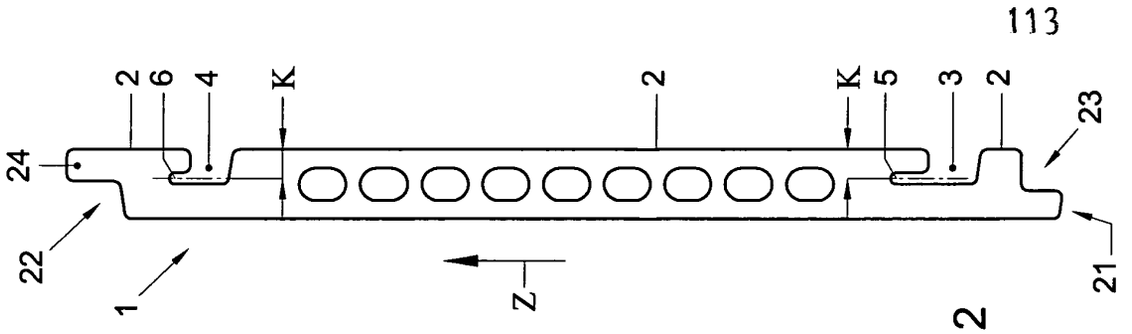



Fig. 2

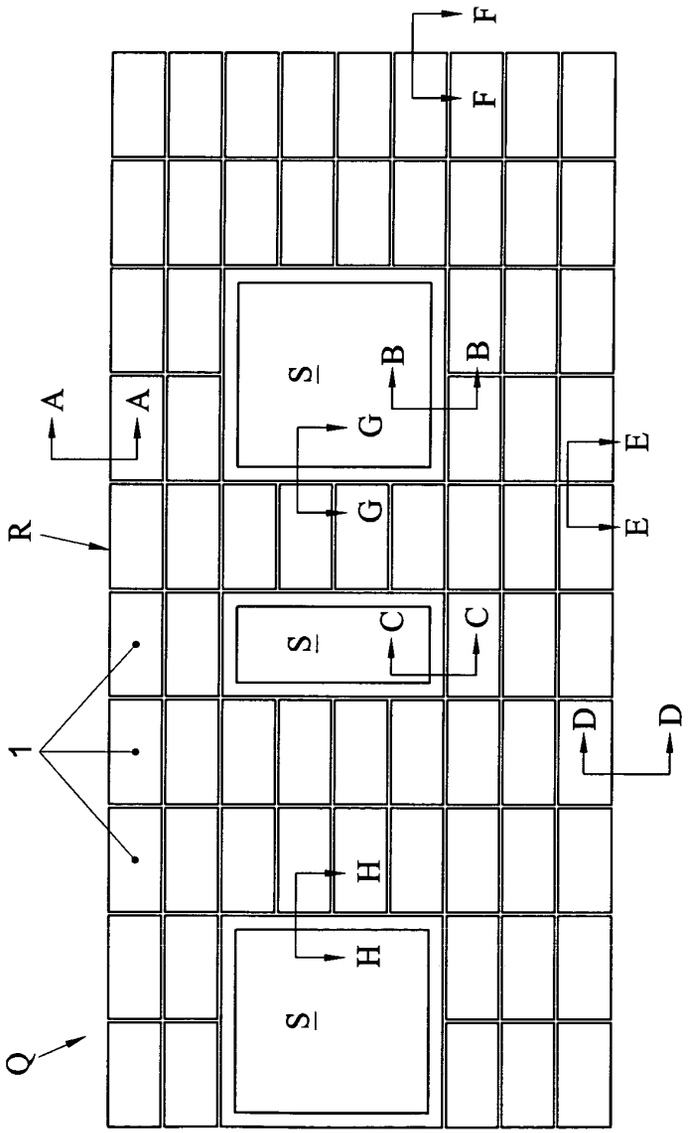



Fig. 1

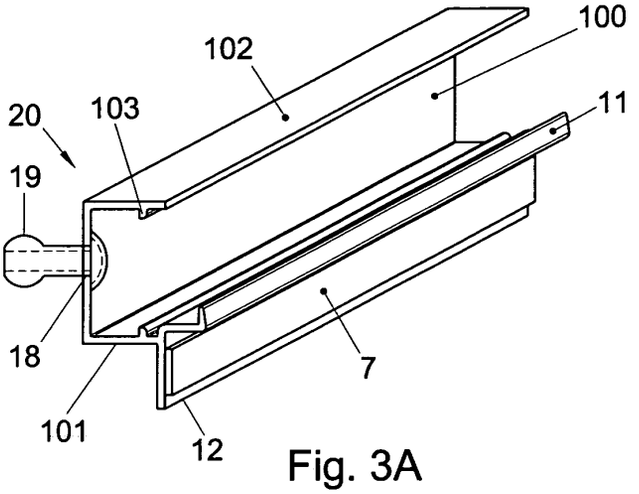



Fig. 3A

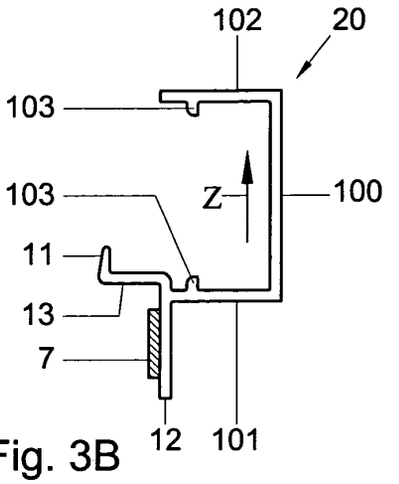



Fig. 3B

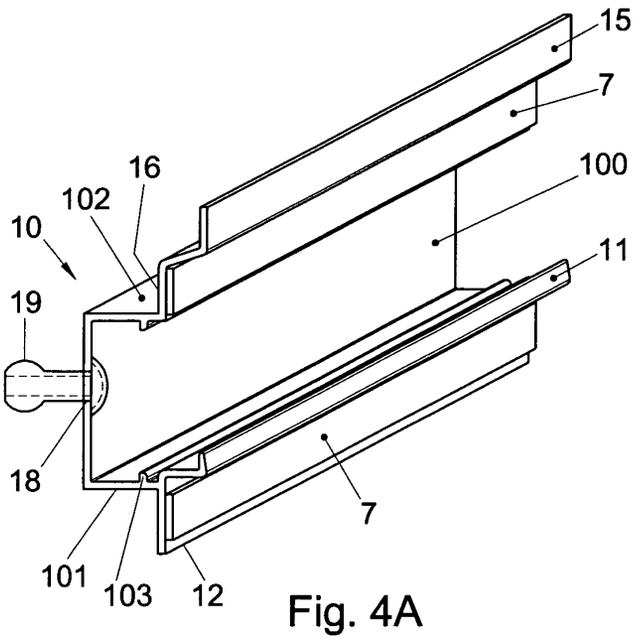



Fig. 4A

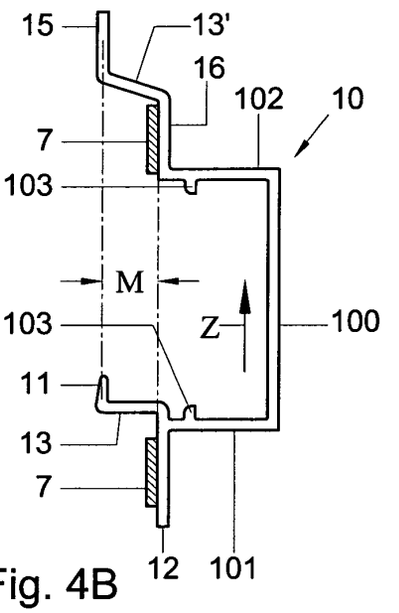



Fig. 4B

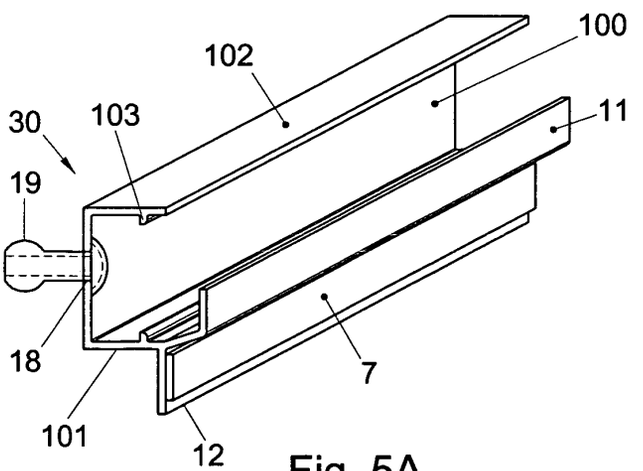



Fig. 5A

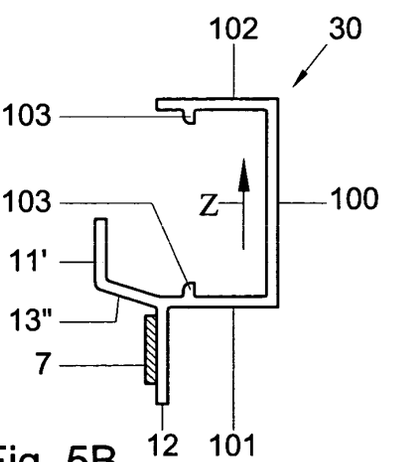



Fig. 5B

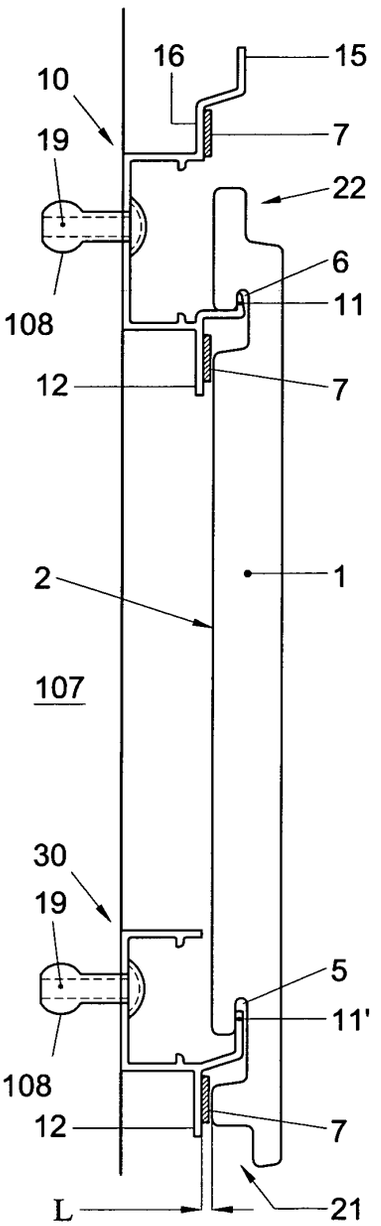



Fig. 6

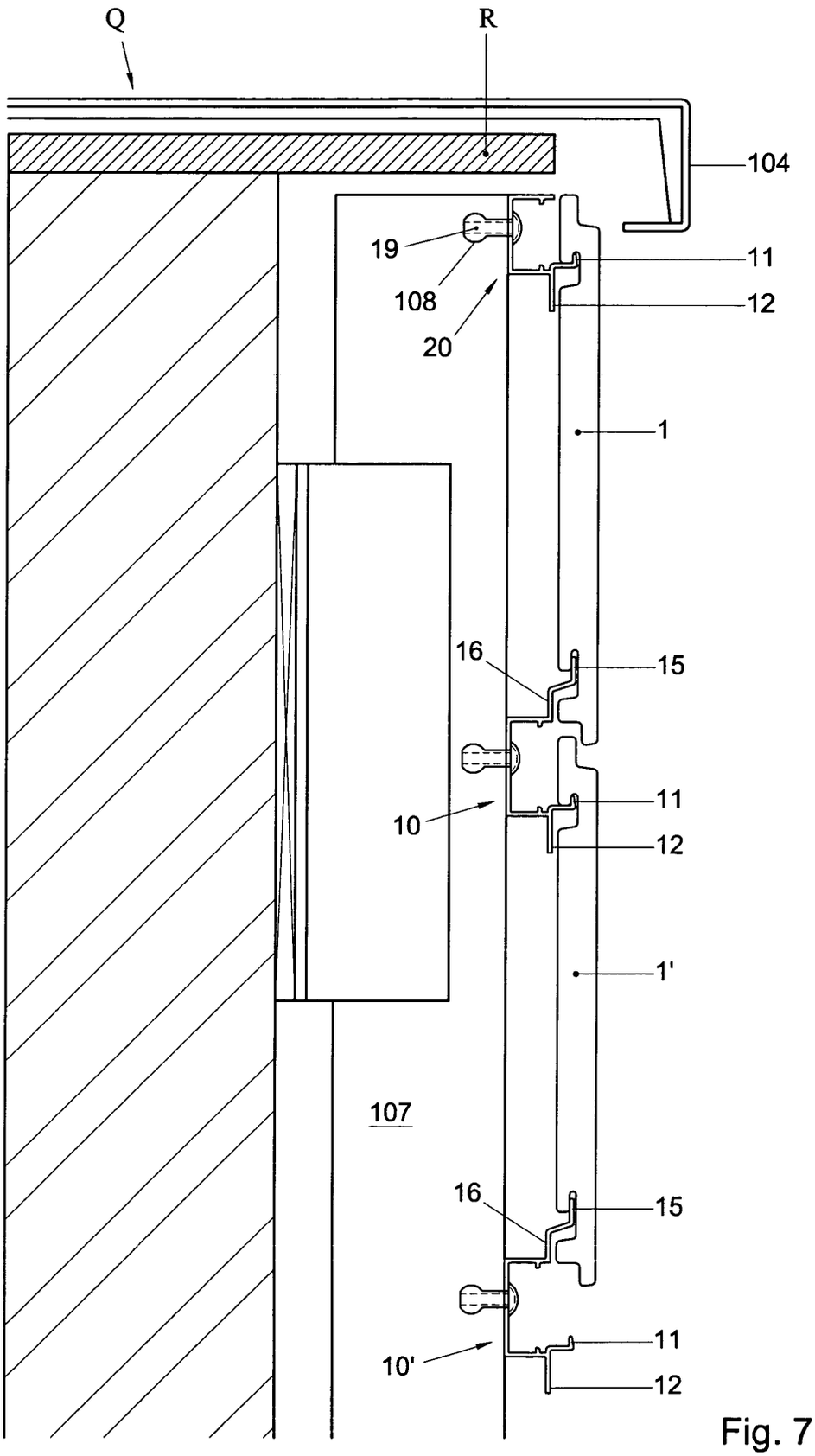



Fig. 7

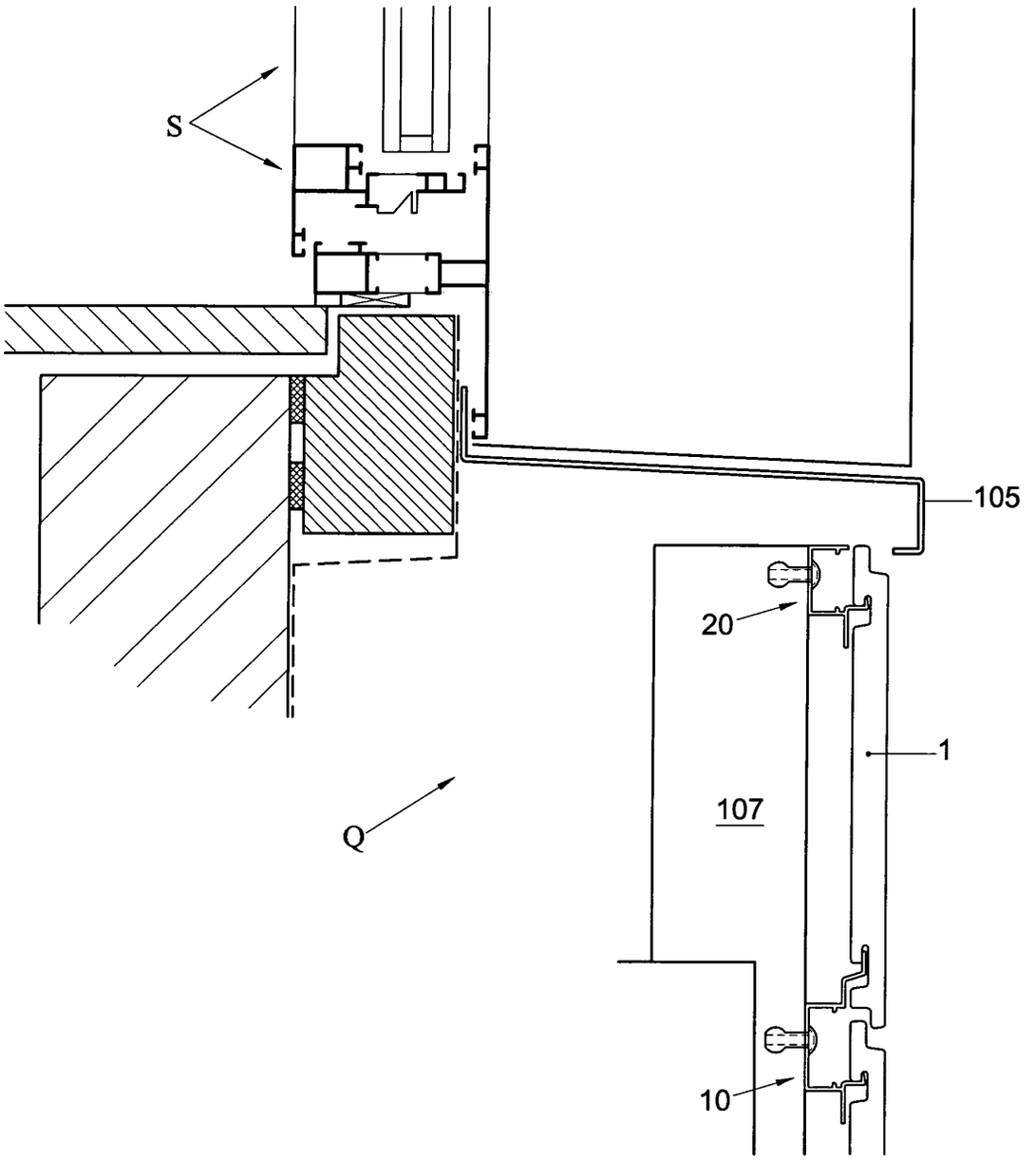



Fig. 8

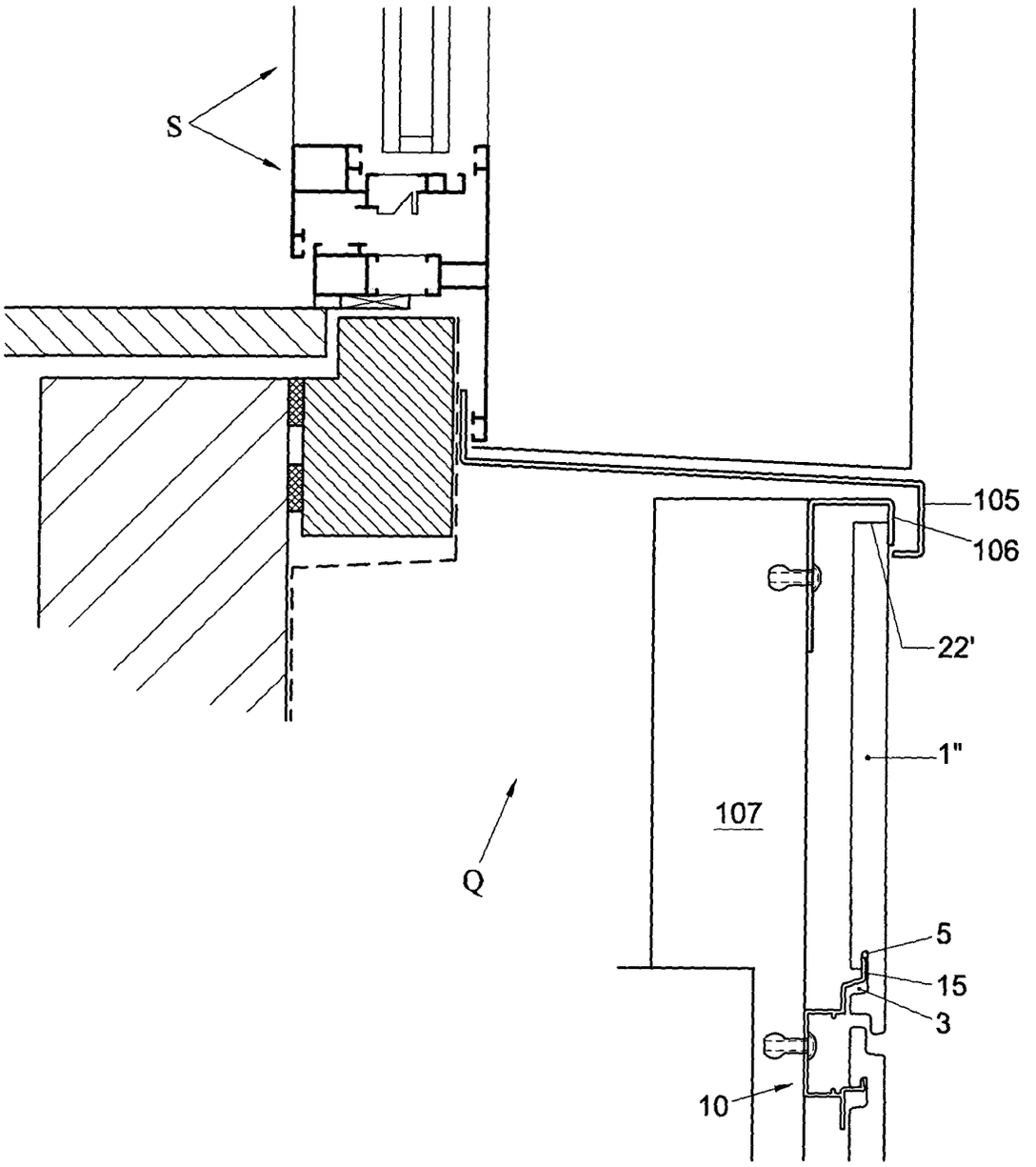



Fig. 9

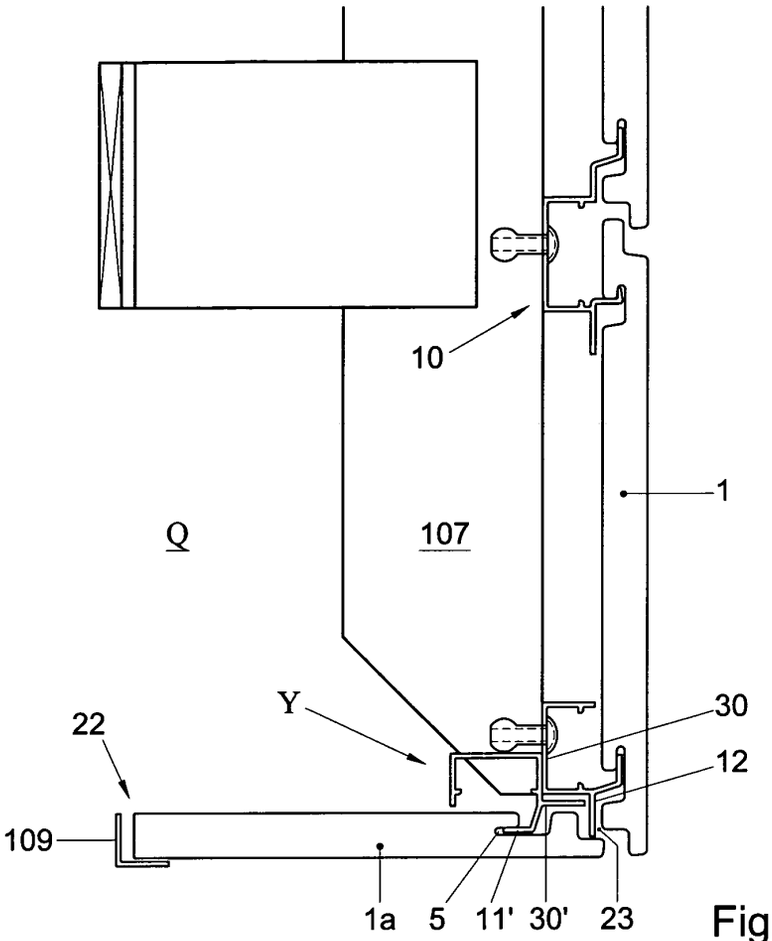



Fig. 10

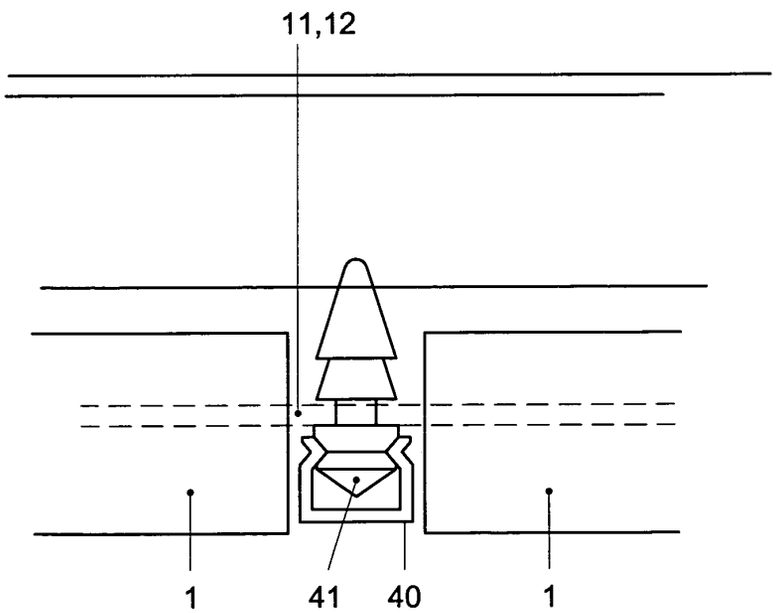
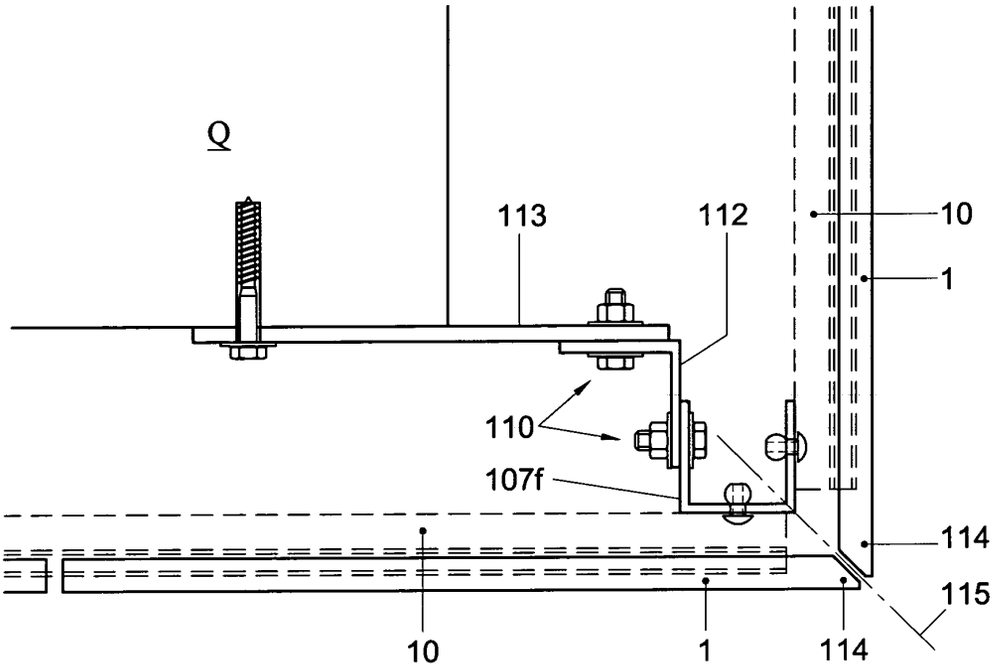



Fig. 11


Q
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112
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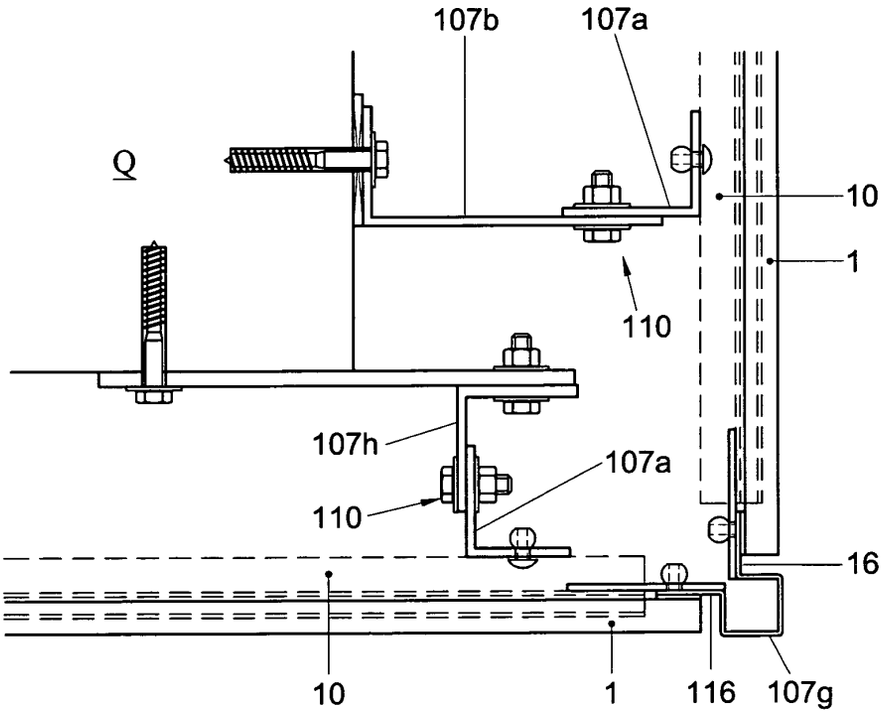
107f
114
115
10
1
114

Fig. 12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107a
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1
110
107h
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116
107g

Fig. 13

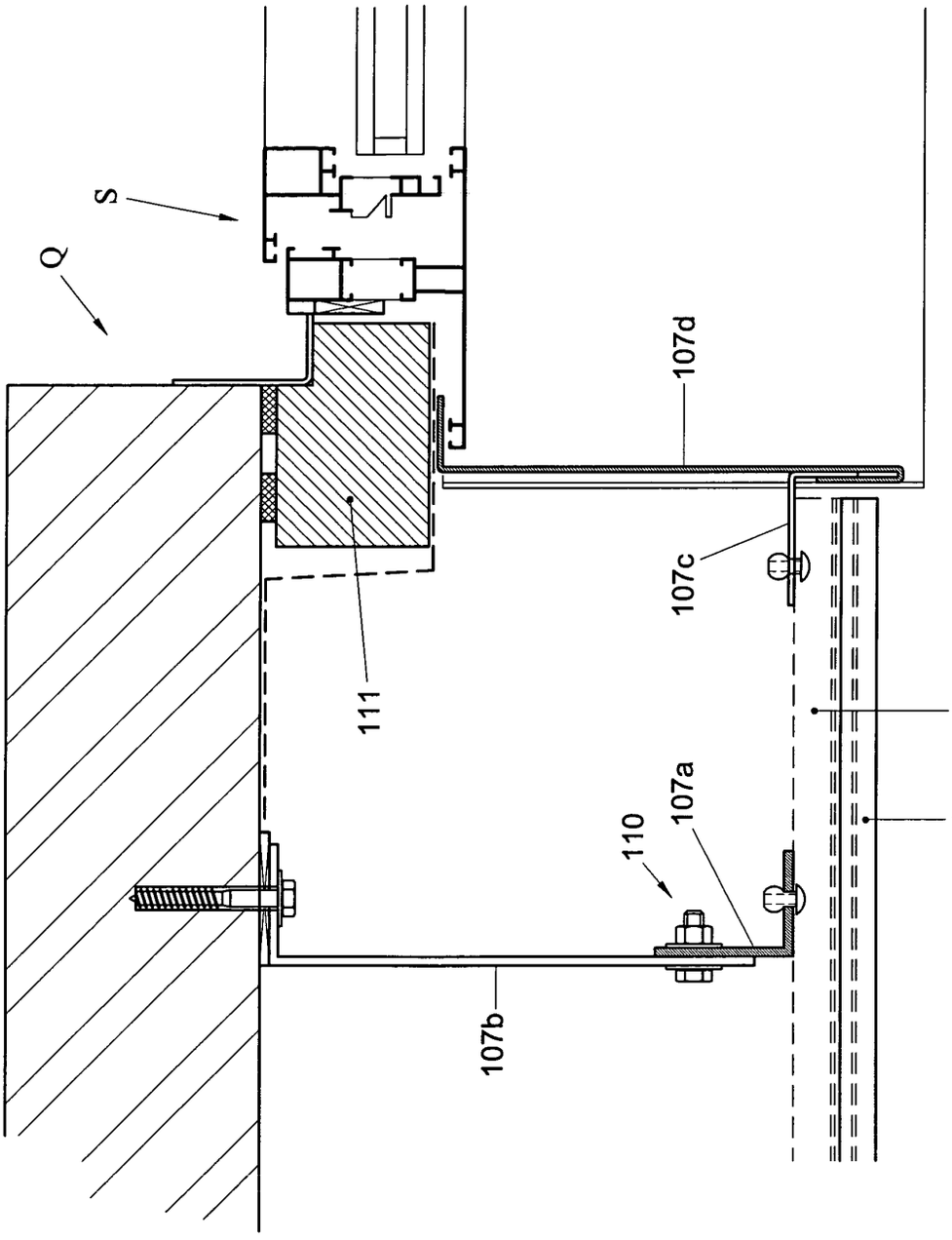


Fig. 14

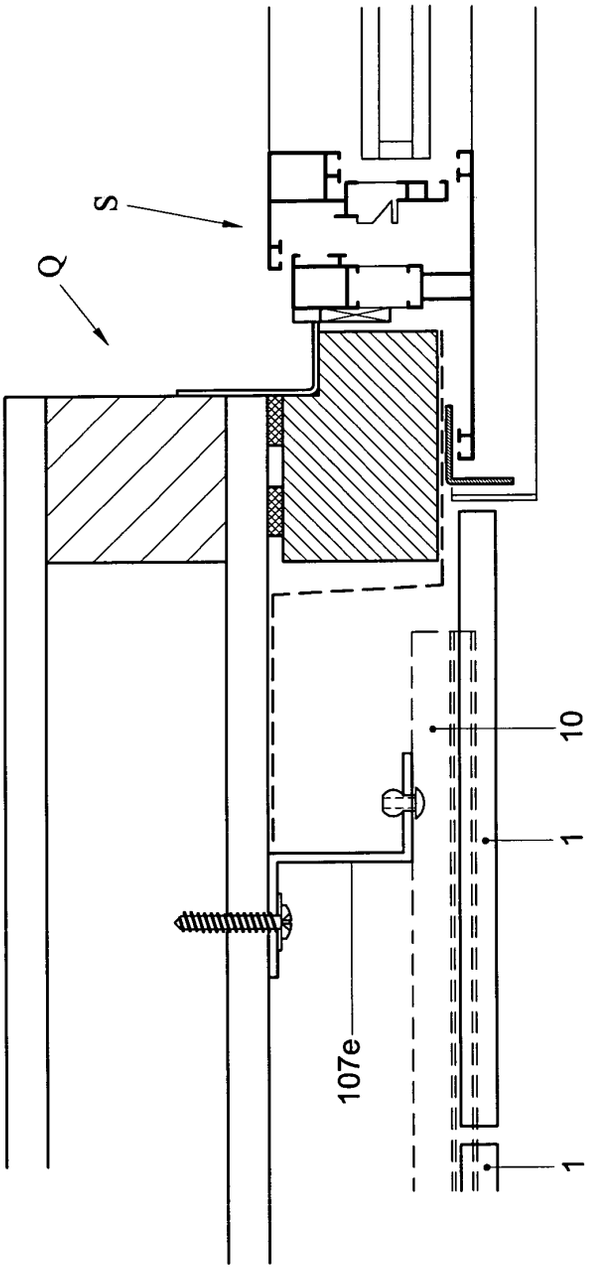


Fig. 15

European Patent Office

# EUROPEAN SEARCH REPORT

Application Number
EP 04 07 5905

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| A | | 1,6,7, 12,22, 24,30-33 | |

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The present search report has been drawn up for all claims

| Place of search | Date of completion of the search | Examiner |
|---|---|---|
| THE HAGUE | 2 July 2004 | Ayiter, J |

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The present search report has been drawn up for all claims

| Place of search | Date of completion of the search | Examiner |
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| THE HAGUE | 2 July 2004 | Ayiter, J |

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