



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11)

EP 1 273 253 A2

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:

08.01.2003 Bulletin 2003/02

(51) Int Cl.7: **A47K 3/16**

(21) Application number: **02394077.8**

(22) Date of filing: **04.07.2002**

(84) Designated Contracting States:

**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
IE IT LI LU MC NL PT SE SK TR**

Designated Extension States:

AL LT LV MK RO SI

(72) Inventor: **Dunlop, Lawrence James**

Belfast BT8 8LE, Northern Ireland (GB)

(74) Representative: **McKeown, Yvonne Mary**

**c/o MacLachlan & Donaldson,
47 Merrion Square
Dublin 2 (IE)**

(30) Priority: **04.07.2001 GB 0116325**

(71) Applicant: **Dunlop, Lawrence James**

Belfast BT8 8LE, Northern Ireland (GB)

(54) Fixing means for panels and the like

(57) A fixing means is provided for a panel (16) or the like to close off a substantially vertical gap between two substantially horizontal surfaces. The means comprises at least two elongate upright members (14) transversely spaced apart or a frame (10) for mounting substantially vertically inward of the side edges of a corresponding panel (16) to be fitted. Each upright member (14) has at least one flat face (15) to abut against the inside face of the panel (16) and each upright member (14) or the frame (10) has at its bottom end a height-adjustable element (18) with a foot (19) to be lower surface-engagable. The other upper end is securable under the upper surface. The foot (19) of each upright member (14) is for urging against the lower surface with a compressible pad (22) positioned therebetween. The flat face (15) of each upright member facing outwards and having at least two vertically-spaced contact zones (24) against which a corresponding number of co-operating contact zones (24) similarly positioned on an inside face of the panel (16) are matable.

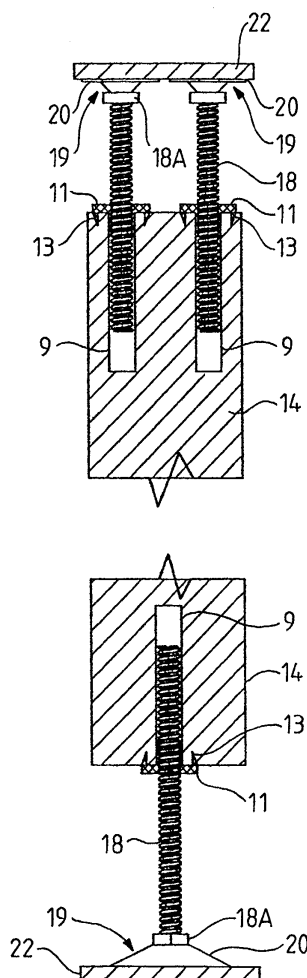


FIG. 1

Description

[0001] This Invention relates to a fixing means for a panel or the like (hereinafter referred to simply as a 'panel') for use in closing off a substantially vertical gap between two substantially horizontal surfaces, for example on one or more sides around an upstanding container, for example a bath or bathtub. A bath or bathtub is normally elongate and positioned against one, two or three walls in a room leaving three, two or one sides of the bath or bathtub to be closed off by panel(s). Normally, the one side is a longitudinal side.

[0002] A disadvantage with existing fixing means for panels for baths is that it is either achieved by clips provided on the panels attaching to parts of the container and clips being secured to a floor on which the container rests, resulting in the panels being loosely fitted, or that it is ad hoc and a frame is built in situ for the or each side whether this is from raw materials or from a kit of parts to be customised on site, panels then being secured to the frame, normally by special screws having screw dome caps which may or may not have a chromed finish. This building operation is labour-intensive and can be time-consuming, and accordingly expensive for a first rate installation. There is therefore a desire for installers in some cases to impose on their workmen a time limit for such installation. This can result in shoddy work and ill-fitted panels.

[0003] A further disadvantage arises in that one of the problems encountered in fitting a frame or series of uprights is referred to as 'horizontal slip' referring to possible movement of the bottom end of any frame or uprights along a supporting floor. This is overcome by securing, by screwing or nailing, the frame or uprights to the floor thereby making the frame or uprights fixed. If for any reason access is required to underneath the container, the panel has to be removed and probably the frame and at least some uprights. Due to the fixing, the operation of removing the panel is more complicated and time consuming than otherwise.

[0004] An object of the present invention is to obviate or mitigate these disadvantages.

[0005] Accordingly, a first aspect of the present invention is a fixing means for a panel or the like to close off a substantially vertical gap between two substantially horizontal surfaces, the means comprising at least two elongate upright members for mounting substantially vertically and transversely spaced apart inward of the side edges of a corresponding panel to be fitted, each upright member having at least one flat face to abut against the inside face of a panel and having at one end a height-adjustable element with a foot to be lower surface-engagable, and at the other end being securable under the upper surface, the foot of each upright member being for urging against the lower surface with a compressible pad positioned therebetween and the flat face of each upright member facing outwards and having at least two vertically-spaced contact zones against

which a corresponding number of co-operating contact zones, similarly positioned on an inside face of the panel, are matable.

[0006] Preferably, the pads are separated and adhered to the lower surface.

Alternatively, the pads are provided on the outer face of each foot. The other ends of the upright members are also beneficially provided with at least one length-adjustable element with foot to be urged against the undersurface of the upper surface, a second compressible pad being provided between the length-adjustable element and the undersurface of the upper surface.

[0007] Further accordingly, a second aspect of the present invention is a fixing means for a panel to close off substantially vertically one or more sides of a floor mounted container having an upper outstanding rim or ledge and a depending lip, the means for an outer side being in the form of a main frame having at least two transversely-spaced elongate upright members and two vertically-spaced longitudinal members, each longitudinal member between the upright members adapted to be secured under the rim of the container and to the floor, the outer face of the main frame having a series of contact zones against which a corresponding series of co-operating contact zones, similarly positioned on an inside face of the bath panel are matable.

[0008] Preferably, each longitudinal member of the main frame has at least two length-extending elements positioned parallel to the upright members and for outward extension, the outer ends of the elements each having a foot whose shoe is of greater diameter than the respective element, the frame being secured by the respective shoes each being for urging against the floor on which the container upstands and under the rim of the container with a compressible pad being secured therebetween. Alternatively, the longitudinal member of the main frame to abut against the floor has at least two length-extending elements and the other longitudinal member is for securing into a batten provided under the rim of the container. For an outer side of the container, each frame beneficially has its upright members inward of the ends of the longitudinal members. The series of contact zones are desirably provided by a plurality of two piece co-operating fasteners, such as pieces of VELCRO (RTM) or magnetic strips.

[0009] The fixing means beneficially includes one or two secondary frames for one or two sides of the container to abut against a wall, the or each secondary frame having two vertically-spaced longitudinal members and at least two upright members.

[0010] Preferably, one of the upright members is positioned at one end of the longitudinal members for wall-mounting, the other upright member being inward of the ends of the longitudinal members which are secured to the adjacent longitudinal members of the main frame for the outer side. The distance between the two longitudinal members of the or each secondary frame is preferably less than that of the two longitudinal members of

the main frame whereby the longitudinal members of the or each secondary frame fit within the longitudinal members of the main frame and are secured thereto.

[0011] Alternatively, the or each secondary frame is of similar construction to the main frame and is for fixing between the floor and undersurface of the rim of the container independent of the main frame and of the wall.

[0012] Preferably further, the or each secondary frame fits within the main frame for packing and can be flat-packed together with a bag containing the required number of screw fastenings, the required number of compressible pads and a plurality of two piece co-operating fasteners to provide the contact zones for the frame(s) and the panels(s).

[0013] Embodiments of the present invention will now be described, by way of example, with reference to the accompanying drawings, in which:-

Fig. 1 is a cross-sectional view of an upright member of a fixing means according to a first embodiment;

Fig. 2A is a perspective view from above of a fixing means for a bath panel according to a second embodiment of the present invention to a smaller scale showing the bath in broken line around which a main frame and one secondary frame according to a first version are positioned;

Fig. 2B is a perspective view from above of a fixing means for a bath panel according to a second embodiment showing a main frame and one secondary frame according to the first version with the panel in broken line;

Fig. 3A is a perspective view of the fixing means shown in Fig. 2A with the secondary frame being according to a second version;

Fig. 3B is a perspective view of the fixing means shown in Fig. 2B with the secondary frame being according to the second version; and

Figs. 4A and 4B are similar alternative cross-sectional views, to substantially the same scale as in Fig. 1, of an upper longitudinal member of the main frame secured under a rim of a bath, the former showing a length-extending element with a shoe urged into a compressible pad under the rim, and the latter showing a batten under the rim to which the upper longitudinal member is secured.

[0014] Referring to the drawings, a fixing means for a panel is provided to close off a substantially vertical gap between two substantially horizontal surfaces, for example, one or more sides of an upstanding container 4, in the form of a bath, resting on a floor 5. The bath 4 has an outstanding rim or ledge 6 and a depending lip 8.

[0015] The fixing means for a panel to close off an outer side of the bath 4 according to a first and simple embodiment, as shown in Fig. 1 of the drawings, has two elongate upright members 14 for mounting substantially vertically and transversely-spaced apart inward of the

side edges of a corresponding bath panel 16 to be fitted. Each upright member 14 is of square cross-section to present a flat face 15 to abut against the inside face of the panel 16 and having at its lower end a blind bore 9 in which a tapped ferrule 11 is fitted with anchoring means viz. barbs 13 to prevent rotation. A height-adjustable element 18 is in screw-threaded engagement with the ferrule 11. The element 18 has a foot 19 whose shoe 20 is to be floor-engagable, and at the other upper end is securable under the rim. The foot 19 of each upright member 14 is for urging against the floor 5 with a compressible pad 22 positioned therebetween.

The flat face 15 of each upright member 14 facing outwards has two vertically-spaced contact zones, formed by pieces of hook or loop VELCRO (RTM) against which a corresponding number of co-operating contact zones, formed by pieces of loop or hook VELCRO (RTM), similarly positioned on an inside face of the bath panel 16, mate. The contact zones may alternatively be of magnetic strip or other suitable material,

[0016] The pads 22 are of compressible material and adhered to the floor provided in corresponding positions on the floor 5. The other upper ends of the upright members 14 are also provided with two length-adjustable elements 18 each with a foot 19 whose shoe 20 is to be urged against the undersurface of the rim 6, a second compressible pad 22 being provided between the feet 19 of the length-adjustable elements 18 and the undersurface of the rim 6. The two elements 18, similarly mounted as at the lower end, are provided to prevent rotational distortion of the respective upright members 14 during fixing.

[0017] The fixing means further includes at least two upright members 14 for each side of the bath 4 that abuts against a wall.

[0018] The fixing means for an outer side of the bath 4 according to a second embodiment as shown in Figs. 2A to 4B of the drawings and in which like parts are denoted by like numerals, is in the form of a main frame 10 having two transversely-spaced upright members 14 and two vertically-spaced longitudinal members 12. Each longitudinal member 12 is adapted to be secured under the rim 6 of the bath 4 and to the floor 5. The outer face of the main frame 10, either on the upright members or longitudinal members, has a series of contact zones against which a corresponding series of co-operating contact zones, similarly positioned on an inside face of a bath panel 16, mate

[0019] Each longitudinal member 12 of the main frame 10 has at least two length-extending elements 18 each in a through bore having a tapped ferrule 11 and positioned parallel to the upright members 14 and for outward extension, the outer ends of the elements 18 each having a foot 19 whose shoe 20 is of greater dimension than the respective element 18. Each element 18 is a spindle having a screw-thread and in screw-threaded engagement with the thread in a tapped ferrule 11 provided in the longitudinal member 12. A nut 18A is

fixed at the bottom of each element 18 to tighten the shoe 20 against the floor or under-rim. The foot with shoe 20 is captive on but loosely fitted to its respective element 18. The main frame 10 is secured by the shoes 20, each being for urging against the respective compressible pad 22 of provided in corresponding positions on the floor 5 and under the rim 6 of the bath 4. The loose fitting of a shoe 20 on its element 18 allows the shoe 20 to abut against a pad 22 on extension of its element 18 but not be rotated on the pad 22 on further tightening of its element 18. The undersurface of each shoe 20 is recessed at one or more locations, for example it is domed, to leave an annular contact area with its respective pad 22. For an outer side of the bath 4, each main frame 10 has its upright members 14 inward of the ends of the longitudinal members 12. The series of contact zones are provided by a plurality of two piece co-operating fasteners 24.

[0020] The fitting means includes one or more secondary frames 26 for a side of the bath 4 to abut against a wall (only one secondary frame 26 shown in the drawings). The or each secondary frame 26 has two vertically-spaced longitudinal members 12' and two upright members 14'. In one version of a secondary frame 26, one of the upright members 14" is positioned at one end of the longitudinal members 12' for wall-mounting. The other upright member 14' is inward of the ends of the longitudinal members 12' which are secured by screw fasteners 28 to the adjacent longitudinal members 12 of the main frame 10 for the outer side. The distance between the two longitudinal members 12' of the secondary frame 26 is less than that of the two longitudinal members 12 of the main frame 10 whereby the longitudinal members 12' of the secondary frame 26 fit within the longitudinal members 12 of the main frame 10 and are secured thereto by the screw fasteners 28.

[0021] In a second version of a secondary frame 26, it is of similar construction to the main frame and is for fixing between the floor and undersurface of the rim of the bath independent of the main frame and of the wall.

[0022] The or each secondary frame 26 fits within the main frame 10 for packaging and can be flat-packed together with a bag containing the required number of screws, the required member of pads 22 and a plurality of two-piece co-operating fasteners 24 to provide the contact zones for the frame(s) 10, 26 and the panel(s) 16.

[0023] In an alternative version as shown in Fig. 4B, the longitudinal member 12 of the main frame 10 to abut against the floor 5 has at least two length-extending elements 18 and the other longitudinal member 12 for being secured into a batten 30 provided under the rim 6 of the bath 4.

[0024] For use, flat pack versions are provided for differently elongate sized baths and with one main frame 10 for a longitudinal side and one or two secondary frames 26 for one or two end sides. The main frame 10 is fitted firstly and then the one secondary frame 26 is

fitted as shown in Fig. 1. If a second secondary frame 26 is provided then this is then fitted similarly to the first secondary frame 26 at an opposite end side. The main frame 10 is fitted with the elements 18 retracted. First of all, the pads 22 are positioned under the rim 6 and on the floor 5 to correspond with where the elements 18 are positioned on the longitudinal members 12. Secondly, the main frame 10 is manoeuvred for the shoes 20 of the elements 18 on the upper longitudinal member 12 to abut against the corresponding pads 22 under the rim 6 and angled downwardly for the shoes 20 of elements 18 of the lower longitudinal member 12 to rest on part of the corresponding pads 22 on the floor. With the main frame 10 plumblined, the elements 18 of both longitudinal members 12 are extended so that the main frame 10 becomes a tight fit. The nuts 18A are then tightened. One part of six fasteners are then positioned as shown in Figs. 2A and B, Figs. 3A and B with two at each end of the main frame 10 and two mid-way of the ends, the other parts of the six fasteners 24 being correspondingly positioned on the inside of the panel 16 and that panel 16 is pressed against the frame 10 for it to be secured. To fit a secondary frame 26 of a first version, the upright member 14' at the ends of the longitudinal members 12' is placed against the wall shown at 32 in Fig. 1, and the other ends of the upper longitudinal members 12' fitted between the conjoining ends of the upper longitudinal members 12 of the main frame 10 and screwed thereto. The wall abutting upright member 14' is then screwed to the wall. Four fasteners 24 are used with a secondary frame 26 and corresponding panel. When a secondary frame 26 is required, the corresponding panel is fitted first before the panel 16 is pressed against the main frame 10, said panel 16 having a side panel overlap so that the corner is aesthetically finished without a seam between the two panels being located at the corner. To fit a secondary frame of a second version, the same procedure is enacted as for a main frame.

[0025] While the fixing means has been described with reference to closing off the open sides of baths, it is also applicable to close off vertical gaps between two horizontal surfaces such as to close off gaps under tables or reception desks or office desks either to give privacy or to shield any person sitting at the table/desk from draughts.

[0026] Each main or secondary frame may have more than two upright members. The upright members and longitudinal members are of wood but can be of other suitable material.

[0027] Each compressible pad 22 is, as stated above, of resilient material which can be foam material or even carpet material or vinyl flooring which compresses and as such causes the foot and shoe to seat into the material to prevent longitudinal slip. The pad can be separate from or fixed to the lower face of each shoe.

[0028] Variations and other modifications can be made without departing from the scope of the invention described above and as claimed hereinafter.

Claims

1. A fixing means for a panel or the like to close off a substantially vertical gap between two substantially horizontal surfaces, the means comprising at least two elongate upright members (14) for mounting substantially vertically and transversely spaced apart inward of the side edges of a corresponding panel (16) to be fitted, each upright member (14) having at least one flat face (15) to abut against the inside face of a panel (16) and having at one end a height-adjustable element (18) with a foot (19) to be lower surface-engagable, and at the other end being securable under the upper surface, the foot (19) of each upright member (14) being for urging against the lower surface with a compressible pad (22) positioned therebetween and the flat face (15) of each upright member (14) facing outwards and having at least two vertically-spaced contact zones (24) against which a corresponding number of co-operating contact zones (24), similarly positioned on an inside face of the panel (16), are matable.
2. A fixing means as claimed in Claim 1, **characterised in that** the pads (22) are separate from the feet (19) and adhered to the lower surface.
3. A fixing means as claimed in Claim 1, **characterised in that** the pads (22) are provided on the outer face of each foot (19).
4. A fixing means as claimed in Claim 1, 2 or 3, **characterised in that** the other ends of the upright members (14) are also provided with at least one length-adjustable element (18) with foot (19) to be urged against the undersurface of the upper surface, a second compressible pad (22) being provided between the length-adjustable element (18) and the undersurface of the upper surface.
5. A fixing means for a panel to close off substantially vertically one or more sides of a floor mounted container (4) having an upper outstanding ledge (6) and a depending lip (8), the means for an outer side being in the form of a main frame (10) having at least two transversely-spaced elongate upright members (14) and two vertically-spaced longitudinal members (12), each longitudinal member (12) between the upright members (14) adapted to be secured under the rim of the container (4) and to the floor (5), the outer face of the main frame (10) having a series of contact zones (24) against which a corresponding series of co-operating contact zones (24), similarly positioned on an inside face of the panel are matable.
6. A fixing means as claimed in Claim 5, **characterised in that** each longitudinal member (12) of the main frame (10) has at least two length-extending elements (18) positioned parallel to the upright members (14) and for outward extension, the outer ends of the elements (18) each having a foot (19) whose shoe (20) is of greater diameter than the respective element (18), the frame (10) being secured by the respective shoes (20) each being for urging against with a compressible pad (22) being secured therebetween on the floor (5) on which the container (4) upstands and under the ledge (6) of the container (4).
7. A fixing means as claimed in Claim 5 or 6, **characterised in that** the longitudinal member (12) of the main frame (10) to abut against the floor (5) has at least two length-extending elements (18) and the other longitudinal member (12) is secured into a batten (30) provided under the ledge (6) of the container (4).
8. A fixing means as claimed in Claim 5, 6 or 7, **characterised in that** for an outer side of the container (4), each frame (10) has its upright members (14) inward of the ends of the longitudinal members (12).
9. A fixing means as claimed in any one of the preceding Claims, **characterised in that** the series of contact zones are provided by a plurality of two piece co-operating fasteners (24).
10. A fixing means as claimed in any one of Claims 5 to 9, **characterised in that** the fixing means includes one or two secondary frames (26) for one or two sides of the container (4) to abut against a wall, the or each secondary frame (26) having two vertically-spaced longitudinal members (12) and at least two upright members (14).
11. A fixing means as claimed in Claim 10, **characterised in that** one of the upright members (14) is positioned at one end of the longitudinal members (12) for wall-mounting, the other upright member (14) being inward of the ends of the longitudinal members which are secured to the adjacent longitudinal members (12) of the main frame (10) for the outer side.
12. A fixing means as claimed in Claim 11, **characterised in that** the distance between the two longitudinal members (12) of the or each secondary frame (26) is less than that of the two longitudinal members (12) of the main frame (10) whereby the longitudinal members (12) of the or each secondary frame (26) fit within the longitudinal members (12) of the main frame (10) and are secured thereto.
13. A fixing means as claimed in Claim 10, **characterised in that** the or each secondary frame (26) is of

similar construction to the main frame (10) and is for fixing between the floor (5) and underneath of the ledge (6) of the container (4) independent of the main frame (10) and of the wall.

5

- 14.** A fixing means as claimed In any one of the preceding claims 10 to 13, **characterised in that** the or each secondary frame (26) fits within the main frame (10) for packing and can be flat-packed together with a bag containing the required number of screw fastenings, the required number of compressible pads (22) and a plurality of two piece co-operating fasteners (24) to provide the contact zones for the frame(s) (10, 26) and the panels(s) (16).

10

15

20

25

30

35

40

45

50

55

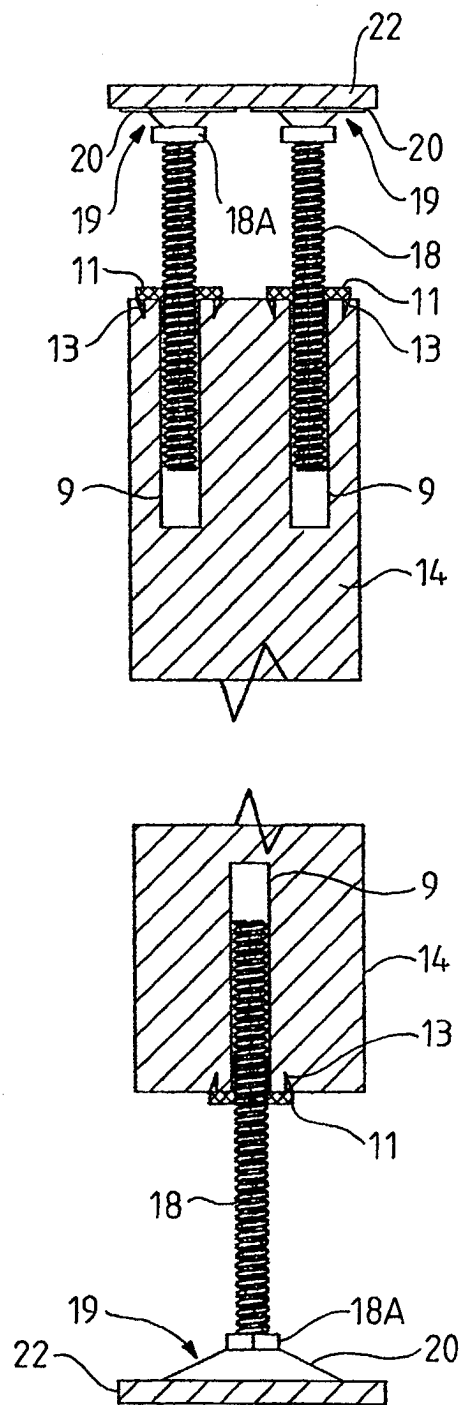
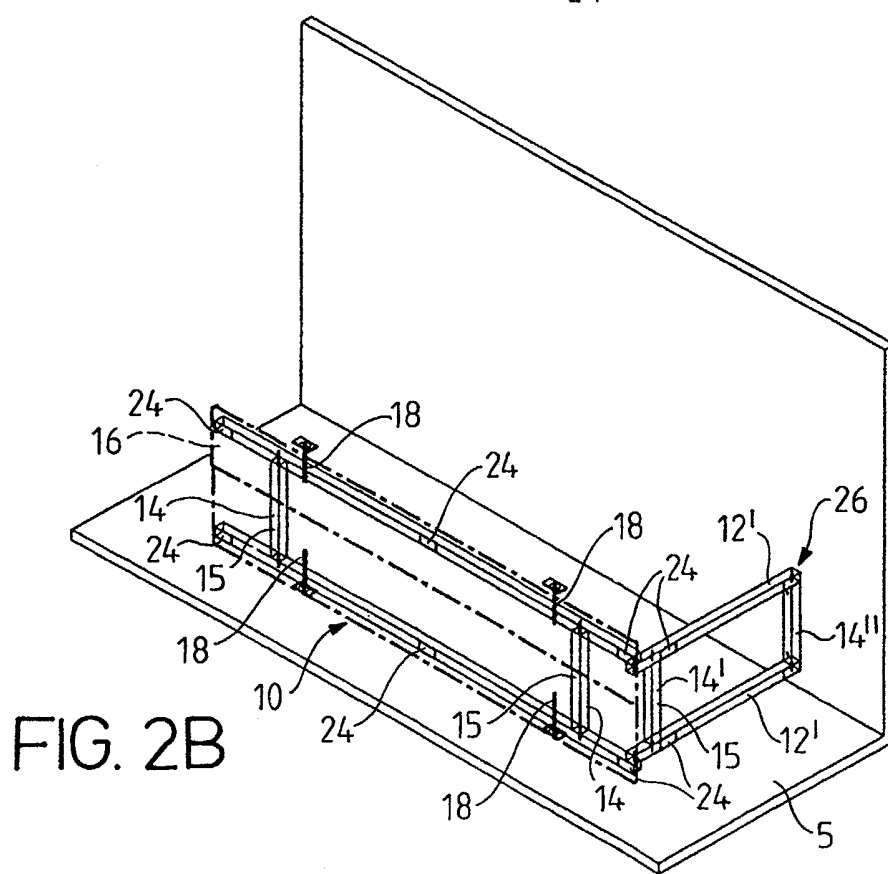
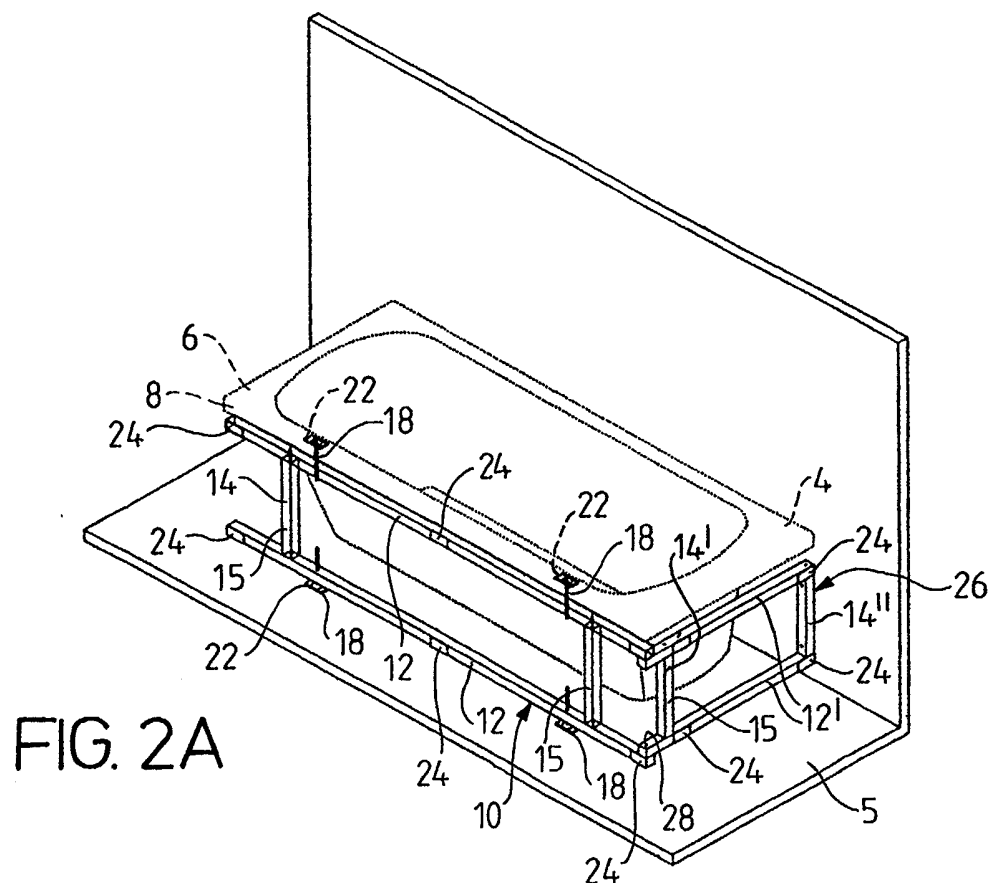
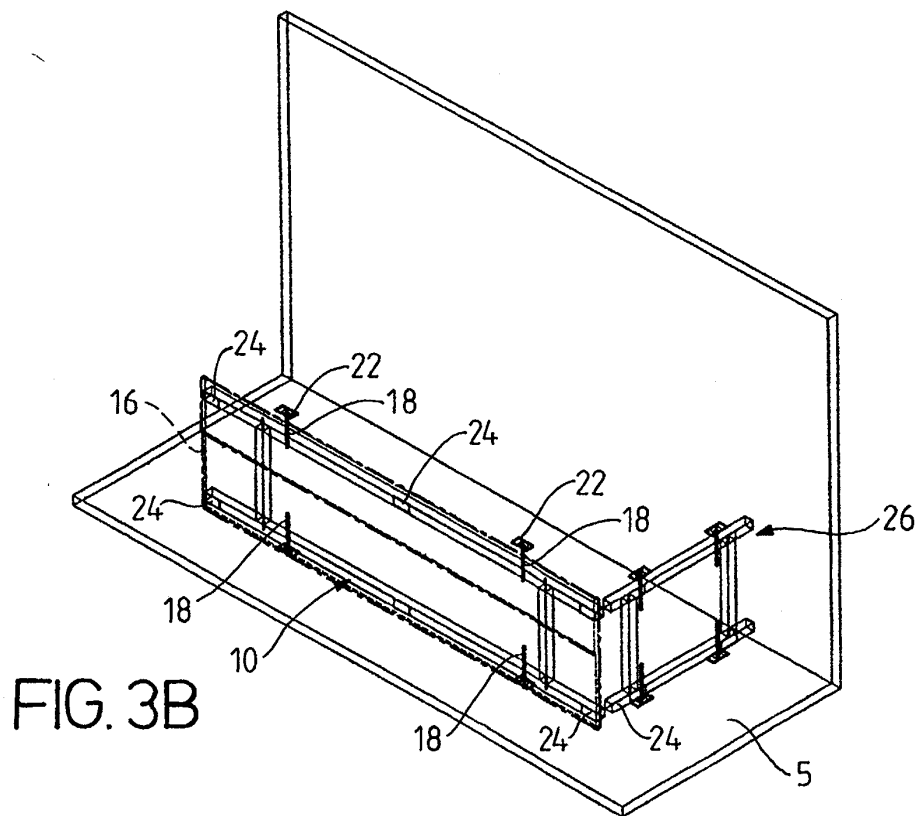
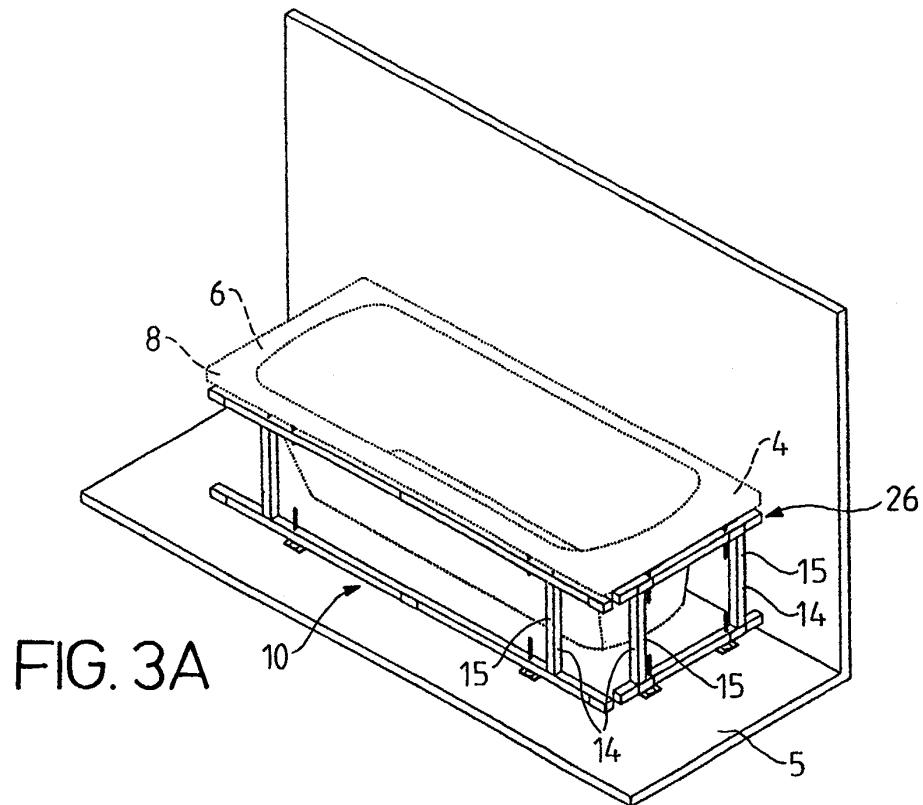


FIG. 1





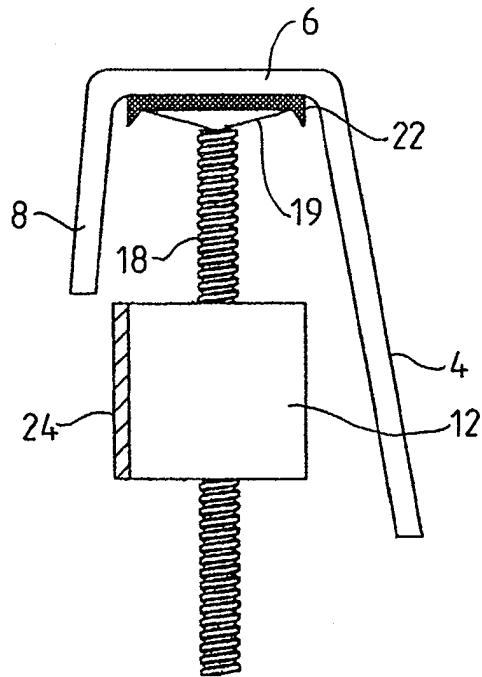


FIG. 4A

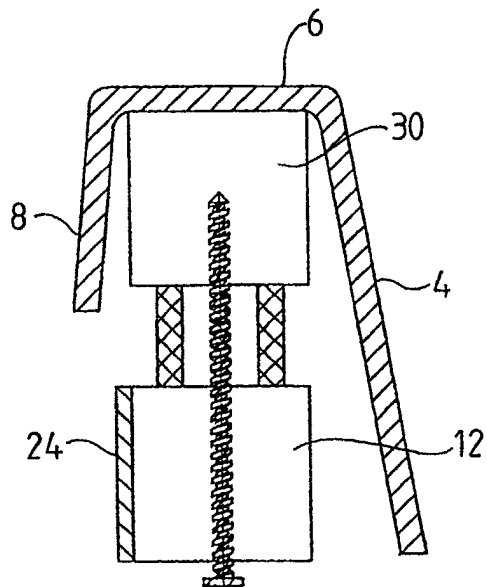


FIG. 4B