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(54) METHOD FOR MOUNTING A SHOWER TRAY

VERFAHREN ZUR MONTAGE EINER DUSCHWANNE

PROCÉDÉ DE MONTAGE D'UN BAC DE DOUCHE

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Description

TECHNICAL FIELD

[0001] The present invention relates to a method for mounting a shower tray, and a support assembly for supporting a shower tray during such mounting.

BACKGROUND

[0002] The construction of ceramic shower trays is very ungainly and heavy, weighting about 25 - 80 kg each. During mounting, shower trays are normally positioned on a plurality of feet. The height of the feet is adjustable in order to have the shower tray aligned horizontally relative the floor as well as vertically relative a drain outlet. Due to the heavy weight it is preferred that the person who installs the shower tray fits the tray correctly the very first attempt. Once the tray is laid down in its horizontal position, it is very difficult to adjust the horizontal and vertical alignment of the tray especially if the shower tray is positioned in a corner or in a U-shape area.

[0003] A solution to this problem may be to have two persons installing the tray. Even though the load on each person is reduced, it is still very hard to adjust the location of the tray. Further to this, since shower trays are often installed in a bathroom corner it is not beneficial to have two persons working on the same side, or adjacent sides of the relatively small shower tray.

[0004] For example, the German utility model DE 20 2009 003 052 U1 discloses a support structure for a shower tub.

[0005] There is thus a need for an improved method for mounting a shower tray, as well as a support for a shower tray during such mounting.

SUMMARY

[0006] Accordingly, the present invention preferably seeks to mitigate or eliminate one or more of the above-identified deficiencies in the art singly or in any combination and solves at least the above mentioned problems.

[0007] According to a first aspect, a method for mounting a shower tray is provided. The method comprises a step of arranging a plurality of shower tray supports on the floor or on the shower tray.

[0008] According to the invention, the method further comprises the following steps: Arranging at least one temporary mounting structure on the floor at a position within and adjacent a boundary of an area, at which the shower tray is to be positioned in use, wherein the height of the temporary mounting structure is less than the height of the shower tray supports; wherein the mounting structure comprises a bottom portion having a planar structure for resting on a floor, and an upper portion having a planar structure for supporting a shower tray, wherein the mounting structure further comprises means for

adjusting the distance between the planar structure of the bottom portion and the planar structure of the upper portion, wherein the bottom portion and the upper portion are wedge shaped members, each of the wedge shaped members being provided with a top surface, the top surfaces are connectable to each other thus forming the means for adjusting the distance between the planar structure of the bottom portion and the planar structure of the upper portion, wherein each one of the upper portion and the bottom portion forms a hollow cavity configured to receive a corner of a shower tray, positioning the shower tray onto the shower tray supports and the floor, tilting the shower tray upwards such that the shower tray is standing on the at least one temporary mounting structure, adjusting the height of at least one shower tray support, and repositioning the shower tray onto the shower tray supports.

[0009] The method may further comprise the step of securing each one of the shower tray supports at a fixed position of the floor.

[0010] According to a second aspect, a mounting structure for use as a temporary mounting structure in the method according to first aspect is provided. The mounting structure comprises a bottom portion having a planar structure for resting on a floor, and an upper portion having a planar structure for supporting a shower tray, wherein the mounting structure further comprises means for adjusting the distance between the planar structure of the bottom portion and the planar structure of the upper portion.

[0011] According to the invention, the bottom portion and the upper portion are wedge shaped members, each of the wedge shaped members being provided with a top surface, the top surfaces are connectable to each other thus forming the means for adjusting the distance between the planar structure of the bottom portion and the planar structure of the upper portion, and wherein each one of the upper portion and the bottom portion forms a hollow cavity configured to receive a corner of a shower tray.

[0012] The mounting structure may further comprise means for preventing longitudinal sliding between the two wedge shaped members when the two top surfaces are connected to each other.

[0013] Each top surface may be provided with a plurality of laterally distributed gripping ribs, wherein the gripping ribs form part of the means for preventing sliding between the two wedge shaped members.

[0014] The means for adjusting the distance between the bottom portion and the upper portion further comprises a locking pin, insertable through a symmetrically arranged elongated hole in each of the top surfaces and configured to lock the two wedge shaped members together when the two top surfaces are connected to each other.

[0015] In another embodiment, each wedge shaped member further comprises a locking hinge provided at a side wall of the wedge shaped member adjacent to the

top surface thereof, and a rail arranged on at least a part of the side wall and extending essentially parallel with the top surface at a distance thereof, wherein the distance is arranged such that the locking hinge of one wedge shaped member is arranged to engage the rail of the other wedge shaped member when the two top surfaces of the wedge shaped members are connected.

[0016] The mounting structure may further comprise a number of flexible inner flanges extending into the cavity, whereby the inner flanges act to engage with and hold the corner section of the shower tray in place in the inner cavity during transport.

[0017] At least one of the bottom portion and upper portion may further comprise screw holes for allowing a rigid attachment of the mounting structure to the floor in a shower area by means of an attachment screw or similar.

[0018] Further, the mounting structure may be used as a package support for protecting the corners of a shower tray during transport and storage, wherein the hollow cavity of the wedge shaped members is configured to receive a corner of a shower tray.

BRIEF DESCRIPTION OF THE DRAWINGS

[0019] Further objects, features and advantages will appear from the following detailed description, with reference being made to the accompanying drawings, in which:

Fig. 1a is a front view of a shower tray during mounting;

Figs 1b-1d are side views of a shower tray during mounting;

Fig. 2 is an isometric view of a shower tray having shower tray supports;

Figs. 3a and 3b are top views of a shower tray being mounted in different positions in a shower area;

Figs 4a and 4b are isometric views of a mounting structure with two wedge shaped members according to an embodiment;

Fig. 5 is an isometric view of an upper portion, in the form of a wedge shaped member, of a mounting structure according to an embodiment;

Fig. 6 is a front view of a shower tray being equipped with two package supports according to an embodiment;

Figs 7a and 7b are partial side views of a mounting structure according to an embodiment;

Fig. 8a is an isometric view of a wedge shaped member of a mounting structure according to an embodiment;

Fig. 8b is a top view of the wedge shaped member shown in Fig. 8a;

Fig. 8c is a side view of the wedge shaped member shown in Figs. 8a and 8b;

Fig. 9a is an isometric view of a mounting structure according to an embodiment;

Fig. 9b is a side view of the mounting structure shown in Fig. 9a;

Fig. 9c is another isometric view of the mounting structure of Figs. 9a and 9b;

Fig. 10a is an isometric view of a locking hinge and rail of a wedge shaped member according to an embodiment;

Fig. 10b is an isometric view of a rail of a wedge shaped member according to an embodiment; and Fig. 11 is a schematic view of a method according to an embodiment.

DETAILED DESCRIPTION

[0020] An idea of the present invention is to provide an improved method for mounting a shower tray, as well as a mounting structure for supporting a heavy shower tray that allows the installer to easily position the shower tray, but also to adjust the height and leveling of the tray after it has been placed a first time. Furthermore, the present invention simplifies installation of ceramic shower trays in bathrooms with U-shaped shower areas. In addition, the mounting structure described herein may be used for protecting the corner edges of the shower tray during transportation and storage in a cost-effective way.

[0021] The following description focuses on embodiments of the present invention applicable to supporting a shower tray.

[0022] In an embodiment according to Figs. 1a-1d, a shower tray 100 located in a shower area of a bathroom is shown during mounting and installation. This shower tray 100 has a rectangular shape, although any shape is possible, and comprises a top surface 101, a bottom surface 102 and four side surfaces 103. When installed in the bathroom the bottom surface 102 is facing the floor or foundation 104 and the top surface 101 is facing up towards the shower compartment and a user.

[0023] Two mounting structures 10 used as temporary supports during mounting and installation are located on the floor 104 in order to support the shower tray 100 temporarily during repositioning of the shower tray 100. If the shower tray 100 is to be positioned such that at least one of the side surfaces 103 is in close proximity with a wall, the mounting structures 10 are preferably arranged close to that wall. During installation, the shower tray 100 is first positioned onto several shower tray supports 110 as is shown in Fig. 1d. The height of the shower tray supports 110 is preferably adjusted prior to installation such that the shower tray 100 has a horizontal position. In practice this is however very difficult and almost impossible due to irregularities in the floor, why repositioning is normally required by adjusting the height of the shower tray supports 110. In order to do such repositioning, the shower tray 100 is tilted upwards such that one of its side surfaces 103 is resting on the upper surface of each of the mounting structures 10 at least along one side of the shower tray 100. This is shown in Fig. 1b. When the shower tray 100 is in this position, the height of the shower tray sup-

ports 110 is adjusted. The shower tray 100 may then be tilted down from its vertical position, as is shown in Fig. 1c, to a horizontal position thereby resting on the shower tray supports 110. This position is as already mentioned shown in Fig. 1d. As can be seen in Fig. 1d, the height of the mounting structures 10 is less than the height of the shower tray supports 110. The shower tray supports 110 can be of various types as long as they can carry the weight of the shower tray 100 and a person standing on the shower tray. Further, the height of the shower tray supports 110 is adjustable, and in one embodiment each shower tray support 110 includes means, such as screws or similar, for securely positioning the shower tray support 110 relative the floor.

[0024] It should be appreciated that in an alternative embodiment the shower tray supports 110 could be securely positioned on the shower tray by means, e.g. screws or similar, instead of being securely positioned to the floor.

[0025] A water drain 105 is schematically shown and a corresponding drain hole 106 in the shower tray 100 is also shown in Figs. 1b-1d.

[0026] The geometry of the shower tray 100 may differ from that shown in Figs. 1a-d. It could have any shape, e.g. partly circular, square, triangular or any other regular or non-regular shape. The geometry of the shower tray 100 is only restricted by having at least one side surface 103 that could be placed on top of at least one mounting structure 10, and that an underside 102 of the shower tray 100 is allowed to rest on the shower tray supports 110 once the shower tray 100 has been tilted downwards.

[0027] In Fig. 2 the shower tray 100 is shown, indicating the connection between the shower tray supports 110 and the shower tray 100. As can be seen, the shower tray supports 110 are adjustable in height, preferably but not necessarily by two parts being connected by means of threads such that rotation of one part relative the other part adjusts the height. Four shower tray supports 110 are provided, each one being arranged at a corner area of the shower tray 100. Further, a centrally aligned support 111 may also be provided to support the weight of a person standing on the shower tray 100.

[0028] In an embodiment, the shower tray supports 110 are attached to the shower tray 100, e.g. by allowing the upper ends of the shower tray supports 110 to be accommodated in recesses of the shower tray 100.

[0029] However, as mentioned above, the shower tray supports 110 could in an alternative embodiment be attached to or securely positioned on the floor of the area, e.g. shower compartment, at which the shower tray 100 is to be positioned in use. In a further alternative embodiment a combination of the two previously mentioned alternatives could be used, wherein at least one shower tray support 110 is attached to the floor and at least one shower tray support 110 is attached to the shower tray 100.

[0030] In Figs. 3a and 3b, positioning of the shower tray 100 is shown. Installing a shower tray 100 in any of

these positions greatly increases the need for the mounting structures 10 described herein. In Fig. 3a, the shower tray 100 is installed in an area such that two complete sides of the shower tray 100 are in close proximity of walls, and a third side is at least partly in close proximity to a wall. In Fig. 3b, the shower tray is installed in a corner of a room, such that two sides are in close proximity with walls.

[0031] In an embodiment, according to Figs. 4a and 4b, the mounting structure 10 comprises two, preferably identical, wedge shaped members 11a, 11b, each having a tilted top surface 12a, 12b. When the two top surfaces 12a, 12b are connected to each other they form the mounting structure 10, which due to the connection between the two members 11a, 11b is height adjustable. Each of the wedge shaped members 11a, 11b has a support surface 21, one being supporting the shower tray 100 in use and the other resting on the floor or foundation 104 in use. The support surface 21 may not necessarily be a large surface, but it may be formed by a frame structure leaving the wedge shaped members 11a, 11b substantially hollow. Such embodiment provides additional advantages, as will be described below.

[0032] Based on the relative longitudinal position between the two top surfaces 12a, 12b the height, i.e. the perpendicular distance between the two support surfaces 21, is adjustable. As may be noted in Figs. 4a and 4b each of the top surfaces 12a, 12b comprises gripping ribs 13. These ribs 13 act to prevent the wedge shaped members 11a, 11b from sliding in a longitudinal direction relative to each other when the two top surfaces 12a, 12b are connected as shown.

[0033] Fig. 4a shows a state where the mounting structure 10 is in, or near, its maximum top position, i.e. where wedge shaped members 11a, 11b are connected such that the maximum height between the two support surfaces 21 is achieved. In an embodiment, the maximum height is between 120 and 250 mm, e.g. 165 mm. Fig. 4b shows a state where the mounting structure 10 is in its lowest position, i.e. in which the wedge shaped members 11a, 11b are connected such that the minimum height is achieved. In an embodiment, the minimum height is between 70 and 140 mm, e.g. 95 mm.

[0034] As may be noted from Figs 4a and 4b the gripping ribs 13 of each of the top surfaces 12a, 12b extends laterally over each of the top surfaces 12a, 12b. Seen from the side the distribution of ribs 13 has a saw tooth shape. Two adjacent ribs 13, which may be seen as protrusions, together form a cavity there between. The cavity has an inverted shape of a rib 13, thereby allowing each cavity of one top surface 12a, 12b, to receive a rib 13 of the other top surface 12a, 12b. The lateral arrangement of the ribs and cavities when connected prevent the top surfaces from sliding relatively each other in the longitudinal direction when connected.

[0035] Fig. 5 shows a wedge shaped member 11a, 11b according to an embodiment. In this embodiment a locking pin 14 is provided. The locking pin 14, which may be

pre-attached to the wedge shaped member 11a, 11b, is detachable for locking the wedge shaped members 11a, 11b to each other. The locking pin 14 is insertable through symmetrically arranged elongated holes 15, arranged in each one of the top surfaces 12a, 12b, when they are to be connected. The locking pin 14 is arranged to lock the two wedge shaped members 11a, 11b together when the two top surfaces 12a, 12b are facing each other. The locking pin 14 may be provided with a lower flange 141 having an elongated shape with a width fitting through the elongated hole 15. A holding flange 142 arranged at an axial distance from the lower flange 141, and corresponding to the total thickness of the two top surfaces 12a, 12b has a shape and dimensions which does not allow it to pass through the elongated holes 15 of the two top surfaces 12a, 12b. Upon insertion of the lower flange 141 through the two connected top surfaces 12a, 12b, a handle 143 may be rotated, thereby rotating the elongated portion of the lower flange 141 into a locked position in which it may not pass out of the elongated hole 15. In this way the holding flange 142 and the lower flange 141 securely locks the two top surfaces 12a, 12b together.

[0036] As may be seen in Fig. 5 the wedge shaped member 11a, 11b may comprise at least one screw hole 35 for allowing a rigid attachment of said wedge shaped member 11a, 11b to the foundation 104 in the shower area by means of an attachment screw or similar. This hole may be a straight through hole 35 or a hole forming an opening extending from an outer boundary of the support surface 21.

[0037] As may be observed from Figs. 4a-b and Fig. 5 each wedge shaped member 11a, 11b in addition to the top surface 12a, 12b comprises two opposing side walls 32 and a rear wall 34 together forming a hollow cavity 17 within the wedge shaped member 11a, 11b. At least one flexible inner rib 18 is extending from each side wall 32 towards the interior of each wedge shaped member 11a, 11b within the cavity 17. The inner cavity 17 is arranged to receive a corner section of the shower tray as shown in Fig. 6, whereby the inner ribs 18 act to engage with and hold the corner section of the shower tray 100 in place inside the inner cavity 17 during transport. Due to the flexibility of the inner flanges 18 a range of shower tray thicknesses may securely fit in the cavity 17.

[0038] Hence four wedge shaped members 11a, 11b, e.g. as shown in Fig. 6, together form a package support for protecting the corners of a shower tray 100 during transport and storage. Each wedge shaped member 11a, 11b forms a hollow cavity 17 configured to receive a corner of a shower tray 100. The wedge shaped members 11a, 11b are further connectable to each other thus forming a mounting structure 10 for use as a temporary mounting structure in the method described above with reference to Figs. 1a-d.

[0039] Figs. 7a-b show two different configurations of the gripping members 13 of the two top surfaces 12a, 12b according to an alternative embodiment. In Fig. 7a the gripping ribs 13 are chamfered and having an increas-

ing width at increased distance from a base level of the top surface 12a, 12b. A corresponding chamfered cavity 16 is formed between each two adjacent chamfered gripping ribs 13 of one of the wedge shaped members 11a, 11b. The chamfered cavity 16 has a shape for receiving a chamfered gripping rib 13 of the other top surface 12a, 12b. By such configuration the two wedge shaped members 11a, 11b will be locked relative each other in height direction as well as in a direction being parallel with the slope angle of the top surfaces 12a, 12b.

[0040] In Fig. 7b, the gripping ribs 13 are saw tooth shaped. No locking in the height direction is achieved, but only in a direction being parallel with the slope angle of the top surfaces 12a, 12b.

[0041] In an embodiment, according to Figs. 8a-8c, each of the wedge shaped members 11a, 11b further comprises a locking hinge 31 provided at a side wall 32 of the wedge shaped member 11a, 11b and adjacent to the top surface 12a, 12b thereof. Moreover, a rail 33 is arranged on at least a part of the side wall 32 and extending essentially parallel with the top surface 12a, 12b at a distance thereof. The distance between the rail 33 and the top surface 12a, 12b is configured such that the locking hinge 31 of one wedge shaped member 11a, 11b can engage the rail 33 of the other wedge shaped member 11a, 11b when the two top surfaces 12a, 12b of the wedge shaped members 11a, 11b are connected. The locking hinge 31 may thus be used as an alternative locking solution to the locking pin 14 and the elongated hole 15 as shown in Fig. 5. Hence, according to the embodiment of Figs. 8a-8c any symmetrically aligned longitudinally elongated hole 15 is not necessary for the purpose of locking the two wedge shaped members 11a, 11b together. Fig. 8a shows a perspective view of a wedge shaped member 11a, 11b having a locking hinge 31 and corresponding rail 33. Fig. 8b shows a bottom view of the wedge shaped member 11a, 11b of Fig. 8a, whereas Fig. 8c shows a side view of the same.

[0042] Figs. 9a-c show two wedge shaped members 11a, 11b of Figs. 8a to 8c locked together using the locking hinges.

[0043] Fig. 10a shows the locking hinge 31 more in further detail. Here a pivotable hinge flap 34 is shown. In order to lock the locking hinge 31 of one wedge shaped member 11a, 11b to the corresponding rail 33 of the other wedge shaped member 11a, 11b, the hinge flap 34 is pivoted around a joint (not shown) in the locking hinge 31 and approximately 180° down over the rail 33, thereby providing a snap fit. Fig. 10b shows the rail 33 of a wedge shaped member 11a, 11b more in detail. The saw tooth shaped gripping ribs 13 are also shown in Fig. 10a-b. As shown, the rail 33 may have a receiving surface being chamfered for facilitating the reception of the hinge flap 34 upon connection between the two. Upon connection an exterior part of the hinge flap 34, forming a hook like member, engages with this chamfered surface thereby making it easier for the exterior part of the hinge flap 34 to slide up and over the top of the chamfered surface. It

should be noted that the exterior part of the hinge flap 34, i.e. the part thereof engaging with the rail, may have an inverted shape corresponding to the shape of the receiving surface to securely locking the hinge flap 34 to the rail 33. Although preferred, it should be appreciated that the receiving surface of the rail is not required to be chamfered.

[0044] Exterior shock absorbing ribs 191 extending outwards from the side walls 32 and/or the rear wall, as shown in Figs. 9b may be provided such as to protect the shower tray corners during transport as shown in Fig. 6, as well as to increase the robustness of the members 11a, 11b and also of the mounting structure 10.

[0045] The wedge shaped members 11a, 11b are preferably made of a plastic material, Optionally the inner ribs may be made from the same material or another material being suitable for the purpose of applying a pressure onto the shower tray when arranged in the cavity 17 of the wedge shaped members 11a, 11b.

[0046] In an embodiment, according to Fig. 11, a method 200 for installing a shower tray 100 is provided. The method comprises a step 202 of arranging a plurality of shower tray supports 110 on the floor, and a step 204 of arranging at least one temporary mounting structure 10 on the floor at a position being located between a wall and a shower tray support 110. The height of the temporary mounting structure 10 adjusted in 206 such that it is less than the height of the shower tray supports 110. Step 206 may be performed prior to step 204.

[0047] The method further comprises a step 208 of positioning the shower tray 100 onto the shower tray supports 110.

[0048] Step 210 may thereafter be performed, in case the height of the shower tray supports 110 are not set properly. In step 210, the shower tray 100 is tilted upwards such that it rests on the mounting structure 10, whereby the height of one or more of the shower tray supports 110 may be adjusted.

[0049] Finally, in step 212, the shower tray 100 is repositioned onto the shower tray supports 110.

[0050] It is apparent to a person skilled in the art that with the advancement of technology, the basic idea may be implemented in various ways. The invention and its embodiments are thus not limited to the examples described above; instead they may vary within the scope of the claims.

Claims

1. A method for mounting a shower tray (100), comprising the steps of:

arranging a plurality of shower tray supports (110) on the floor or on the shower tray;
arranging at least one temporary mounting structure (10) on the floor at a position within and adjacent a boundary of an area at which the

shower tray (100) is to be positioned in use, wherein the height of the temporary mounting structure (10) is less than the height of the shower tray supports (110); wherein the mounting structure (10) comprises a bottom portion (11a) having a planar structure for resting on a floor, and an upper portion (11b) having a planar structure for supporting a shower tray (100), wherein the mounting structure further comprises means for adjusting the distance between the planar structure of the bottom portion (11a) and the planar structure of the upper portion (11b), wherein the bottom portion (11a) and the upper portion (11b) are wedge shaped members (11a, 11b), each of the wedge shaped members (11a, 11b) being provided with a top surface (12a, 12b), the top surfaces (12a, 12b) are connectable to each other thus forming the means for adjusting the distance between the planar structure of the bottom portion (11a) and the planar structure of the upper portion (11b), wherein each one of the upper portion and the bottom portion (11a, 11b) forms a hollow cavity (17) configured to receive a corner of a shower tray (100), positioning the shower tray (100) onto the shower tray supports (110) and the floor, tilting the shower tray (100) upwards such that the shower tray (100) is standing on the at least one temporary mounting structure (10), adjusting the height of at least one shower tray support (110), and repositioning the shower tray (100) onto the shower tray supports (110).

2. The method according to claim 1, further comprising the step of securing each one of the shower tray supports (110) when arranged on the floor at a fixed position of the floor.
3. The method according to claim 1, further comprising the step of securing each one of the shower tray supports (110) when arranged on the shower tray at a fixed position of the shower tray.
4. The method according to any of the preceding claims, further comprising the step of adjusting the height of the at least one temporary mounting structure (10) such that the height of the temporary mounting structure (10) is less than the height of the shower tray supports (110).
5. A mounting structure (10) for use as a temporary mounting structure in the method according to any one of the preceding claims, comprising a bottom portion (11a) having a planar structure for resting on a floor, and an upper portion (11b) having a planar structure for supporting a shower tray (100), wherein the mounting structure further comprises means for

adjusting the distance between the planar structure of the bottom portion (11a) and the planar structure of the upper portion (11b), **characterized in that** the bottom portion (11a) and the upper portion (11b) are wedge shaped members (11a, 11b), each of the wedge shaped members (11a, 11b) being provided with a top surface (12a, 12b), the top surfaces (12a, 12b) are connectable to each other thus forming the means for adjusting the distance between the planar structure of the bottom portion (11a) and the planar structure of the upper portion (11b), and wherein each one of the upper portion and the bottom portion (11a, 11b) forms a hollow cavity (17) configured to receive a corner of a shower tray (100).

6. The mounting structure (10) according to claim 5, further comprising means for preventing longitudinal sliding between the two wedge shaped members (11a, 11b) when the two top surfaces (12a, 12b) are connected to each other.

7. The mounting structure (10) according to claim 5 or 6, wherein each top surface (12a, 12b) is provided with a plurality of laterally distributed gripping ribs (13), wherein the gripping ribs (13) form part of the means for preventing sliding between the two wedge shaped members (11a, 11b).

8. The mounting structure (10) according to any one of claims 5 to 7, wherein the means for adjusting the distance between the bottom portion and the upper portion further comprises a locking pin (14), insertable through a symmetrically arranged elongated hole (15) in each of the top surfaces (12a, 12b) and configured to lock the two wedge shaped members (11a, 11b) together when the two top surfaces (12a, 12b) are connected to each other.

9. The mounting structure (10) according to any one of claims 5 to 8, wherein each wedge shaped member (11a, 11b) further comprises a locking hinge (31) provided at a side wall (32) of the wedge shaped member (11a, 11b) adjacent to the top surface (12a, 12b) thereof, and a rail (33) arranged on at least a part of the side wall (32) and extending essentially parallel with the top surface (12a, 12b) at a distance thereof, wherein the distance is arranged such that the locking hinge (31) of one wedge shaped member (11a, 11b) is arranged to engage the rail (33) of the other wedge shaped member (11a, 11b) when the two top surfaces (12a, 12b) of the wedge shaped members (11a, 11b) are connected.

10. The mounting structure (10) according to any one of claims 5-9, further comprising a number of flexible inner flanges (18) extending into the cavity (17), whereby the inner flanges (18) act to engage with

and hold the corner section of the shower tray in place in the inner cavity (17) during transport.

11. The mounting structure (10) according to any of claims 5-10, wherein at least one of the bottom portion and upper portion (11a, 11b) comprises screw holes (35) for allowing a rigid attachment of the mounting structure (10) to the floor in a shower area by means of an attachment screw or similar.

12. The mounting structure (10) according to any one of claims 5-11, wherein the hollow cavity (17) of said wedge members (11a, 11b) is configured to receive a corner of a shower tray (100) such that said wedge shaped members (11a, 11b) together form a package support for protecting the corners of the shower tray (100) during transport and storage.

20 Patentansprüche

1. Verfahren zur Befestigung einer Duschwanne (100), das folgende Schritte umfasst:

Anordnen einer Mehrzahl von Duschwannenstützen (110) auf dem Boden oder auf der Duschwanne;

Anordnen von mindestens einer temporären Befestigungsstruktur (10) auf dem Boden in einer Position innerhalb von und benachbart zu einer Grenze eines Bereiches, in dem die Duschwanne (100) im Gebrauch positioniert werden soll, wobei die Höhe der temporären Befestigungsstruktur (10) niedriger ist als die Höhe der Duschwannenstützen (110); wobei die Befestigungsstruktur (10)

einen unteren Abschnitt (11a) mit einer ebenen Struktur zur Auflage auf einen Boden und einen oberen Abschnitt (11b) mit einer ebenen Struktur zum Stützen einer Duschwanne (100) umfasst, wobei die Befestigungsstruktur ferner Mittel zum Anpassen des Abstandes zwischen der ebenen Struktur des unteren Abschnittes (11a) und der ebenen Struktur des oberen Abschnittes (11b) umfasst, wobei der untere Abschnitt (11a) und der obere Abschnitt (11b) keilförmige Elemente (11a, 11b) sind, jedes der keilförmigen Elemente (11a, 11b) mit einer oberen Oberfläche (12a, 12b) versehen ist, die oberen Oberflächen (12a, 12b) miteinander verbindbar sind, wodurch sie die Mittel zur Anpassung des Abstandes zwischen der ebenen Struktur des unteren Abschnittes (11a) und der ebenen Struktur des oberen Abschnittes (11b) ausbilden, wobei jeder von dem oberen Abschnitt und dem unteren Abschnitt (11a, 11b) einen Hohlraum (17) ausbildet, der dazu ausgestaltet ist, eine Ecke einer Duschwanne (100) aufzunehmen,

- Positionieren der Duschwanne (100) auf die Duschwannenstützen (110) und den Boden, Kippen der Duschwanne (100) aufwärts, sodass die Duschwanne (100) auf der mindestens einen temporären Befestigungsstruktur (10) steht, Anpassen der Höhe mindestens einer Duschwannenstütze (110), und Umpositionieren der Duschwanne (100) auf die Duschwannenstützen (110).
2. Verfahren nach Anspruch 1, das ferner den Schritt des Sicherns von jedem der Duschwannenstützen (110) umfasst, wenn sie auf dem Boden in einer fixierten Position des Bodens angeordnet sind.
 3. Verfahren nach Anspruch 1, das ferner den Schritt des Sicherns von jedem der Duschwannenstützen (110) umfasst, wenn sie auf der Duschwanne in einer fixierten Position der Duschwanne angeordnet sind.
 4. Verfahren nach einem der vorangehenden Ansprüche, ferner umfassend den Schritt des Anpassens der Höhe der mindestens einen temporären Befestigungsstruktur (10), sodass die Höhe der temporären Befestigungsstruktur (10) niedriger ist als die Höhe der Duschwannenstützen (110).
 5. Befestigungsstruktur (10) zur Verwendung als eine temporäre Befestigungsstruktur in dem Verfahren nach einem der vorangehenden Ansprüche, umfassend einen unteren Abschnitt (11a) mit einer ebenen Struktur zur Auflage auf einen Boden und einen oberen Abschnitt (11b) mit einer ebenen Struktur zum Stützen einer Duschwanne (100), wobei die Befestigungsstruktur ferner Mittel zum Anpassen des Abstandes zwischen der ebenen Struktur des unteren Abschnittes (11a) und der ebenen Struktur des oberen Abschnittes (11b) umfasst, **dadurch gekennzeichnet, dass** der untere Abschnitt (11a) und der obere Abschnitt (11b) keilförmige Elemente (11a, 11b) sind, jedes der keilförmigen Elemente (11a, 11b) mit einer oberen Oberfläche (12a, 12b) versehen ist, die oberen Oberflächen (12a, 12b) miteinander verbindbar sind, wodurch sie die Mittel zur Anpassung des Abstandes zwischen der ebenen Struktur des unteren Abschnittes (11a) und der ebenen Struktur des oberen Abschnittes (11b) ausbilden, wobei jeder von dem oberen Abschnitt und dem unteren Abschnitt (11a, 11b) einen Hohlraum (17) ausbildet, der dazu ausgestaltet ist, eine Ecke einer Duschwanne (100) aufzunehmen.
 6. Befestigungsstruktur (10) nach Anspruch 5, ferner umfassend Mittel zum Verhindern von längsseitigem Schieben zwischen den zwei keilförmigen Elementen (11a, 11b), wenn die zwei oberen Oberflächen (12a, 12b) miteinander verbunden sind.
 7. Befestigungsstruktur (10) nach Anspruch 5 oder 6, wobei jede obere Oberfläche (12a, 12b) mit einer Mehrzahl von seitlich verteilten Greifrippen (13) versehen ist, wobei die Greifrippen (13) Teile der Mittel zum Verhindern von längsseitigem Schieben zwischen den zwei keilförmigen Elementen (11a, 11b) ausbilden.
 8. Befestigungsstruktur (10) nach einem der Ansprüche 5 bis 7, wobei die Mittel zum Anpassen des Abstandes zwischen dem unteren Abschnitt und dem oberen Abschnitt ferner einen Verriegelungsstift (14) umfasst, der durch ein symmetrisch angeordnetes längliches Loch (15) in jede der oberen Oberflächen (12a, 12b) einsetzbar ist und dazu ausgestaltet ist, die zwei keilförmigen Elemente (11a, 11b) miteinander zu verriegeln, wenn die beiden oberen Oberflächen (12a, 12b) miteinander verbunden sind.
 9. Befestigungsstruktur (10) nach einem der Ansprüche 5 bis 8, wobei jedes keilförmige Element (11a, 11b) ferner ein Verriegelungsscharnier (31), das an einer Seitenwand (32) des keilförmigen Elementes (11a, 11b) benachbart zu der oberen Oberfläche (12a, 12b) dessen bereitgestellt ist, und eine Schiene (33), die an mindestens einem Teil der Seitenwand (32) angeordnet ist und sich im Wesentlichen parallel zu der oberen Oberfläche (12a, 12b) mit einem Abstand dazu erstreckt, umfasst, wobei der Abstand so angeordnet ist, dass das Verriegelungsscharnier (31) eines keilförmigen Elementes (11a, 11b) angeordnet ist, um in die Schiene (33) des anderen keilförmigen Elementes (11a, 11b) einzugreifen, wenn die zwei oberen Oberflächen (12a, 12b) der keilförmigen Elemente (11a, 11b) miteinander verbunden sind.
 10. Befestigungsstruktur (10) nach einem der Ansprüche 5-9, ferner umfassend eine Anzahl flexibler innerer Flansche (18), die sich in den Hohlraum (17) hinein erstrecken, wobei die inneren Flansche (18) agieren, um in den Eckbereich der Duschwanne einzugreifen und ihn in dem inneren Hohlraum (17) während des Transportes zu halten.
 11. Befestigungsstruktur (10) nach einem der Ansprüche 5-10, wobei mindestens eines aus dem unteren Abschnitt und dem oberen Abschnitt (11a, 11b) Schraubenlöcher (35) umfasst, um eine starre Anbringung der Befestigungsstruktur (10) an dem Boden in einem Duschbereich mittels einer Befestigungsschraube oder Ähnlichem zu ermöglichen.
 12. Befestigungsstruktur (10) nach einem der Ansprüche 5-11, wobei der Hohlraum (17) des keilförmigen Elementes (11a, 11b) dazu ausgestaltet ist, eine Ecke einer Duschwanne (100) aufzunehmen, so-

dass die keilförmigen Elemente (11a, 11b) zusammen eine Paketstütze zum Schützen der Ecken der Duschwanne (100) während des Transportes und der Lagerung ausbilden.

Revendications

1. Un procédé de montage d'un bac à douche (100), comprenant les étapes suivantes :

agencer une pluralité de supports de bac à douche (110) sur le sol ou sur le bac à douche ;
 agencer au moins une structure de montage temporaire (10) sur le sol à une position à l'intérieur et adjacente à une limite d'une zone à laquelle le bac à douche (100) doit être positionné en utilisation, dans lequel la hauteur de la structure de montage temporaire (10) est inférieure à la hauteur des supports de bac à douche (110) ; dans lequel la structure de montage (10) comprend une partie inférieure (11a) ayant une structure plane pour reposer sur un sol, et une partie supérieure (11b) ayant une structure plane pour supporter un bac de douche (100), dans lequel la structure de montage comprend en outre des moyens pour ajuster la distance entre la structure plane de la partie inférieure (11a) et la structure plane de la partie supérieure (11b), dans lequel la partie inférieure (11a) et la partie supérieure (11b) sont des éléments en forme de coin (11a, 11b), chacun des éléments en forme de coin (11a, 11b) étant pourvu d'une surface supérieure (12a, 12b), les surfaces supérieures (12a, 12b) pouvant être reliées l'une à l'autre, formant ainsi les moyens pour ajuster la distance entre la structure plane de la partie inférieure (11a) et la structure plane de la partie supérieure (11b), dans lequel chacune de la partie supérieure et de la partie inférieure (11a, 11b) forme une cavité creuse (17) configurée pour recevoir un coin d'un bac à douche (100), positionner le bac à douche (100) sur les supports de bac à douche (110) et sur le sol, incliner le bac de douche (100) vers le haut de sorte que le bac de douche (100) se tienne debout sur la au moins une structure de montage temporaire (10), régler la hauteur d'au moins un support de bac à douche (110), et repositionner le bac à douche (100) sur les supports de bac à douche (110).

2. Le procédé selon la revendication 1, comprenant en outre l'étape consistant à fixer chacun des supports de bac à douche (110) lorsqu'ils sont disposés sur le sol à une position fixe du sol.

3. Le procédé selon la revendication 1, comprenant en outre l'étape consistant à fixer chacun des supports de bac à douche (110) lorsqu'ils sont disposés sur le bac à douche à une position fixe du bac à douche.

4. Le procédé selon l'une quelconque des revendications précédentes, comprenant en outre l'étape consistant à ajuster la hauteur de la au moins une structure de montage temporaire (10) de sorte que la hauteur de la structure de montage temporaire (10) soit inférieure à la hauteur des supports de bacs à douche (110).

5. Une structure de montage (10) pour utilisation comme structure de montage temporaire dans le procédé selon l'une quelconque des revendications précédentes, comprenant une partie inférieure (11a) ayant une structure plane pour reposer sur un sol, et une partie supérieure (11b) ayant une structure plane pour supporter un bac de douche (100), dans laquelle la structure de montage comprend en outre des moyens pour ajuster la distance entre la structure plane de la partie inférieure (11a) et la structure plane de la partie supérieure (11b), **caractérisé en ce que** la partie inférieure (11a) et la partie supérieure (11b) sont des éléments en forme de coin (11a, 11b), chacun des éléments en forme de coin (11a, 11b) étant pourvu d'une surface supérieure (12a, 12b), les surfaces supérieures (12a, 12b) peuvent être reliées l'une à l'autre, formant ainsi le moyen pour ajuster la distance entre la structure plane de la partie inférieure (11a) et la structure plane de la partie supérieure (11b), et dans lequel chacune de la partie supérieure et de la partie inférieure (11a, 11b) forme une cavité creuse (17) configurée pour recevoir un coin d'un bac à douche (100).

6. La structure de montage (10) selon la revendication 5, comprenant en outre des moyens pour empêcher le glissement longitudinal entre les deux éléments en forme de coin (11a, 11b) lorsque les deux surfaces supérieures (12a, 12b) sont reliées l'une à l'autre.

7. La structure de montage (10) selon la revendication 5 ou 6, dans laquelle chaque surface supérieure (12a, 12b) est pourvue d'une pluralité de nervures de préhension (13) réparties latéralement, dans laquelle les nervures de préhension (13) font partie des moyens pour empêcher le glissement entre les deux éléments en forme de coin (11a, 11b).

8. La structure de montage (10) selon l'une quelconque des revendications 5 à 7, dans laquelle le moyen de réglage de la distance entre la partie inférieure et la partie supérieure comprend en outre une broche de verrouillage (14), pouvant être insérée à travers un trou allongé (15) disposé symétriquement dans cha-

cune des surfaces supérieures (12a, 12b) et configurée pour verrouiller les deux éléments en forme de coin (11a, 11b) ensemble lorsque les deux surfaces supérieures (12a, 12b) sont connectées l'une à l'autre.

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9. La structure de montage (10) selon l'une quelconque des revendications 5 à 8, dans laquelle chaque élément en forme de coin (11a, 11b) comprend en outre une charnière de verrouillage (31) prévue sur une paroi latérale (32) de l'élément en forme de coin (11a, 11b) adjacente à la surface supérieure (12a, 12b) de celui-ci, et
un rail (33) disposé sur au moins une partie de la paroi latérale (32) et s'étendant essentiellement parallèlement à la surface supérieure (12a, 12b) à une distance de celle-ci, dans lequel la distance est agencée de telle sorte que la charnière de verrouillage (31) d'un élément en forme de coin (11a, 11b) est agencée pour engager le rail (33) de l'autre élément en forme de coin (11a, 11b) lorsque les deux surfaces supérieures (12a, 12b) des éléments en forme de coin (11a, 11b) sont connectées.
10. La structure de montage (10) selon l'une quelconque des revendications 5 à 9, comprenant en outre un certain nombre de brides internes flexibles (18) s'étendant dans la cavité (17), de sorte que les brides internes (18) agissent pour s'engager avec et maintenir la section de coin du bac de douche en place dans la cavité interne (17) pendant le transport.
11. La structure de montage (10) selon l'une quelconque des revendications 5 à 10, dans laquelle au moins l'une de la partie inférieure et de la partie supérieure (11a, 11b) comprend des trous de vis (35) pour permettre une fixation rigide de la structure de montage (10) au sol dans une zone de douche au moyen d'une vis de fixation ou similaire.
12. La structure de montage (10) selon l'une quelconque des revendications 5 à 11, dans laquelle la cavité creuse (17) desdits éléments en forme de coin (11a, 11b) est configurée pour recevoir un coin d'un bac de douche (100) de telle sorte que lesdits éléments en forme de coin (11a, 11b) forment ensemble un support d'ensemble pour protéger les coins du bac de douche (100) pendant le transport et le stockage.

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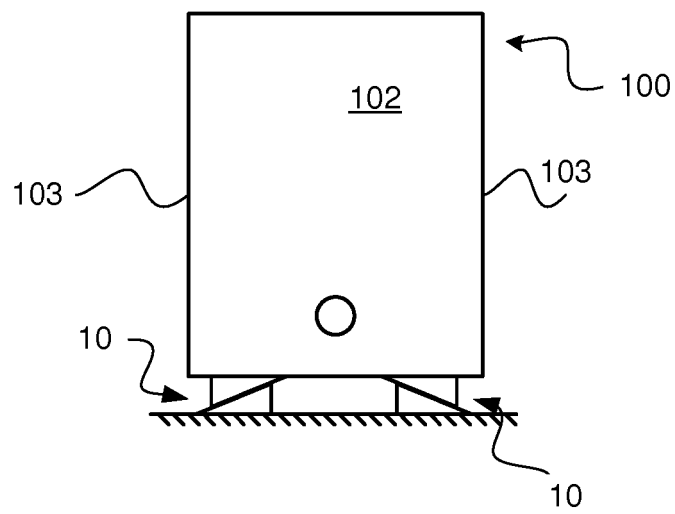


Fig. 1a

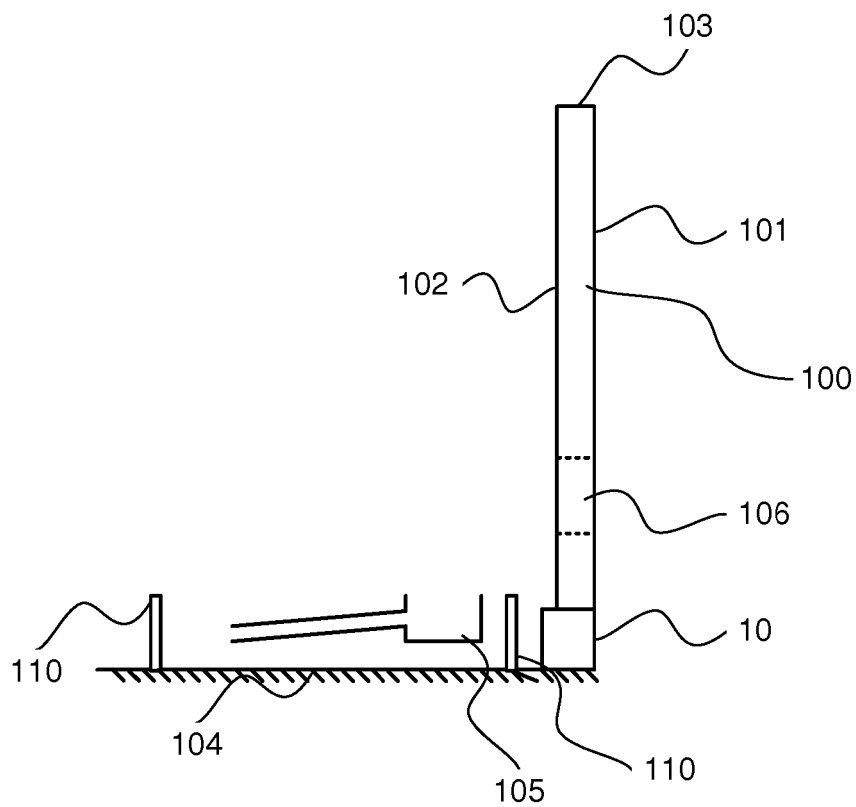
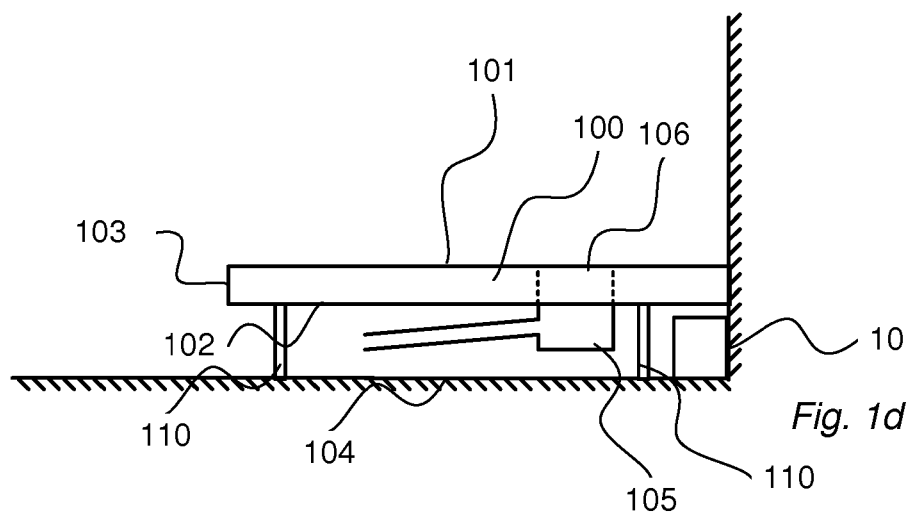
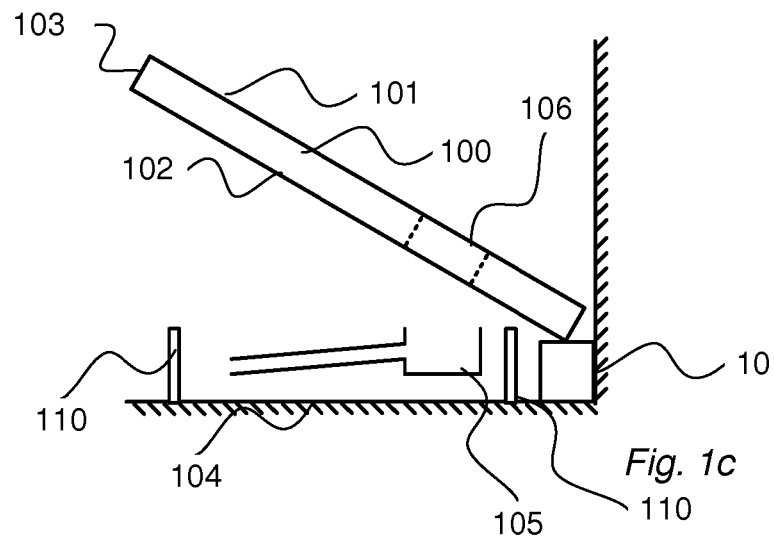


Fig. 1b



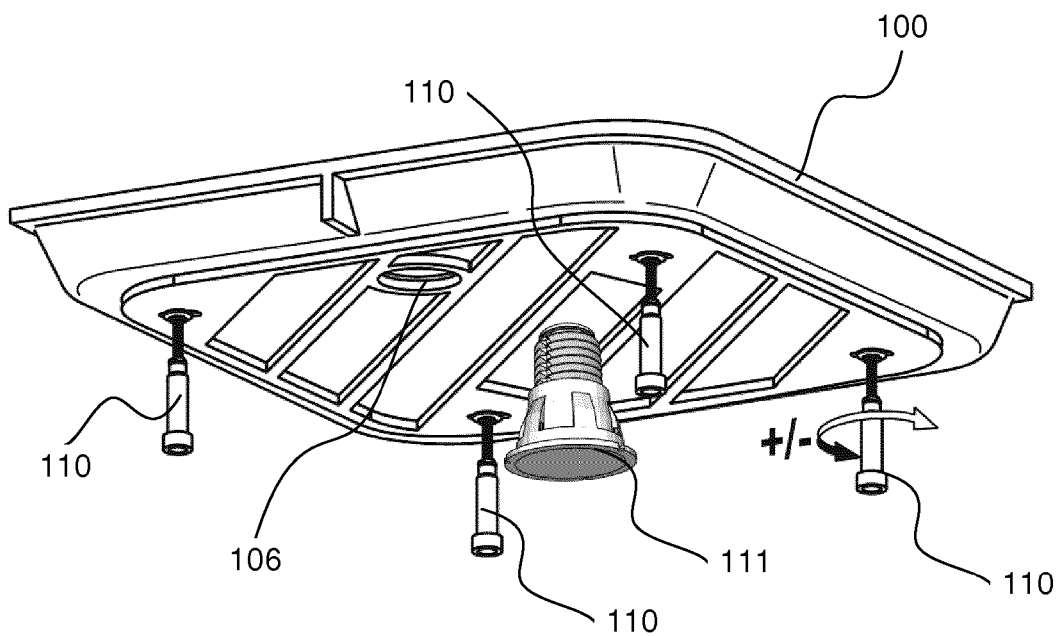


Fig. 2

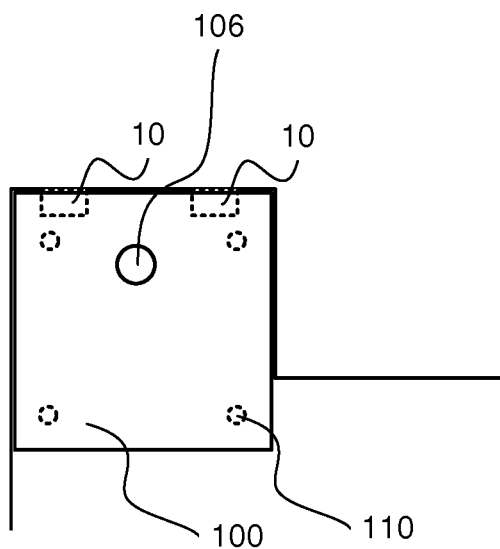


Fig. 3a

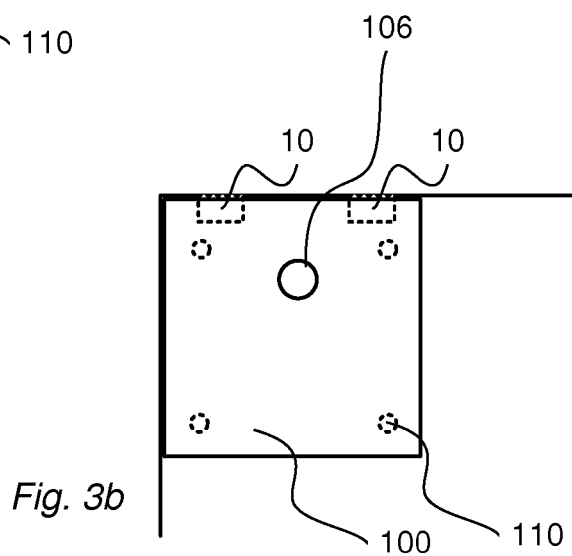
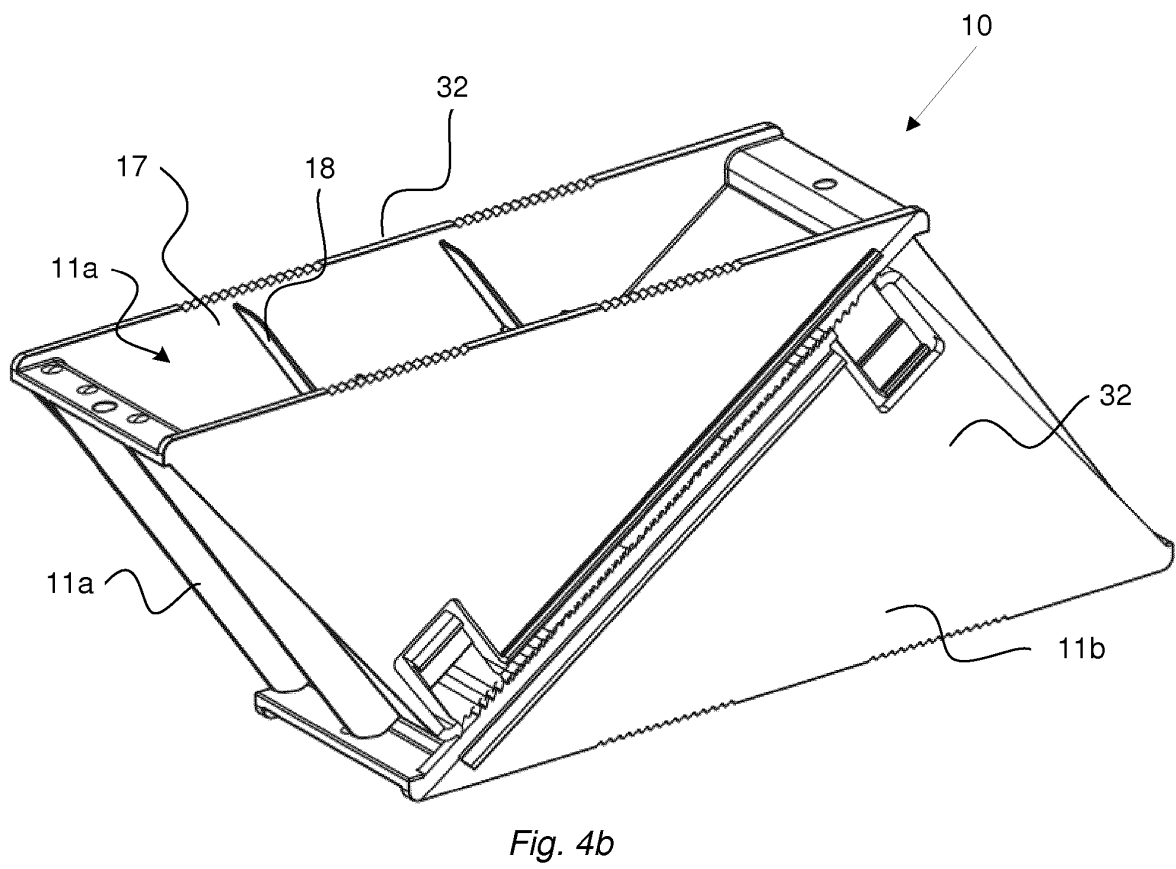
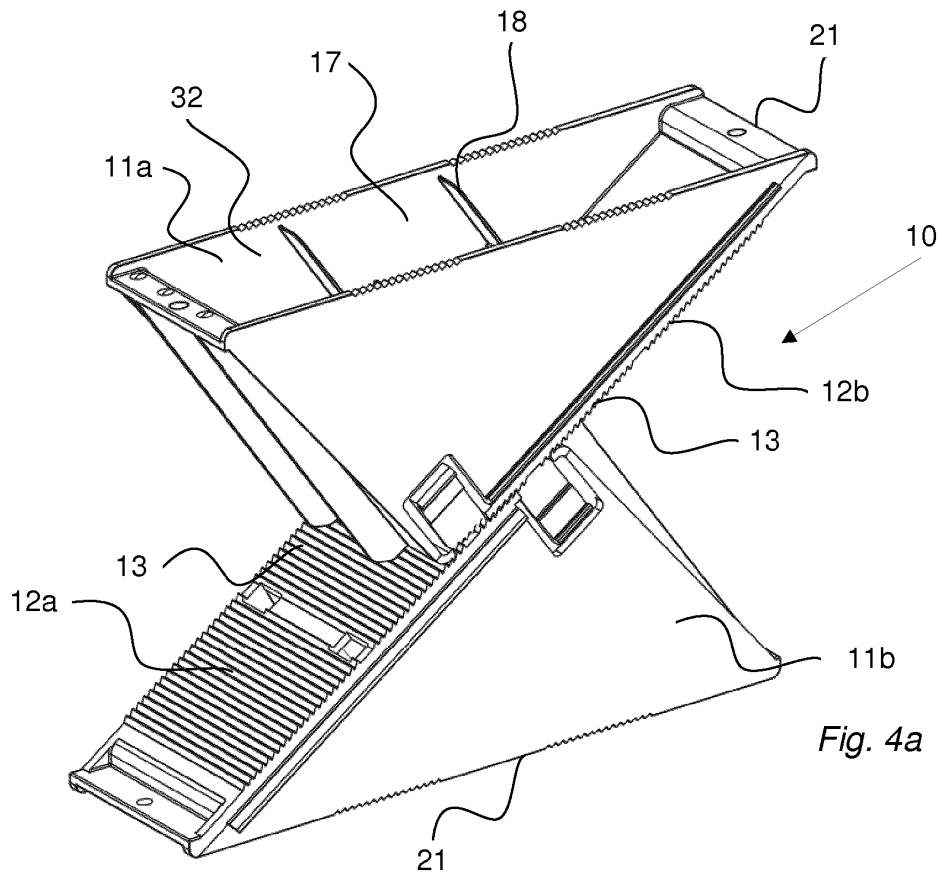
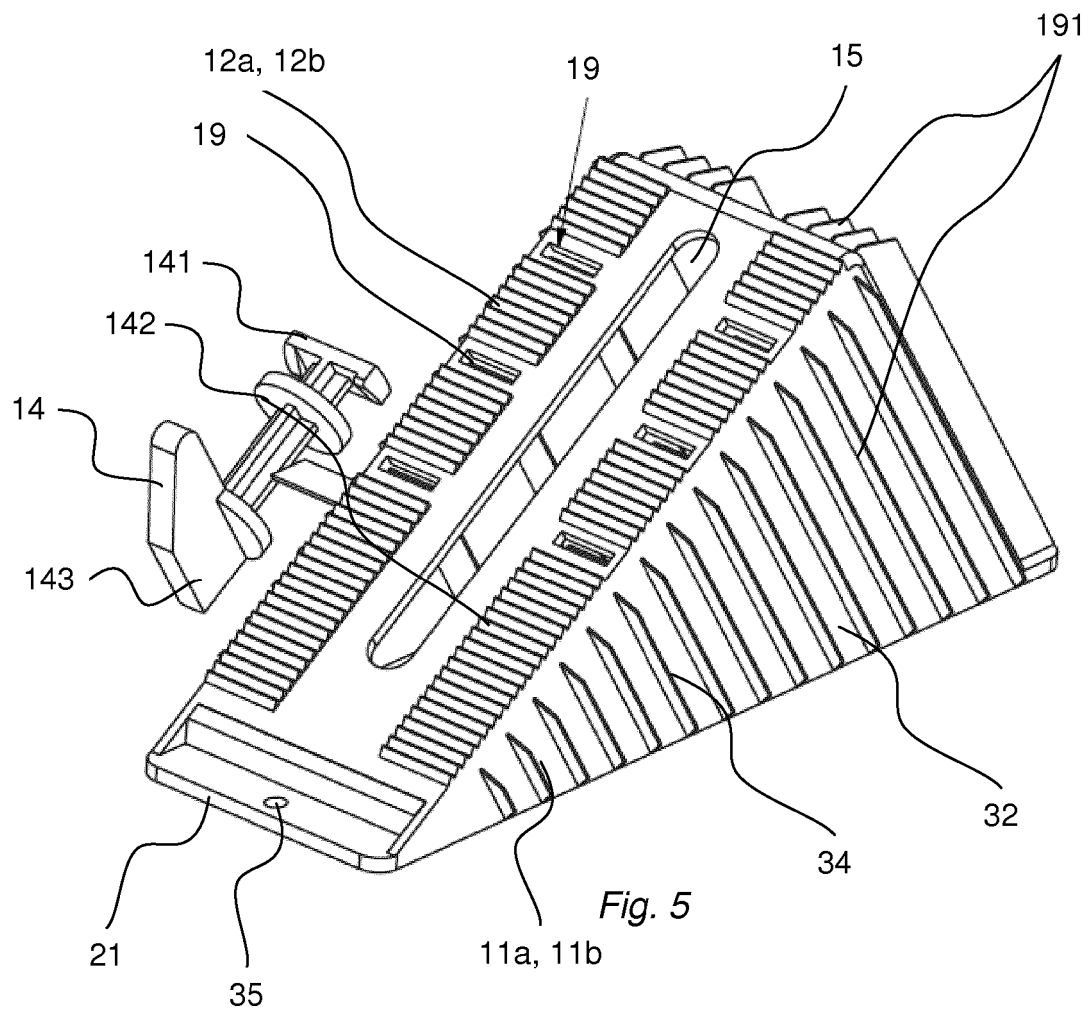


Fig. 3b





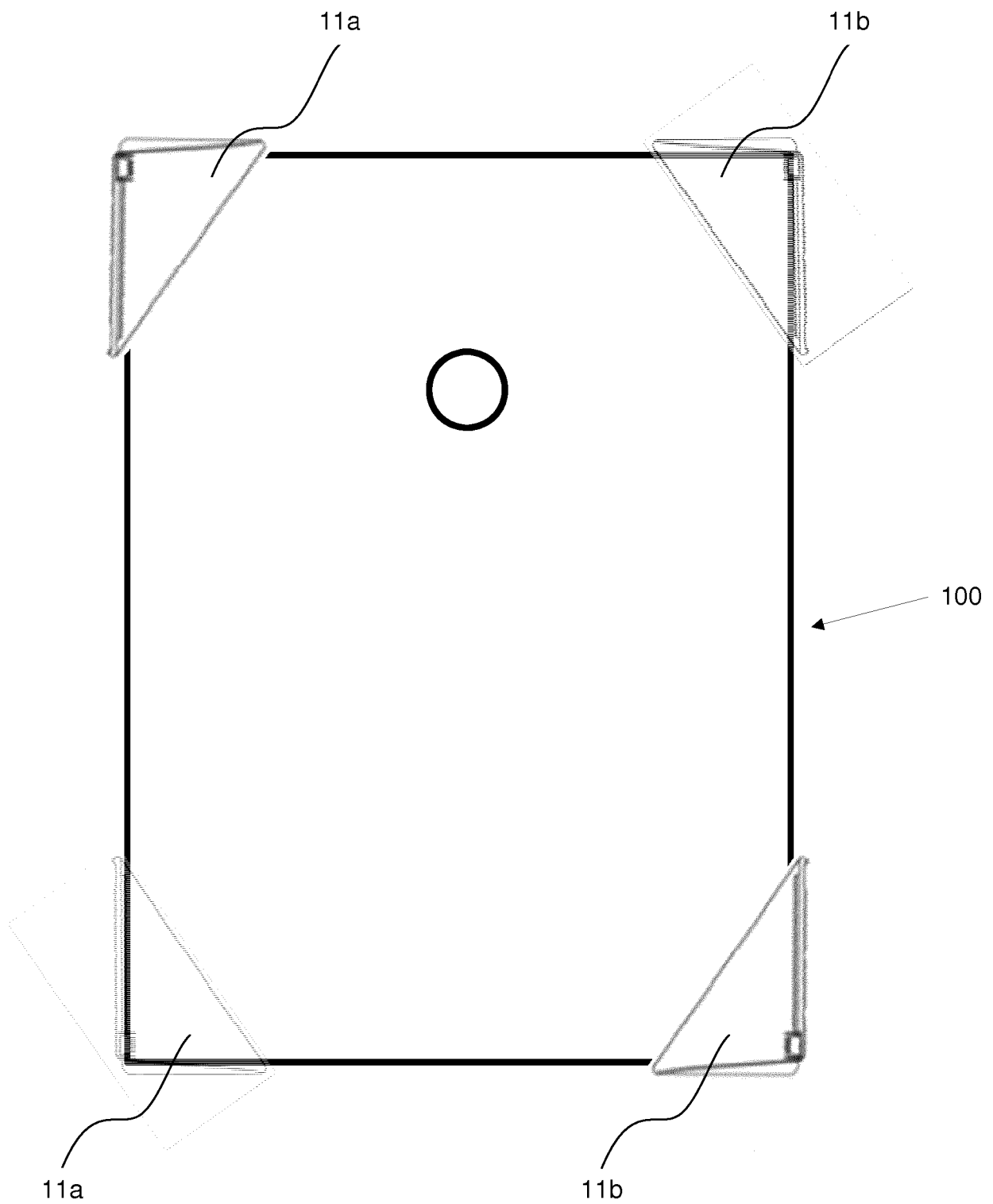
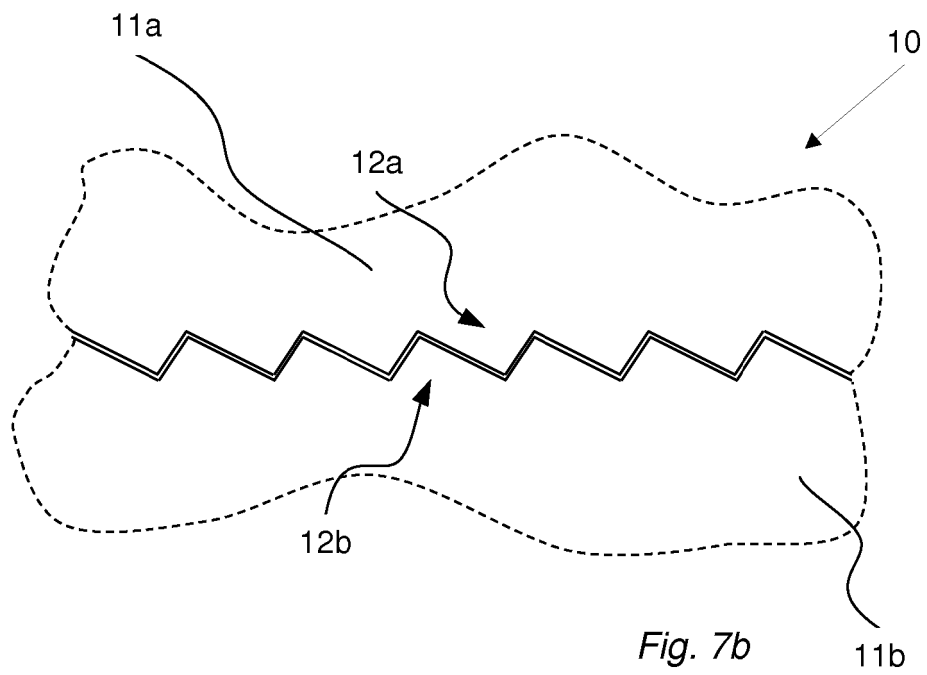
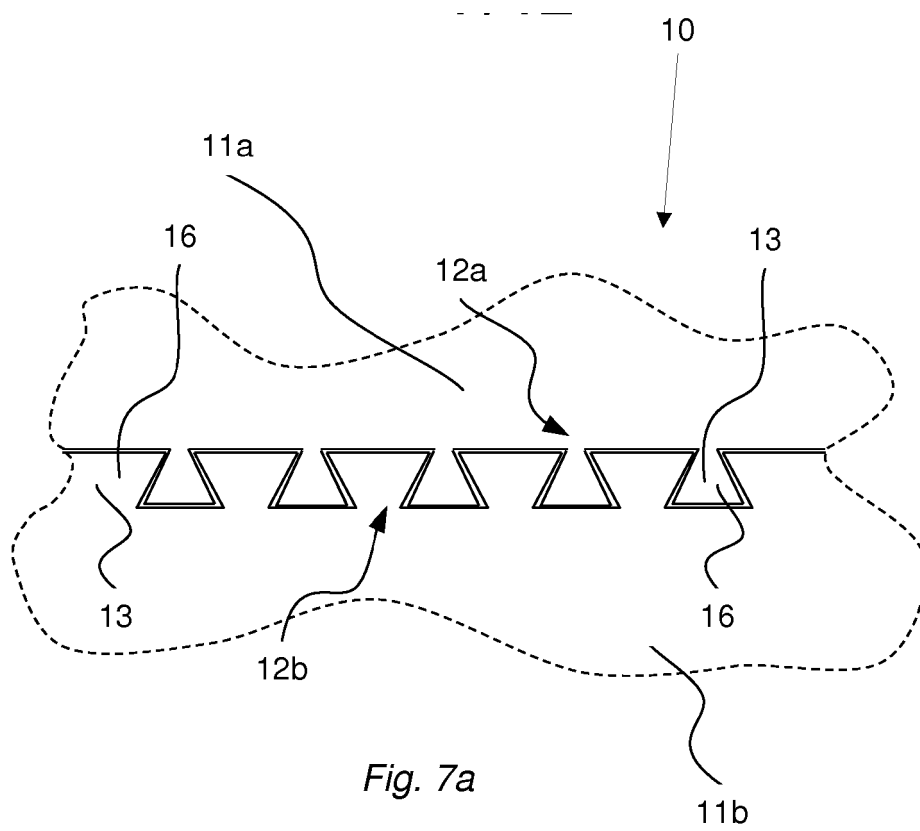


Fig. 6



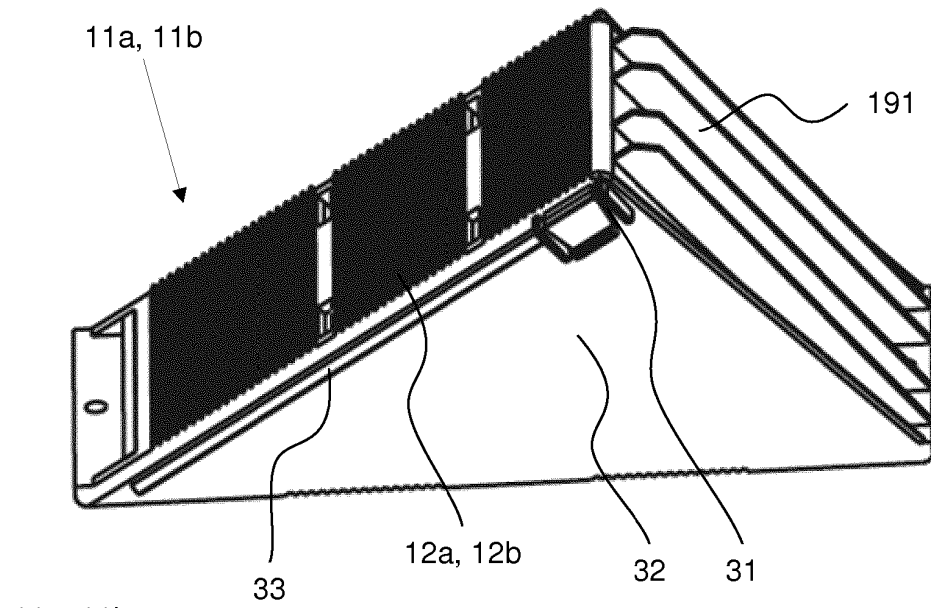


Fig. 8a

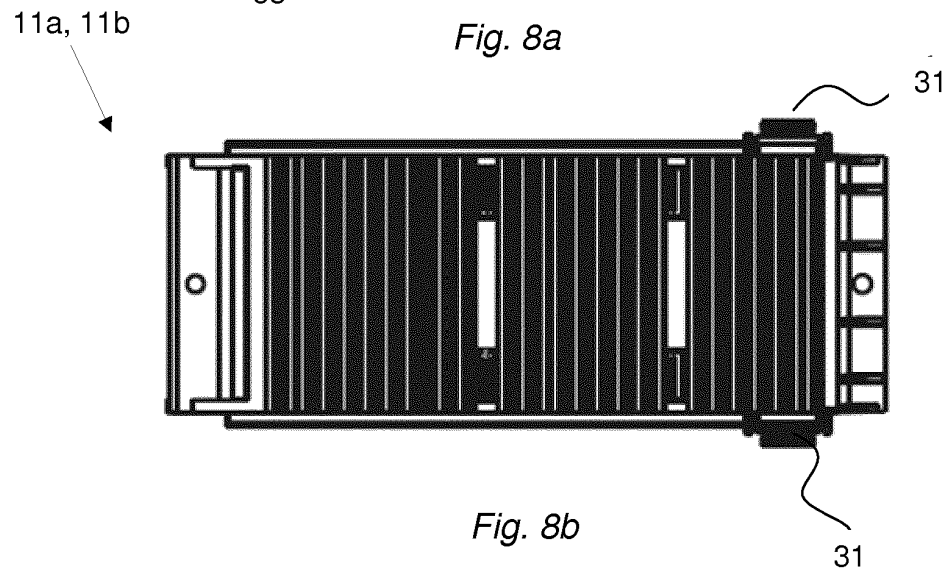


Fig. 8b

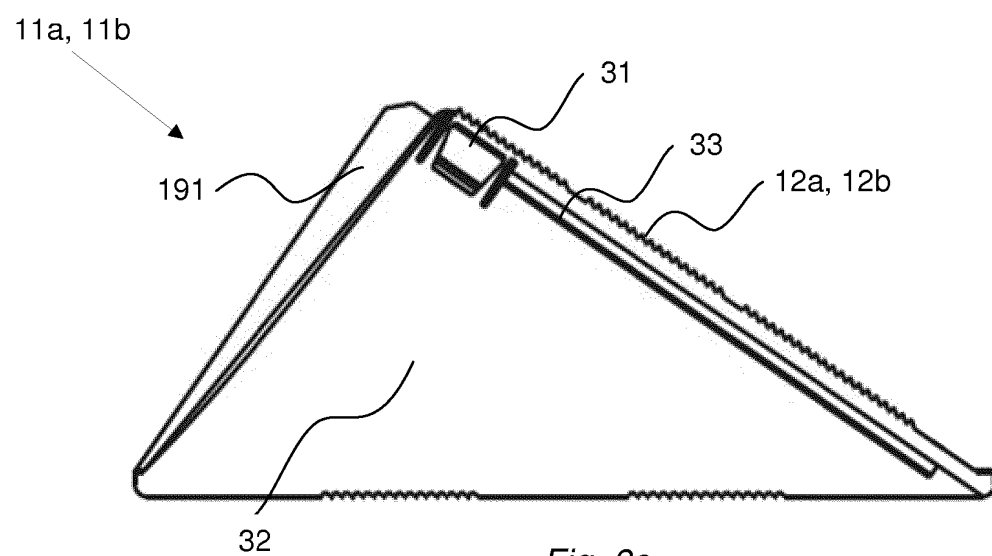
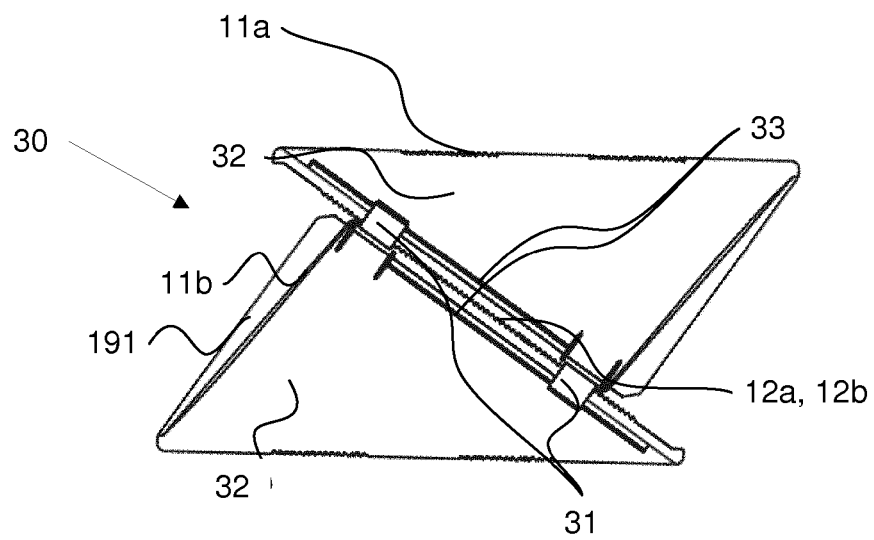
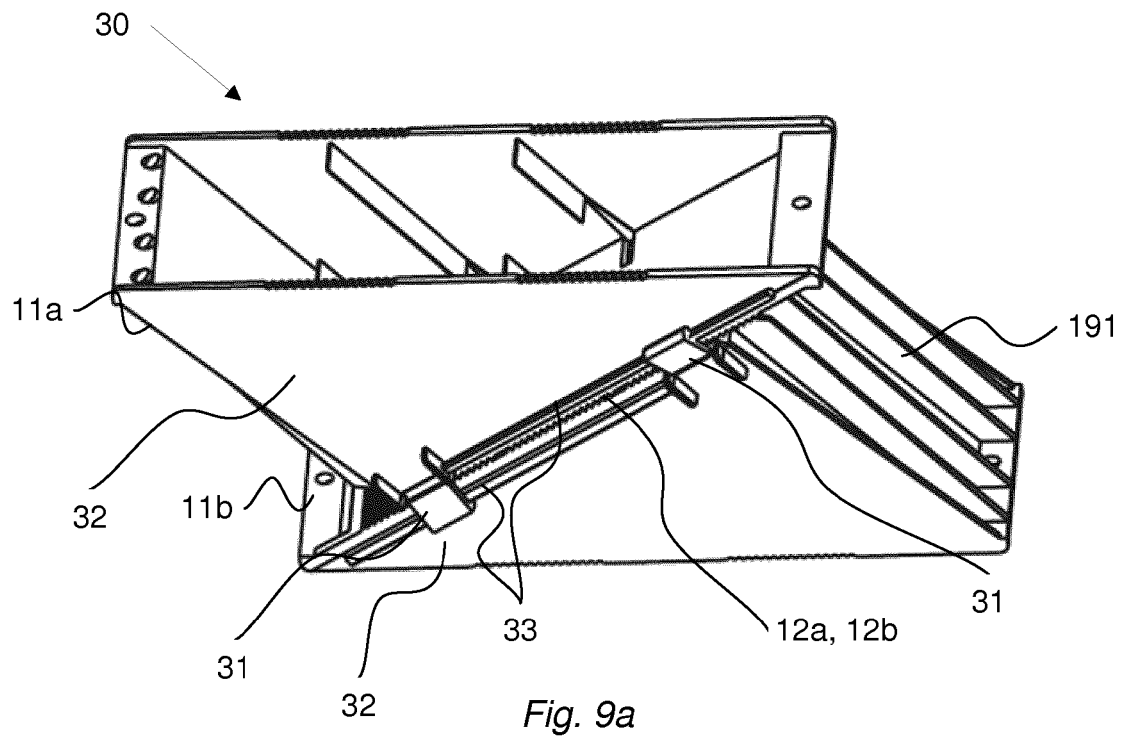


Fig. 8c



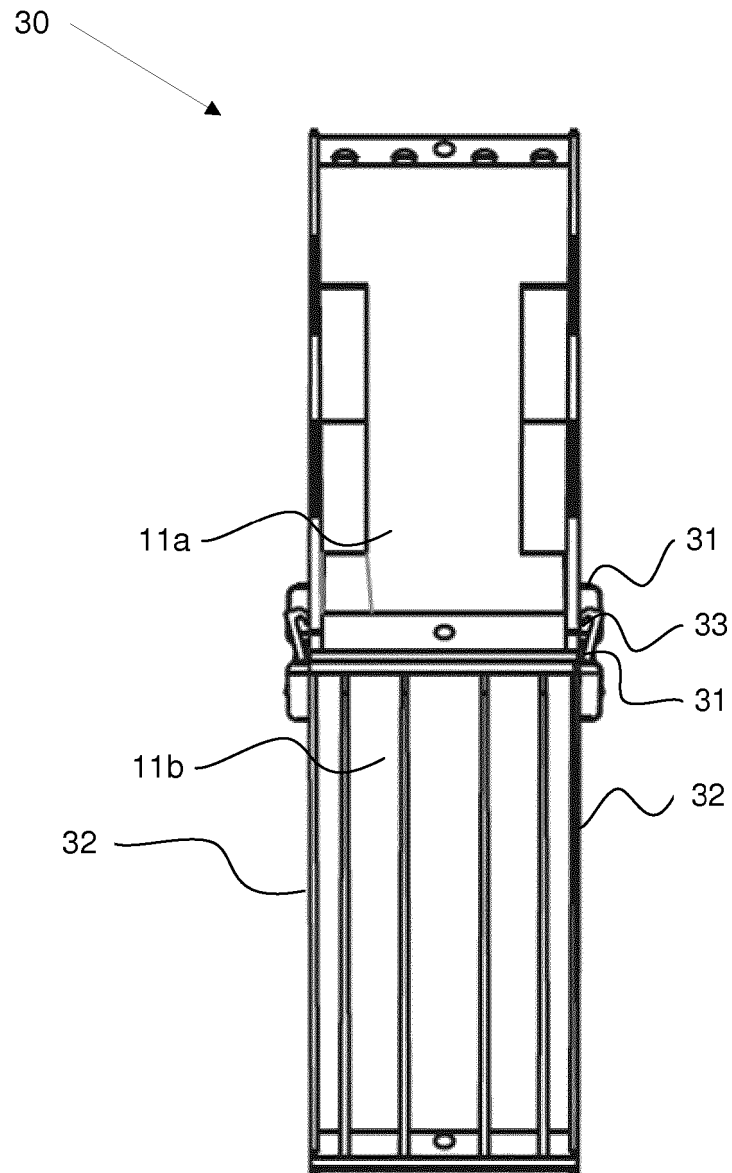


Fig. 9c

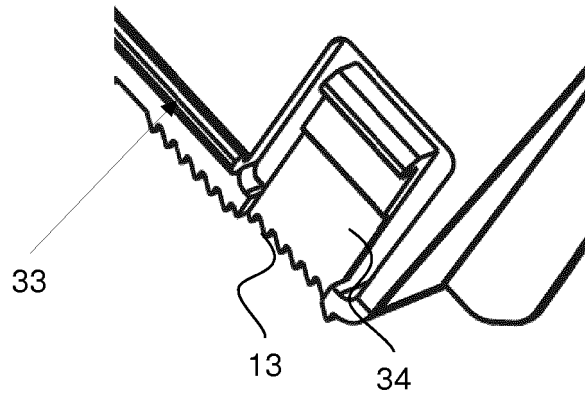


Fig. 10a

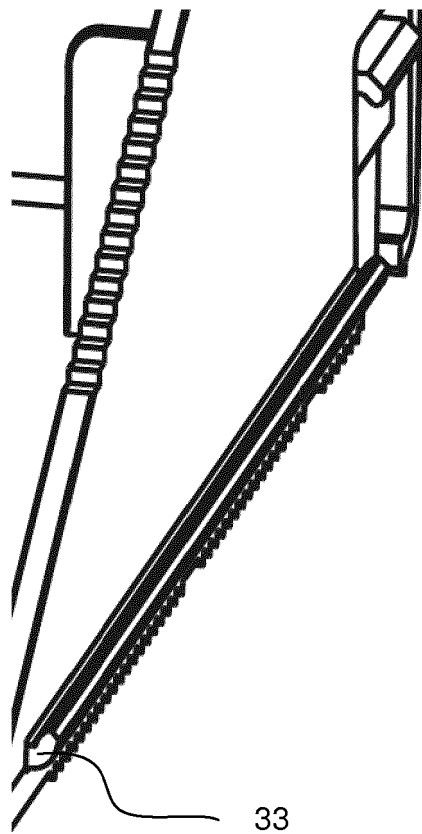


Fig. 10b

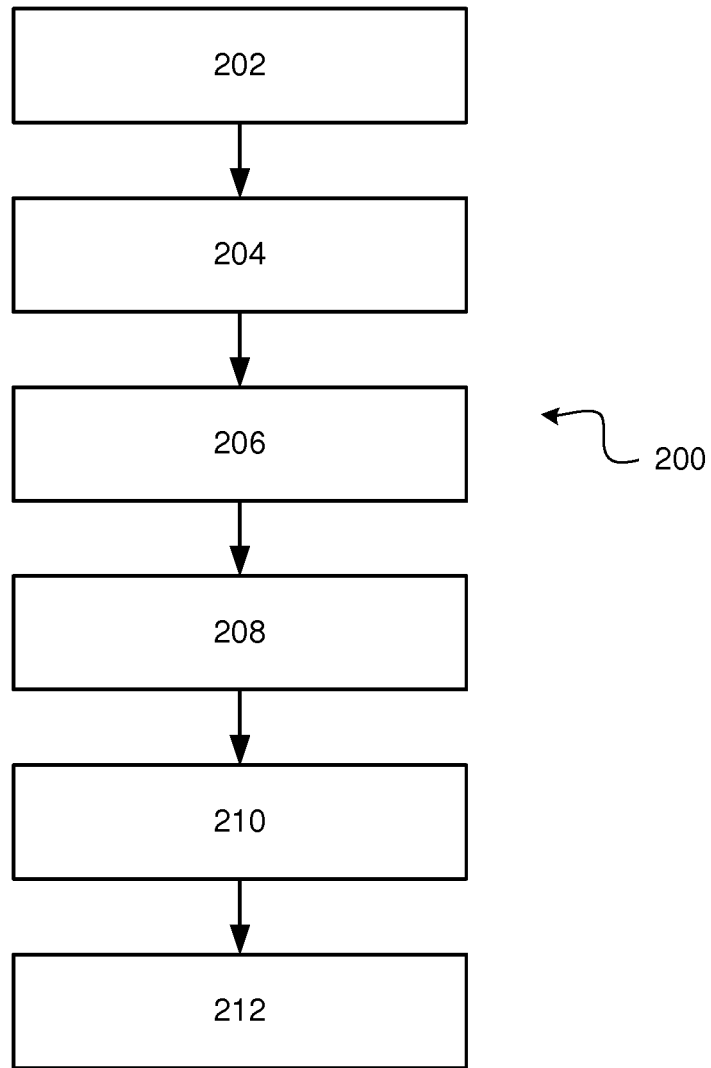


Fig. 11

REFERENCES CITED IN THE DESCRIPTION

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